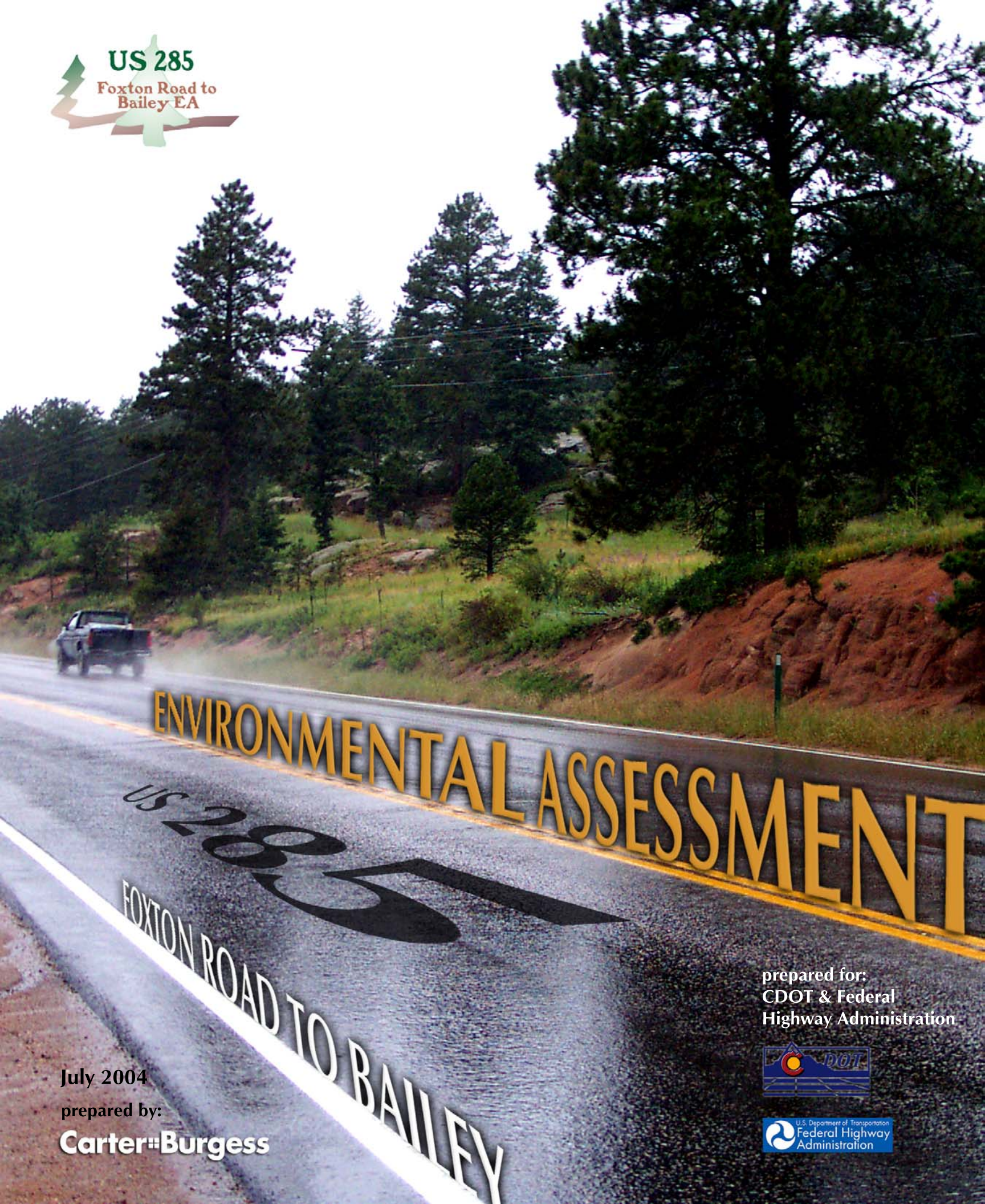
US 285
Foxton Road to Bailey EA



prepared for:
CDOT & Federal Highway Administration

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US 285 Foxton Road to Bailey

Environmental Assessment

Prepared for:

Colorado Department of Transportation

Prepared by:

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and the

Colorado Department of Transportation

August 2004

CDOT Project No. NH 2854-093

US 285 (FOXTON ROAD TO BAILEY)
JEFFERSON AND PARK COUNTIES, COLORADO

ENVIRONMENTAL ASSESSMENT

Submitted Pursuant to
42 USC 4332 (2) (c), 23 USC 128 (a)

By the
US DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
and
COLORADO DEPARTMENT OF TRANSPORTATION

COOPERATING AGENCY
US Army Corps of Engineers

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Chapter 1: Purpose and Need for Action

1.1 Background

US Highway 285 (US 285) has long been recognized as one of the principal mountain corridors leading to and from the Denver metropolitan area. It is heavily used by local residents living along the corridor and by regional travelers and recreationists from other parts of the state. This is an historic route that has been used by travelers in the region for well over a century.

The Colorado Department of Transportation (CDOT) is considering improvements to an approximate 14.7-mile section of US 285 in Jefferson and Park Counties between Foxton Road near Conifer and the town of Bailey to match a newly improved section of US 285 from Parmalee Gulch Road to Conifer.

1.2 Study Area Description

US 285 is a rural highway passing through the central portion of the state of Colorado. It begins in the Denver metropolitan area and runs southwest to US 24 at Antero Junction and then continues south through Alamosa to the Colorado-New Mexico state line (see **Figure 1-1** for the location of this roadway in relation to Denver and a location of the study area). The study area for this Environmental Assessment (EA) is the 14.7-mile section of US 285 from Foxton Road near Conifer (Milepost [MP] 235.2) south through the town of Bailey (MP 220.5). It runs through a mountainous area that is characterized by steep grades, sharp curves and narrow sections of rock cut.

The roadway in the study area is classified by CDOT as a two-lane rural highway and serves as the major transportation corridor for both local and regional travelers. There are limited passing opportunities at specific locations and traffic congestion has become a major problem. There are very few intersecting roadways through the corridor's mountainous terrain that have connectivity to other major highway corridors. Within the study area, only Pine Valley Road and Foxton Road connect south of the corridor to SH 67 at Deckers. All other intersecting roads simply serve the land adjacent to US 285. The Jefferson County portion lies within the Denver Regional Council of Governments (DRCOG) planning region, and the Park County portion is within the Central Transportation Planning Region.

1.3 Overview of Purpose and Need

The primary purpose and need for improvements to this section of US 285 is to improve safety and reduce congestion.

The average for accident rates along the study area over the past five years has been higher than the statewide average rate for this type of road by at least 50%. Although the types of accidents vary from location to location, the overall trend is that accidents are increasing, both in numbers and in severity. Current traffic volumes are in excess of anticipated volumes when the road was designed and built. This has resulted in roadway design deficiencies as well as access and intersection deficiencies and increasing congestion.

With the continued growth along the US 285 corridor, traffic volumes are increasing. For the overall corridor, the annual average daily traffic increased from 1990 to 2002 by 3.4% to 5.7% per year; the overall daily traffic counts increased by 49% to 95%. This trend is expected to continue as development and population growth increases.

Traffic operations have deteriorated progressively as traffic volumes have increased. Most of the northern end of the study area experiences noticeable congestion during peak hours and peak seasons, and travel delays are prevalent. This is mainly because US 285 was not designed to accommodate the current volume of traffic. There is a lack of adequate turning and passing lanes, and several of the intersections were not designed for the number of vehicles accessing the highway from adjoining developments and recreational areas. These conditions are

Executive Summary

This Environmental Assessment (EA) assesses the impact of the proposed action regarding US 285 and is sponsored by the Federal Highway Administration (FHWA).

This EA presents information about the anticipated impacts of a No-Action Alternative and a Preferred Alternative. It will be circulated to the public and to agencies for comment. A Final Decision Document will then be prepared which responds to comments received, documents the final agency decision on an alternative, updates the impacts analysis, and commits to mitigation.

This Executive Summary highlights the major findings of this EA related to:

- Purpose and Need
- Other Major Governmental Actions
- Alternatives Considered (including the Preferred Alternative)
- Environmental Consequences
- Public and Agency Coordination
- Unresolved Issues
- Other Federal Actions

Purpose and Need

The primary purpose of the US 285 (Foxton Road to Bailey) EA is to improve travel time and enhance safety along the 14.7 mile stretch, while causing the least disruption to neighboring residents and businesses. US 285 is currently operating near capacity in the northern ends of the corridor for several hours of the day, with an average daily traffic volume in the Year 2000 of 21,000 (weekday) and 24,000 (weekend). These traffic volumes result in operations on weekends and during peak travel times on weekdays that are noticeably congested, especially in the northern part of the study area. Residents often report great difficulty getting out of side access roads onto US 285. In the Year 2025, in the northern end of the corridor, traffic volumes are projected to be 47,000 (weekday) and 54,000 (weekend).

Accident rates along this stretch of US 285 are 50 to 80% higher than statewide average accident rates. Accident types in the study area are those typically encountered on rural highways – fixed object, wild animal collisions and rear collisions. Some accidents are due to deficient roadway conditions, with curves that are below standards and insufficient clear zones.

The US 285 study area traverses portions of both Park and Jefferson Counties. Park County is among the fastest growing counties in the nation in terms of population and employment growth. Suburban mountain areas close to the Denver metropolitan area have become increasingly popular over the last ten years, causing increased demand on facilities like US 285.

This project follows a widening project on US 285 from Parmalee Gulch Road to Conifer. This project spanned the planning years of 1970 - 1975 and took 12 years to construct. Completion of the 4-lane facility occurred in June of 2003.

Other Major Governmental Actions

There are several other major governmental actions proposed in the vicinity of the US 285 project. These include:

1. The Guanella Pass Road Improvements Project. The FHWA has completed the NEPA process for a project that includes minor improvements to the road connecting the Town of Georgetown with Grant, which is 10 miles south of the southern terminus of the US 285 project. Construction began in June 2004.
2. Staunton State Park Improvements. Staunton State Park is located several miles northwest of the intersection of US 285 and Elk Creek Road. The Parks and Outdoor Recreation Division of the Colorado Department of Natural Resources is planning improvements to the State Park. No funding or timing for these improvements

has been set, although there has been recent interest in accelerating these improvements.

3. I-70 Mountain Corridor Programmatic EIS. Improvements are being considered to I-70 through the mountains, the next major highway to the north. The EIS is in development and will be released for public and agency review in 2004.

4. Based on recent accident issues, the Colorado Department of Transportation (CDOT) has decided to make some interim improvements on US 285 in the study area. These are further defined in **Section 2.4.1 on page 2-8**.

Alternatives Considered

Numerous alternatives were developed and evaluated during the process of the EA and also during the process of the *US 285 (Foxton Road to Fairplay) Feasibility Study*, which was conducted during the periods of 2000 to 2002. These included a full range of improvements to the highway system, alternatives for grade-separated intersections, alternatives for transportation demand management, bus and park-n-Ride alternatives and access management alternatives. These are documented in Chapter Two of this document. A significant amount of public and agency involvement was undertaken during the Feasibility Study and this EA process to develop and evaluate these alternatives.

The alternatives that are evaluated in this EA are the No-Action Alternative and the Preferred Alternative which was the recommended alternative from the Feasibility Study. The No-Action Alternative includes some minor improvements to US 285 and the proposed construction of a grade-separated intersection at Wandcrest Drive, to serve the new Villages at Sunset development.

The Preferred Alternative assumes four-through lanes (for 10.8 miles) between Foxton Road and the top of Crow Hill and two-through lanes with a passing lane between Bailey and the top of Crow Hill (for 2.2 miles). The typical section includes a grassy depressed median. Auxiliary lanes and frontage roads are provided in some locations. A runaway truck escape ramp is planned along southbound 285 just north of Bailey. Several alignment shifts have been included to improve travel around tight curves. Seven locations of grade-separated intersections have been included: at Green Valley Ranch, Richmond Hill, Kings Valley, Shaffers Crossing, Elk Creek School, Pine Junction and Deer Creek. Intersections will be improved and access management will be included, including U-turn locations placed along the corridor. Transportation demand management actions to be included are the provision of Advanced Traveler Information Systems and a commitment during construction for advertisements to encourage carpooling, vanpooling and telecommuting. Wildlife crossings of the improved US 285 are proposed in five locations, (see **Figure 3-18 on page 3-87**) with accommodations also made for smaller mammals in other locations. Numerous bridges and retaining walls are planned, as well as landscaping and lighting. More details can be found in Chapter 2 of the EA.

The Clean Water Act, Section 404 (b) (1) Guidelines were followed prior to any alternatives being eliminated.

Mergers

Two mergers with federal agency processes were undertaken on this project:

- A National Historic Preservation Act, Section 106, merger was undertaken with the State Historic Preservation Officer and the Advisory Council on Historic Preservation, to merge this NEPA process with Section 106 regulations. As a result of this merger, the Preferred Alternative avoids all impacts to historic properties.
- A Clean Water Act, Section 404, merger was undertaken with the US Army Corps of Engineers. As a result of this merger, the Preferred Alternative was able to avoid impact to up to three acres of wetlands, while enhancing wildlife habitat values.

Environmental Consequences

The major environmental impacts of the Preferred Alternative are summarized below:

1. Travel times are projected to improve in most parts of the study area by between 37 and 74%, with the most improvement in the northern part of the study area. Similarly, vehicle hours of travel are projected to decrease by 42 to 43%.
2. The Preferred Alternative will increase the demand for development, particularly in the vicinity of the new grade-separated intersections. In most of these areas, the counties have plans for mixed use development to occur. The widening will support these plans.
3. One business and three residences would be acquired and relocated with the Preferred Alternative.
4. Total carbon monoxide concentrations are lower in the future with the Preferred Alternative as compared to the No-Action Alternative.
5. A total of 52 residential properties and three commercial properties would be impacted by noise increases. Noise increases of between 3 and 8 decibels are likely.
6. The Preferred Alternative would result in a permanent loss of approximately 0.727 acre of wetlands in the study area (if the Shaffers Crossing Variation I is chosen) or a permanent loss of approximately 0.739 acre of wetlands (if the Shaffers Crossing Variation II is chosen). There would be temporary loss of approximately 1.130 acres of wetlands (for either variation). The permanent wetland impact will be mitigated on a 1:1 basis and the temporary impact will be restored.
7. There are 22 identified floodplain impacts within the project limits. Floodplain impacts are of two varieties. The first type of impact occurs at locations where the stream crosses directly under the roadway. The second type occurs in areas where the floodplain runs longitudinally along the proposed roadway and new roadway fill is located in the existing floodplain. There are 10 impacts at stream crossings and 6 longitudinal impacts for this project. Based on the hydraulic analysis performed in these areas it has been determined that no significant floodplain impacts occur, therefore a floodplain finding is not needed.
8. The loss of wildlife habitat along the highway will only slightly decrease the overall value of wildlife habitat in the study area, as the value of the habitat directly adjacent to the highway is marginal in most locations. The greatest impacts to wildlife habitat along the study area will occur at riparian or wetland locations. The Preferred Alternative will increase the width of the highway, but due to added wildlife crossings, there will be greater permeability over what now exists.
9. Short and long term changes to the existing visual character would occur.
10. There would be no effect to any historic or archaeological properties.
11. One of the acquisitions is a noted hazardous materials concern.
12. No direct impacts to publicly-owned parks and recreation properties would occur.
13. Cumulative impacts to land use, wildlife, wetland and water quality have been identified. The project is likely to contribute to the ongoing development of the area from a natural mountainous area into an area used for residential and commercial development. The project is not anticipated to cause a significant cumulative effect on the resources examined.

Mitigation measures for all of these impacts have been identified and are included in Chapter 3 of the document. These include:

- Acquisition of private property will be consistent with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended;

- Noise mitigation is recommended in the Wisp Creek area;
- Wetlands impacted will be mitigated on a 1:1 basis;
- Wildlife crossings are being included to alleviate wildlife impacts.

Public and Agency Involvement

The project has been undertaken with a great deal of involvement from the public and from agencies. Many letters have been received, hundreds of people have attended the three public workshops that have been held, many neighborhood and business group meetings have been held and there have been over 6,400 visitors to the project Web site (www.US285.com) as of June 30, 2004. In addition, numerous meetings have been held with state and federal agencies, as well as the counties. This extensive involvement has resulted in new alternatives being developed, refinements made to alternatives already developed and mitigation measures being developed. Final selection of a preferred alternative will not be made until comments have been received and issues have been fully resolved.

A Value Engineering Study was conducted for the project in January 2003. The participants in the study included representatives from two community groups -- Preserve Our Mountain Community and a Park County community representative. Agency representatives included Regional Transportation District (RTD) and Park County Road and Bridge Department. This study included analysis of the project's alternatives and recommendations for alternatives and actions to be considered. Many of these recommendations have been incorporated into the Preferred Alternative.

Unresolved Issues

The following issues are unresolved:

1. The preferred configuration of the Elk Creek access road at Shaffers Crossing has not been identified.
2. The preferred configuration at Green Valley Ranch has not been identified.
3. Regional air quality conformity analysis are needed after a first phase project has been identified and funding has been programmed.

Other Federal Actions

Other federal actions that are required to implement the Preferred Alternative are:

1. Issuance of a Section 404 permit (required from the US Army Corps of Engineers). Application for this permit has been made.
2. Issuance of a Conditional Letter of Map Revision and Letter of Map Revision (from the Federal Emergency Management Agency).

Chapter 1: Purpose and Need for Action

1.1 Background

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The Colorado Department of Transportation (CDOT) is considering improvements to an approximate 14.7-mile section of US 285 in Jefferson and Park Counties between Foxton Road near Conifer and the town of Bailey to match a newly improved section of US 285 from Parmalee Gulch Road to Conifer.

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The roadway in the study area is classified by CDOT as a two-lane rural highway and serves as the major transportation corridor for both local and regional travelers. There are limited passing opportunities at specific locations and traffic congestion has become a major problem. There are very few intersecting roadways through the corridor's mountainous terrain that have connectivity to other major highway corridors. Within the study area, only Pine Valley Road and Foxton Road connect south of the corridor to SH 67 at Deckers. All other intersecting roads simply serve the land adjacent to US 285. The Jefferson County portion lies within the Denver Regional Council of Governments (DRCOG) planning region, and the Park County portion is within the Central Transportation Planning Region.

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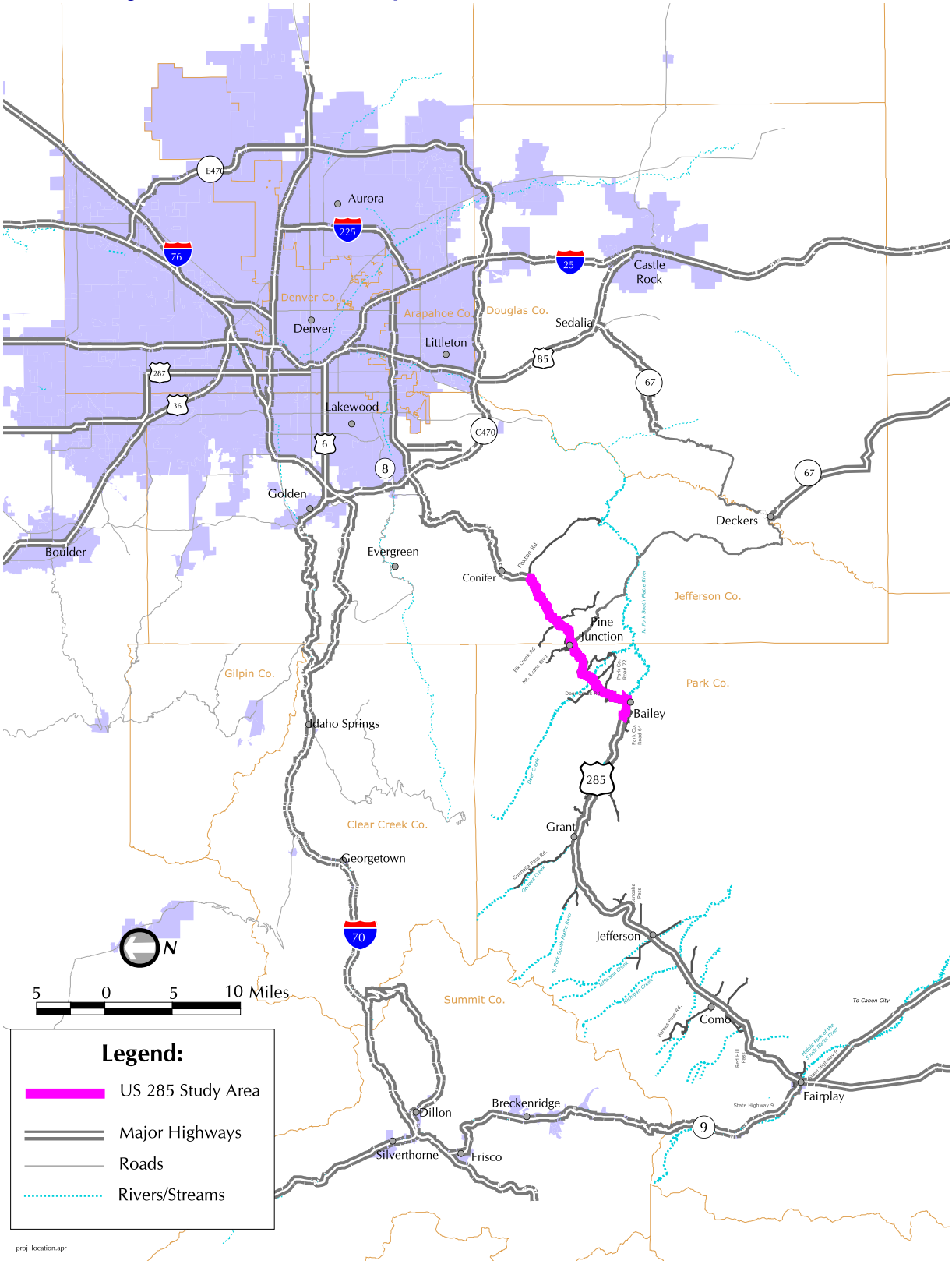
The primary purpose and need for improvements to this section of US 285 is to improve safety and reduce congestion.

The average for accident rates along the study area over the past five years has been higher than the statewide average rate for this type of road by at least 50%. Although the types of accidents vary from location to location, the overall trend is that accidents are increasing, both in numbers and in severity. Current traffic volumes are in excess of anticipated volumes when the road was designed and built. This has resulted in roadway design deficiencies as well as access and intersection deficiencies and increasing congestion.

With the continued growth along the US 285 corridor, traffic volumes are increasing. For the overall corridor, the annual average daily traffic increased from 1990 to 2002 by 3.4% to 5.7% per year; the overall daily traffic counts increased by 49% to 95%. This trend is expected to continue as development and population growth increases.

Traffic operations have deteriorated progressively as traffic volumes have increased. Most of the northern end of the study area experiences noticeable congestion during peak hours and peak seasons, and travel delays are prevalent. This is mainly because US 285 was not designed to accommodate the current volume of traffic. There is a lack of adequate turning and passing lanes, and several of the intersections were not designed for the number of vehicles accessing the highway from adjoining developments and recreational areas. These conditions are

Figure 1-1: Project Location and Study Area



expected to worsen as growth continues along the corridor.

Alleviating traffic congestion is a high priority for Jefferson and Park Counties to keep this area desirable for residential, business, and recreational uses.

Some of the main deficiencies include:

- The road was not designed to handle the high traffic volumes now occurring and projected in the future.
- There are inadequate shoulders and clear zones for emergency use in many parts of the study area.
- Access points along the highway were originally designed for lower traffic volumes. Many are now used for multiple residences and other types of development along US 285 and do not meet standards for merging onto and off of the road.
- Traffic signals have been installed at locations with less than desirable geometric conditions. For example, the signal at Deer Creek Road is adjacent to a curve, making it difficult to see.
- Crow Hill is very steep (up to 7% grade) with a number of sharp curves and steep, intersecting roads and drives.
- Opportunities to pass are limited mostly to passing lanes on uphill grades.
- Queues build up because of the speed differential of vehicles on the steep hills. This is particularly compounded on steep down grades which generally do not have any passing lanes.
- Sight distance is not adequate in Bailey because of on-street parking through town and a high number of access points. Due to parked vehicles, people driving through Bailey at the posted speed limit have difficulty seeing and safely accommodating vehicles pulling onto US 285.
- There are several curves with design speeds lower than the posted speed, many of these with differences of greater than 10 mph. These curves increase the potential for accidents.
- Increasing traffic volumes reduce the ability of US 285 to adequately serve the need for an emergency evacuation related to wildfires.

1.4 Roadway Characteristics

The 14.7-mile US 285 study area is a two-lane rural highway. There are passing opportunities along specific stretches of the highway that total approximately half of the length of the study area. Horizontal and vertical sight distance deficiencies exist throughout the study area, but primarily at intersecting roads and drives.

1.4.1 Roadway Classification and Highway Access

Roadways are grouped according to the relative importance of the movement and access functions provided on the facility. High functional classifications are assigned to roadways that provide regional mobility at higher speeds with more restrictive access control. Those roadways providing access to adjacent property are generally assigned a low functional classification and typically have low speeds and more lenient access control.

The CDOT *State Highway Access Code* classifies state highway facilities into eight highway categories for access control purposes. The number, spacing, type, and location of access and traffic controls have a direct and often significant effect on the capacity, speed, and safety of the highway. The location, operations and design standards within each category are necessary to ensure that the highway will continue to function at the category assigned. The current CDOT classification of US 285 in the study area is mostly Regional Highway (R-A), with a short segment of Non-Rural Principal Highway (NR-A) through Bailey. The roadway functional characteristics of the two category designations in the study area are:

- **Category R-A: Regional Highway.** This category is appropriate for use on highways that have the capacity for medium to high speeds and relatively medium to high traffic volumes over medium and long distances in an efficient and safe manner. They serve interregional,

intraregional, and intercity travel needs. Direct access to abutting land is subordinate to providing service to through traffic movements. This category is normally assigned to National Highway System routes, significant regional routes in rural areas, and other routes of regional or state significance.

- **Category NR-A: Non-Rural Principal Highway.** This category is appropriate for use on non-rural highways that have the capacity for medium to high speeds and provide for medium to high traffic volumes over medium and long distances in an efficient and safe manner. They serve interregional, intraregional, intercity, and intracity travel needs in suburban and urban areas as well as serving as important major arterials in smaller cities and towns. Direct access to abutting land is subordinate to providing service to through traffic movements. This category is normally assigned to National Highway System routes, and other routes of regional or state significance.

Most of the existing accesses within the study area were constructed prior to the adoption of the CDOT *State Highway Access Code* and therefore have been "grandfathered." The functional classification of these accesses varies from seldom-used field accesses and lightly traveled private driveways to well-traveled county road intersections. Intersecting roads consist of county roads and town roads, most of which are stop-controlled but some of which are signalized. The number of accesses per mile varies greatly among the different segments, with the greatest concentration of accesses occurring within Bailey.

In May 2002 the Colorado Transportation Commission approved the reclassification of US 285 to an expressway from Foxton Road north to SH 8. Previously this section of US 285 was classified as a Regional Highway (R-A)/Non-Rural Principal Highway (NR-A). The expressway classification allows CDOT more control regarding access location and type along this section of US 285. No changes in classification were made along the section of US 285 being studied in this EA; however, once improvements have been completed, this section is planned to be reclassified to match the segment north of Foxton Road. **Figure 1-2** depicts the access category classifications for the US 285 study area.

1.4.2 Existing Roadway Conditions

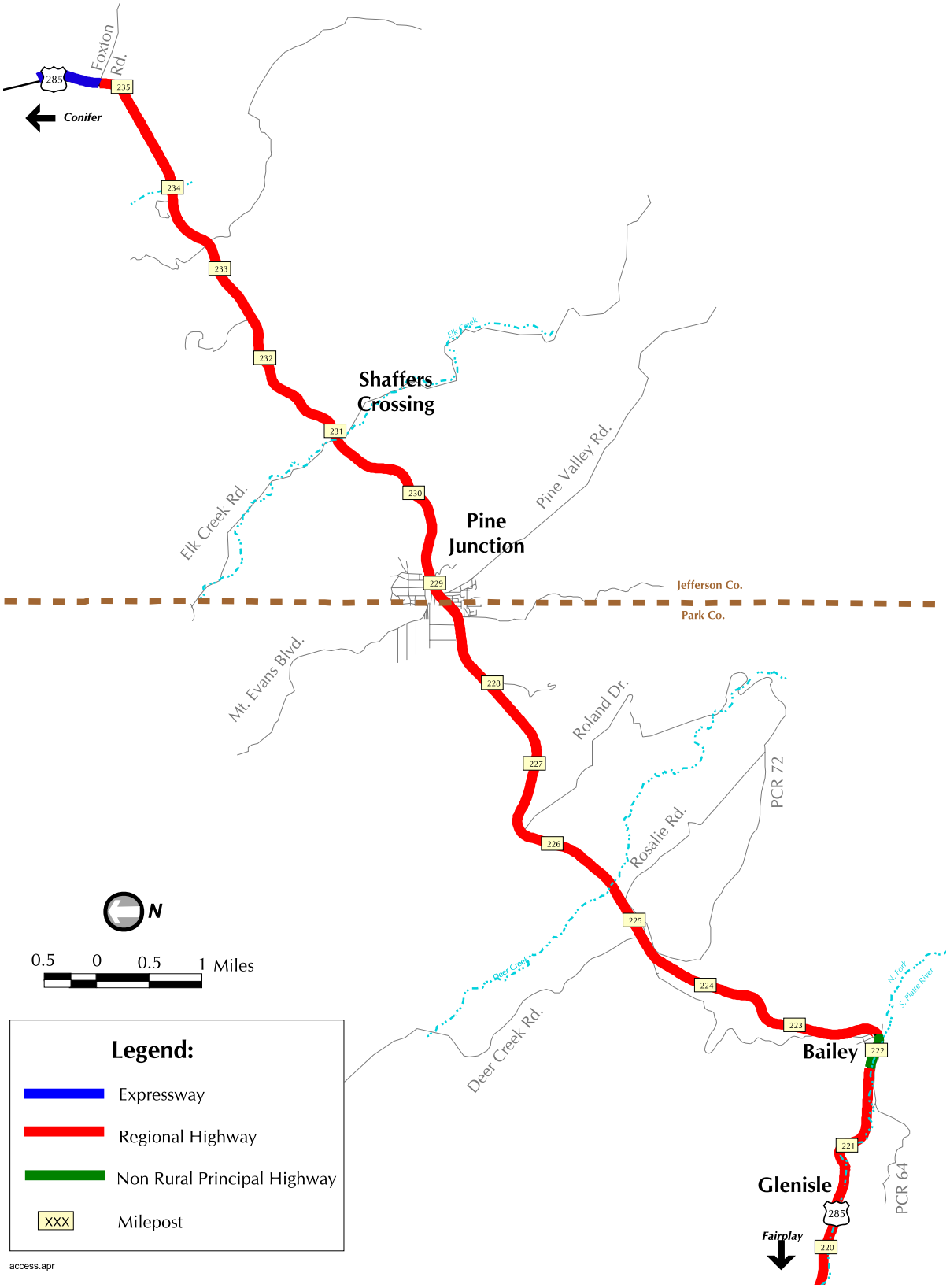
The focus for characterizing existing roadway conditions was to identify deficiencies in roadway geometric elements that would be included in the development of improvements for safety and capacity along the US 285 study area. The primary categories relate to typical sections, horizontal and vertical alignment, and additional design features, based on an anticipated design speed along the study area of 55 miles per hour.

The following descriptions are provided here to introduce the reader to details referred to in the subsequent sections.

Clear Zone. The clear zone is a recovery zone for an errant vehicle leaving the travel way. It starts at the outer edge of the travel lane with the shoulder and continues on to a physical barrier or obstruction. The desired clear zone is defined according to the road's designed speed limit. In addition, the higher the level of traffic, the higher the clear zone requirements. Along the US 285 study area, the clear zone standard for 55 mph design speed is 32 feet. Allowances are made for the more mountainous zones, where the acceptable clear zone can be as little as 22 feet, depending on specific conditions. Currently, for the section of roadway from Foxton Road to the top of Crow Hill, an acceptable clear zone exists along 12.5% of the northbound roadway and 15.7% of the southbound roadway. From the top of Crow Hill through Bailey, only 2.7% of the northbound and 6.2% of the southbound roadway has an acceptable clear zone. This is because of the steep grade and the fact that one side of the highway is adjacent to a wall of rock.

The rural character through this corridor lends itself to higher speeds of travel. Without an adequate clear zone, the potential for severe accidents is greater. A clear zone can be accommodated by providing unobstructed access beyond the shoulder or by providing a continuous barrier.

Figure 1-2: Current Access Category Classifications



Shoulder. Shoulders are primarily a safety element for emergency use when vehicles need to pull off the roadway. They are designed to be the same grade as the adjoining lane, and are preferably paved. In mountainous areas with multiple curves, the width of the shoulder becomes more critical.

The desired shoulder width is defined according to the road's designed speed limit. Along the study area, the shoulder requirement for 55 mph design speed is 10 feet. Currently, for the section of roadway from Foxton Road to the top of Crow Hill, acceptable shoulders exist along 24.4% of the northbound roadway and 24.1% of the southbound roadway. From the top of Crow Hill through Bailey, 26.1% of the northbound roadway and 17.6% of the southbound roadway have acceptable shoulders.

Horizontal Curves. The radius of a horizontal curve determines the sight distance for that particular stretch of roadway and the vehicle's ability to negotiate the alignment at a particular speed. A function of horizontal curvature is super elevation–the "banking" of a curve to keep a vehicle from sliding off the curve. The desired radius of horizontal curves is defined according to the road's designed speed limit. Of the 39 curves in the study area, 21, or 54%, of these meet curve criteria at a design speed of 55 mph.

There are two locations where the horizontal curves are especially inadequate:

- Crow Hill has numerous tight curves on a steep grade (MP 222.1 to MP 224.0). Southbound vehicles on US 285 must negotiate a steep 6.95% grade down Crow Hill, then a relatively sharp (40 to 45 mph) curve at the bottom of the hill at the entry to Bailey. Vehicles traveling southbound down the hill frequently exceed the posted speed limit, which ranges from 40 mph to 50 mph, then must slow to as little as 15 to 20 mph because of traffic and pedestrian activity at the multiple access points through Bailey.
- Roland Curve is substandard (MP 226.5). It is a 45 mph design surrounded by 55 mph posted speed.

Vertical Curves. The radius of vertical curves also determines the sight distance for that particular stretch of roadway. The desired vertical curves are defined according to the road's designed speed limit. There is only one location with significant vertical curve deficiencies in the study area. Crow Hill is a steep climb leading to a signal near the top of the hill. Because of the vertical curve, it is very difficult for motorists arriving at the top of the hill to see the signal in enough time to react to it.

Passing Lanes. Passing lanes can be placed on a roadway where there are steep grades or where congestion is known to exist. Along US 285 there are passing lanes for approximately half of the study area length.

1.5 System Connectivity

The Foxton Road to Bailey section of US 285 is an integral part of the overall state highway network. As can be seen in **Figure 1-1 on page 1-2**, US 285 links the Denver metropolitan area with the southern part of the state. This corridor is heavily used by regional travelers, various recreationists, and local residents.

The section of roadway north of Foxton Road has been widened to a 4-lane expressway with a depressed, vegetated median. Improvements were made to shoulders and clear zones as well.

Driver expectancy is an issue as drivers transition onto the unimproved section of US 285. Since US 285 has been improved north of Foxton Road, there is an expectancy of drivers for improvements to continue south along the corridor.

1.6 Traffic Volumes and Patterns

Traffic on US 285 is related to development activity as well as the unique attractiveness of the scenic, cultural and recreational features along and adjacent to the study area.

The US 285 study area is typical of most mountainous, populated areas in Colorado reflected by the lack of parallel and intersecting roadways to provide alternative points of access to the communities in the study area. Therefore, the US 285 corridor

serves both the long-distance through travel needs of the state highway traveler and the community circulation and access needs of the residents and business patrons of the adjacent communities.

1.6.1 Historical Traffic Volumes

CDOT provided annual average daily traffic (AADT) volumes for the US 285 study area for the years 1990 through 2002. As seen in **Table 1-1**, the increase in annual average daily traffic between 1990 and 2002 ranged from 3.4% to 5.7%. The corresponding overall growth rate along the study area ranged from approximately 49% to 95%.

In 1990, two of the eight locations counted exceeded 10,000 AADT. By 2002, five of the eight locations exceeded that number.

Table 1-1: Historical AADT

Milepost	Approximate Location	1990 Two-Way AADT (vehicles)	1995 Two-Way AADT (vehicles)	2002 Two-Way AADT (vehicles)	Annual Average Percent Increase 5 Yrs	Overall Percent Increase 5 Yrs	Annual Average Percent Increase 12 Yrs	Overall Percent Increase 12 Yrs
220.6	Co Road GL2, Glenisle	2,450	3,400	4,250	6.8	39	64.7	73
221.9	Co Road 64, Bailey	3,500	4,750	5,200	6.3	36	3.4	49
222.2	Co Road 68, Bailey	4,200	4,750	6,350	2.5	13	3.5	51
224.9	Co Road 72, to Friendship Ranch	6,250	7,450	12,200	3.6	19	5.7	95
229.0	Mt. Evans Boulevard/Pine Valley Road, Pine Junction	8,800	10,900	13,700	4.4	24	3.8	56
231.0	Elk Creek Road at Shaffers Crossing	9,650	12,000	17,100	4.5	24	4.9	77
234.3	Wagon Trail Road, Co Road GV12, Green Valley	12,200	15,100	18,600	4.4	24	3.6	52
235.2	Foxton Road, Co Road 97	12,500	16,300	19,250	5.5	30	3.7	54

Source: Colorado Department of Transportation.Existing Traffic Volumes

1.6.2 Existing Traffic Volumes

In the summer and fall of 2000, Counter Measures, Inc., collected traffic count data to determine existing weekday and weekend average daily traffic (ADT) volumes within the study area. **Table 1-2 on page 1-9** shows traffic counts for the study area. The weekday ADT traffic volumes represent an average of the counts collected from Tuesday through Thursday. The weekend ADT traffic volumes represent an average of the counts collected Saturday and Sunday. Based on historical data and study needs, existing ADT volumes have been developed for each of seven analysis segments in the US 285 study area. These volumes are shown on **Figure 1-3**.

The data in **Table 1-2** indicate that both the 2000 summer and fall ADT volumes on US 285 exceed the 1999 AADT between Bailey and the top of Crow Hill. For the remainder of the corridor, the summer 2000 volumes are higher and the fall volumes are lower.

The largest side street traffic volume in the study area is on Deer Creek Road north of Bailey with approximately 5,900 vehicles per day (vpd). Additional side streets with notable volumes in the area are Mt. Evans Boulevard, Pine Valley Road, and Elk Creek Road.

Figure 1-3: Year 2000 Average Daily Weekday Traffic

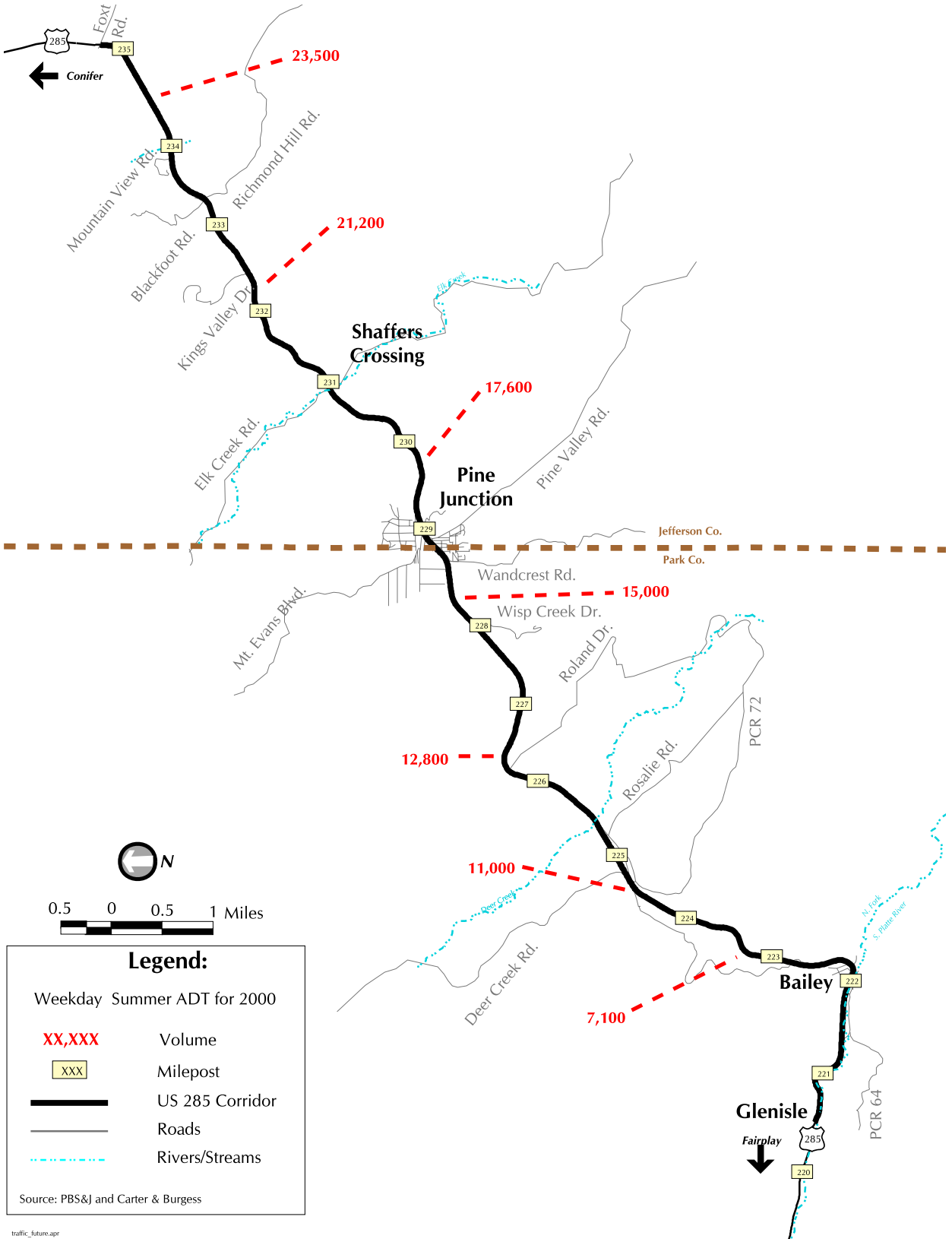


Table 1-2: 1999 AADT and 2000 ADT

Study Segment	CDOT AADT 1999	2000 ADT Counts			
		Weekday Summer	Weekday Fall	Weekend Summer	Weekend Fall
Bailey to Top of Crow Hill	5,500	7,400	7,800	12,100	8,900
Top of Crow Hill to Shaffers Crossing	13,400	14,700	10,800	18,700	11,200
Shaffers Crossing to Foxton Road	17,800	21,100	17,700	24,200	17,700

Source: Colorado Department of Transportation (1999 AADT) and Counter Measures, Inc. (2000 ADT).

There were some additional traffic counts collected in August of 2002 at some specific intersections that were used for design purposes. These new counts are consistent with the previous traffic counts and the established trends.

1.7 Traffic Operations

Various conditions affect traffic operations, including the type of roadway, number of vehicles, ability of vehicles to pass other slow-moving vehicles, percentage of trucks, vehicle speeds, roadway grade, and weather conditions. Traffic operations along the US 285 study area were observed to vary by location, season, time of day, and travel direction.

Vehicle speeds and vehicle queue data were collected along the entire US 285 study area with a Global Positioning System (GPS) receiver to document speed and location information.

The peak hour volumes along the US 285 study area collected in summer (July) and fall (October) 2000 were used to determine the roadway Level of Service (LOS).

1.7.1 Roadway Segment Level of Service (LOS)

Highway traffic operations are expressed in terms of Level of Service (LOS) as defined by the *Highway Capacity Manual* (HCM), Transportation Research Board, National Research Council, updated 2000. It is a congestion measure used to describe service quality and is based on three parameters: average travel speed, percent time delay, and capacity utilization. LOS is expressed in letter codes ranging from A for excellent conditions to F for extremely poor conditions. LOS A represents the free-flow condition when there is no slowing or interference to the traffic. LOS F represents a complete breakdown in the flow of traffic and in some extreme cases a complete stop condition (traffic jam).

A graphical representation of each roadway LOS category as defined in the HCM is displayed in **Figure 1-4**. A graphical representation of each intersection LOS category is displayed in **Figure 1-5.**

As explained in **Section 1.4.1 on page 1-3**, the US 285 study area is classified as a two-lane rural highway. Traffic operations on two-lane highways are unique because traffic flow in one direction influences the traffic flow in the other direction. As traffic volumes increase, the demand for passing increases, while the passing capacity decreases. This results in reduced travel speeds for motorists. For this reason, the HCM recommends that three parameters be considered when assessing the LOS on two-lane rural highways:

- Average travel speed - the average speed of a traffic stream.
- Percent time delay - the average percent of time that all vehicles are delayed while traveling in platoons due to the inability to pass.
- Capacity utilization - the ratio of the demand flow rate to the capacity of the facility.

In addition to being classified as a two-lane rural highway, the US 285 study area is characterized by several climbing lanes. The presence of a climbing lane increases the directional capacity and generally improves the LOS over that calculated by the two-lane methodology. Climbing lanes are located in the following segments:

Figure 1-4: Roadway LOS Definitions

LOS	Roadway Segment Operating Characteristics
A	Free flow, low traffic density, passing demand well below passing capacity, no platoons of three or more vehicles, drivers delayed less than 30% of time by slow moving vehicles.
B	Minimum delay, stable traffic flow, passing demand equals passing capacity, drivers delayed up to 45% of time by slow moving vehicles.
C	Stable condition, movements somewhat restricted due to higher volumes, but not objectionable for motorists, noticeable increases in platoon formation, size, and frequency, percent time delays up to 60%. **Goal for 2025 weekday traffic operations in rural and mountainous areas.**
D	Movements more restricted, passing demand is very high while passing capacity approaches zero, platoon sizes of 5 to 10 vehicles are common, turning vehicles cause "shock-waves" in traffic stream, percent time delays approach 75%.
E	Actual capacity of the roadway, involves delay to over 75% of motorists, passing is virtually impossible, platooning becomes intense.
F	Forced flow with demand volumes greater than capacity resulting in severe congestion, no passing opportunities and long platoons.

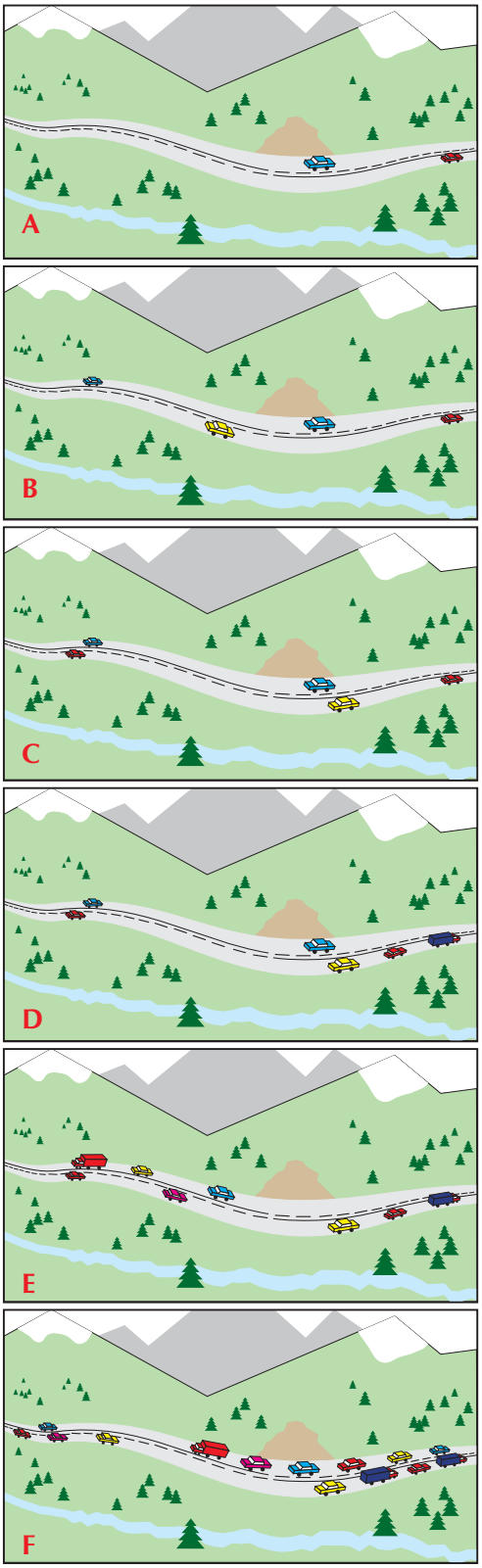
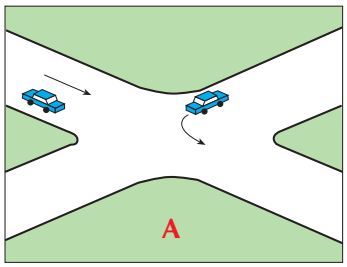
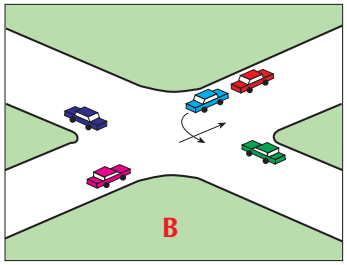
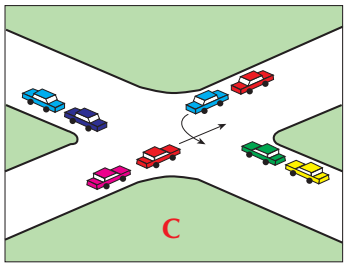
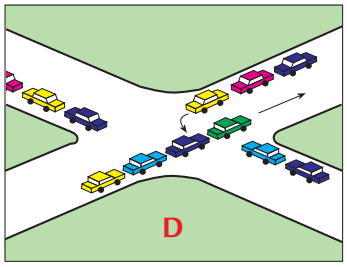
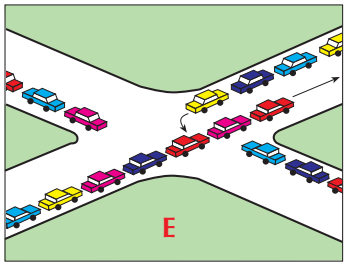
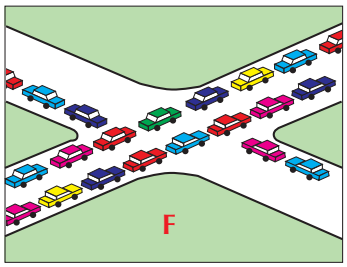


Figure 1-5: Intersection LOS Definitions

LOS	Intersection Operation Characteristics	
A	No vehicle waits longer than one signal indication.	
B	On a rare occasion, vehicles wait through more than one signal indication.	
C	Intermittently, vehicles wait through more than one signal indication, occasionally backups may develop, traffic flow still stable and acceptable.	
D	Delays at intersections may become extensive, but enough cycles with lower demand occur to permit periodic clearance, preventing excessive backups. **Goal for maximum level of congestion 2025 weekday traffic operations in rural and mountainous areas.**	
E	Very long queues may create lengthy delays.	
F	Backups from locations downstream restrict or prevent movement of vehicles out of approach creating a "gridlock" condition.	

- Crow Hill to Bailey - Northbound climbing lane
- Deer Creek to Crow Hill - Southbound climbing lane
- Pine Junction to Wisp Creek - Northbound climbing lane
- Shaffers Crossing to Pine Junction - Southbound climbing lane
- Richmond Hill to Shaffers Crossing - Northbound climbing lane
- Foxton Road to Richmond Road - Southbound climbing lane (Green Valley to Richmond Hill)

The results of the two-lane and climbing lane LOS analysis are shown in **Table 1-3**.

Table 1-3: Existing PM Peak Level of Service on US 285

Segment	Year 2000 Existing Conditions	
	North bound	South bound
Bailey to Crow Hill	C	C
Crow Hill to Deer Creek	D	D
Deer Creek to Wisp Creek	C	E
Wisp Creek to Pine Junction	D	D
Pine Junction to Shaffers Crossing	E	E
Shaffers Crossing to Richmond Hill	E	E
Richmond Hill to Foxton Road	E	E

The existing operations range from LOS B to E in the southern sections of the corridor to D to F in the northern portions of the corridor. This is for the weekday summer PM peak period that is representative of the highest peak period volumes that occur consistently in the corridor.

Operational analyses for other periods show different results. In general, AM peak periods have improved LOS since overall traffic volumes are lower. The weekend (Saturday) summer AM peak period has similar LOS to the weekday summer PM peak period. The weekend (Sunday) summer PM peak period has the worst LOS but occurs relatively infrequently throughout the year. The fall weekday AM and PM peak periods both have similar LOS to the weekday summer AM and PM peak period.

LOS E or F results in noticeable delays for motorists and emergency vehicles, a greater number of accidents, and higher air pollution. Residents report great difficulty driving from their houses to US 285.

The CDOT *Design Manual* indicates that mountainous roadways should be designed with a goal of LOS C weekday conditions. This is not achieved with existing conditions in the study area.

1.7.2 Key Intersection LOS

The LOS of major intersections with US 285 were evaluated for existing conditions based on weekday summer PM peak hour traffic characteristics. Signalized intersections are evaluated with an overall intersection operation rating, and unsignalized intersections are rated for each minor approach's operation. **Table 1-4** contains the results.

Table 1-4: Existing PM Peak Level of Service of Intersections

Intersection of US 285 and:	Minor Approach	Year 2000 Existing Conditions
Park County Road (PCR) 64	Northbound	C
	Southbound	B
PCR 68	Northbound	B
Parkview	Northbound	B
Mable Lane	Southbound	B
Deer Creek/PCR 43 (Signalized)	Overall	B
Wisp Creek	Northbound	C
Wandcrest	Northbound	B
Mt Evans Blvd. (Signalized)	Overall	B
Elk Creek Road (at Shaffers Crossing)	Northbound	E
	Southbound	C
Kings Valley West	Southbound	C
Kings Valley East	Southbound	F
Richmond Hill	Northbound	C
	Southbound	F

Table 1-4: Existing PM Peak Level of Service of Intersections (Continued)

Intersection of US 285 and:	Minor Approach	Year 2000 Existing Conditions
Springs Road	Northbound	C
	Southbound	F
Wagon Trail	Northbound	B

Existing LOS at intersections is generally in acceptable ranges except for Elk Creek Road, Kings Valley Road, Richmond Hill Road, and Springs Road. At these four intersections, the LOS on the roads approaching US 285 is either LOS E or F.

1.7.3 Study Area Travel Times/ Speed

1.7.3.1 Travel Times

Travel time runs were conducted in the summer of 2000 for weekend and weekday peak and non-peak periods. **Figure 1-6** shows the difference between non-peak and peak travel times of northbound and southbound traffic for each study segment during a weekday and weekend. This difference is referred to as delay.

Weekday. Generally, it was observed that along the study area, peak period travel times were 5% to 20% greater than non-peak travel times.

Weekend. The peak travel time for the *southbound* direction occurred on Saturday. The most significant travel time delay was observed between Crow Hill and Shaffers Crossing - approximately 2 minutes of delay on the 5.6-mile section. This is approximately 35% greater than non-peak travel time.

The peak travel time for the *northbound* direction occurred on Sunday. The most significant travel time delay was observed between Shaffers Crossing and Foxton Road - approximately 10.5 minutes of delay on the 5.1-mile section. This is approximately 200% greater than non-peak travel time.

The delays during the weekday and weekend peak periods generally resulted from under-capacity of the road and the conflict caused by traffic turning from or onto US 285 from intersection roads or driveways.

1.7.3.2 Vehicle Speeds

Vehicle speeds were monitored along the study area in the summer of 2000 for weekend and weekday peak periods.

Weekday. Figure 1-7 shows the weekday peak period vehicle speeds along the US 285 study area. During the weekday, peak period vehicle speeds generally are greater than 50 mph. Posted speeds are shown for reference.

Weekend. Figure 1-8 shows the weekend peak period vehicle speeds along the US 285 study area. In the study area, weekend peak period vehicle speeds range from greater than 50 mph between Bailey and Pine Junction to less than 35 mph near Foxton Road. Posted speeds are shown for reference.

Although vehicle speeds north of Pine Junction can exceed 55 mph, these speeds are considered unstable due to the high traffic volumes and limited ability to pass. Minor disturbances to traffic can cause large reductions in vehicle speeds.

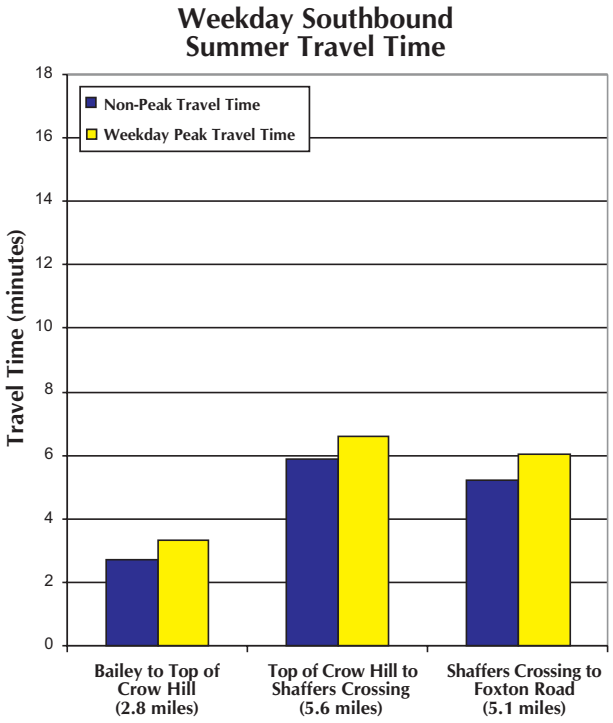
1.7.4 Vehicle Queue Lengths

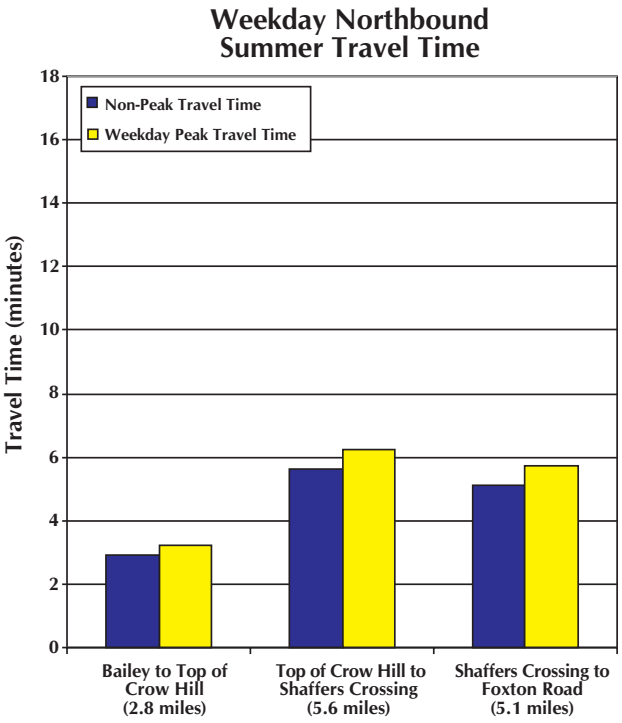
Freedom of vehicle movement and safety of operations on two-lane highways, besides being regulated by the length and frequency of passing sections, are adversely affected by slow-moving traffic that impedes following vehicles. Vehicle queue data were collected along the US 285 study area during peak time periods to identify locations where vehicle queues are prevalent.

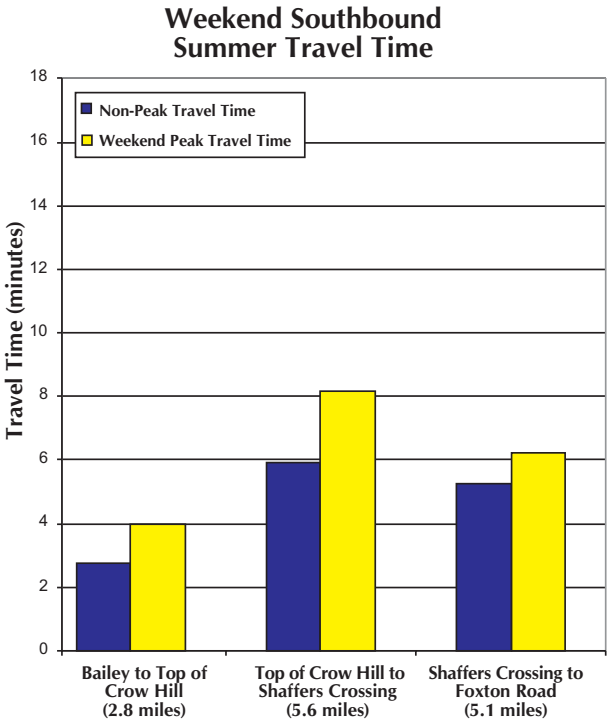
1.7.4.1 Passing Opportunities

Actual passing opportunities depend on sight distance and the availability of gaps in the opposing traffic stream. Variable travel speeds occurring on a roadway create platoons, or moving queues, as faster vehicles catch up with slower ones and they are unable to pass the slower-moving vehicles. As the number of vehicles in a queue increases, passing opportunities are reduced for both directions of travel, and delay is increased.

Figure 1-6: Travel Times During Weekday and Weekend Peak Hours







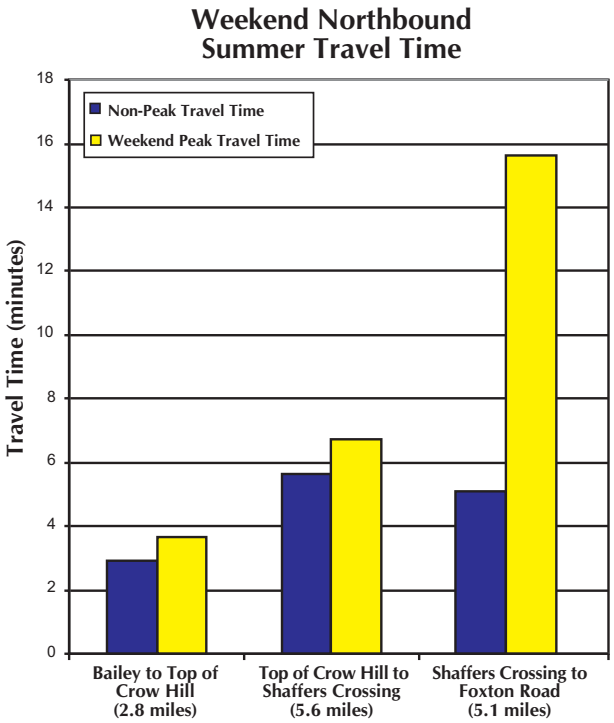


Figure 1-7: Weekday Peak Speeds

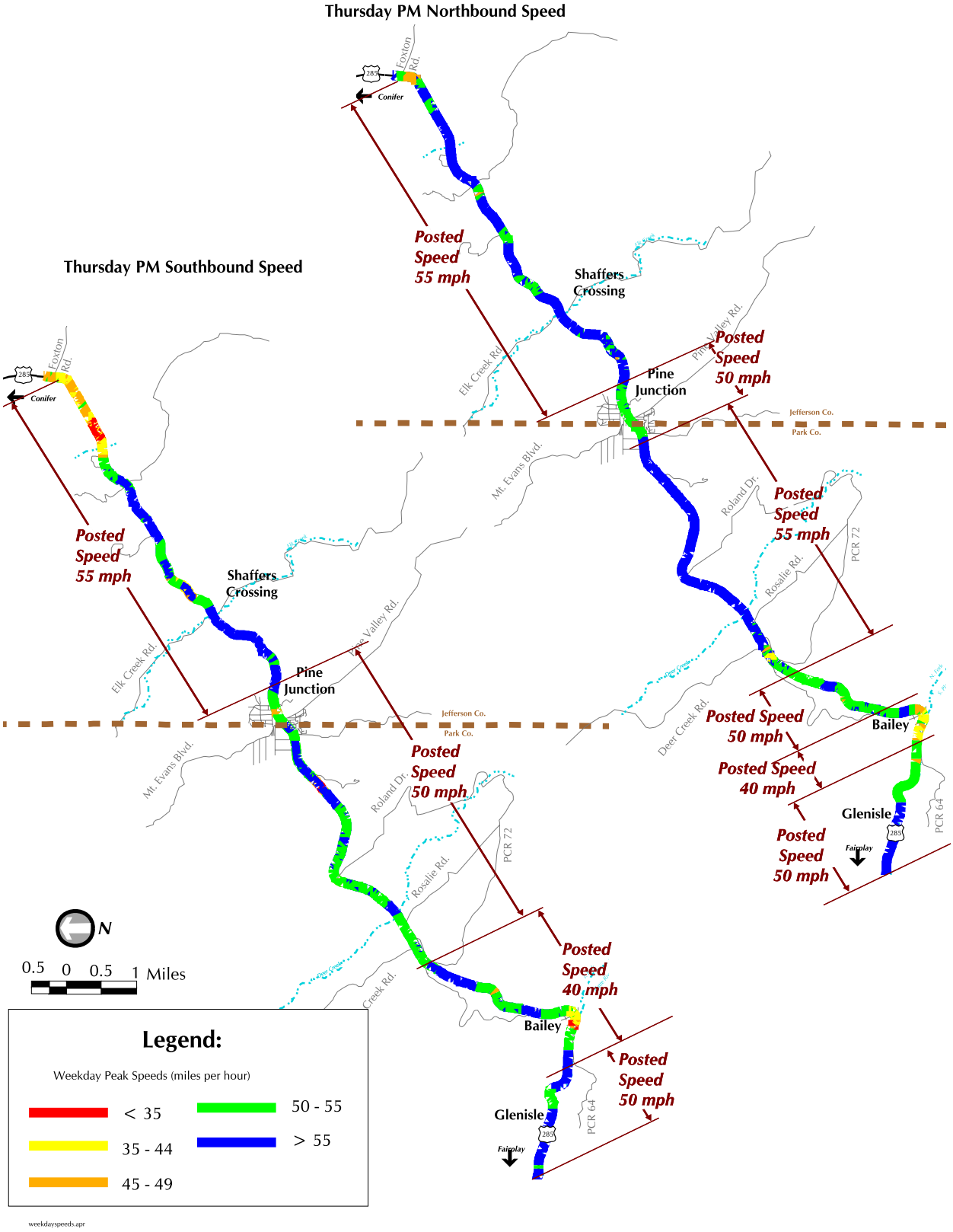
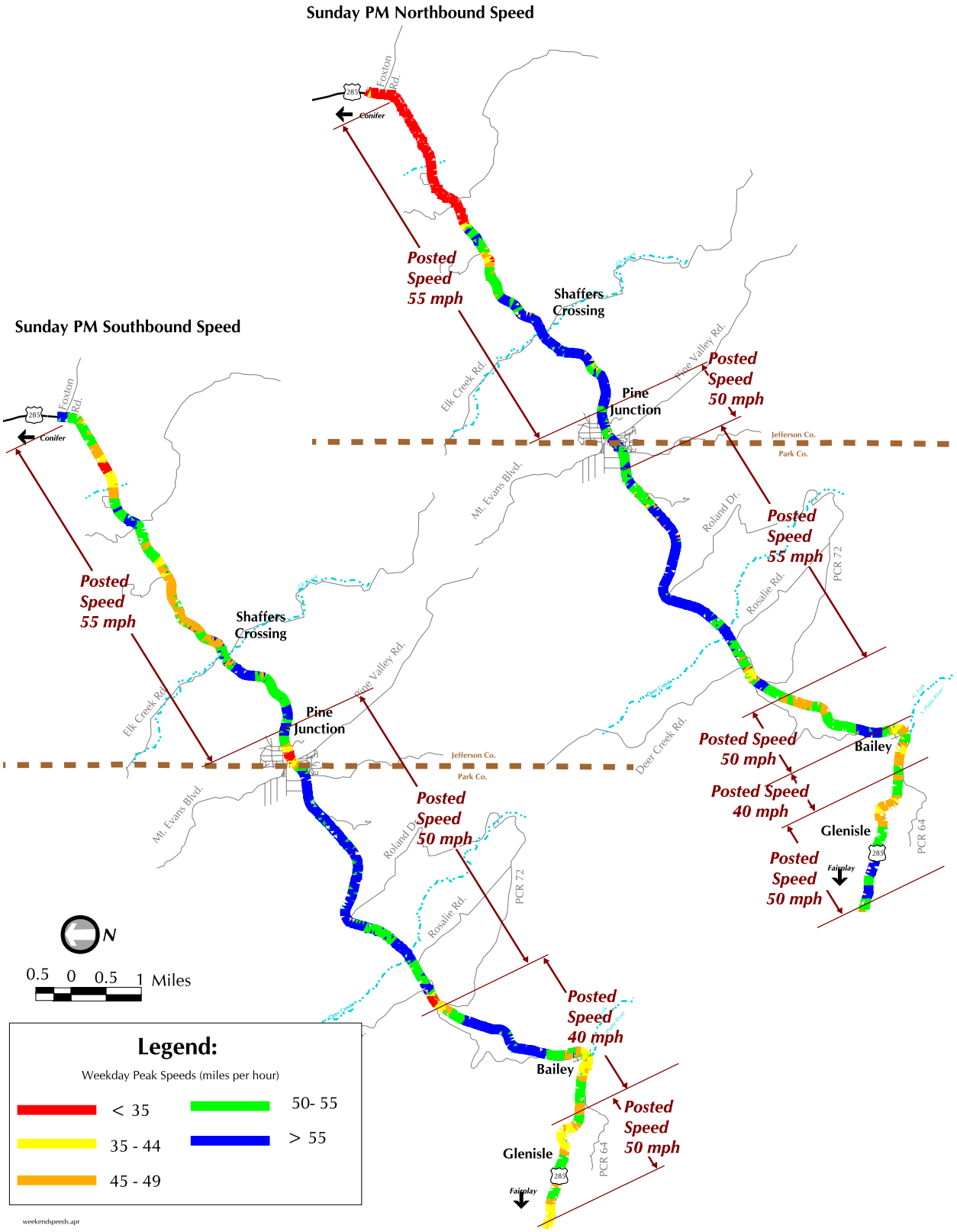


Figure 1-8: Weekend Peak Speeds



Roadway striping on the US 285 study area currently prohibits passing for 64% of the roadway in the northbound direction and 52% in the southbound direction. **Table 1-5** shows the percent no-passing zones by study segment. As noted earlier, the existing climbing lanes on US 285 were treated as passing areas for analysis purposes.

Table 1-5: No Passing Zones

Study Segment	Length (miles)	Direction	Percent No-Passing Zone
Bailey to Top of Crow Hill	2.82	SB	45%
		NB	5%
Top of Crow Hill to Shaffers Crossing	5.57	SB	4%
		NB	55%
Shaffers Crossing to Foxton Road	5.07	SB	56%
		NB	89%

1.7.4.2 Vehicle Queues

Summer weekend traffic along the study area experiences larger queues than does weekday traffic. Most notably, during the Friday PM peak period, the southbound direction of travel near Foxton Road was observed to have a vehicle queue of 790 cars; a northbound queue of 710 cars was observed on Sunday afternoon. It should be noted that queue data were collected prior to completion of previous roadway improvements, such as the removal of the traffic signal at Foxton Road. This may have affected the data. Because of the infrequency of these conditions, vehicle queuing is not a measure of operational effectiveness in the US 285 study area.

1.8 Travel Forecasts

1.8.1 Traffic Volumes

The existing and projected land use characteristics of Jefferson and Park Counties along the US 285 study area create unique travel patterns and operations. Both counties contain low-density residential development along with access to a variety of recreational uses. The unique attractiveness of the area continues to create a great demand for residential growth, tourism, and recreational activities, resulting in higher traffic volumes.

1.8.1.1 Travel Forecasting Model

Travel forecasts for the US 285 study area were estimated by using a software package that uses production and attraction zones and allows future traffic scenarios to be developed based on different land use, trip generation, and trip distribution inputs.

Additional information on the travel forecasting model, including growth factors, model calibration, trip generation, trip distribution and comparisons to travel projections of other studies, is presented in Appendix D.

1.8.1.2 Land Use Scenarios

Travel demand was developed for two separate land use scenarios: Existing Zoning and Re-Zoning. These scenarios reflect different land use development patterns that could take place in the study area. The Re-Zoning Scenario results in greater traffic demands in the southern portion of the study area. Both land use forecasts are evaluated against the No-Action Alternative to account for the range of variables that cannot be adequately predicted. These variables include the effect of highway improvements on traffic growth (induced demand) and land use decisions. The two land use scenarios are discussed further in **Section 3.1.4 on page 3-5**.

1.8.1.3 Summer Weekday Traffic Volumes

The traffic forecasting process produced two sets of 2025 summer weekday travel demand values for the roadway; one for each land use scenario. Summer weekday volumes are used for design purposes as they represent consistently high values. It was found that these demand values could be met by the roadway facility proposed by the Preferred Alternative. Therefore, the projected roadway volumes for the Preferred Alternative were set equal to the forecasted demand. For the No-Action Alternative it was found that these demand values could not be met by the roadway facility for some of the study sections. The resulting No-Action Alternative traffic volume forecasts, **Figure 1-9**, account for the two different land use scenarios and the effect of capacity constraints.

The range of traffic volumes for the Preferred Alternative accounts for the two different land use scenarios, as presented in **Figure 1-10.**

The No-Action Alternative does not provide the capacity to accommodate the future volumes in the northern portions of the study area under either land use scenario. The unmet demand south of Richmond Hill ranges from 1,200 to 1,400 vpd. Peak spreading from the PM peak hour to adjacent hours varies by segment up to 1,000 vpd. The anticipated consequences of this capacity constraint under the No-Action Alternative range from changes in travel behavior to changes in land development. It is difficult to predict the overall effect on traffic because the extent of any particular consequence is unknown. Regardless of the zoning scenario evaluated, the likely consequences (some of which could be considered beneficial) of the No-Action capacity constraint include:

- **Peak Hour Traffic Volume.** Since the No-Action Alternative roadway in the northern segments cannot accommodate the forecasted demand, the peak hour traffic volumes would be reduced to the level of roadway capacity. At capacity, traffic flow is very unstable, so the projected volumes are best estimated with a range of values rather than a single number.
- **Peak Spreading.** The congestion would cause travelers to make some trips at other times resulting in a different time distribution of daily traffic. In effect, the hours of peak demand are lengthened. The extent of the peak spreading is dependent upon many factors, including level of congestion, trip lengths, and trip purposes.
- **Change in Travel Behavior.** The capacity constraint may result in more telecommuting, internet shopping, and other behavioral changes by travelers to reduce the number of trips they make on the congested highway.
- **Change in General Land Use in the Study Area.** Over time, overall land use levels in the study area would not be expected to grow as fast as with an uncongested roadway.
- **Change of General Land Use Outside the Study Area.** Over time, second homes or destination land uses would not be expected to grow as fast as with an uncongested roadway. This would be due to increased travel times for trips through the study area.
- **Change in Jobs-to-Housing Balance in the Study Area.** In addition to the overall level of land use, the mix of expected land use could change over time. Because of congestion in parts of the study area, more people may look for jobs within the study area to avoid the congestion. This would change the composition of overall trip purposes and trip lengths. In addition, the location of land uses within the study area could change because of the roadway congestion.

Given these uncertainties, the future daily No-Action Alternative traffic volumes were approximated by an analysis that considered the directional capacity, the observed time-of-day volume patterns, and the demand volume forecasts for each analysis segment in the corridor. The analysis determined that the roadway with the No-Action Alternative would be over capacity from Foxton Road to Pine Junction. Projected peak volumes above capacity were spread up to two adjacent hours, and the remaining volume was suppressed. A range of volumes was developed, where the high end assumed only the over-capacity segments would be affected, and the low end assumed that the suppression of trips would propagate throughout the corridor. The range also included the effect of the Existing Zoning and Re-Zoning Scenarios. Further information on the capacity constraint assumption process for the No-Action Alternative can be found in the technical report, *"US 285 No-Action Alternative Volume Forecast Adjustments,"* June 2004. (All references in this section are cited in the technical report.)

The Preferred Alternative accommodates the projected traffic volumes. These volumes are highest on the north end of the study area between Richmond Hill and Foxton Road, between 44,800 and 47,300 vpd in 2025. At the other end of the study area near Bailey, the projected volumes are between 14,000 and 15,400 vpd.

Figure 1-9: Year 2025 Average Daily Weekday Traffic - No-Action

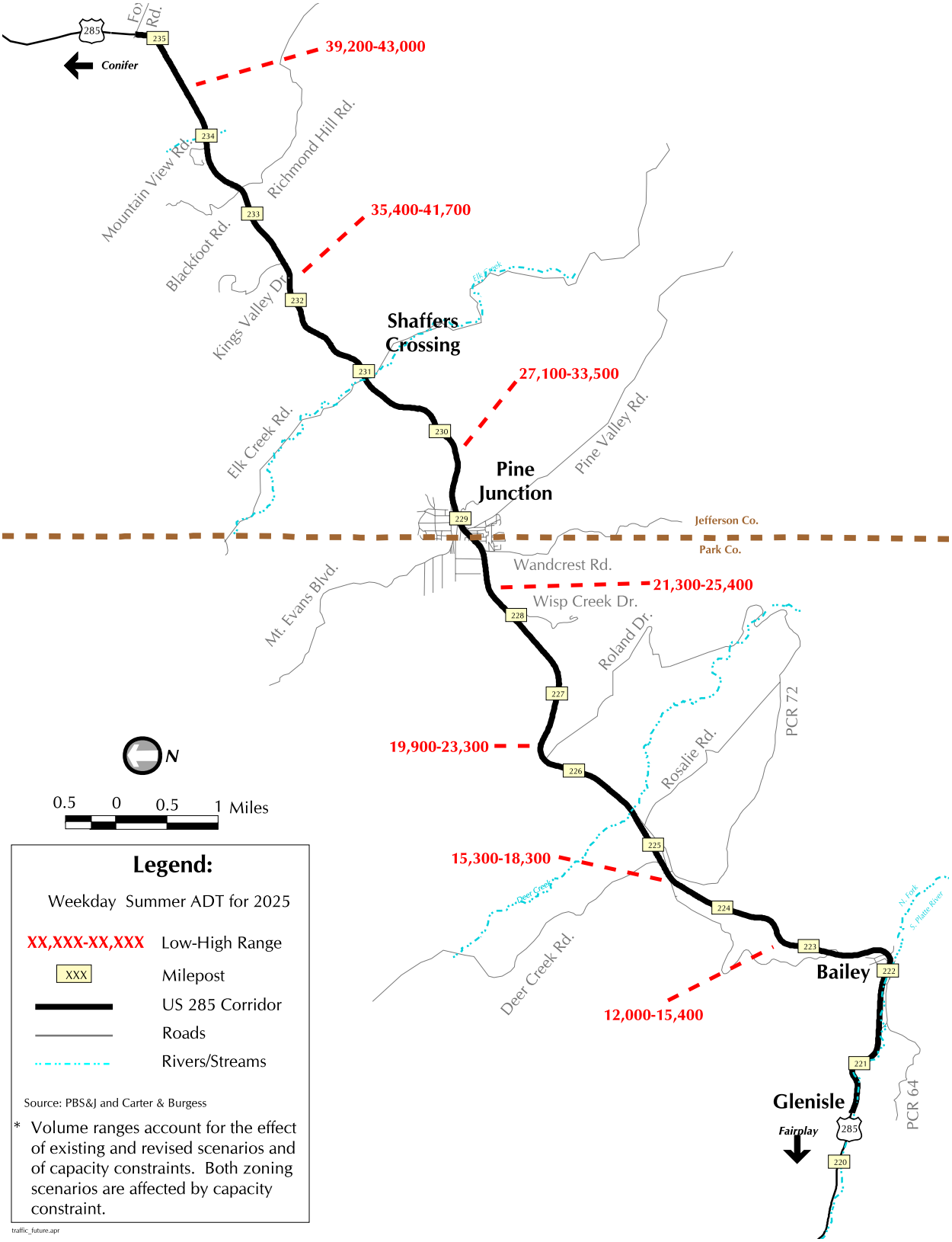
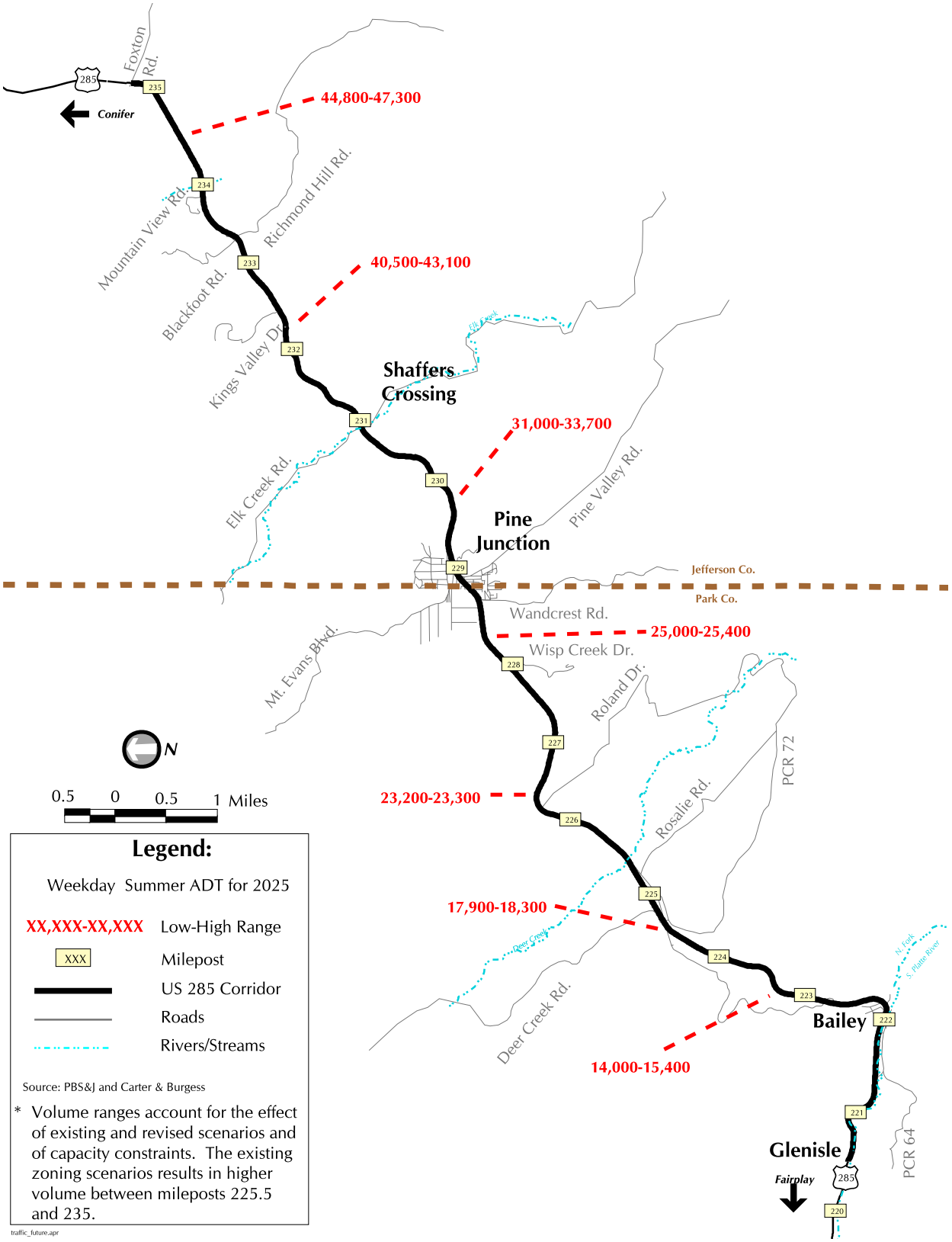


Figure 1-10: Year 2025 Average Daily Weekday Traffic - Preferred Alternative



1.8.1.4 Seasonal, Weekend and Hourly Variations

Variations in travel demand from the summer weekend average daily traffic can be estimated using existing factors. Existing seasonal and weekend factors are shown in **Table 1-6** and can be calculated from the traffic volume information summarized in **Section 1.6.2 on page 1-7**.

Table 1-6: Seasonal and Weekend Traffic Variation Factors

Study Segment	ADT Factors Applied to Summer Weekday Volumes			
	Weekday Summer	Weekday Fall	Weekend Summer	Weekend Fall
Bailey to Top of Crow Hill	1.0	1.05	1.64	1.20
Top of Crow Hill to Shaffers Crossing	1.0	0.73	1.40	0.76
Shaffers Crossing to Foxton Road	1.0	0.83	1.15	0.84

These factors illustrate that this study area carries heavy recreational traffic on the summer weekends. During the fall months, traffic is lower for the northern segments of US 285 and slightly higher for the segment between Bailey and the top of Crow Hill.

PM peak hour volumes are estimated based on existing counts to be 8% of the daily volumes. Peak hour forecasts are used for design purposes as they represent the highest consistent volume throughout the study area. This means that during weekend summer periods and for weekend fall periods between Bailey and the top of Crow Hill, travel demand may result in worse roadway LOS than shown for either the No-Action or Preferred Alternative.

1.8.1.5 Travel Projections - Side Streets

Existing 24-hour and PM peak hour turning movement counts were obtained on major side streets along the study area. These link volumes were forecasted from the base turning movement counts based on trip generation and distribution at these major access points. **Table 1-7** summarizes existing year 2000 count volumes and projected 2025 volumes using both the Existing Zoning Scenario, and the Re-Zoning Scenario for selected side streets.

Table 1-7: Projected 2025 Traffic Volumes for Side Streets

Location	Summer 2000 ADT	Weekday 2025 Projection Existing Zoning	Weekday 2025 Projection Re-Zoning
PCR 64	1,200	2,300	2,300
Deer Creek Road	5,900	8,000	7,400
Pine Valley Road	2,400	5,900	4,700
Mt. Evans Boulevard	3,800	7,200	6,700
Elk Creek Road south of US 285	800	3,700	3,600
Elk Creek Road north of US 285	1,300	2,600	2,600

Source: PBS&J

1.8.1.6 Travel Projections - Consideration of Other Studies

To gain a sense of greater validity in the traffic estimates and projections used for this EA, other projects that have occurred on or near the US 285 study area were identified. Traffic volumes and projections from the identified projects were compared with those produced in conjunction with this EA. The comparisons of these other projects' findings with those in this EA are discussed in Appendix D.

1.8.2 Level of Service

Roadway operations projected for 2025 were evaluated for the US 285 study area using the No-Action Alternative roadway laneage. The evaluation included roadway level of service (LOS) analysis for each of the study area segments. In addition, the projected peak hour intersection LOS operations were determined at the primary signalized intersections.

LOS results are shown for peak hour weekday traffic forecasts, as they represent the highest consistent

operating conditions throughout the study area. Peak hour weekday traffic is also used for design purposes. This means that during weekend summer periods and weekend fall periods between Bailey and the top of Crow Hill, travel demand may result in worse operating conditions than shown for either the No-Action or Preferred Alternatives. However, as discussed in **Section 1.8.1.3 on page 1-17**, the No-Action Alternative cannot provide roadway capacity for projected 2025 summer weekday traffic volumes, resulting in a suppressed demand. Increased demand during summer weekends would result in more suppressed demand.

1.8.2.1 Roadway LOS

Table 1-8 summarizes the 2025 roadway peak hour LOS conditions assuming roadway conditions under the No-Action Alternative.

Table 1-8: No-Action PM Peak Level of Service on US 285

Segment	2025 No-Action LOS Existing Zoning		2025 No-Action LOS Revised Zoning	
	North-bound	South-bound	North-bound	South-bound
Bailey to Crow Hill	D	D	C	C
Crow Hill to Deer Creek	D	D	D	D
Deer Creek to Wisp Creek	D	E	D	E
Wisp Creek to Pine Junction	E	E	E	E
Pine Junction to Shaffers Crossing	F	F	F	F
Shaffers Crossing to Richmond Hill	F	F	F	F
Richmond Hill to Foxton Road	B	D	B	C

**Assumes No-Action Alternative improvements, including a 4-lane cross-section. Refer to Section 2.4.1 on page 2-8 for details.*

The LOS of the roadway would generally deteriorate to E and F conditions. The northern portions of the corridor would have travel demands that exceeded the roadway capacity resulting in long delays, extreme congestion, poor LOS, spreading of peak period traffic, and suppressed demand. LOS C is the goal for rural and mountainous roadways.

1.8.2.2 Intersection LOS

Table 1-9 summarizes the 2025 intersection peak hour LOS conditions assuming existing roadway conditions.

Table 1-9: No-Action PM Peak Level of Service of Intersections

Intersection of US 285 and:	Minor Approach	2025 No-Action LOS
PCR 64	Northbound	F
	Southbound	F
PCR 68	Northbound	C
Parkview	Northbound	C
Mable Lane	Southbound	C
Deer Creek/PCR 43 (Signalized)	Overall	B
Wisp Creek	Northbound	F
Wandcrest	Northbound	C
Mt Evans Blvd.(Signalized)	Overall	B
Elk Creek	Northbound	F
	Southbound	F
Kings Valley West	Southbound	F
Kings Valley East	Southbound	F
Richmond Hill	Northbound	F
	Southbound	F
Springs Road	Northbound	F
	Southbound	F
Wagon Trail	Northbound	F

The roadway LOS analysis indicates that most of the intersections in the study area will operate at LOS F during the summer weekday peak periods, particularly for the northern portions of the study area if no improvements are made along US 285.

For a detailed analysis of the travel demand for the US 285 study area, please see the *Travel Demand Technical Report,* April 2003.

1.9 Safety

The five-year accident history along the study area indicates that accident frequency is greater than the statewide average for similar type facilities. The average driver's ability to safely navigate US 285 is compromised by high traffic volumes combined with inconsistent lane configurations, deficient roadway geometry, mountainous terrain, speed zone variations, winter weather conditions and frequent access points.

Several recent fatalities on US 285 have raised the public awareness and have prompted concerned citizens to push for safety improvements. In preparing the accident history analysis for this EA, CDOT examined the accident history for a period from January 1, 1997, to December 31, 2001. The following sections detail the accident types, rates, characteristics and contributing factors of the accidents that have occurred along US 285 over the five-year period.

1.9.1 Accident Rate

For the five-year analysis period, this portion of US 285 study area demonstrates accident rates nearly double the statewide averages for similar type facilities in total number of accidents, property damage only, injury, and fatality accidents. Contributing factors to the accident frequency in the study area are high traffic volumes, curvilinear roadway alignment, and mountainous environment.

1.9.2 Weighted Hazard Index

The weighted hazard index (WHI) is an index that accounts for accident rate and severity. Different factors are applied for property damage only, injury, and fatality accidents to weigh each of these collision types. The weighted total is then used to calculate a rate (similar to the accident rate) that expresses the severity of the accidents in the analysis area. Zero is considered the 'normal' point, where accidents in the analysis area are of the same severity as the statewide average. Thus, a negative WHI indicates that accidents are less severe than the statewide average, and a positive WHI indicates that accidents are more severe than the statewide average. See **Table 1-10**.

Table 1-10: Weighted Hazard Index Comparison

Location	Weighted Hazard Index	More or Less Severe than Statewide Average?
MP 221.55 to 224.23 Bailey to Crow Hill	0.34	More
MP 234.23 to MP 225.35 Crow Hill to Deer Creek	4.67	More
MP 225.35 to MP 227.94 Deer Creek to Wisp Creek	-1.15	Less
MP 227.94 to MP 229.01 Wisp Creek to Pine Junction	2.64	More
MP 229.01 to 230.99 Pine Junction to Shaffers Crossing	0.48	More
MP 230.99 to 233.43 Shaffers Crossing to Richmond Hill	1.40	More
MP 233.43 to MP 235.23 Richmond Hill to Foxton Road	0.92	More
Statewide Average Rate (1977)	0.00	

Source: Colorado Department of Transportation

1.9.3 Accident Severity

There were 540 accidents reported in the US 285 study area over the five-year analysis period: 18 were fatal, 165 involved personal injury, and 363 resulted in property damage only.

1.9.4 Accident Type

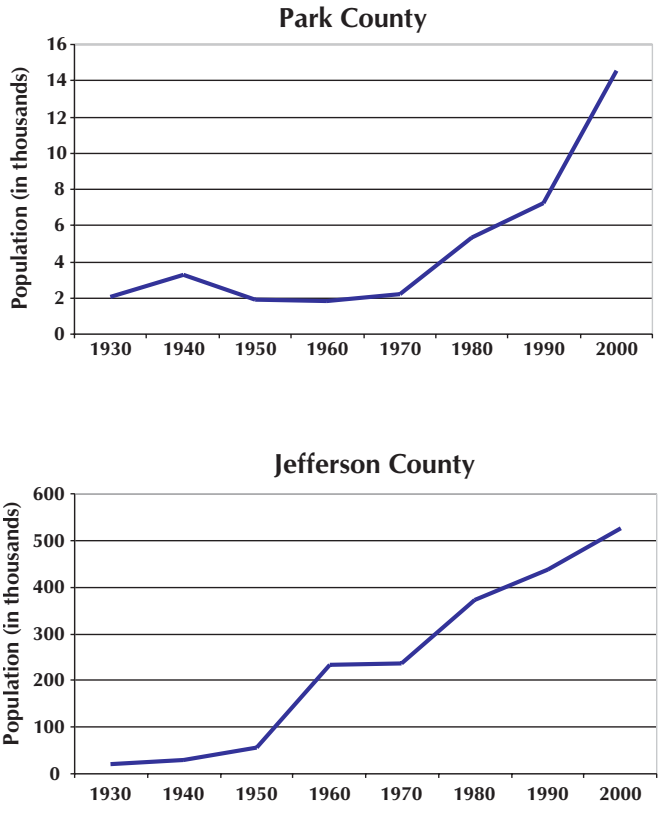
Accident types in the study area exhibit trends similar to other rural highways. The major accident types identified were rear end - 11%, wild animal - 12%, overturning - 21%, fixed object - 36%, and other (broadside, sideswipe, approach turn, head on, and other) - 20%. A significant number (38%) of the accidents occurred at either intersections or access points. Rear-end accidents were the most predominant type accident at these locations.

The highest-frequency accident locations were between MPs 224.23 and 225.35 (between Crow Hill and Deer Creek), with rear-end, broadside, and wild animal type accidents. The highest number of intersection accidents was at County Roads 43 and 72, north of Bailey. Intersection-related accidents result from the higher traffic volumes and a high number of accesses in this section of the study area. **Figure 1-12** shows a summary of accident locations and types.

1.10 Growth

The US 285 study area traverses portions of both Park and Jefferson Counties. Both of the counties are among the fastest growing counties in Colorado in terms of population and economic growth. Although both counties have grown since the 1930s, the highest rate of growth has occurred since 1990 (see **Figure 1-11**). This growth has placed an increased demand on US 285, in large part creating the need to improve the facility.

Figure 1-11: Historic Population Growth



1.10.1 Jefferson County

Jefferson County's total population grew consistently between the years of 1990 and 2000. The Colorado Department of Local Affairs reported in 1990 a population of 438,340; the 2000 Census reported 527,026 - an increase of 20% within 10 years. A high rate of population growth has occurred as communities along the US 285 study area have grown in popularity. The majority of growth along US 285 has resulted in the development of new residential units. In addition, commercial and retail development has occurred to support the residential growth.

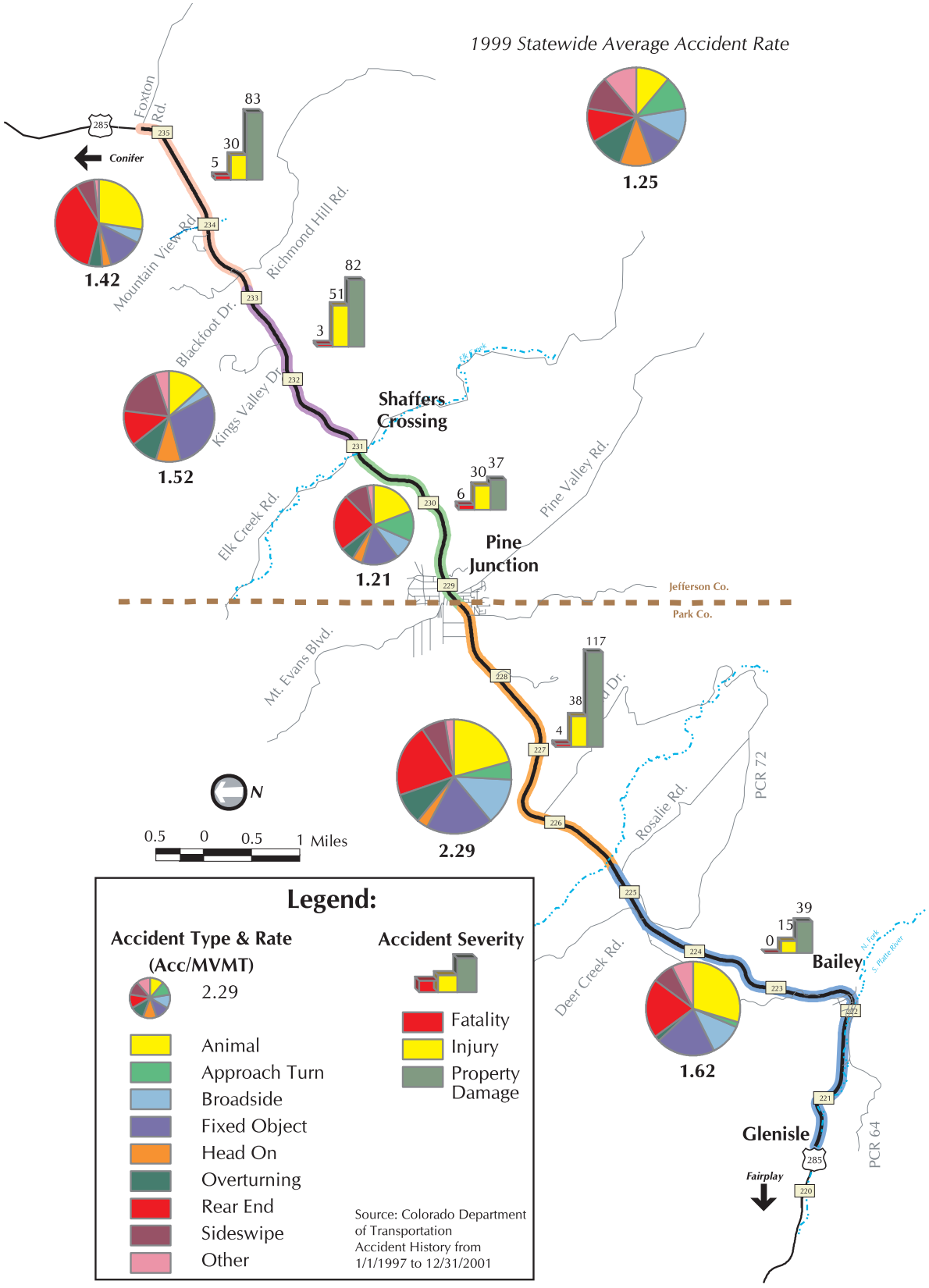
Employment opportunities along the US 285 study area are mainly in the service and retail industry, such as grocery stores, gas stations, and restaurants, causing most residents to commute along the US 285 corridor to the Denver metropolitan area for jobs. However, small specialty retail businesses are thriving along the corridor, making the community centers of Pine Junction and Conifer attractive to local residents. As these community centers continue to develop economically, especially in the service industry, traffic along the US 285 study area will continue to increase as residents in smaller neighboring communities travel to these areas for services.

1.10.2 Park County

Park County is one of the fastest growing counties in the nation. The 1990 Census reported 7,174 residents; the 2000 Census reported 14,523 - an increase of 102% within 10 years.

Most of the growth has occurred in the unincorporated areas of the county. According to demographic data reported by Park County, nearly three quarters of the county population lives in the Platte Canyon area in the unincorporated communities of Bailey, Shawnee, and Pine Junction. Much of the new short-term growth is projected to occur in these areas as well. The main source of employment in Park County is in the retail trade sector, closely followed by construction and government service. New jobs are being created in the wholesale trade, hotel and lodging and other service industries. There is much support for the expansion of tourism and support activities in Park County, as

Figure 1-12: Specific High-Frequency Accident Locations and Accident Types



the county has numerous natural, cultural and historic resources to make heritage tourism a viable part of its future economy. Additional tourism support activities, such as lodging and eating/drinking establishments, would be ideally located along the US 285 corridor. Currently, the demand for goods and services is larger than the supply. Retail growth in the Platte Canyon region of Park County is expected to expand and follow the trend in Jefferson County to meet the demand of increased residential growth.

This retail growth likely will be concentrated around existing commercial development in Pine Junction, Bailey and near Crow Hill.

Continued growth in residential development and the relative lack of significant employment opportunities, will cause the US 285 study area to continue to experience traffic growth, as both residents and tourists use the highway as a through route.

1.10.3 Study Area Residential and Commercial Growth

For the purpose of the traffic model, trip generating units (single or multi-family residential) or gross leasable area (GLA) were used as inputs rather than population and employment figures. The resulting trip generation for the Existing Zoning and Re-Zoning Scenarios is summarized in **Table 1-11** below. These figures represent the growth in the number of units or GLA for the respective counties between 2002 (base year for land use data) and 2025.

Table 1-11: Study Area Residential and Commercial Growth

	Existing Zoning (2025)		Re-Zoning (2025)			
	Residential Units	Retail GLA	Residential Units	Retail GLA*	Office GLA*	Industrial GLA*
Jefferson County	1,641	537	1,348	612	361	77
Park County	1,034	232	743	647	917	0
Study Area Totals	2,675	769	2,091	1,259	1,278	77

GLA is expressed in thousands

1.11 Transit Service

RTD provides bus service in Jefferson County along US 285 from the RTD boundary at Pine Junction to the north. No commuter bus service is provided to Park County. Three bus routes serve the area: Routes C and U serve Pine Junction, and Route Z serves the Aspen Park park-n-Ride (outside the study area limits but serving commuters within the study area). Route C serves the highest number of commuters (see **Table 1-12**).

Table 1-12: Existing Bus Service

Route	From	To	Study Area Park-n-Ride Stops	Average Number of Weekday Riders
C	Pine Junction	Denver Civic Center	Aspen Park Mountain View Pine Junction	460
U	Pine Junction	Denver Tech Center	Aspen Park Mountain View Pine Junction	193
Z	Aspen Park	Denver Civic Center	Aspen Park	276

Source: Denver Regional Transportation District, 2001.

The Pine Junction park-n-Ride and the Mountain View park-n-Ride are currently fully utilized on weekdays even though RTD bus service to the Denver metropolitan area is only provided during peak periods (5:15 a.m. to 7:30 a.m. and 5:30 p.m. to 7:30 p.m.). The Pine Junction park-n-Ride is 98% utilized on a weekday with an average of 90 of the 92 parking spaces full. Mountain View park-n-Ride is 27% utilized on a weekday, with 50 out of the 183 spaces full. The Aspen Park park-n-Ride, just outside the study area limits, is 55% utilized on a weekday, with an average of 89 of the 162 spaces full.

Buses currently experience significant travel time delay due to congestion along US 285 during peak hours. However, the demand for additional regional

bus service exists and is likely to increase with additional growth and congestion.

Local transit service is only provided to seniors through call-n-Ride programs through the Park County Senior Coalition and the Jefferson County Senior Resource Center.

1.12 Pedestrian, Bicycle and Equestrian Facilities

Equestrian and dirt bike trails traverse much of the area; however, pedestrian or bicycle trails between key activity centers and urban areas are lacking. In March 2000, *Colorado Bicycle Corridors: An Analysis of the State Highway System to Determine Highways Used by Bicyclists and Highway Recommended Shoulder Improvements* was published by the CDOT Bicycle/Pedestrian Program. This report lists US 285 in the top 15% of all highways used by bicyclists and the top 15% of all highways in Colorado needing shoulder improvements.

No pedestrian facilities are provided along US 285, and streets that cross the highway lack pedestrian crosswalks. Bicyclists, equestrians, and pedestrians utilize unpaved shoulders along US 285 that pose unsafe conditions. The newly improved segments of US 285 north of Conifer include 10-foot paved outside shoulders that are used by bicyclists. However, separate pedestrian facilities have yet to be constructed along the US 285 corridor.

1.13 Compatibility with Transportation Plans

This section describes how various transportation planning documents relate to proposed improvements in the US 285 study area.

1.13.1 Countywide Transportation Plan Addendum for Jefferson County (2002)

The Jefferson County portion of US 285 is included in this plan as a four-lane facility. The Preferred Alternative is consistent with this plan.

1.13.2 Park County Road Needs Study (2000)

This plan does not specifically mention any suggested improvements to the section of US 285 between Pine Junction and Bailey. It does, however, state that US 285 at Wandcrest Road has the highest traffic volumes in the county and that between 1996 and 1998 traffic volumes increased 8.5% on state highways in the county.

1.13.3 DRCOG 2025 Plans

The DRCOG *Metro Vision 2025* plan shows the ideal highway network for the six-county Denver metropolitan area. This plan shows the section of US 285 from Foxton Road south to the Jefferson County line as a major regional 4-lane highway.

The Jefferson County portion of the US 285 study area is included in the conforming fiscally constrained *2025 Interim Denver Regional Transportation Plan*.

1.13.4 Statewide Transportation Improvement Program

The 2003-2008 Transportation Improvement Program (TIP) for the Denver metropolitan area includes $15 million for the US 285 project. This is primarily for the No-Action interim improvement. Approximately $5 million is available for near term implementation of this action. Long term implementation is funded through the statewide plan. Approximately $79 million is shown in the current statewide plan for work along US 285 in both counties.

Prior to approval of a Final Decision Document (such as a Finding of No Significant Impact), the cost for the portion of the project that is in the Final Decision Document will be included in the TIP, the Regional Transportation Plan(s) and the Statewide Plan.

Chapter 2: Alternatives

2.1 Introduction

The National Environmental Policy Act (NEPA) requires that a range of alternatives, including reasonable alternatives and a No-Action Alternative, be presented and evaluated in detail. The Council on Environmental Quality has defined reasonable alternatives as those that are practical or feasible from a technical and economic standpoint and achieve the Purpose and Need for the Project.

This chapter describes the process used to identify the reasonable alternatives that are fully assessed in the EA and provides the assumptions used to develop each of these alternatives.

Copies of the technical reports referenced in this chapter are available by request from CDOT Region 1 and at the locations listed below. Aerial photo-based drawings of the Preferred Alternative are located in Appendix C. Engineering plan sheets showing the alternatives described in **Section 2.4 on page 2-7** are available for public inspection at the following locations and/or by request from CDOT Region 1:

- CDOT Headquarters
  Public Information Offices
  4201 East Arkansas St., Room 277
  Denver, CO 80222
  phone: 303/757-9228

- CDOT Region 1
  Planning and Environmental Division
  18500 East Colfax Avenue
  Aurora, CO 80011
  phone: 303/757-9371

- CDOT Environmental Programs Branch
  1325 S. Colorado Blvd., Suite B-400
  Denver, CO 80222
  phone: 303/757-9259

- CDOT Lakewood Residency Office
  9858 W. Girton Drive,
  Lakewood, CO 80227-4326
  phone: 303/988-5474

- Jefferson County Department
  of Highways and Transportation
  100 Jefferson County Parkway, Suite 3500
  Golden, CO 80419-3550
  phone: 303/271-8470

- Park County Road and Bridge Department
  1246 County Road 16
  Fairplay, CO 80440
  phone: 719/836-4276

- Jefferson County Library
  Highway 73 at Buffalo Park Road
  Evergreen, CO 80439
  phone: 303/674-0780

- Jefferson County Library (Conifer Library)
  10441 Highway. 73
  Conifer, CO 80433
  phone: 303/982-5310

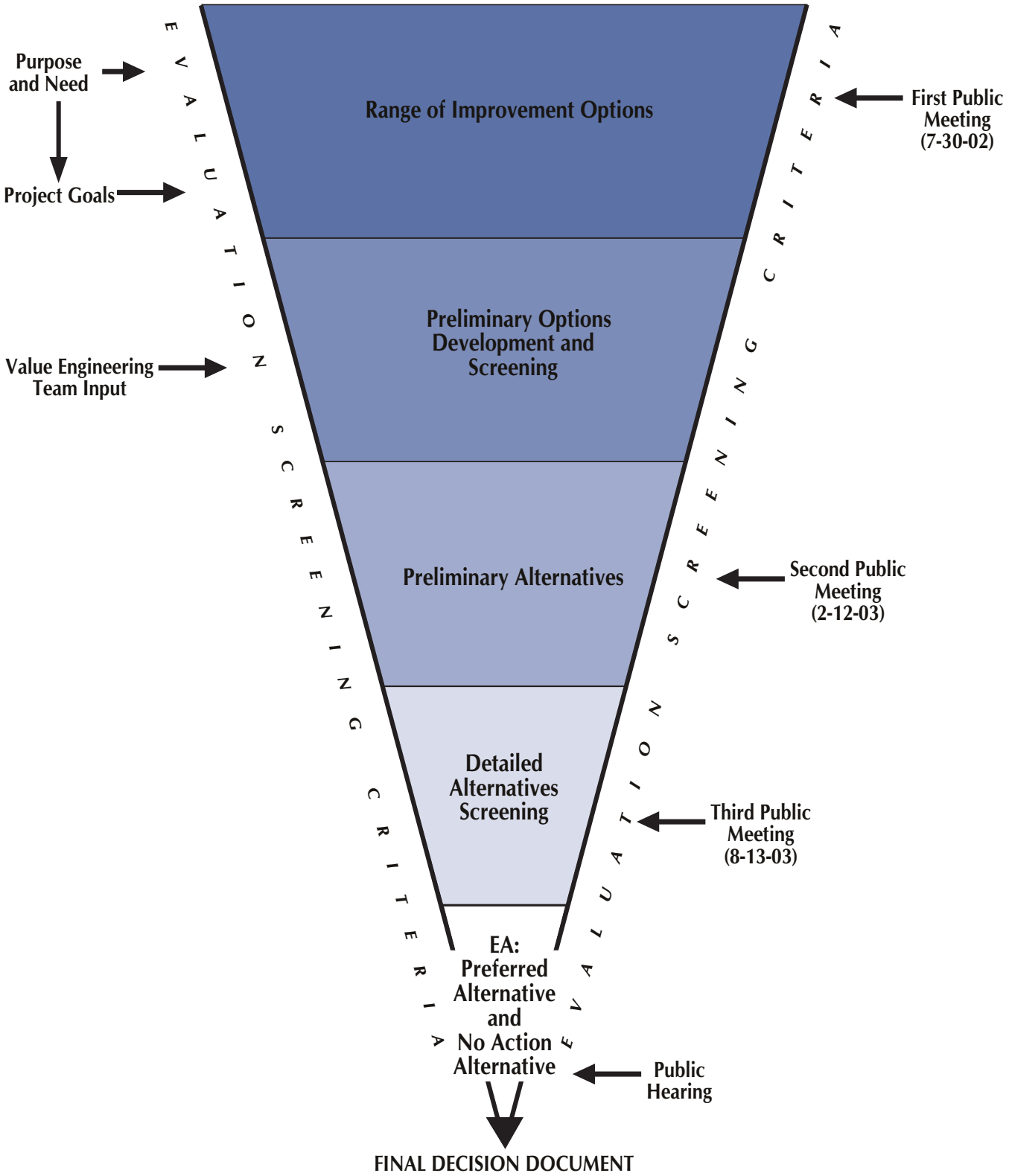
- Park County Library
  P.O. Box 282
  350 Bulldogger Road
  Bailey, CO 80421
  phone: 303/838-5539

- FHWA Colorado Division Office
  12300 W. Dakota Ave., Suite 180
  Lakewood, CO 80228
  phone: 720/963-3000

2.2 Alternatives Development and Screening Process

Figure 2-1 on page 2-2 illustrates the alternatives development and screening process used for the EA. The NEPA scoping process began with the Notice of Intent (NOI) to prepare an EIS, which was published in the Federal Register on July 12, 2002. An amendment to the NOI stating that it is now an EA was published on December 24, 2003. The reason this

Figure 2-1: Alternatives Screening Process



change was made is that prior to finalizing the Draft EIS, it became apparent that no significant impacts would occur as a result of this action.

The scoping process included numerous public meetings, resource agencies meetings, local agencies meetings, and meetings with local business owners.

The process to develop and screen alternatives consisted of three steps:

1. All possible options, or the range of options, were identified. After identifying the entire range of alternative options, the range was prescreened to eliminate alternatives with fatal flaws (including exorbitant cost, non-responsiveness to Purpose and Need, and unacceptable environmental or community impacts).

2. More detailed development of the remaining preliminary alternatives was completed to identify those alternatives that were practical or feasible from a technical and economic standpoint. A part of this process was a convening of a Value Engineering (VE) Team. The VE Team consisted of engineers and planners unaffiliated with the project, representatives from Jefferson and Park Counties, and neighborhood representatives. They met for a week to review the alternatives developed to date and to recommend changes.

3. The remaining reasonable alternatives were technically defined to a level sufficient to fully evaluate their environmental, social and economic impacts. Evaluation of the Preferred Alternative, along with full evaluation of the No-Action Alternative, is included in Chapter 3.0 of this EA. Section 404 (b) (1) Guidelines were closely followed during this process.

2.2.1 Evaluation Screening Criteria

Evaluation screening criteria for the US 285 EA were developed based on project needs and scoping input. These are listed in **Table 2-1.**

Grade-separated intersection options served specific access and mobility needs and a similar set of evaluation criteria was developed for them.These criteria are shown in **Table 2-2**.

2.2.2 Alternatives Screening Results

The project team (design and environmental specialists) refined the alternatives and measured their effectiveness through data collection, analysis and use of the screening criteria. The alternatives developed by the project team gained concurrence at the larger Project Steering Group meetings. The evaluation criteria and measures of effectiveness were applied to the alternatives, as appropriate, for final screening, and a Preferred Alternative was recommended for full evaluation. Description of this alternative appears in **Section 2.4.2 beginning on page 2-9** of this document.

Figure 2-2 on page 2-6 illustrates the screening process used.

Complete documentation of the process and associated technical analysis can be reviewed in the *Alternatives Development Technical Report,* March 2004. (All references in this section are cited in the technical report.)

Table 2-1: Evaluation Criteria and Measures of Effectiveness Used to Screen Alternatives

Evaluation Criteria	Measures of Effectiveness
Safety	Is there provision for limited access? Does the alternative improve the substandard design of the shoulders, clear zones and sight distance? Does the alternative provide safe local access? Does the alternative minimize the potential for conflict at access and frontage roads? Is there provision for safe access locations? Does the alternative meet driver expectancy? Is the alternative consistent with CDOT design standards and access control?
Environment	Would the alternative maintain or enhance rural character? Is the alternative consistent with local plans? Would the alternative cause noise impacts? Would the alternative impact wetlands? Would the alternative maintain or enhance visual quality? Would the alternative impact historic property?
Local Travel Demand	Would the alternative improve congested conditions? Would the alternative provide increased capacity? Would the alternative reduce delay? Would the alternative accommodate future planned growth? Would the alternative minimize out-of-direction travel? Would the alternative improve weekday peak travel time?
Recreational Travel Demand	Would the alternative reduce congestion? Would the alternative provide increased capacity? Would the alternative reduce delay? Would the alternative improve weekday peak travel time?
Multi-modal Transportation	Would the alternative improve bus transit service? Would the alternative provide more non-motorized travel opportunities? Would the alternative provide connectivity to key activity centers by providing bicycle and pedestrian facilities?
Implementable	What are the capital and operating costs associated with the alternative? What is the availability of funding sources? Would this alternative minimize traffic construction impacts? Would this alternative be politically feasible? Would this alternative minimize right-of-way impacts? Would there be opportunities to phase construction with this alternative? Would this alternative minimize impacts to utilities? Would this alternative have the support of the public?

Table 2-2: Evaluation Criteria and Measures of Effectiveness used to Screen Grade Separation Alternatives

Evaluation Criteria	Measures of Effectiveness
Operations and Safety Criteria	Would the grade-separated intersection (GSI) reduce delay and accommodate traffic demand? Would the GSI be compatible with local business interests and provide ample residential access? Would the GSI minimize out-of-direction travel? Would the GSI minimize conflict between access locations and frontage roads? Would the GSI have safely located accesses? Would the GSI alternative meet driver expectancy with easily understood signage?
Design and Construction Criteria	Would the GSI alternative be constructable? Would the GSI alternative minimize impacts to right-of-way? Would the GSI alternative minimize cost? Would the GSI alternative minimize relocations?
Environmental Criteria	Would the GSI alternative minimize visual impact? Would the GSI alternative minimize the impact wetlands? Would the GSI alternative minimize the impact floodplains? Would the GSI alternative minimize disturbance to hazardous material areas? Would the GSI alternative minimize impacts to T and E species? Would the GSI alternative minimize impacts to historical/archaeological and paleontological resources?

2.3 Coordination and Involvement Process

Technical and public input was used to develop recommendations for alternatives development and screening (see **Figure 2-3**). The process included meetings with stakeholders comprising resource agencies and local agencies, business groups and the general public to discuss possible alternatives, the evaluation of alternatives, issues such as impacts to the community and cost, the refinement of alternatives and possible mitigation. More than 45 meetings were held.

2.3.1 Project Steering Group

The primary role of the Project Steering Group (PSG) is to make recommendations regarding decision making to FHWA throughout the NEPA process. The PSG is comprised of representatives from the following groups: CDOT, FHWA, RTD, Jefferson County, Park County, Denver Regional Council of Governments (DRCOG), and the project team consultants.

2.3.2 General Public Outreach

- **Large Public Meetings** - Large meetings with the general public were held three times during key points in the process to provide input back to the project team. These meetings were held on the following dates: July 30, 2002, February 12, 2003 and August 13, 2003.

- **Meetings with Neighborhood Groups, Business Organizations and Special Interest Groups.** These meetings were held throughout the process to obtain input on all of the options and alternatives being considered and impacts or mitigation measures.

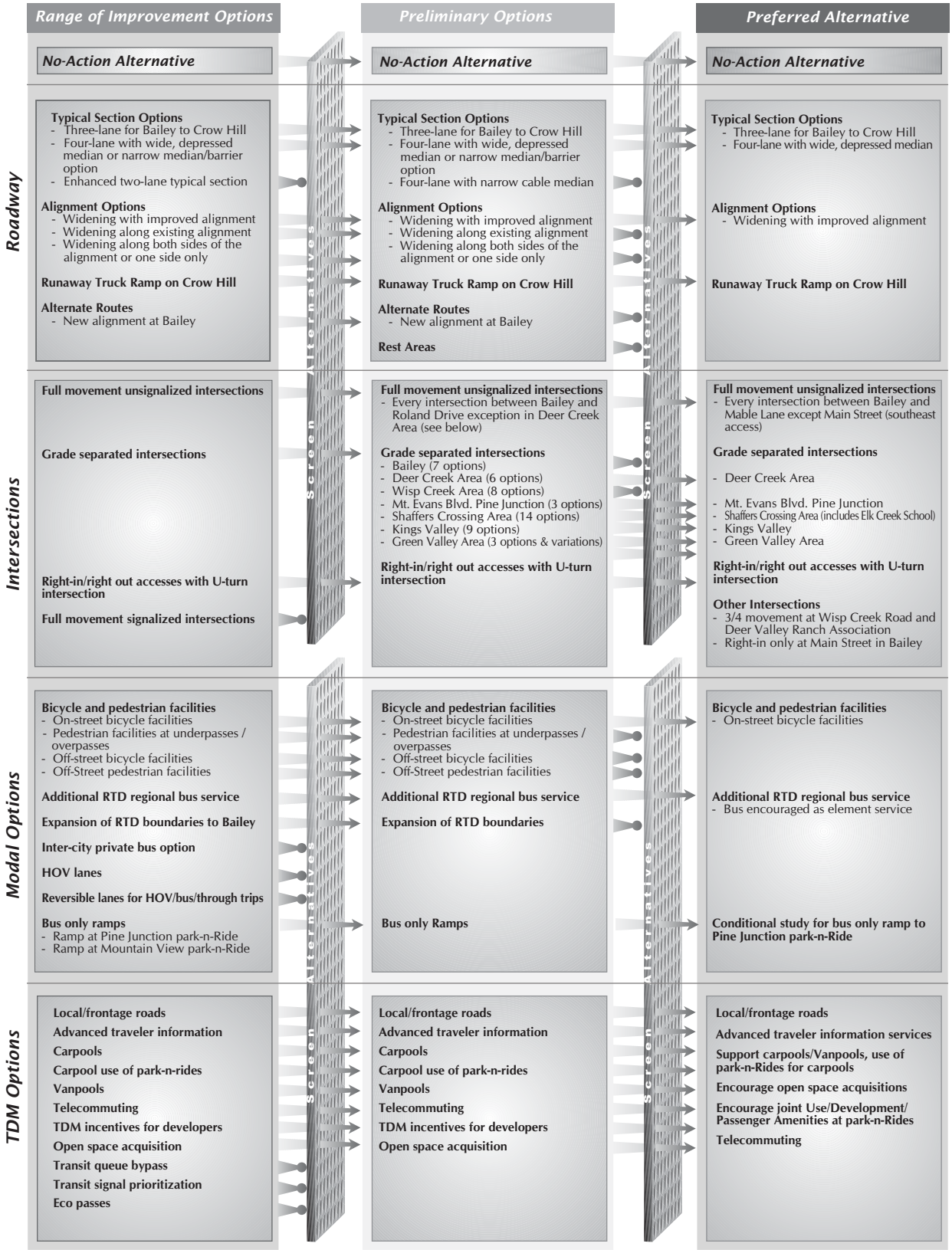
- **Project Newsletters.** The newsletters were prepared to provide updates on project issues and process. These newsletters were sent out to a mailing list of over 800 people as follows:

  ***Newsletter #1* January 2003.** Project update and introduction of preliminary project alternatives.

  ***Newsletter* #2 July 2003.** Project update, public workshop information, description of the Preferred Alternative and some impact information.

  Newsletter #3 March 2004. The third newsletter explained the change from an EIS to an EA, the progress made since the last public workshop, the next steps to be made, and the schedule. The proposed interim improvements were explained in more detail and opportunities for input were given.

Figure 2-2: Alternatives Screening Results



Newsletter #4. Will provide a summary of the EA and an announcement of the public hearing.

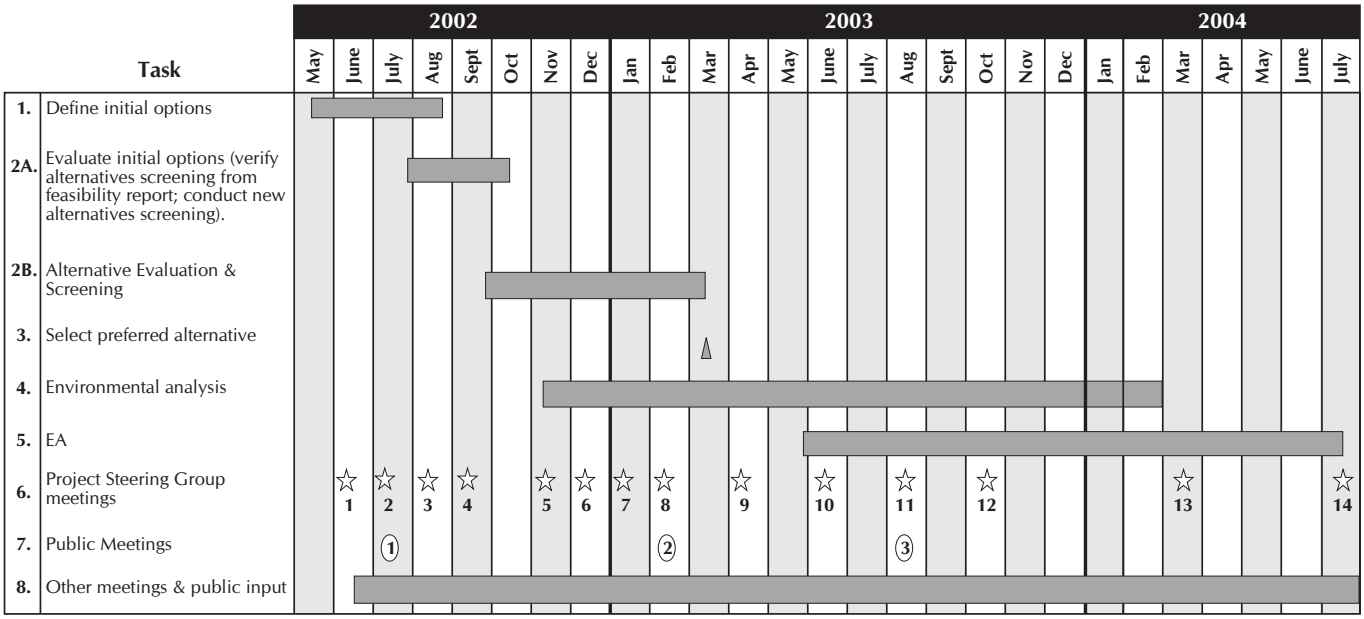
- **One-on-One Meetings with Individual Property Owners.** Numerous meetings were held as right-of-way needs were being defined to keep individual property owners informed.
- **Web site.** A Web site was designed to provide real-time access to project progress. The Web site address is www.us285.com. There were over 6,400 visitors to the US 285 Web site as of June 30, 2004.

2.3.3 Agency Involvement

- **Resource Agency Meetings.** These meetings were held with the state and federal agencies that have a regulatory responsibility for various resources, such as wetlands, historic properties, endangered species or water resources. Two resource agency meetings were held. See Chapter 4.0 - Comments and Coordination for more information about these meetings.
- **Meetings, Contacts with Individual Agencies.** Contact was made with other state, federal or local agencies on numerous occasions to gather data and obtain input on specific issues. See Chapter 4.0 - Comments and Coordination for more information about these meetings.

Figure 2-3: EA Alternatives Evaluation Schedule

as of July 2004



(1) Public Meeting, July 30, 2002
(2) Public Meeting, February 12, 2003
(3) Public Meeting, August 13, 2003

2.4 Alternatives Advanced

The alternatives described in this section were developed to a conceptual level of detail only. Specific details may change during the final design process.

The No-Action Alternative and the Preferred Alternative are described in this section and are fully evaluated in Chapter 3.0 of this EA. Other alternatives considered but not advanced are described in **Section 2.5 on page 2-34**.

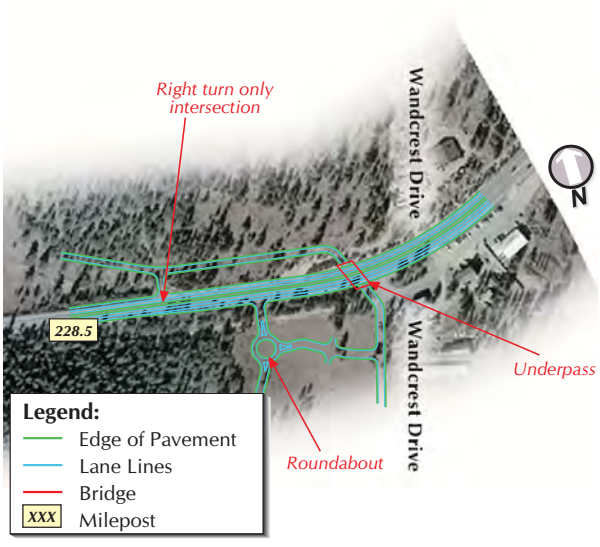
2.4.1 No-Action Alternative

The No-Action Alternative includes only those projects that have committed funds for improvements. These improvements would be made whether or not any other improvements are made in conjunction with the EA. This alternative is fully assessed and is used as a baseline comparison for environmental analysis purposes. Committed projects that are included in the No-Action Alternative are:

- Sunset Parkway grade-separated intersection at Wandcrest Drive. This grade-separated intersection is being constructed by others using private funding. Its design would not preclude any alternatives being considered in this EA. The following roadways or facilities would be accessible to and from this grade-separated intersection:
  - Wandcrest Drive
  - Local businesses on southeast side of US 285

  This project assumes the developer will secure funding. This project is illustrated in **Figure 2-4.**

Figure 2-4: Sunset Parkway/Wandcrest Drive Grade-Separated Intersection

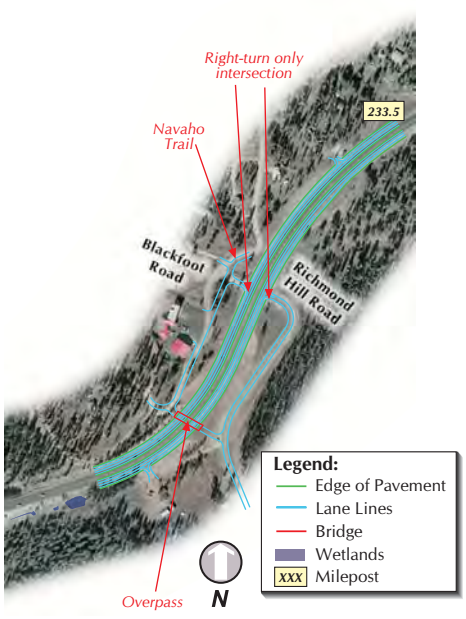


- Interim Improvement
  - Interim four-lane improvements between Richmond Hill and Foxton Road. These improvements include 1) an additional northbound through lane between the end of the two northbound lanes at Richmond Hill to the existing four-lane section south of Foxton Road; 2) an additional southbound through lane between the existing four-lane section south of Foxton Road to the two southbound lanes north of Richmond Hill; 3) median left-turn lanes for access points between Springs Road and the existing four-lane improvements south of Foxton Road and 4) acceleration and deceleration lanes for northbound traffic at Log Trail and Wagon Road.
  - Richmond Hill Grade-Separated Intersection. This intersection is being constructed as part of the interim four-lane improvements listed above and consists of an overpass across US 285 southwest of the Richmond Hill/Blackfoot Road/US 285 intersection with right-in/right-out intersections at Richmond Hill Road and Blackfoot Road. The following roadways would be accessible to and from this grade-separated intersection:
    - Richmond Hill Road
    - Blackfoot Road
    - Navaho Trail

    Local access with US 285 is limited to Richmond Hill Road and Blackfoot Road. No specific access control is provided on Blackfoot Road beyond the intersection with Navaho Trail. No access control is provided on Richmond Hill Road.
  - The southbound climbing lane that merges at Richmond Hill would be extended from the existing roadway curve to the tangent section just south of Richmond Hill. This improvement is being constructed as part of the interim four-lane improvements listed above.

These interim improvements were identified through this EA process. This project is illustrated in **Figure 2-5**.

Figure 2-5: Richmond Hill Area Grade-Separated Intersection



NEPA approval for the interim improvements is planned for fall of 2004. The interim improvements are in the *2003-2008 Transportation Improvement Program* and total $10 million.

The location of the No-Action Alternative projects is shown in **Figure 2-6.**

Artist Rendering of Overpass - looking Southwest

2.4.2 Preferred Alternative

The Preferred Alternative includes four-lane widening from Foxton Road to Crow Hill, intersection, shoulder, and safety improvements between Crow Hill and Bailey, and a grade-separated intersection at major intersections. See **Figure 2-7**. A more detailed description is provided in the following sections.

2.4.2.1 Typical Section

The Preferred Alternative has four through lanes and a depressed rural median between the top of Crow Hill and Foxton Road and two through lanes and an uphill passing lane between Bailey and the top of Crow Hill. The typical sections for the Preferred Alternative would have either four 12-foot through lanes and a 22-foot-wide depressed median or three 12-foot through lanes. These proposed typical sections are shown on **Figure 2-8**. Ten-foot shoulders would be provided on both sides of the four-lane section of highway with an additional 12 feet of clear zone on each side of the highway. Frontage or side roads would typically include two 12-foot lanes, 3-foot shoulders and 4-foot clear zones on each side. Aerial photos illustrating the Preferred Alternative are included in Appendix C.

Four Lane with Depressed Median Section for Crow Hill to Foxton Road

A wide, depressed median was recommended for US 285 from Crow Hill to Foxton Road. Advantages of a wide median include consistency with the already built section, easier access by emergency vehicles, easier traffic control during construction, enhanced treatment of highway runoff, increased snow storage and easier maintenance. Wide medians are also easier for wildlife to cross and provide a fire break along US 285. There was not a noticeable difference in impacts between the wide median and narrow median options.

Deviations from this typical section occur at the following location, as noted in **Figure 2-9**:

- At proposed U-turn locations there would be additional deceleration lanes to allow for the safe movement of vehicles approaching the U-turn locations.

Figure 2-6: Location of No-Action Alternative Projects

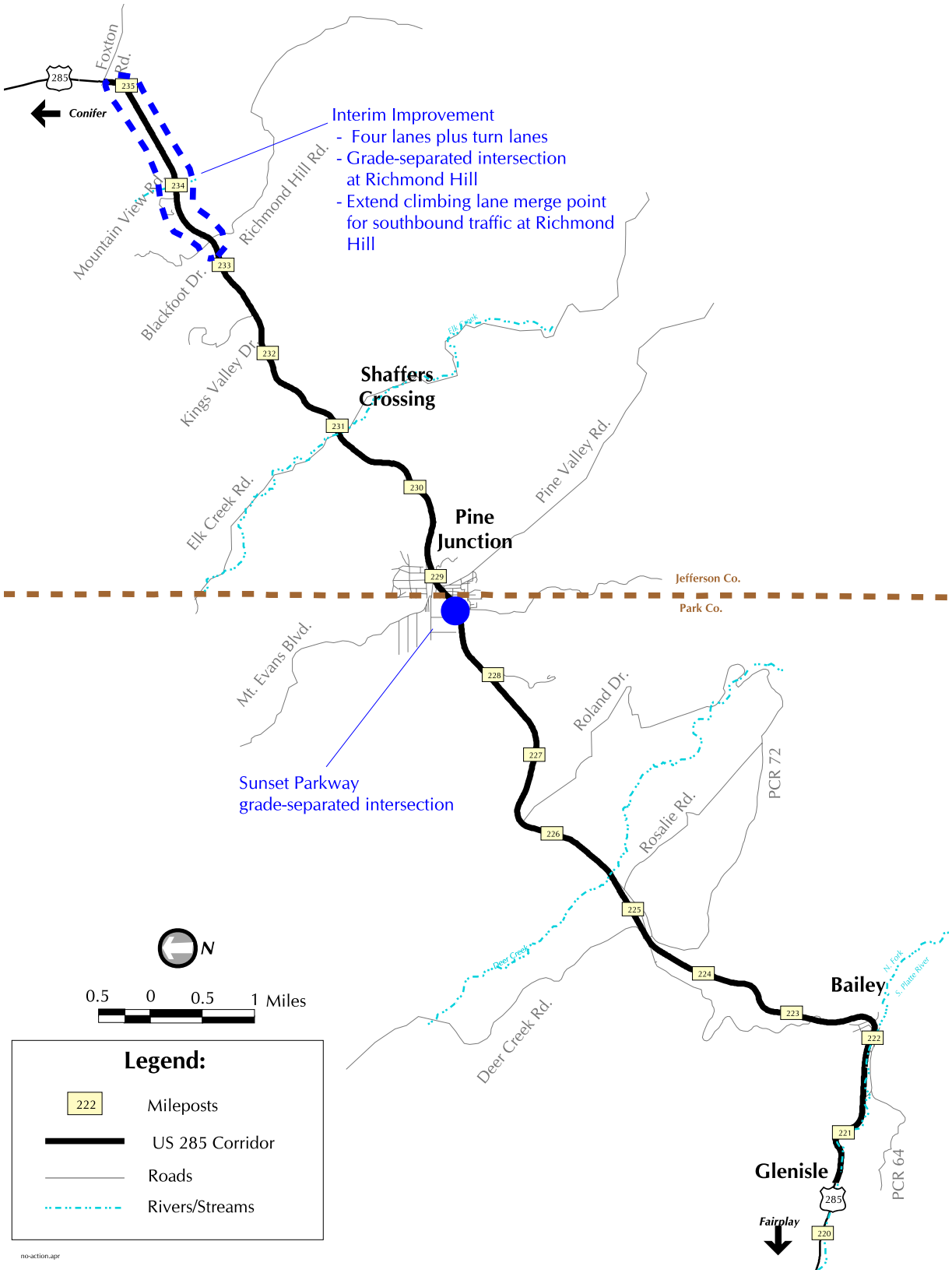


Figure 2-7: Elements of the Preferred Alternative

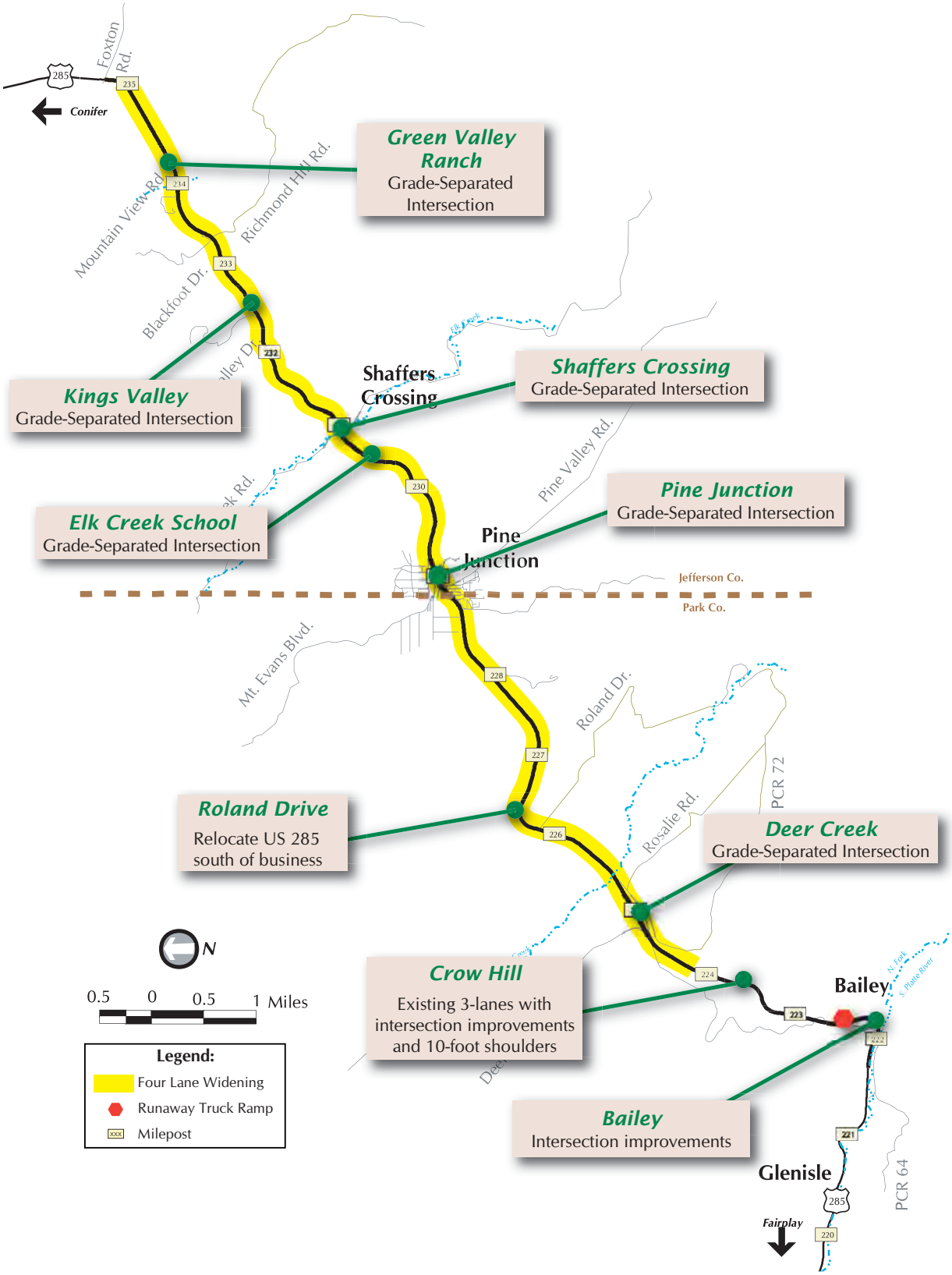
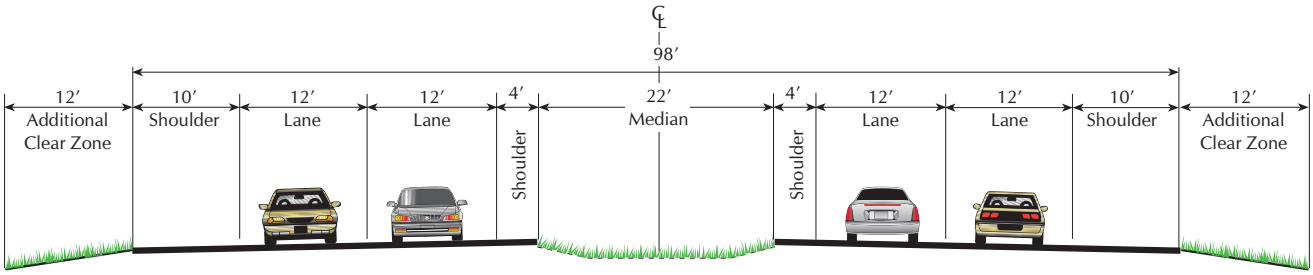
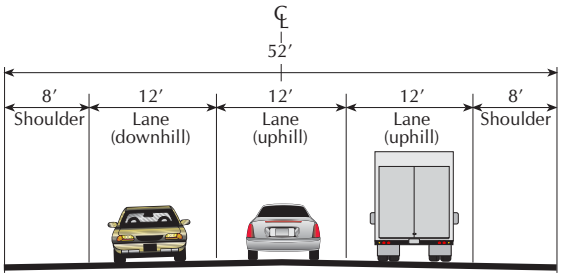


Figure 2-8: Proposed Typical Sections

Four Lane with Depressed Median
(Top of Crow Hill to Foxton Road)



Three Lane
(Bailey to Top of Crow Hill)



Frontage Road/Side Road

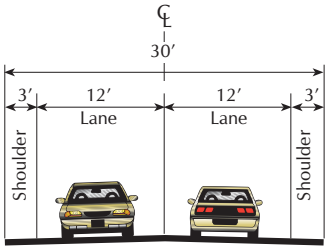
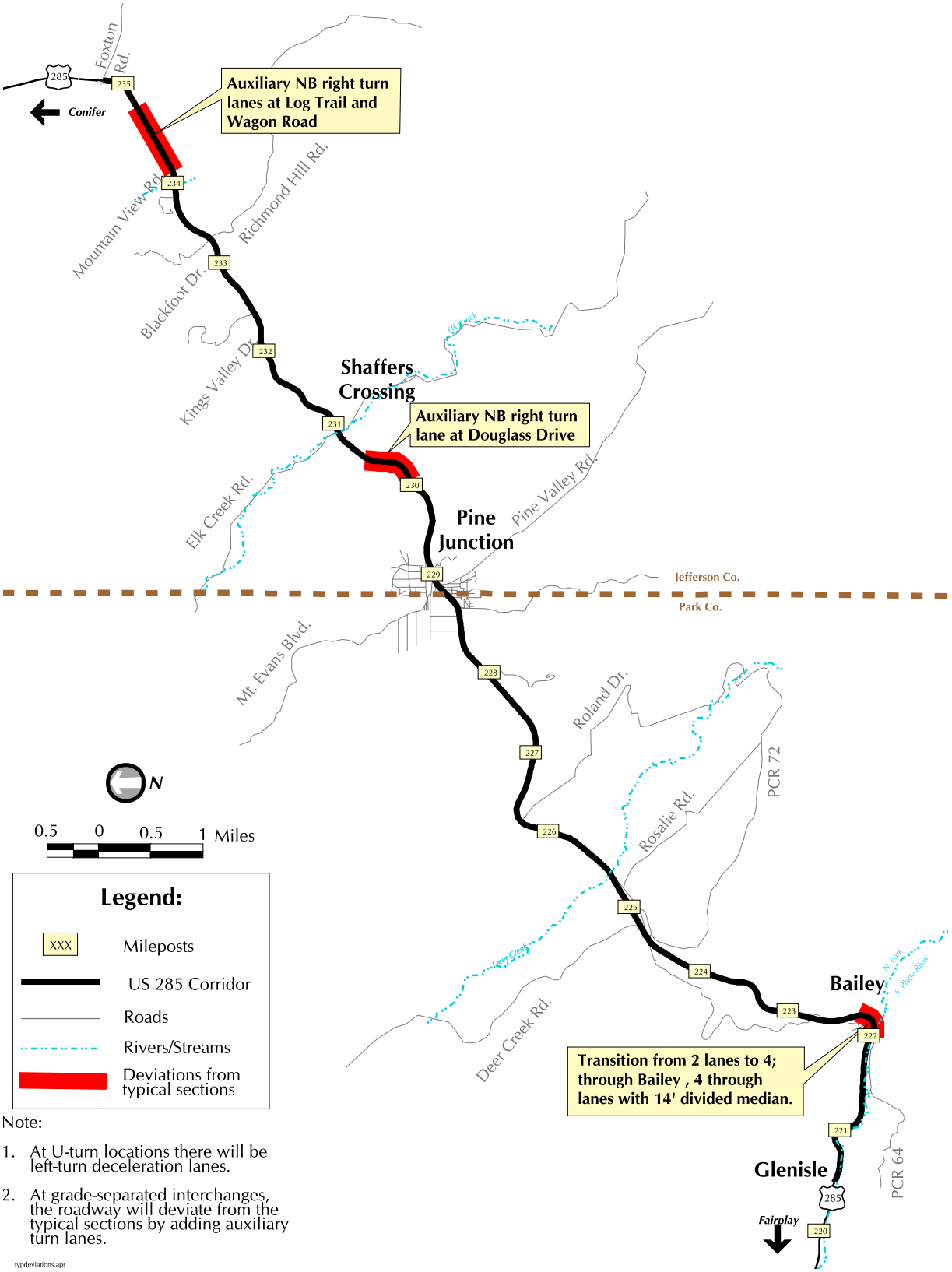


Figure 2-9: Deviations from Typical Sections



Note:

1. At U-turn locations there will be left-turn deceleration lanes.
2. At grade-separated interchanges, the roadway will deviate from the typical sections by adding auxiliary turn lanes.

typdeviations.apr

- At grade-separated intersections, accesses with US 285 would include auxiliary lanes to allow the safe movement of turning traffic. Grade-separated intersections are discussed further in **Section 2.4.2.7 beginning on page 2-22** and are found at the Deer Creek area, Pine Junction, the Shaffers Crossing area, Kings Valley, and Ranch.
- An additional auxiliary lane for northbound US 285 at Douglass Drive would be provided to accommodate turning traffic.
- An additional auxiliary lane for northbound US 285 at Log Trail and Wagon Road would be provided to accommodate turning traffic. This auxiliary lane is an extension of the northbound auxiliary lane at the Green Valley Ranch grade-separated intersection.
- At grade-separated intersection underpasses and overpasses, a four-foot shoulder would be provided to accommodate bicycles.

Three-Lane Typical Section Option for Bailey to Crow Hill

The limits of this typical section are from the north side of Bailey to the top of Crow Hill. This typical section would include three through lanes, with two general purpose lanes and a passing lane in the northbound direction. This is consistent with the existing lane configuration on the Crow Hill section.

This option provides for improved shoulders and does not include a median.

This option helps address safety issues by adding wider shoulders. Roadway operations would be improved.

The current and projected traffic volumes indicate that existing and projected travel demands are much lower along this section of US 285 than along the remaining portions of the study area. This three-lane typical section could accommodate the projected travel demands while maintaining acceptable operations along US 285.

This option was considered due to lower traffic volumes in this segment and some public interest to maintain existing access control and lane configuration in the Bailey area.

Deviations from this typical section occur at the following location, as noted in **Figure 2-9**:

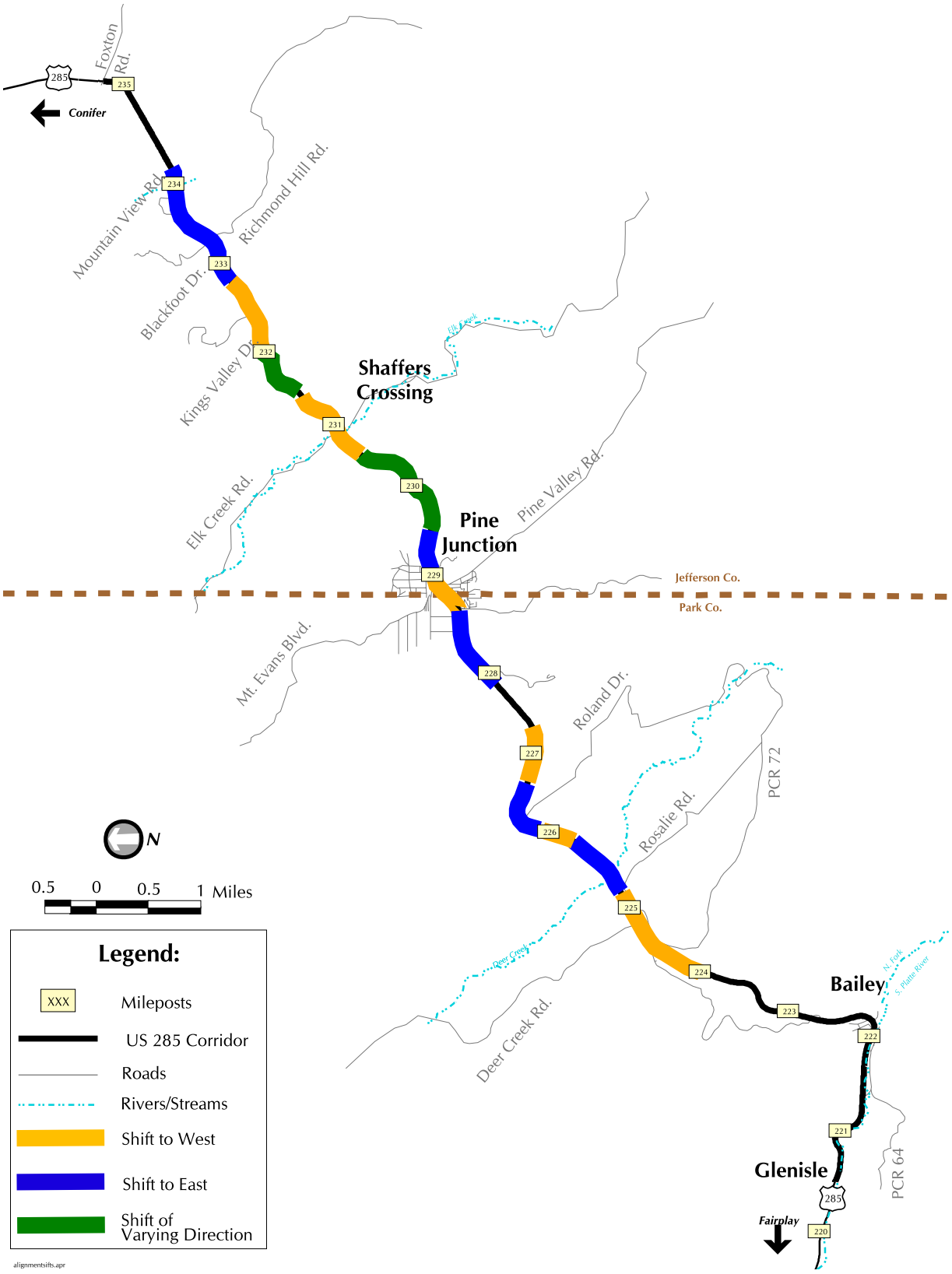
- The south end of the project near Bailey where the lanes transition from two lanes to four just east of PCR 64.
- Through Bailey where the existing section includes four 12-foot through lanes and a 14-foot divided median. Shoulders/parking lanes would be reconstructed to range from 4 feet to 10 feet wide.

2.4.2.2 Alignment

The Preferred Alternative alignment would generally follow the existing alignment except where it is moved to correct substandard curves (see **Figure 2-10**). The widening of the roadway would be shifted in the following areas to avoid environmental resources [especially aquatic resources as required by the 404 (b) (1) Guidelines], minimize impacts, or correct substandard curves:

- Between the top of Crow Hill (MP 224) and near Deer Creek, the alignment would shift west by approximately 30 feet to minimize impacts to PCR 72 and wetlands on the east. The shift in the location would occur as a result of alternative analysis and agency input. The alignment was selected because it is the least environmentally damaging practicable alternative.
- At Deer Valley Ranch (MP 225.5), the alignment would shift southeast by approximately 15 feet to avoid an historic property impact.
- South of Roland Drive, the alignment would move west by approximately 25 feet to minimize construction impacts.
- North of Roland Drive, the alignment would move east of the existing businesses by approximately 380 feet to flatten the curve.
- Between Roland Drive and Rim Rock Road west entrance (MP 227.2), the alignment would shift northwest by approximately 15 feet to avoid impacts to riparian areas on the east. The shift in the location would occur as a result of alternative analysis.

Figure 2-10: Alignment Deviations



- Between Wisp Creek (MP 228) and Sunset Parkway/Wandcrest Drive (MP 228.6), the alignment would shift southeast by approximately 20 feet to avoid wetlands on the northwest. The shift in the location occurs as a result of alternative analysis and agency input. The alignment was selected because it is the least environmentally damaging practicable alternative.
- Between Sunset Parkway/Wandcrest Drive and Pine Junction, the alignment would shift northwest by approximately 30 feet to minimize impacts to existing businesses and allow room for a new frontage road on the southeast side.
- Between Pine Junction and South Glen Drive (MP 229.4), the alignment would shift by approximately 65 feet to the south to minimize impacts to existing businesses and allow room for a frontage road connection on the north side.
- East of South Glen Drive, the alignment would shift to the north by approximately 40 feet to avoid impact to the nearby wetland.
- Near Douglass Drive (MP 230), there is a set of three back-to-back substandard curves. The alignment in this area would shift as much as 30 feet to the south, to the north and then back to the south to improve the curve radii for safety reasons.
- Northeast of the Old US 285 Frontage Road (MP 230.6), the alignment would shift to the northwest by approximately 30 feet to minimize impacts to wetlands, riparian areas, and private roadways on the southeast. The shift in the location occurs as a result of alternative analysis. The alignment was selected because it is the least environmentally damaging practicable alternative.
- From Shaffers Crossing to Kings Valley (MP 232), the alignment in this area would shift as much as 30 feet to the west, to the east and then back to the west to improve the curve radii for safety reasons.
- At Kings Valley, the alignment would shift to the northwest by approximately 40 feet to avoid impacts to wetlands and historic properties.
- From the approximate location of Richmond Hill (MP 233) to Green Valley Ranch (MP 234), the alignment would shift south by approximately 25 feet to accommodate the new configurations at the proposed grade-separated intersections and minimize impacts to existing businesses and the park-n-Ride. (See **Section 2.4.2.7 beginning on page 2-22** for greater detail on the grade-separated intersections.)

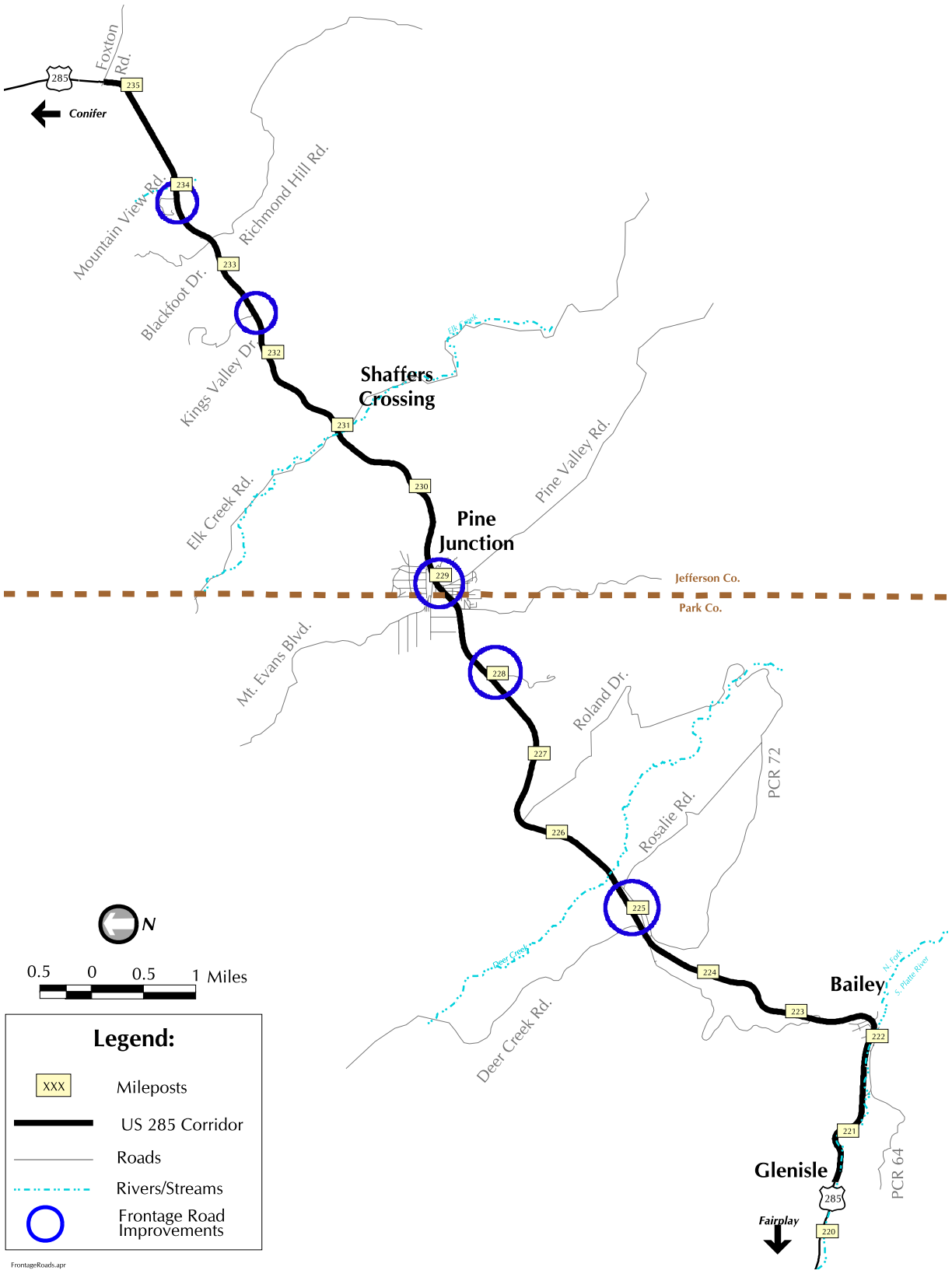
2.4.2.3 Frontage Roads

New frontage roads would be provided at several locations to provide access to local destinations adjacent to US 285 such as existing businesses, residences and park-n-Rides. Frontage roads or local access connections also would be added to some of the proposed grade-separated intersections to allow for local access to the proposed grade-separated intersections.

Frontage roads would be added at the following locations in conjunction with the proposed improvements (see **Figure 2-11**):

- In the Deer Creek area, the existing frontage road on the southeast side of US 285 would be improved from the new overpass to Rosalie Road to provide local access between PCR 43A and northbound US 285. See **Figure 2-17 on page 2-24**, Deer Creek Grade-Separated Intersection.
- A frontage road would be added on the northwest side of US 285 to provide access to the McKinley subdivision and business property in this area.
- Frontage roads would be added both north and south of US 285 at the Mt. Evans Boulevard (Pine Junction) grade-separated intersection. The frontage road on the south side would be used to provide accesses to the businesses between Jefferson County Road (JCR) 126 and Wandcrest Drive/Sunset Boulevard. The frontage road on the north side would provide access to the businesses between Mt. Evans Boulevard and South Glen Drive. See **Figure 2-18 on page 2-25**, Mt. Evans Boulevard (Pine Junction) Grade-Separated Intersection.

Figure 2-11: Frontage Road Improvements



- A new frontage road would be added on the north side of US 285 at Kings Valley Drive to provide access to local residents and businesses, see **Figure 2-21 on page 2-26,** Kings Valley Grade-Separated Intersection.
- At Green Valley, two frontage roads would be added. The frontage road on the northwest side would serve the park-n-Ride and existing businesses. See **Figure 2-22 on page 2-27** and **Figure 2-23 on page 2-27**, Green Valley Grade-Separated Intersection.

2.4.2.4 Runaway Truck Escape Ramp

A safety issue was identified at the sharp curve at the bottom of Crow Hill traveling southbound. The proximity of the sharp curve at the bottom of the steep Crow Hill grade poses a safety hazard for businesses and on-street parking in Bailey, as well as an environmental hazard for the North Fork of the South Platte River. Past accidents have involved trucks traveling at high speeds tipping over at this curve.

The Preferred Alternative includes a runaway truck ramp south of Crow Valley Road at approximately MP 222.6. This would allow runaway trucks to escape US 285 before they reach the sharp curve in Bailey. It would also reduce the potential for spills into the river near Bailey. This runaway truck ramp was proposed as an option only if the Bailey bypass route were not constructed. Currently, there are no absolute criteria for determining the justification for truck escape ramps. Over a 13-year period, there were five recorded accidents near the base of Crow Hill that involved trucks. While the accident rate may not be as high as other locations, the following factors warrant serious consideration of a truck ramp at the base of Crow Hill:

- There is a population center at the base of Crow Hill
- The curve at the bottom of the hill is severe.
- Public perception is that there are safety issues associated with the hill.
- Growing traffic volumes are projected for the corridor.
- There is a potential for catastrophic consequences to the public and the environment caused by a runaway truck in Bailey.

There has been some public support of a runaway truck ramp if a Bailey bypass is not constructed. This is primarily from businesses in Bailey. This option was advanced for future analysis. After development of options and final screening, it was included in the Preferred Alternative because of the recognized potential of a catastrophic accident occurring at this location.

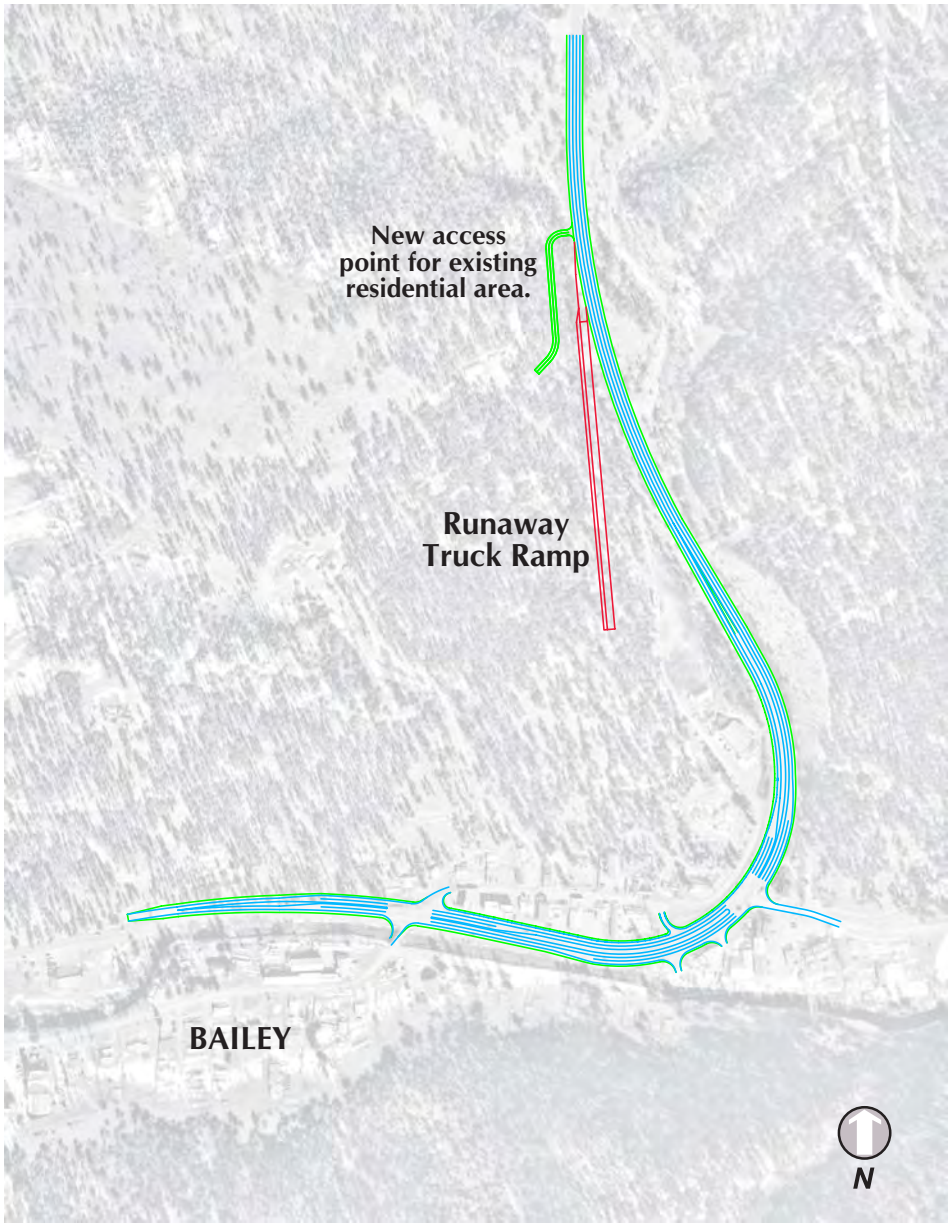
The Preferred Alternative includes a runaway truck ramp located just north of Bailey on the west side of US 285 to mitigate the safety concerns associated with the sharp curve at the bottom of Crow Hill. The approximate length of the ramp would be 1,225 feet. See **Figure 2-12**.

2.4.2.5 Access Management

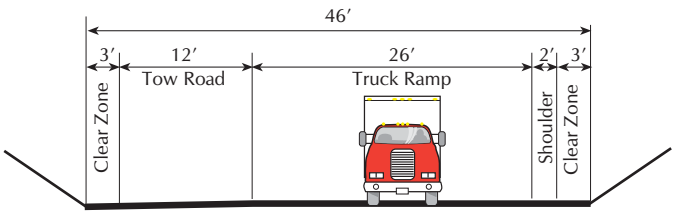
All state highways in Colorado are limited access highways. Per C.R.S. 43-2-147, the Colorado Department of Transportation is authorized to regulate vehicular access to or from any state highway under its jurisdiction from or to property adjoining that highway in order to protect the public health, safety, and welfare; to maintain smooth traffic flow, to maintain highway right-of-way drainage; and to protect the functional level of the highway. Due to the high volumes and regional travel nature of US 285, access control has been strongly supported as part of proposed improvements in the study area. This is consistent with support for access control and subsequent construction of previous segments of US 285 completed between Foxton Road and Parmalee Gulch to the north.

To be consistent with US 285 north of Foxton Road, the access category Expressway (E-X) is being used as a standard for planning purposes. Direct access service to abutting land is subordinate to providing service to through traffic movements. Upon completion of improvements, the roadway is proposed to be converted to access category E-X.

Figure 2-12: Runaway Truck Ramp and Typical Section



Truck Ramp



The design of the Preferred Alternative involves a four-lane highway with a wide, depressed median between Crow Hill and Foxton Road. With this future improvement, in many areas the existing access to US 285 would be limited to a right-in/right-out to/from an adjoining property. Where possible, CDOT would create periodic breaks in the median to allow for safe U-turns for drivers to change travel directions. Out-of-direction travel would be limited to one mile where feasible. No private property access would be permitted unless reasonable access cannot be obtained from the general street system. If private property access were necessary, the access could be limited to right-in/right-out only.

The access code also provides for appropriate auxiliary lanes such as deceleration lanes, acceleration lanes, and storage lanes with appropriate taper lengths when specific criteria are met.

Grade-separated intersections would eliminate left-turn vehicle conflicts on US 285 by requiring all traffic to make right turns onto or off of US 285 and using a grade separation to cross opposing traffic.

Local access with US 285 would be limited to partial access or full-movement intersections as described in the following sections. No specific access control on side roads is described in this EA. During design of the Preferred Alternative, access control lines along side roads may be developed to provide safe and functional use of US 285.

2.4.2.6 Right-In/Right-Out Accesses with U-Turn Intersections

This method of access control provides full access to and from US 285 from local roadways and driveways via the use of right-turn only movements at accesses and U-turns in the median. This type of access control has been found to be safer than full-movement intersections and can reduce overall delay for side-road traffic. More detail on access delay can be found in **Section 3.2.5.4 beginning on page 3-26** of this report.

This type of access control would be provided at all private access locations except those connected to public roads served by grade-separated intersections, those unsignalized full-access intersections south of Crow Hill, or as specifically identified in the description of the Preferred Alternative.

Left-turn movements are not allowed at access points with this method of access control. As a result some out-of-direction travel for motorists will occur. This out of direction travel will occur when a desired movement to turn left is accommodated by either 1) a right-turn from an access followed by a U-turn in the median of US 285 or 2) a U-turn from US 285 followed by a right-turn into the access. U-turn locations would be spaced such that no turning movement demand would result in more than one mile of out-of-direction travel.

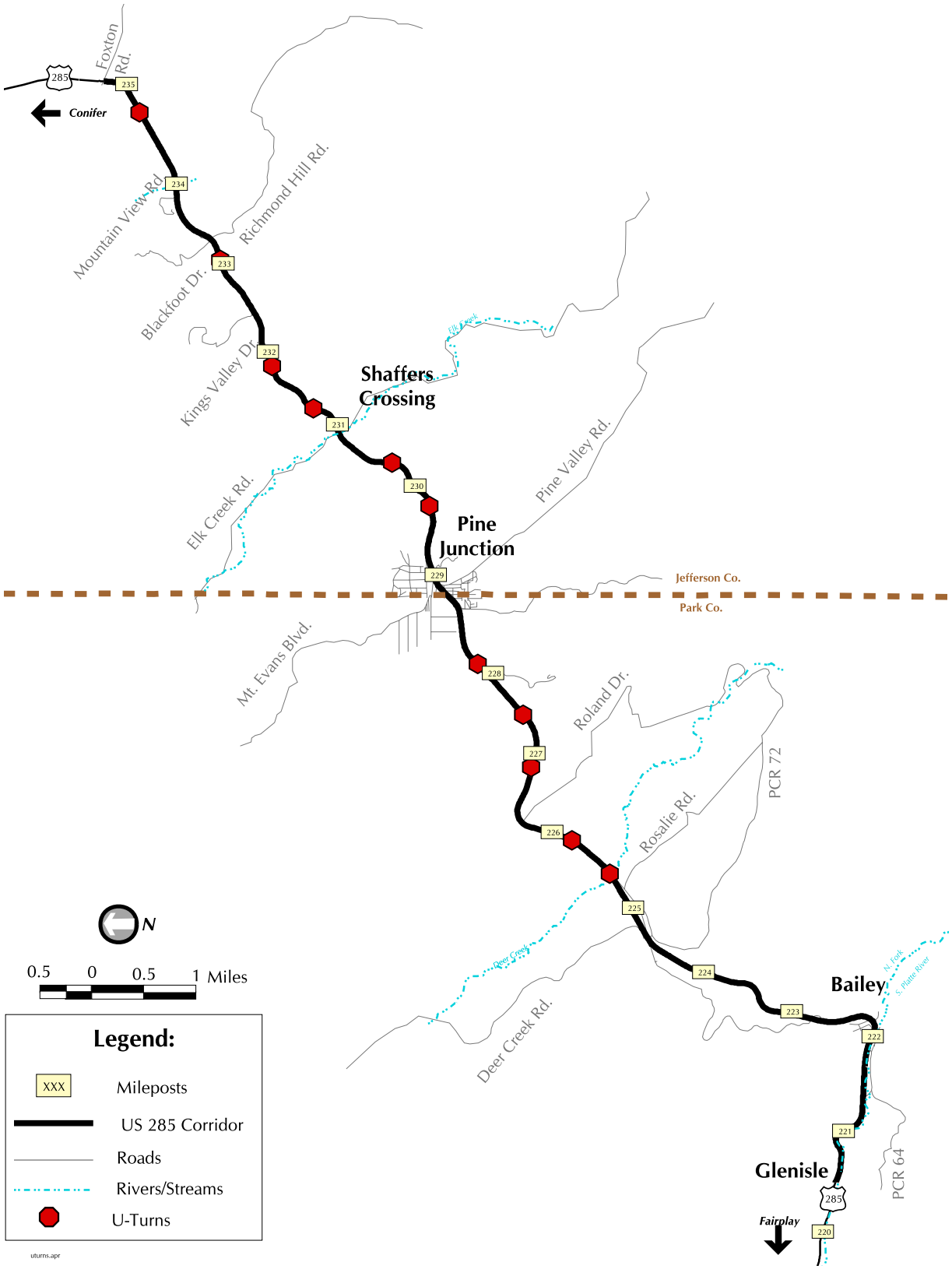
Each U-turn location would have auxiliary lanes for decelerating vehicles. At full-movement unsignalized intersections, U-turns would be allowed. This type of access control is consistent with recently constructed segments of US 285 north of Foxton Road.

The following milepost (MP) locations have tentatively been identified to include a U-turn intersection. Please note that these milepost locations are approximate and only serve as a general descriptor.

- MP 225.3, at Deer Creek
- MP 225.8, access to Deer Creek Park Association
- MP 226.9, 2,000 feet east of Roland Drive intersection
- MP 227.4, 2,000 feet northeast of the southwest Rim Rock Road intersection
- MP 228.1, 700 feet northwest of Wisp Creek Drive
- MP 229.6, 2,000 feet west of Douglass Drive
- MP 230.2, 1,000 feet east of Douglass Drive
- MP 231.2, 1,500 feet north of Shaffers Crossing
- MP 231.8, 1,100 feet north of Calfee Gulch Road
- MP 232.9, 1,900 feet southwest of Richmond Hill Road
- MP 234.6, 650 feet northeast of Log Trail

See **Figure 2-13** for a location of these U-turns. An additional U-turn would be located near MP 228.6 if The Villages at Sunset development does not construct a grade-separated intersection in this area.

Figure 2-13: U-turn Intersections



2.4.2.7 Intersections

Full-Movement and Partial-Movement, Unsignalized Intersections

These intersections allow for all turning movements to be made, both into and out of an access point. The great majority of access points in the study area currently have this type of access.

Traffic laws dictate right-of-way priorities as follows: first, to through and right-turn traffic, then mainline left-turn traffic, then side-road through traffic, then side-road left-turn traffic. As traffic volumes increase, main-line, left-turn, and side-road traffic have fewer opportunities to make turning movements. This results in poor level of service and increases the potential for vehicle conflicts. This limited intersection capacity results in increased accident potential and increased through-traffic friction resulting in overall reduction in highway capacity.

Traffic operational analysis has shown that major roadway intersections north of the top of Crow Hill cannot accommodate future traffic volumes with a full-movement, unsignalized type of intersection.

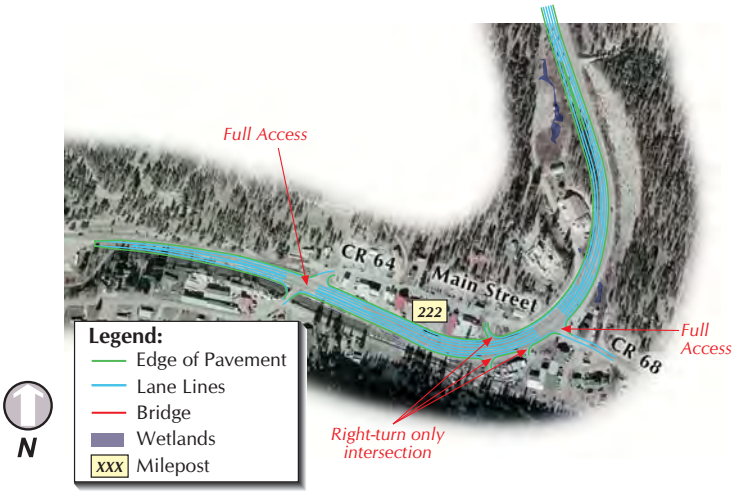
Full-movement, unsignalized intersections are proposed at all locations south of the top of Crow Hill except in the Bailey area.

Bailey Area Intersections

Several intersection access configurations were originally considered in the Bailey area. These went through a screening and were subsequently narrowed to full access intersections at PCR 68 and PCR 64. The configurations are shown in **Figure 2-58 on page 2-54** through **Figure 2-63 on page 2-55.**

The Preferred Alternative assumes the East Main Street/US 285 intersection is limited to right-in movements only (because of sight distance limitations). This configuration was advanced because it minimizes existing access impacts, minimizes out-of-direction travel, minimizes cost and right-of-way requirements, and improves operations, safety, and travel time on US 285.

Figure 2-14: Bailey Area Preferred Alternative

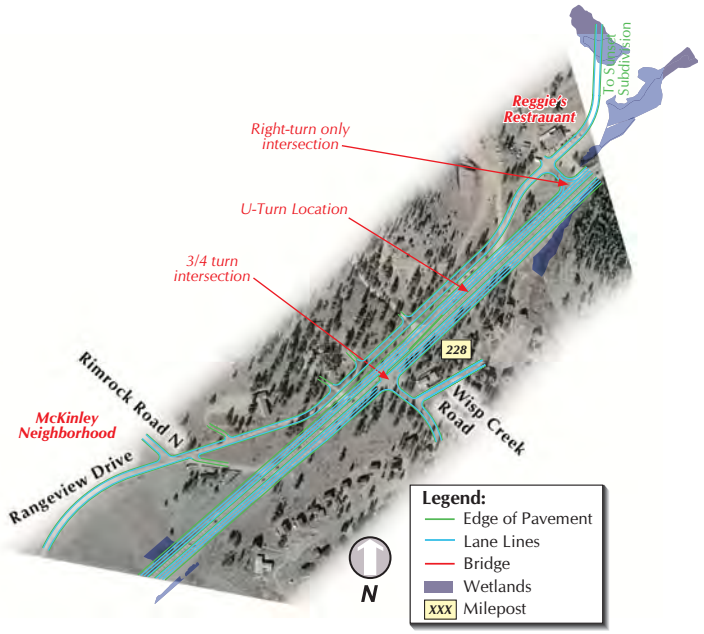


Rim Rock Area

In the Rim Rock area, there would be at-grade, limited-access intersections in combination with a north side frontage road. There would be a right-in/right-out only access at Reggie's restaurant. Northbound vehicles from the McKinley subdivision could make a right turn onto US 285 and then make a U-turn approximately ¼ mile to the south. Southbound US 285 traffic would make a right turn into the McKinley subdivision area. Vehicles traveling northbound on US 285 could use a U-turn north east of the Wisp Creek Drive or the grade separation at either The Villages at Sunset or Pine Junction, then take US 285 southbound to access the McKinley subdivision.

There would be a ¾ intersection at Wisp Creek Drive. Left and right turns would be allowed from US 285 to Wisp Creek Drive, and access to US 285 from Wisp Creek Road would be limited to right-out. There would be no left turns allowed from Wisp Creek Drive to US 285. Vehicles wanting to travel southbound on US 285 would be required to make a right turn out of Wisp Creek Drive, use the U-turn or the grade separation at The Villages at Sunset or Pine Junction, and then proceed south on US 285.

Figure 2-15: Rim Rock Area Preferred Alternative



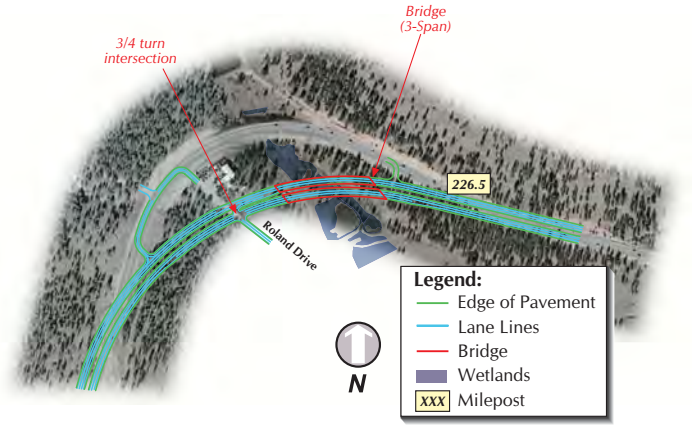
In addition to the at-grade intersection above, a frontage road connection may be constructed to The Villages at Sunset. The frontage road would allow north-bound vehicles from Rim Rock to use the frontage road to access the grade separation at The Villages at Sunset or the Pine Junction grade separation then access US 285 northbound. The frontage road would not require a U-turn movement on US 285. The frontage road connection provides additional route choices for both the McKinley subdivision and The Village at Sunset. The frontage road connection would be constructed as part of the Rim Rock Road area improvements if The Villages at Sunset has constructed the proposed grade-separated intersection and a traffic analysis confirms that traffic patterns still warrant this connection for safety and operational issues.

Both intersections operate at an acceptable LOS. This option was advanced as it meets the Purpose and Need, does not result in the visual impacts of an overpass, and has minimal impacts to wetlands. In addition, the frontage road will mitigate the concerns of the public regarding the use of U-turns, and this concept was supported at neighborhood meetings.

Roland Drive Area

Roland Drive would be configured with a 3/4 movement intersection based on traffic operations and safety. Southbound US 285 traffic would be allowed left turns to Roland Drive in addition to the right-in/right-out intersection movements to/from Roland Drive. Also, in the Roland Drive area, the U-turn intersection at the MP 225.8 would allow left-turn movements from US 285 to Deer Creek Park Association. This is a 3/4 movement intersection similar to Roland Drive.

Figure 2-16: Roland Drive Area Preferred Alternative



Grade-Separated Intersections

The following intersections are accessible to and from US 285 via grade-separated intersections. The intersections are described in the left column and depicted on the right. (See **Section 2.5.2.1 beginning on page 2-40** for detailed description of the full range of grade-separated intersections that were evaluated during detailed screening.) These are options that advanced through the screening process.

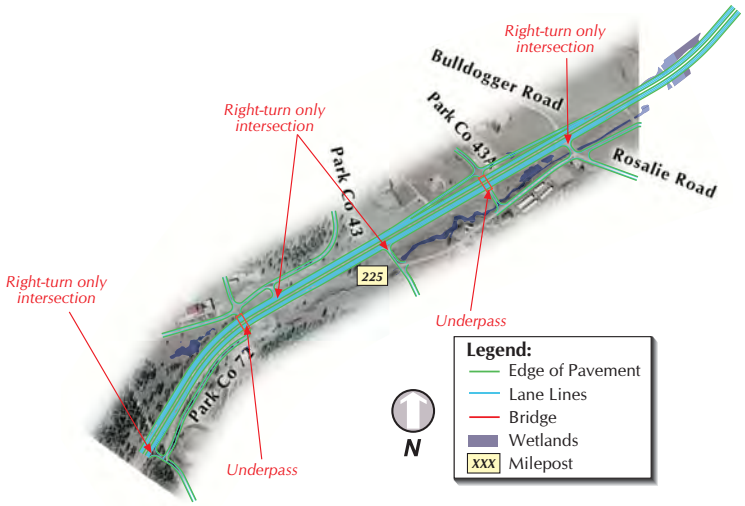
Deer Creek Area

The Deer Creek area grade-separated intersections would consist of two underpasses - one southwest of the PCR 43/US 285 intersection and another at PCR43A. A half-diamond interchange would be built for southbound US 285 at PCR 43A, and a right-in/right-out intersection would be built at PCR 43 for southbound US 285. Three right-in/right-out intersections for northbound US 285 would be provided at PCR 72, southwest of Rosalie Road and at Rosalie Road. The following roadways would be accessible to and from these grade-separated intersections:

- Dellwood Drive
- Annex Lane
- PCR 43
- PCR 72
- PCR 43A/Medical Center Drive
- Arcadia Road
- Rosalie Road
- Deer Creek Park Association private access

The timing of the grade-separated intersection at PCR 43A would be dependent on developer funding. This alternative was chosen as the least environmentally damaging practicable alternative at this location.

Figure 2-17: Deer Creek Area Grade-Separated Intersections



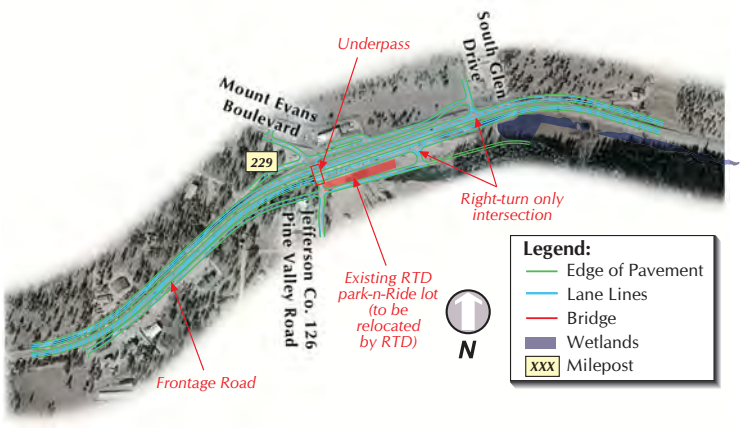
Mt. Evans Boulevard (Pine Junction)

The Mt. Evans Boulevard (Pine Junction Area) grade-separated intersection will consist of an underpass at Mt. Evans Boulevard/JCR 126 and right-in/right-out intersections at South Glen Drive and northeast of JCR 126. A frontage road on the southeast side of US 285 would be included between JCR 126 and Sunset Boulevard/Wandcrest Road. A frontage road on the north side of US 285 would be included between South Glen Drive and Mt. Evans Boulevard. The following roadways or facilities would be accessible to and from this grade-separated intersection:

- Mt. Evans Boulevard
- JCR 126/Pine Valley Road
- South Glen Drive
- Stone Chimney Lane
- Frank Road
- Local businesses on southeast side and northwest side of US 285

This alternative was chosen as the least environmentally damaging practicable alternative at this location. It provides a direct connection between Mt. Evans Boulevard with JCR 126, it improves safety and operations for accesses along US 285, it requires the least right-of-way, and it has the least overall impact to businesses and wetlands.

Figure 2-18: Mt. Evans Boulevard (Pine Junction) Grade-Separated Intersection



Elk Creek School and Shaffers Crossing Area

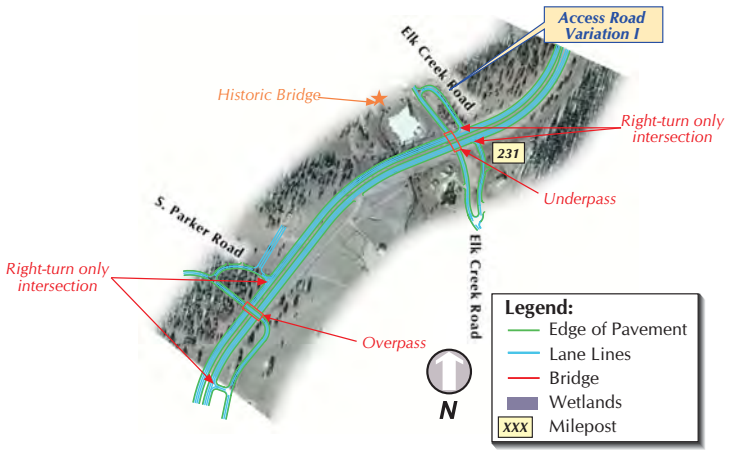
The Elk Creek School and Shaffers Crossing Area grade-separated intersections would consist of an overpass at South Parker Road connecting to the 285 Frontage Road and an underpass at Elk Creek Road. Separate right-in/right-out intersections would be provided to connect both directions of US 285 with the bridges. The following roadways or facilities would be accessible to and from these grade-separated intersections:

- Old US 285 Frontage Road/Douglass Drive
- Elk Creek School
- South Parker Road
- Elk Creek Road

This alternative was chosen as the least environmentally damaging practicable alternative at this location.

Two different variations are still being considered for the access road west of Elk Creek Road.

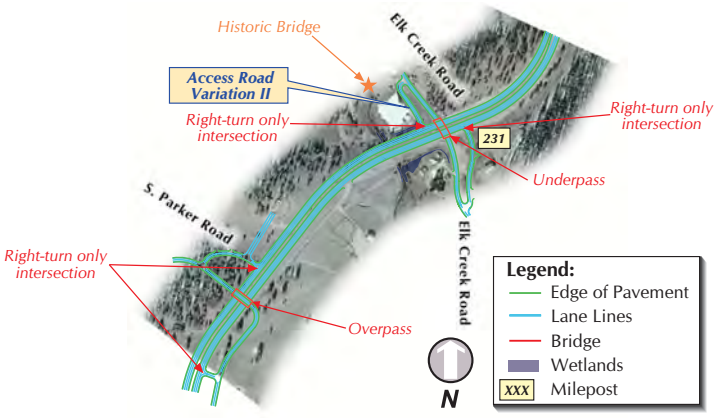
Figure 2-19: Elk Creek School and Shaffers Crossing Area Grade-Separated Intersection (Variation I)



Variation 1 includes the frontage road on the north side that connects Elk Creek Road with southbound US 285. It best avoids impacts to the Elk Creek riparian area. It connects Elk Creek Road with US 285 just northeast of the underpass. This configuration would require a large cut into the hillside and creates safety concerns for turning vehicles from US 285 due to the steep US 285 downgrade approaching the intersection. This configuration was advanced, because the north side frontage road avoids impacts to the Elk Creek riparian area.

Variation II is the same as Variation 1 except the frontage road on the north side that connects Elk Creek Road with southbound US 285 is located just southwest of the underpass. This configuration was advanced, because the north side frontage road minimizes impacts to the Elk Creek riparian area, avoids a large cut of the hillside and reduces safety concerns of turning vehicles for southbound US 285.

Figure 2-20: Elk Creek School and Shaffers Crossing Area Grade-Separated Intersection (Variation II)



Kings Valley Area

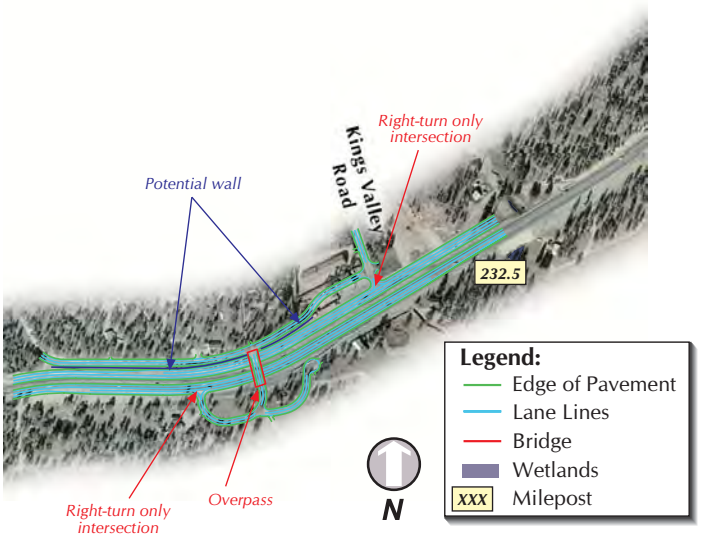
The Kings Valley Area grade-separated intersection would consist of an overpass southwest of Kings Valley Road and two right-in/right-out intersections with US 285. The following roadways and facilities would be accessible to and from this grade-separated intersection:

- Kings Valley Drive
- Local business and property access on both sides of US 285

This alternative was chosen as the least environmentally damaging practicable alternative at this location.

This option was advanced because it has a higher level of public support, has fewer impacts to private property, avoids impacts to wetlands and the historic district, and improves safety, operations, and travel time for US 285 and Kings Valley businesses.

Figure 2-21: Kings Valley Area Grade-Separated Intersection

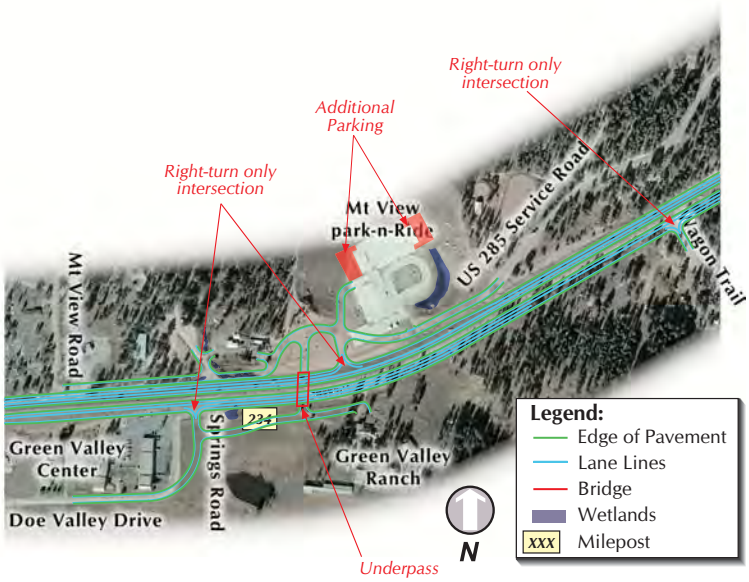


Green Valley Area

The Green Valley area grade-separated intersection would consist of an underpass located between the Mountain View park-n-Ride and the Green Valley Business Center. Right-in/right-out intersections would be located at Springs Road and west of Mountain View park-n-Ride access. A frontage road would be included to connect Old Glory Antiques, the private drive, and Mountain View Road. The following roadways and facilities would be accessible to and from this grade-separated intersection:

- Springs Road
- US 285 Service Road
- Mountain View park-n-Ride
- Green Valley Business Center
- Mountain View Road
- Wagon Trail

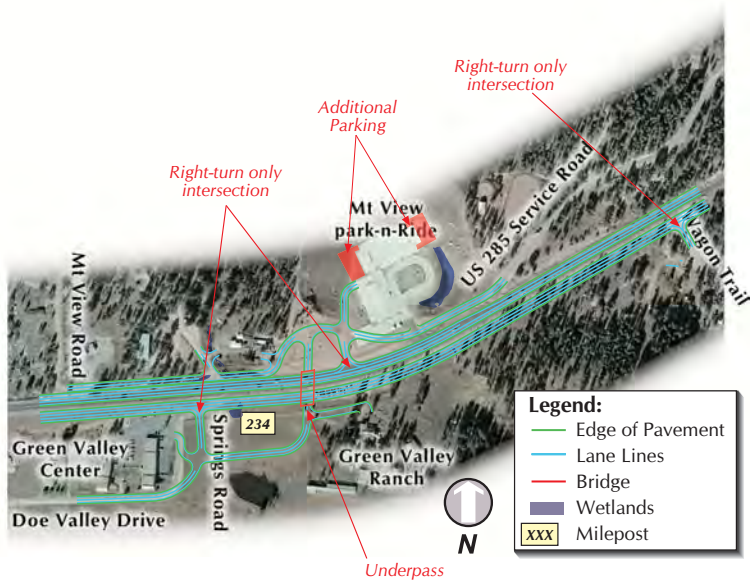
Figure 2-22: Green Valley Area Grade-Separated Intersection (Variation I)



This alternative was chosen as the least environmentally damaging practicable alternative at this location.

Two different options are still being considered for the access road connecting the underpass with Springs Road.

Figure 2-23: Green Valley Area Grade-Separated Intersection (Variation II)



2.4.2.8 Transit/Transportation Demand Management (TDM)/ Land Use Elements

The following Transit/TDM/Land Use options are "recommended" or "encouraged" to be included as elements of the Preferred Alternative.

Recommendations include strategies that can be implemented in the near term as part of construction of the Preferred Alternative:

- **Access Management** is recommended and is being advanced as part of the Preferred Alternative (see **Section 2.4.2.5 beginning on page 2-18** for more information).
- **Advanced Traveler Information Services.** Intelligent Transportation Systems (ITS) apply well-established technologies in communications, control, electronics, and computer hardware and software to improve surface transportation system performance. Advanced Traveler Information Systems (ATIS) are an important component of ITS applications. ATIS is generally defined as real-time network information (traffic or transit) and providing that information to travelers, such as route guidance or destination information. The data is tailored to the traveler's needs, and advanced technologies are used to convey accurate, real-time information to travelers based on their location. For the US 285 study area, examples of information that could be useful to travelers include messages about congestion, hazardous road conditions, closures due to construction, bus schedules and parking availability at park-n-Rides.

  No formal planning process has been undertaken to evaluate the full range of ITS user needs for the US 285 study area, but certain ITS applications already have been identified to help address traveler information needs in the study area. These include electronic message signs that notify motorists of congested conditions, roadway closures, or other important information that needs to be conveyed to drivers while they are en route to their destination.

  Real-time information for transit riders is also recommended.

  Variable message signs (VMS) have been programmed by Region 1 staff for various locations in the study area, and funding has been identified for their installation in the STIP. The locations identified for future VMS installation include:

  - Northbound on US 285, north of Pine Junction
  - Southbound on US 285, top of Crow Hill
  - Northbound on US 285, south of Bailey (outside the project limits, but will be used by travelers in the corridor)
  - Northbound on US 285, north of Conifer (outside the study area, but will be used by motorists traveling on US 285)

  For transit riders, real-time information about transit service could include the anticipated arrival time of the next bus and parking availability at park-n-Rides. These types of transit elements for ATIS are included in RTD's FasTracks initiative that may go before voters in 2004 or later.

  The VMS and ATIS elements programmed or proposed by CDOT Region 1 and RTD's FasTracks program are consistent with transportation improvements of the Preferred Alternative. It is further recommended that a formal planning process be undertaken to determine the feasibility of adding two additional variable message signs - one on northbound US 285 south of the US 24 junction to Buena Vista and the second on northbound US 285 south of Fairplay. Although these potential signs are outside of the study area, they could provide information to travelers about conditions in the study area.

- **Carpools.** 2000 Census data shows that a high percentage (20%) of workers in the study area carpool. Denver Regional Council of Governments (DRCOG) operates RideArrangers, which provides carpool matching services. The carpool matching is available online; it takes

less than ten minutes to find carpooling options. DRCOG markets this service through general media and through employer outreach. One challenge for the study area would be to increase the already high percentage of commuters that carpool.

Additional incentives to carpool could increase the amount of commuters choosing to carpool, thus offering some congestion relief on US 285. This option was advanced for future analysis. After development of options and final screening, it was included as an element of the Preferred Alternative. Carpooling would be supported/encouraged through paid advertisements in local newspapers during construction of the Preferred Alternative.

- **Carpool Use of park-n-Rides.** This policy would allow carpoolers access to park-n-Rides. There is currently excess capacity at Mountain View park-n-Ride.

- **Vanpools.** Vanpooling would be a viable option for the study area, given the high percentage of commuters that use transit and carpools. DRCOG operates a vanpool program and promotes and educates people about the program. The agency provides the vehicle and the insurance, and participating individuals either drive or pay a monthly fee. The costs for the vanpools are priced equivalent to the monthly cost of an RTD bus pass. Participation in vanpools would increase vehicle occupancy and offer congestion relief on US 285. This option was advanced for further analysis. After development of options and final screening, it was recommended as an element of the Preferred Alternative. Vanpools would be supported/encouraged through paid advertisements in local newspapers during construction of the Preferred Alternative.

- **Additional RTD Regional Bus Service.** If RTD determines that additional regional bus service within the study area is warranted based on RTD service standards within five years of the Decision Document, CDOT would conduct a study to determine if the increased service demands would affect any Decision Document findings, such as park-n-Ride access or capacity needs.

- **Bus-only Ramp to Pine Junction park-n-Ride.** If RTD bus service were extended into Park County along the US 285 corridor within five years of the Decision Document, CDOT would conduct a study on the feasibility of providing a slip ramp for buses to access the currently proposed Pine Junction park-n-Ride. If the study shows this to be a feasible option, a determination will be made if further environmental analysis is appropriate.

- **Joint Use Development and Passenger Amenities at park-n-Ride.** CDOT will provide meeting support to RTD to look for partnerships to promote transit-oriented development near park-n-Rides and to consider amenities such as bike lockers, shelters, and passenger information kiosks.

- **Telecommuting.** Telecommuting is when an employee is working from a location other than the employers office, oftentimes in their home. 2000 Census estimates show that approximately 8% of the people in the study area work at home.

  Physically removing commuters from the roadway can be an effective way to ease congestion on US 285. Employers must support this option in order for it to be a viable alternative. This option was advanced for further analysis. After development of options and final screening, it was recommended as an element of the Preferred Alternative. Telecommuting would be supported/encouraged through paid advertisements in local newspapers during construction of the Preferred Alternative.

- **Open Space Acquisitions.** Acquiring open space and conservation easements on the land to ensure no future development can be a vehicle trip reduction strategy. A large amount of open space in rural areas promotes clustered development reducing the dependence on the automobile.

This is a long-term strategy that would focus on the root of the congestion problem by encouraging people to live near transit stops or places of employment. Traffic forecasts being developed for the study area are consistent with long-term open space acquisition plans. Mountain Area Land Trust has expressed an interest in acquiring land in the study area. CDOT is actively encouraging open space acquisition, with the help of Jefferson County, Park County, the Mountain Area Land Trust and other land trusts. In addition, land in the vicinity of Roland Drive that is currently occupied by US 285 will be retained as open space.

2.4.2.9 Pedestrian/Bicycle Facilities

Bicyclists would be able to use the improved 10-foot shoulder for non-motorized travel along US 285. Pedestrian and bicycle accommodations at the new underpasses and overpasses would consist of 4-foot shoulders that could be used for non-motorized travel. If future conditions show high bicycle/pedestrian use at the new underpasses and overpasses, the shoulders could be widened appropriately during final design

2.4.2.10 Structural Improvements

Bridges

The following bridges span waterways or roadways along US 285. All bridges are twin structures. Bridge type and details may change during final design.

- Widened bridge approach at PCR 64.
- US 285 bridges over PCR 43/ PCR 72.
- US 285 bridges over PCR 43A.
- US 285 bridges over Roland Creek, riparian area, wildlife crossing, and wetlands (950 feet long with a clearance of approximately 30 feet).
- US 285 bridges over Mt. Evans Boulevard/JCR 126.
- South Parker Road/Old US 285 Frontage Road bridge over US 285.
- US 285 bridges over Elk Creek Road.
- New bridge at Kings Valley area over US 285.
- US 285 bridge over new crossing at Green Valley area.

Culverts

Most existing culverts would be extended. In some cases, new culverts would be placed to accommodate hydraulic capacity needs. If an existing culvert were replaced for hydraulic needs, the culvert would either be made useable by small wildlife, or a double culvert would be placed for wildlife use. The practicability of these culvert improvements will be determined during final design.

Wildlife Crossings

In addition to the potential small wildlife crossings via culverts described above, many of the drainage improvements are planned as improved wildlife crossings. Specific wildlife crossings would be provided at the following areas:

- Deer Creek - 24-foot x 12-foot arch for drainage and small, medium, and large wildlife.
- Roland Gulch - 650-foot four-span bridge for drainage and small, medium, and large wildlife.
- Wisp Creek - 36-inch culvert for small wildlife (creek culvert is separate).
- Southwest of Elk Creek - 24-foot x 12-foot arch for small, medium, and large wildlife. A short bridge could also be considered. A final decision will be made during final design.
- Southwest of Green Valley Ranch - 24-foot x 12-foot arch for small, medium, and large wildlife. (Note: This is actually included in the interim improvement described on page 2-8.)

Retaining Walls

There are 69 retaining walls proposed. Retaining walls are used as external support to hold the soil in an intended location. Retaining walls are located both downslope and upslope from the road to minimize a large slope cut. They also are being provided to avoid property impacts, minimize impact to creeks and wetlands, and avoid impacts to adjacent roads. There are many different options for aesthetic wall treatments. The final option will be

decided during final design with public input. The *US 285 Aesthetics Study and Design Guidelines* drafted in June 2004 provides general visual treatments of selected structural elements within the study area (see *US 285 Aesthetics Study and Design Guidelines* Technical Report). **Figure 2-24** shows the locations of the six tallest and the six longest retaining walls associated with the proposed improvements. The purpose of the retaining walls is detailed in **Table 2-3**.

Table 2-3: Locations of Longest/Tallest Retaining Walls

Wall Location	Vicinity	Length (feet)	Average Height (feet)	Purpose
1	North Fork of the South Platte River at Bailey	1,100	3	Protect wetlands
2	Crow Hill	415	25	Protect road and adjacent creek
3	Crow Hill	300	25	Avoid property impacts
4	Crow Hill	760	30	Avoid property impacts
5	Crow Hill	990	24	Retain frontage road
6	Deer Creek	635	32	Protect wetlands
7	Deer Creek	1,150	12	Protect wetlands
8	Wisp Creek	1,440	10	Retain frontage road
9	Pine Junction	1,075	12	Avoid property impacts
10	Pine Junction	805	30	Minimize cut
11	Pine Junction	950	7	Protect wetlands
12	Kings Valley	200	28	Avoid impacts to properties

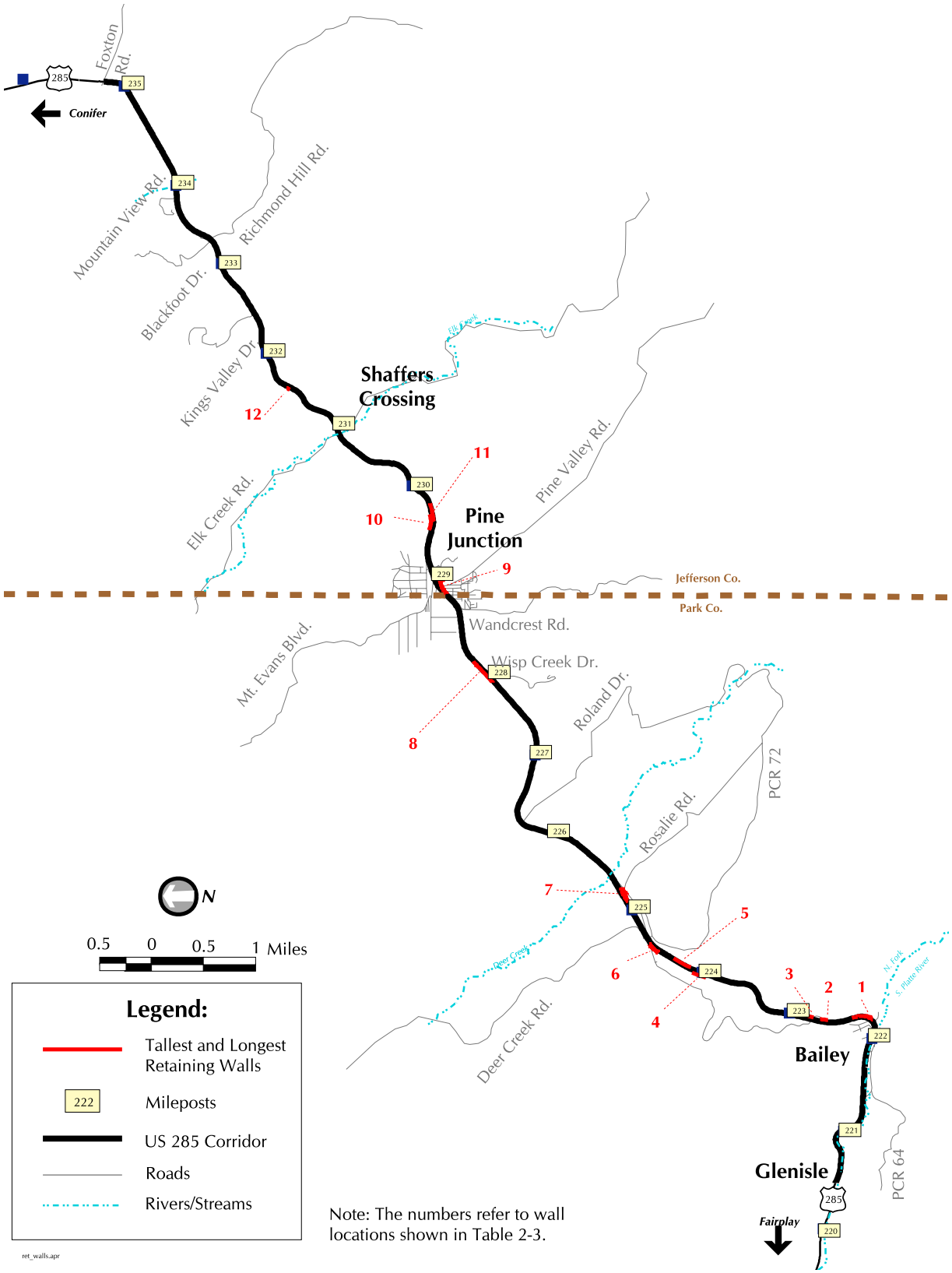
2.4.2.11 Aesthetic Treatments

Landscaping would be provided in areas of disturbance where existing roadway edge treatments would be reconstructed. Reconstruction would include either excavation into the existing hillside, embankment, retaining walls, or rock cuts. Excavation into the existing hillside and embankment would be designed flat enough to allow vegetation growth. Embankment slope angles would typically be designed at 3:1 run-to-rise ratios. In some areas where either constraints or geometry dictate, fill slopes may be designed at 2.5:1. Excavation slope angles are proposed at 2:1 to 2.5:1.

All disturbed areas of excavation and embankment would be reseeded with native grasses, wildflowers, and woody shrubs as listed in the plant list shown in **Table 2-4**. Shrubs and trees would generally be planted in flatter areas of disturbance, whereas native grasses and wildflowers would be planted in all areas of disturbance. The specific placing and vegetation types would be developed during final design with input from area neighbors and considerations for highway maintenance and roadway sight distance. Locations for additional plantings include the PCR 43/PCR 72/US 285 intersection area, the Mt. Evans Boulevard/JCR 126/US 285 intersection area, the Old US 285/US 285 intersection area near the Elk Creek School, the Shaffers Crossing area, the Kings Valley Drive/US 285 intersection area, and the Mountain View park-n-Ride/US 285 intersection area.

Areas to be planted would include restoration of native areas, newly landscaped areas, wetland and riparian mitigation sites, and wildlife crossings.

Figure 2-24: Retaining Walls



Note: The numbers refer to wall locations shown in Table 2-3.

All areas to be reseeded would include soil stabilization. Irrigation is not anticipated in any area. Disturbed areas around new bridge structures would be landscaped with native plants and materials such as large boulders. Wall treatments for both bridge abutments and retaining walls would be similar to treatments constructed on sections of US 285 to the north. Examples of these treatments are shown in **Figure 2-25**. Initial input on wall treatment preferences was obtained from area residents and other highway users during the February 2003 public workshop.

Table 2-4: Candidate Plant List

Grasses	
Slender Wheatgrass *(Elymus trachycaulus)*	Western Wheatgrass *(Pascopyrum smithii)*
Arizona Fescue *(Festuca arizonica)*	Blue Grama (*Bouteloua gracilis*)
Sandberg Bluegrass (*Poa sandbergii*)	Junegrass (*Koeleria macrantha)*
Needle and Thread (*Hesperostipa comata*)	
Wildflowers	
Aspen Daisy (*Erigeron speciosus*)	Rocky Mountain Penstemon *(Penstemon strictus)*
Black-eyed Susan (*Rudbeckia hirta*)	Sulfur Flower (*Eriogonum umbellatum*)
Fringed Sage (*Artemisia frigida*)	Colorado Columbine (*Aquilegia coerulea)*
Blue Flax (*Linum lewisii*)	Golden Banner *(Thermopsis montanus)*
Lupine (*Lupinus argenteus*)	Blanket Flower *(Gaillardia aristata)*
Showy Goldeneye (*Viguiera multiflora*)	Scarlet Globemallow (*Sphaeralcea coccinea*)
Gay Feather (*Liatris punctata*)	
Shrubs	
Currant (*Ribes aureum, Ribes cereum*)	Rabbitbrush (*Chrysothamnus nauseosus*)
Serviceberry (*Amelanchier alnifolia*)	Skunkbrush (*Rhus aromatica* subsp. *trilobata)*
Wild Rose *(Rosa woodsii*)	Common Juniper (*Juniperus communis)*
Trees	
Douglas Fir (*Pseudotsuga menziesii)*	Ponderosa Pine (*Pinus ponderosa*)

The *US 285 Aesthetics Study and Design Guidelines* drafted in June 2004 provides general visual treatments of selected structural elements within the study area (see *US 285 Aesthetics Study and Design Guidelines* Technical Report). A design charette was held June 10, 2004 to provide coordination with Jefferson and Park Counties on preferred color schemes, custom fixtures and general corridor appearance. The *US 285 Aesthetics Study and Guidelines* will be used during continued coordination with unincorporated towns and county agencies during final design of each breakout project to establish final color schemes and aesthetic treatments for features within that portion of the study area.

Figure 2-25: Wall and Bridge Treatments

2.4.2.12 Lighting

Fixed roadway lighting would be provided at major intersections to provide safe and comfortable vision at night. Specific lighting requirements and locations will be decided on during final design. Factors which affect the use and the location of lighting include, but are not limited to, the ability of drivers to discern the path of roadway (which depends on intersection type and geometry), traffic volumes, nearby land use and access points, and the ability of drivers to see other vehicles (which may influence their driving behavior).

2.4.2.13 Conceptual/Preliminary Assumptions of Costs

The following preliminary assumptions of costs (**Table 2-5**) were developed based on the conceptual designs prepared for this EA. These cost assumptions are subject to change as the design of the improvements is more fully defined.

Table 2-5: Preliminary Opinion of Probable Costs (2003 dollars)

Elements	Approximate Cost
Structural	$52 million
Highway improvements	$94 million
Right-of-Way and Relocation	$34 million
Total	**$180 million**

It is unlikely that funding for the total project will be available by the time of the final NEPA approval for this project. Therefore, it is likely that the final decision document (such as a Finding of No Significant Impact) will be prepared for only a portion of the total project, with subsequent final decision documents prepared as more funding becomes available.

2.5 Alternatives Considered but not Advanced

This section provides a description of the range of alternatives initially considered but not advanced. For those alternatives dropped from further analysis, the reasons why they were not advanced are included in **Table 2-6**.

Table 2-6: Alternatives Considered But Not Advanced

Alternative	Reason Not Advanced
Enhanced Two Lane Typical Section	Does not meet purpose and need; not supported by public.
Narrow Barrier Separated Median	Not consistent with constructed sections; more difficult access by emergency vehicles; more difficult traffic control during construction; more difficult for snow storage; creates barrier for wildlife.
Narrow Cable Median	Not consistent with constructed sections; more difficult access by emergency vehicles; more difficult traffic control during construction; more difficult for snow storage.
Widening on Existing Alignment	Greater impact to natural and historic resources.
Widening on Both Sides (without correcting substandard geometry)	Did not correct substandard geometry; some safety problems would persist.
New Alignment at Bailey	Traffic forecasts do not warrant capacity improvements south of PCR 43: economic impacts to Bailey businesses; increased right-of-way impact; increased wildlife impact; increased growth; high cost.
Full Movement Signalized Intersections	Substantial public opposition; not consistent with access control and design on sections north of Foxton Road; increased travel time.
Bailey Configuration 1	Direct property impact; access restrictions to businesses; out-of-direction travel; impacts to river and park; high cost; low level of public support.
Bailey Configuration 2	Direct property impact; access restrictions to businesses; out-of-direction travel; impacts to river and park; high cost; low level of public support.
Bailey Configuration 3	Direct property impact; access restrictions to businesses; out-of-direction travel; impacts to river and park; high cost; low level of public support.
Bailey Configuration 4	Restricts access to businesses west of PCR 68; out-of-direction travel; cost and right-of-way requirements; lower level of public support.
Bailey Configuration 5	Restricts access to businesses west of PCR 68; out-of-direction travel; cost and right-of-way requirements; lower level of public support.
Bailey Configuration 6	Only moderately mitigates safety and operations of access onto US 285.
Deer Creek Configuration 1	Out-of-direction travel; impacts to wetlands; effect to fire trucks; low level of public support; need to re-open Bulldogger Road after previous agreements to close it.
Deer Creek Configuration 2	Out-of-direction travel; impacts to wetlands; effect to fire trucks.
Deer Creek Configuration 3	Out-of-direction travel; impacts to wetlands; low level of public support.
Deer Creek Configuration 4	Higher cost; impact to wetlands; impact to drainages; private property impacts.
Deer Creek Configuration 5	Wetland impacts.
Pine Junction Configuration 1	Out-of-direction travel; more right-of-way required; greater impact to businesses; wetland impacts.
Pine Junction Configuration 2	Wetland impacts.
Shaffers Crossing Configuration 1	Safety issue with access road; high cost for rock cuts and retaining walls; lack of grade-separated access to Elk Creek School.

Table 2-6: Alternatives Considered But Not Advanced (Continued)

Alternative	Reason Not Advanced
Shaffers Crossing Configuration 2	Substantial wetland impacts; high cost; impacts to private property; lack of grade-separated access to Elk Creek School.
Shaffers Crossing Configuration 3	Wetland impacts; impacts to private property; lack of grade-separated access to Elk Creek School.
Shaffers Crossing Configuration 4	Wetland impacts; impacts to private property; lower level of public support; lack of grade-separated access to Elk Creek School.
Shaffers Crossing Configuration 5	Substantial wetland impacts; impacts to riparian area and floodplain; lower level of public support; lack of grade-separated access to Elk Creek School.
Shaffers Crossing Configuration 6	Wetland impacts; impacts to private property; lack of grade-separated access to Elk Creek School.
Shaffers Crossing Configuration 7	Substantial wetland impacts; out-of-direction travel; private property impacts; lower level of public support.
Shaffers Crossing Configuration 8	Safety issue with access road; high cost for rock cuts and retaining walls; lack of grade-separated access to Elk Creek School; lower level of public support.
Shaffers Crossing Configuration 9	Wetland impacts; impacts to riparian area; impacts to floodplains, high cost.
Shaffers Crossing Configuration 10	Impact to historic bridge.
Shaffers Crossing Configuration 11	Impacts to riparian area.
Shaffers Crossing Configuration 12	Impacts to riparian area.
Kings Valley Configuration 1	Bisects a historic district; wetland impacts; limited and difficult access to businesses; direct impacts to private property.
Kings Valley Configuration 2	Bisects a historic district; wetland impacts; limited and difficult access to businesses; direct impacts to private property.
Kings Valley Configuration 3	Lower level of public support; greater impacts to private property.
Kings Valley Configuration 4	Bisects a historic district; direct wetland impacts; lower level of public support; direct impacts to private property.
Kings Valley Configuration 5	No public support; greater impacts to private property.
Kings Valley Configuration 6	No public support; greater impacts to private property.
Kings Valley Configuration 7	More out-of-direction travel; impacts private property.
Kings Valley Configuration 8	Business impacts on north side.
Green Valley First Variation	Steep grades to Old Glory Antiques parking lot; poor circulation.
Green Valley Second Variation	Less access control to US 285.
Wisp Creek/Rim Rock Configuration 1	Visual impacts of bridge structure; neighborhood concerns about increased traffic; property impacts.
Wisp Creek/Rim Rock Configuration 2	Visual impacts of bridge structure; neighborhood concerns about increased traffic; property impacts.
Wisp Creek/Rim Rock Configuration 3	Unacceptable access control and neighborhood access options.
Wisp Creek/Rim Rock Configuration 4	Visual impacts of bridge structure; neighborhood concerns about increased traffic.

Table 2-6: Alternatives Considered But Not Advanced (Continued)

Alternative	Reason Not Advanced
Wisp Creek/Rim Rock Configuration 5	Unacceptable LOS at Rim Rock intersection.
Wisp Creek/Rim Rock Configuration 6	Property impacts; substantial wetland impacts.
Wisp Creek/Rim Rock Configuration 7	Loss of property access; impacts to property; high cost.
Off-street Bicycle and Pedestrian Facilities	Property impacts; additional right-of-way; environmental impacts; maintenance issues; relative high cost
Expand RTD Boundaries to Bailey	Service is already available on the edge of Park County.
Inter-city/Private Bus Option	Unlikely there is sufficient demand to warrant such service.
High Occupancy Vehicle (HOV) Lanes	Lack of public support; insufficient demand; of marginal use since such a short segment.
Reversible Lanes	Of marginal use since such a short segment; high capital, operating and maintenance costs.
Bus-Only Ramp at Mountain View park-n-Ride	Insufficient cost-benefit.
Corridor Wide Frontage Roads	Property impacts; cost; environmental impacts.
Transit Queue Bypass	Signals are located outside of or at the limit of bus service.
Transit Signal Prioritization	No planned traffic signals in the study area.
Residential Ecopasses	Insufficient density in study area; insufficient level of bus service.
TDM incentives for developers	Requires participation from outside agencies.

2.5.1 Roadway Improvement Options

2.5.1.1 Roadway Design Criteria

The roadway design criteria used as the basis for determining the type and extent of deficiencies in the study area were taken from CDOT's *Design Guide* (1995), the American Association of State Highway and Transportation Officials (AASHTO) *Design Policy* (2001), and CDOT's *State Highway Access Code* (1998). Each of the roadway design elements was evaluated against these standards to identify the deficiencies along US 285 as they currently exist.

For purposes of this EA, the CDOT classification most consistent with the US 285 corridor is "Rolling," requiring a design speed of 60 mph. However, since several parts of the study area require design speeds more consistent with the "Mountainous" designation (50 mph), design criteria were developed for a design speed range of 50 to 55 mph. This allows the roadway to be designed with as high a design speed as possible and within 5 mph of the posted speed limit.

Design criteria for CDOT's classifications are included in the *Alternatives Development Technical Report,* July 2004.

2.5.1.2 Typical Section Options

Enhanced Two-Lane Typical Section

This typical section would consist of two through lanes, with improved shoulders and clear zone. This option does not include a median.

This option would address some safety issues with the addition of the shoulders and improved clear zone. Roadway operations would be slightly improved.

The current and projected traffic volumes indicate that existing and future projected travel demands exceed the capacity of a two-lane facility and that a four-lane facility would be required to maintain acceptable operations along US 285 north of Crow Hill. At the July 2002 public meeting, this option encountered strong opposition from the public. It was not advanced for further analysis because it does not meet Purpose and Need for the project.

Four-Lane Typical Section with Narrow Median/Barrier Option

Medians

Safety issues that would be addressed with the median include separating opposing traffic, channelizing traffic flow and helping to control access, thereby removing potential vehicle conflict points. Also, during the winter, snow may cover the roadway and hide the striping. A median would help the driver discern lane orientation and would reduce the potential for vehicle conflict. Median options evaluated for this EA include:

- **Narrow, Barrier-Separated Median.** This would be considered where there are sensitive resources or severe topographical constraints adjacent to the roadway. A barrier-separated median would address the safety issues discussed above but would be an impediment for wildlife trying to cross the road and would also limit storage space for snow removal. This option was not advanced for further analysis.

A variation of the barrier-separated median was suggested during prescreening of the two initial median options. This was the narrow cable median.

- **Narrow Cable Median.** This would be considered where there are sensitive resources or severe topographical constraints adjacent to the roadway. It is also desirable because wildlife would be provided greater visibility when crossing the roadway. This option was not advanced for further analysis as the few areas with sensitive resources or severe topographical constraints were adequately addressed by the depressed wide median. Using the same width median throughout the study area would improve design consistency and enhance safety.

2.5.1.3 Alignment Options

Widening Along Existing Alignment

The new roadway could be built on the existing alignment and simply widened to both sides to add lanes, improved shoulders, clear zones and a median. This option was not advanced for further analysis as it did not minimize impacts to resources.

Widening on Both Sides of the Alignment or One Side Only

Widening of the alignment could occur on one or both sides depending on land use or other environmental constraints adjacent to the roadway. Widening would occur to the side with the least natural resource and/or community impacts. This option was not advanced for further analysis, as it did not correct substandard geometry in the roadway.

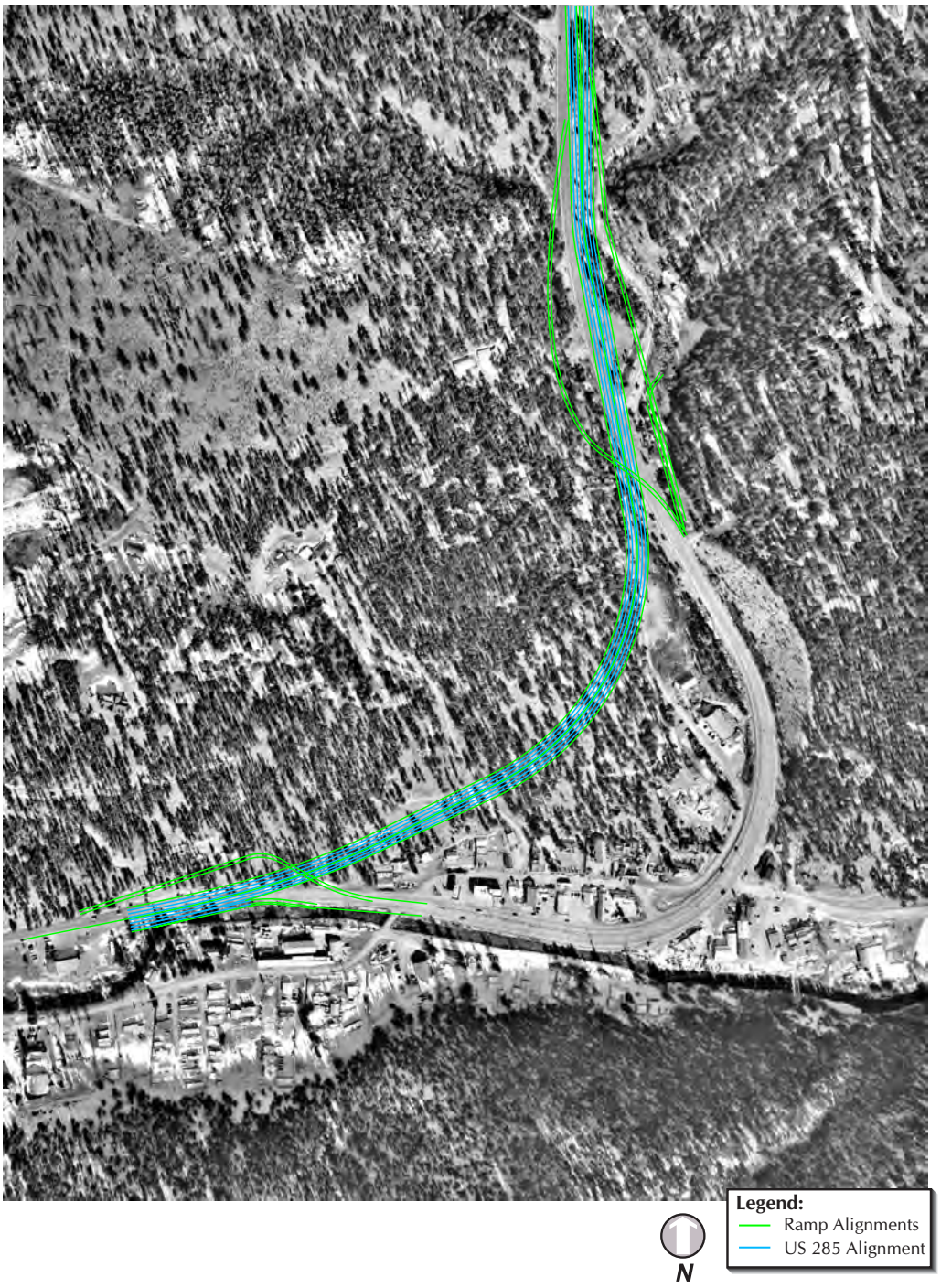
2.5.1.4 Alternate Routes

New Alignment at Bailey

This option would consist of a three-lane typical section beginning just southwest of Bailey near MP 222 and terminating just north of Bailey near Crow Valley Road (MP 222.7) and a new alignment going north of Bailey which would bypass the center of Bailey.

The proposed alignment is shown on **Figure 2-26**. The bypass would remove regional traffic from existing US 285 through Bailey making operating conditions more efficient for local travel. The bypass would also add regional roadway capacity for through traffic. The bypass would have a 45 mph design speed and directional ramps to and from Bailey on both ends. The 45 mph design speed is higher than the existing 40 mph design speed through Bailey but lower than the prevalent design speed of 55 mph for the rest of the study area.

Figure 2-26: Proposed Bailey Bypass



The advantages of a Bailey bypass are: increased capacity for through traffic, more efficient local travel within Bailey, and improved safety by improving the design speed, shoulder and clear zones.

Disadvantages of a Bailey bypass are: economic impacts to Bailey businesses, increased right-of-way impact, increased impact to wildlife, increased potential for growth, high costs, and limited benefit because of the much lower traffic volumes in this section of the study area.

Public opinion regarding the bypass is mixed. Many residents in Bailey support it while the business community generally opposes it. This option was advanced in preliminary screening for further analysis.

Subsequent to the screening, the Project Steering Group recommended that the Bailey bypass not be included in the Preferred Alternative. Traffic forecasts do not warrant capacity improvements south of Park County Road and through Bailey. This bypass could be reconsidered in the future, if traffic volumes indicate such a need. This recommendation clearly leaves open all possibilities for future improvements west of Bailey, including the environmentally sensitive Narrows area along the North Fork of the South Platte River between Bailey and Shawnee. Bypasses of this area could be considered in the future.

2.5.1.5 Rest Areas

Rest areas were considered as an option as a result of the Value Engineering session. Value Engineering is an independent review by a multidisciplinary team to improve value or reduce life-cycle costs for a project. Rest areas were not advanced for further consideration because it was determined a rest area would be better placed nearer to Kenosha Pass where needs warrant one. In addition, there are numerous private businesses within the study area that offer restroom facilities for their customers. Lastly, operating and capital costs for construction and maintenance associated with the rest area were high.

2.5.2 Intersection Access Control Options

2.5.2.1 Full-Movement, Signalized Intersections

Signals were considered at several major intersections in the study area; however, there was a large amount of public opposition to them. Traffic signals are not consistent with access control and design of US 285 to the north of Foxton Road. They also increase overall travel time.

Because full-movement, signalized intersections are not consistent with connecting sections of US 285, have strong public and agency opposition, and are not consistent with providing through service to regional trips, no intersections are proposed with this type of access control. This option was not advanced for further analysis.

2.5.2.2 Interchanges

Standard interchanges such as diamond interchanges, cloverleaf interchanges, or directional interchanges were generally not considered for the US 285 study area due to their large right-of-way (ROW) requirements, higher cost, and large capacities. In addition, these interchanges are considered to be not consistent with the rural character of the area and with the type of access provided to already built sections of US 285. Since the forecasted traffic volumes of major side roads did not warrant high-capacity interchanges, the additional right-of-way impact and cost were not considered to be justified.

2.5.2.3 Grade-Separated Intersections

Grade-separated intersections differ from full-movement, at-grade intersections in that access on to and off of US 285 is provided by right-in/right-out movements, and access across US 285 is provided by a bridge or underpass. Grade-separated intersections differ from interchanges in that access to US 285 is provided by right-in/right-out movements instead of high-speed directional ramps. This type of design allows greater flexibility to accommodating future traffic movements within the constraints of the mountainous terrain. It is also more consistent with

the desired mountain rural character of the study area.

There are several grade-separated intersections proposed in the study area. Numerous configuration options for grade-separated crossings were originally considered. These options went through a screening in the fall of 2002. In February of 2003 after a Value Engineering Session and Public Meeting #2, the project team reviewed all of the build options for general locations in the study area. Grade-separated intersections were evaluated and a recommendation was made whether or not to advance them for further consideration. Further refinement of these options occurred during subsequent evaluation. A full analysis of the alternatives screening can be found in the *Alternatives Development Technical Report*.

One or more grade-separated intersection options were advanced for further refinement for each of the following locations:

- Deer Creek Area
- Mt. Evans Boulevard (Pine Junction)
- Elk Creek School
- Shaffers Crossing
- Kings Valley
- Green Valley Area

The options that were eventually dismissed are shown on **Figure 2-27 on page 2-41 through Figure 2-57 on page 2-53**.

Advantages of the grade-separated intersection include full movement opportunities for all access points connected to the overpass or underpass, no direct delay for US 285 through movement traffic, limited out-of-direction travel for side road traffic, and reduced US 285 vehicular conflict opportunities.

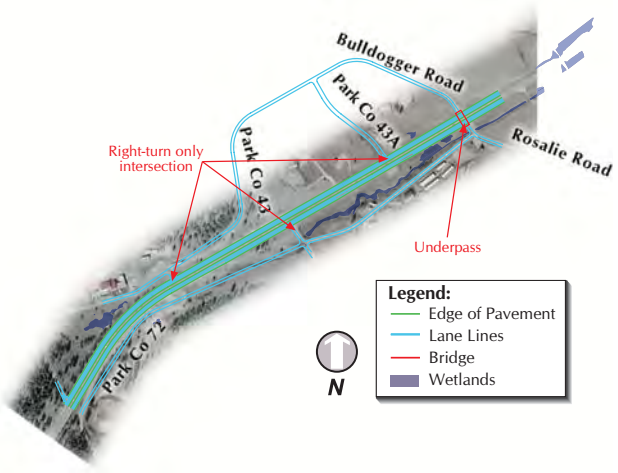
Grade-separated intersections received strong support during public workshops and at the July 2002, Public Meeting. This type of intersection access control is consistent with previously constructed sections of US 285 north of Foxton Road.

Deer Creek Area

There were six configurations evaluated for this grade-separated intersection. Four of these were advanced earlier in the process and were identified as Options A through D. Options B through D were retained after the initial screening and were described as Options III, I, and II. Configurations 5 and 6 were advanced following input during and after Public Meeting #2. Five of the six configurations were dismissed following evaluation.

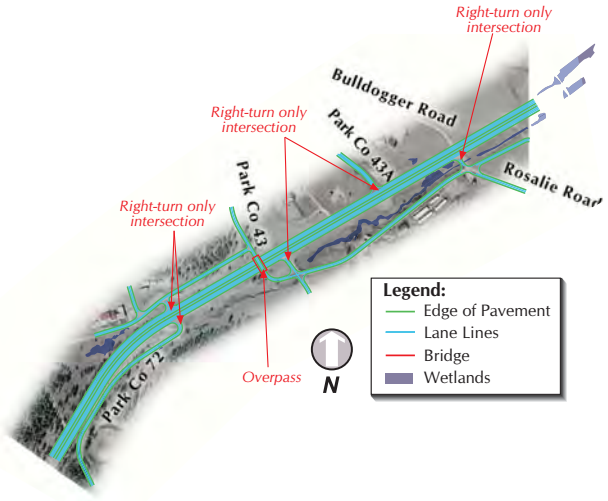
Configuration 1 (Option A) consisted of an underpass at Rosalie Road/Bulldogger Road. Right-in/right-out intersections for southbound US 285 were provided at PCR 43A and PCR 43. A right-in/right-out intersection for northbound US 285 was provided approximately 1,600 feet southwest of Rosalie Road. Rosalie Road and PCR 72 were connected via a frontage road. This option was dismissed after considering overall out-of-direction travel, impacts to wetlands, significant fire truck out-of-direction travel, low level of public support, and the need to re-open Bulldogger Road after previous agreements to close it.

Figure 2-27: Deer Creek Configuration 1 Dismissed



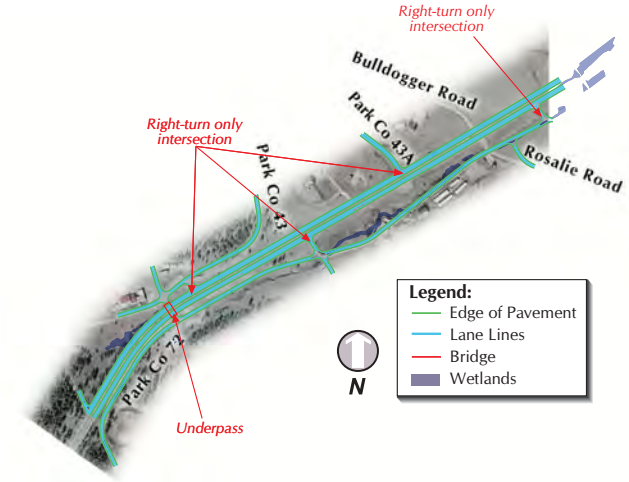
Configuration 2 (Option B or Option III) consisted of an overpass at a location approximately 750 feet northeast of the PCR 43/ US 285 intersection. Right-in/right-out intersections for southbound US 285 were provided at PCR 43A and PCR 43. Three right-in/right-out intersections for northbound US 285 were provided at PCR 72, approximately 1,600 feet southwest of Rosalie Road, and at Rosalie Road. This option was dismissed after considering overall out-of-direction travel, impacts to wetlands, and requirements for fire trucks to complete out-of-direction travel.

Figure 2-28: Deer Creek Configuration 2 Dismissed



Configuration 3 (Option C or Option I) consisted of an underpass at a location approximately 250 feet southwest of the PCR 43/ US 285 intersection. Right-in/right-out intersections for southbound US 285 were provided at PCR 43A and PCR 43. Two right-in/right-out intersections for northbound US 285 were provided approximately 1,600 feet southwest of Rosalie Road, and approximately 500 feet northeast of Rosalie Road. Rosalie Road and PCR 72 were connected via a frontage road. This option was dismissed after considering overall out-of-direction travel, impacts to wetlands, and the low level of public support.

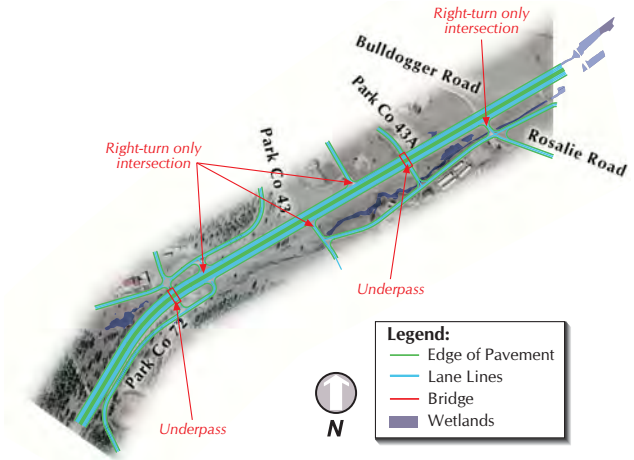
Figure 2-29: Deer Creek Configuration 3 - Dismissed



Existing Deer Creek Area at PCR 43

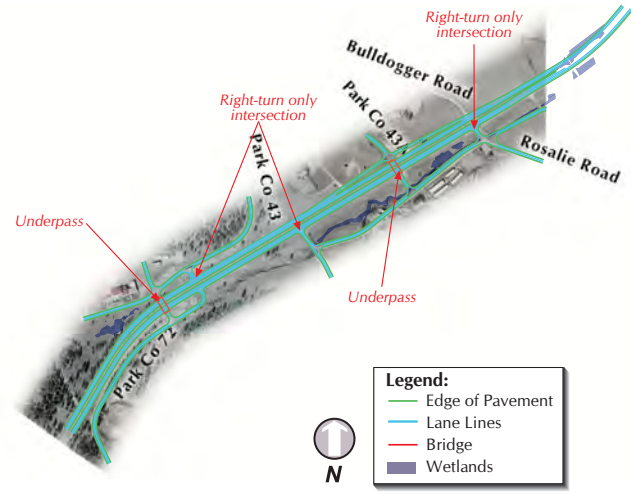
Configuration 4 (Option D or Option II) consisted of two underpasses, one at a location approximately 250 feet southwest of the PCR 43/ US 285 intersection and another at PCR 43A. Right-in/right-out intersections for southbound US 285 were provided at a location approximately 450 feet southwest of PCR 43A and at PCR 43. Three right-in/right-out intersections for northbound US 285 were provided at PCR 72, approximately 1,600 feet southwest of Rosalie Road, and at Rosalie Road. This option was dismissed after considering the higher cost, impacts to wetlands, impacts to drainages, and private property impacts.

Figure 2-30: Deer Creek Configuration 4 - Dismissed



Configuration 5 was the same as the Configuration 4, but instead of the right-in/right-out intersection for southbound US 285 located southwest of PCR 43A, a half-diamond interchange would have been built for southbound US 285 at PCR 43A. This option was dismissed because of wetland impacts on the south side of the PCR 72 underpass.

Figure 2-31: Deer Creek Configuration 5 - Dismissed

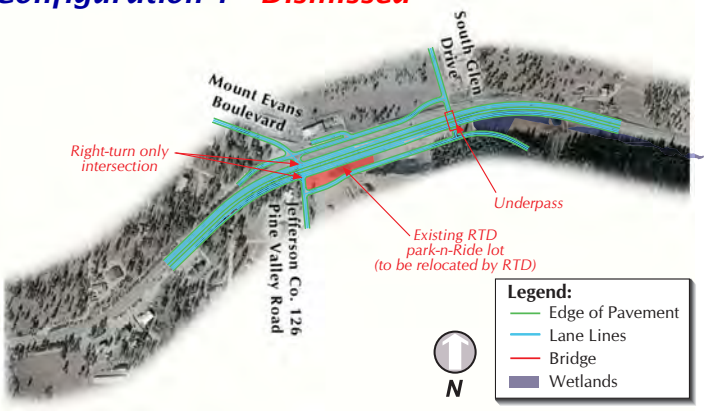


Mt. Evans Boulevard (Pine Junction)

Three grade-separated intersection configurations were considered at this location. Two configurations were dismissed following evaluation.

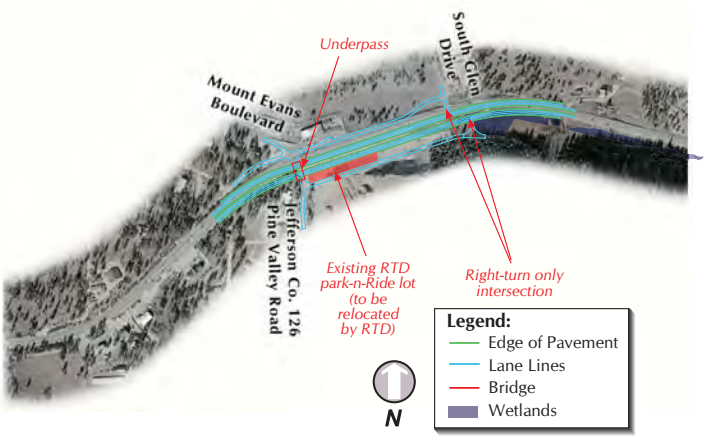
Configuration 1 (Option A or Option I) included an underpass at South Glen Drive and right-in/right-out intersections at Mt. Evans Boulevard for southbound US 285 and JCR 126 for northbound US 285. This option was dismissed because of moderate out-of-direction travel, more right-of-way required, greater impacts to businesses, and wetland impacts.

Figure 2-32: Mt. Evans Boulevard Configuration 1 - Dismissed



Configuration 2 (Option B or Option II) included an underpass at Mt. Evans Boulevard/JCR 126 and right-in/right-out intersections at South Glen Drive. This option was later modified to include a frontage road connection on the southeast side of US 285 between JCR 126 and Sunset Boulevard/ Wandcrest Road (the next major roadway to the southwest). This option was dismissed because of pacts to wetlands.

Figure 2-33: Mt. Evans Boulevard Configuration 2 - Dismissed

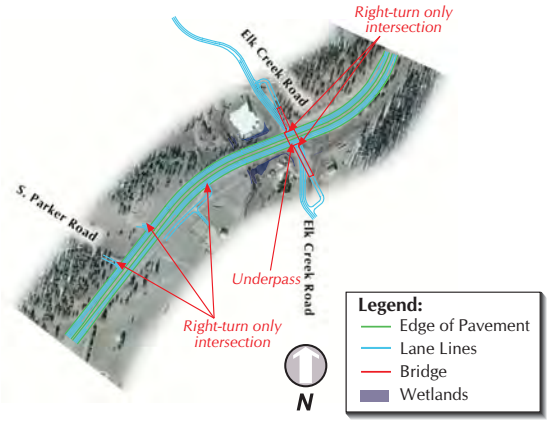


Shaffers Crossing and Elk Creek School Area

Fourteen grade-separated intersection configurations were considered in this area. Nine of these were advanced earlier in the process and were identified as Options A through J ("I" was not used). Options C, F, and J were subsequently renamed as Options I, II and III. Configuration 10 resulted from the Value Engineering Session. Four variations of the Configuration 10 were added to avoid impacts to an historic bridge. Six of the original nine configurations were initially screened out. The remaining three (Options C, F, and J) were identified as Options I, II, and III. Twelve of the fourteen configurations were dismissed following evaluation.

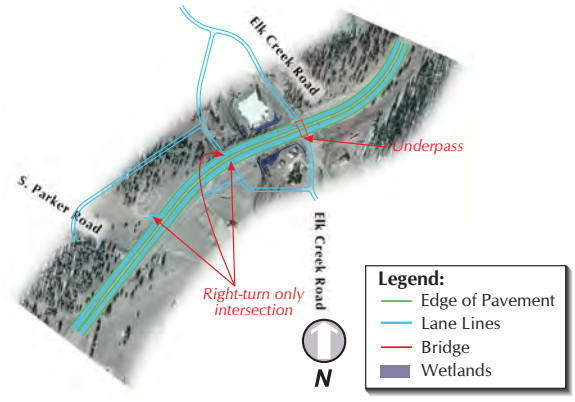
Configuration 1 (Option A) consisted of an underpass at Elk Creek Road with two connected right-in/right-out intersections directly adjacent to Elk Creek Road. South Parker Road and the 285 Frontage Road (access to Elk Creek School) accessed US 285 via right-in/right-out intersections. This option was dismissed because the southbound US 285 access is located at the bottom of a long hill (safety issue), the high cost for rock cuts and retaining walls, and the lack of grade-separated access to Elk Creek School and South Parker Road.

Figure 2-34: Shaffers Crossing Configuration 1 - Dismissed



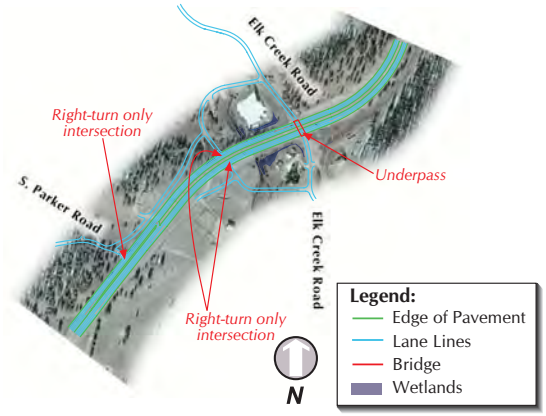
Configuration 2 (Option B) consisted of an underpass at Elk Creek Road with two connected right-in/right-out intersections located approximately 600 feet southwest of Elk Creek Road. South Parker Road was connected to Elk Creek Road via a frontage road. South Parker Road and the US 285 Frontage Road connected to US 285 via right-in/right-out intersections. This option was dismissed because of substantial wetland impacts, high cost, impacts to private property, and lack of grade-separated access to Elk Creek School.

Figure 2-35: Shaffers Crossing Configuration 2 - Dismissed



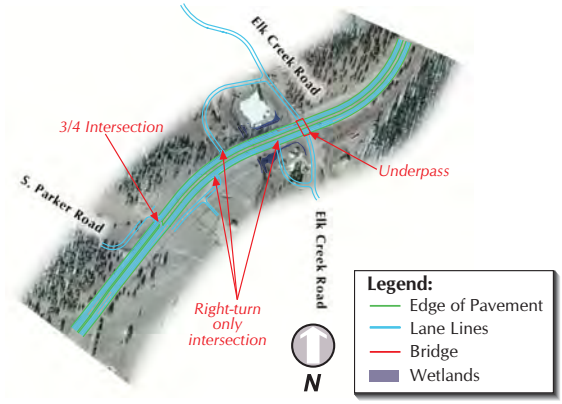
Configuration 3 (Option C or Option I) was the same as the Configuration 2, but the frontage road connection to Parker Road used an alignment closer to US 285. This option was dismissed because of wetland impacts, impacts to private property, and lack of grade-separated access to Elk Creek School.

Figure 2-36: Shaffers Crossing Configuration 3 - Dismissed



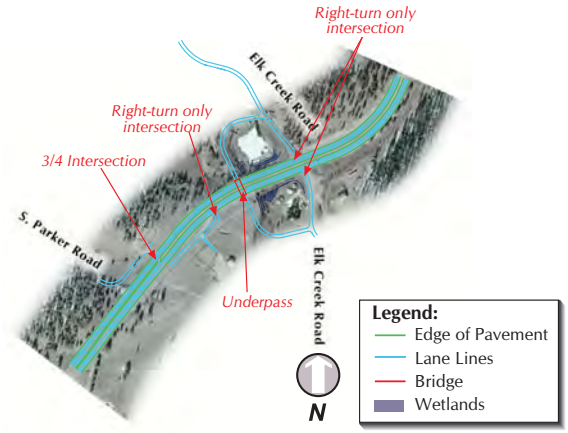
Configuration 4 (Option D) consisted of an underpass at Elk Creek Road with two connected right-in/right-out intersections. The right-in/right-out intersection with southbound US 285 was located approximately 600 feet southwest of Elk Creek Road, and the intersection with northbound US 285 was approximately 250 feet southwest of Elk Creek Road. South Parker Road accessed US 285 with a ¾ intersection (left-in but not left-out) and the US 285 Frontage Road accessed US 285 via a right-in/right-out intersection. This option was dismissed because of wetland impacts, impacts to private property, lower level of public support, and lack of grade-separated access to Elk Creek School and South Parker Road.

Figure 2-37: Shaffers Crossing Configuration 4 - Dismissed



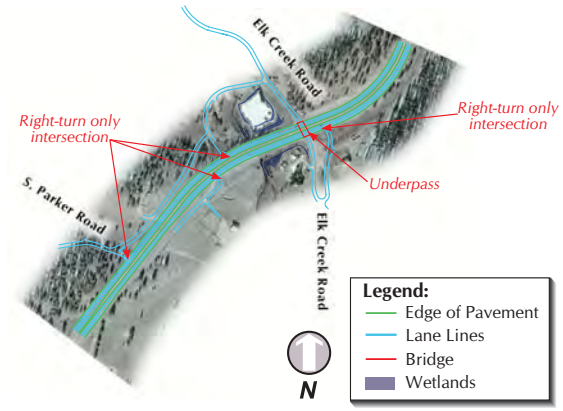
Configuration 5 (Option E) consisted of an underpass approximately 600 feet southwest of Elk Creek Road with two connected right-in/right-out intersections at Elk Creek Road. South Parker Road accessed US 285 with a ¾ intersection (left-in but not left-out) and the US 285 Frontage Road accessed US 285 via a right-in/right-out intersection. This option was dismissed because of substantial impacts to wetlands, riparian area, and floodplains, a lower level of public support, and lack of grade-separated access to Elk Creek School and South Parker Road.

Figure 2-38: Shaffers Crossing Configuration 5 - Dismissed



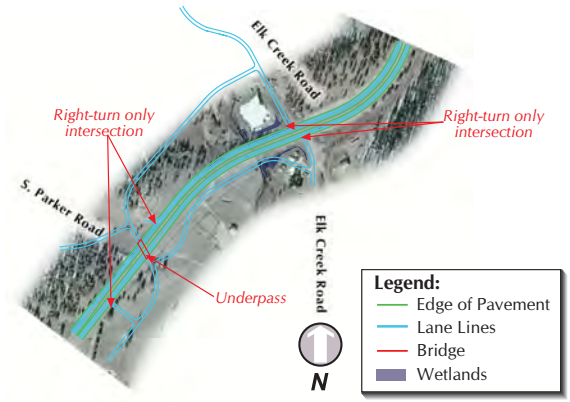
Configuration 6 (Option F or Option II) was the same as the Configuration 3 except the right-in/right-out access with northbound US 285 was located directly adjacent to Elk Creek Road. This option was dismissed because of impacts to wetlands, impacts to private property, and lack of grade-separated access to Elk Creek School.

Figure 2-39: Shaffers Crossing Configuration 6 - Dismissed



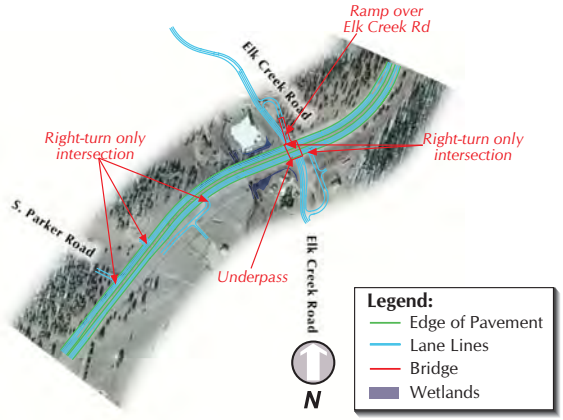
Configuration 7 (Option G) consisted of an underpass at South Parker Road connecting to the 285 Frontage Road. Frontage roads were provided on both sides of US 285 connecting with Elk Creek Road. Right-in/right-out intersections were provided at north and south Elk Creek Road and South Parker Road. This option was dismissed because of substantial impacts to wetlands, out-of-direction travel, private property impacts, and a lower level of public support.

Figure 2-40: Shaffers Crossing Configuration 7 - Dismissed



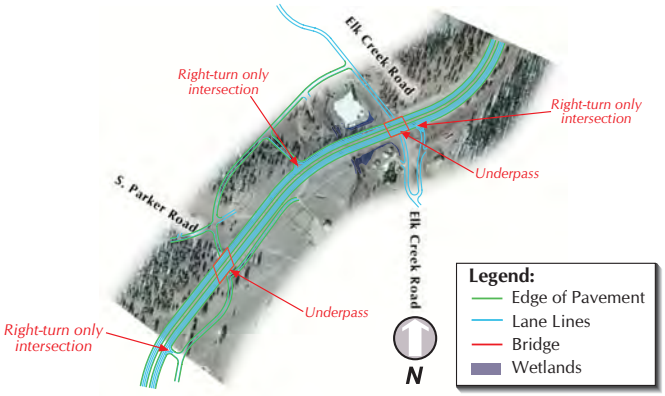
Configuration 8 (Option H) was the same as Configuration 1 but the right-in/right-out access with northbound US 285 was located approximately 120 feet northeast of Elk Creek Road. This option was dismissed because the southbound US 285 access is located at the bottom of a long hill (safety issue), high cost for rock cuts and retaining walls, a lower level of public support, and lack of grade-separated access to Elk Creek School and South Parker Road.

Figure 2-41: Shaffers Crossing Configuration 8 - Dismissed



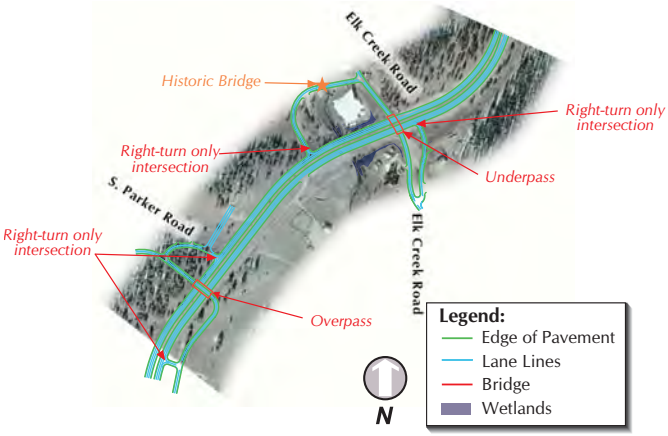
Configuration 9 (Option J or Option III) consisted of an underpass at South Parker Road connecting to the 285 Frontage Road and an underpass at Elk Creek Road. A frontage road was provided on the north side of US 285 connecting with Elk Creek Road. Right-in/right-out intersections were provided for northbound US 285 at the US 285 Frontage Road and just northeast of Elk Creek Road. A right-in/right-out intersection was provided for southbound US 285 midway between Elk Creek Road and South Parker Road. This option was dismissed because of impacts to wetlands, impacts to a riparian area, impacts to floodplains, and high cost.

Figure 2-42: Shaffers Crossing Configuration 9 - Dismissed



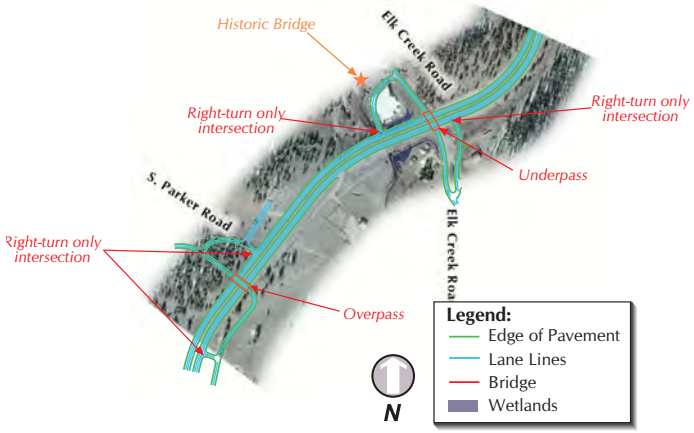
Configuration 10 was similar to Configuration 9 but instead of an underpass at South Parker Road, there was an overpass connecting to the US 285 Frontage Road. Instead of a frontage road on the north side, two separate and unconnected right-in/right-out intersections are provided for southbound US 285 - one just northeast of South Parker Road and one approximately 600 feet southwest of Elk Creek Road. This option was dismissed because the frontage road on the north side that connects Elk Creek Road with southbound US 285 impacts an historic bridge. To address this concern, four additional configurations were developed (Configurations 11 through 14).

Figure 2-43: Shaffers Crossing Configuration 10 - Dismissed



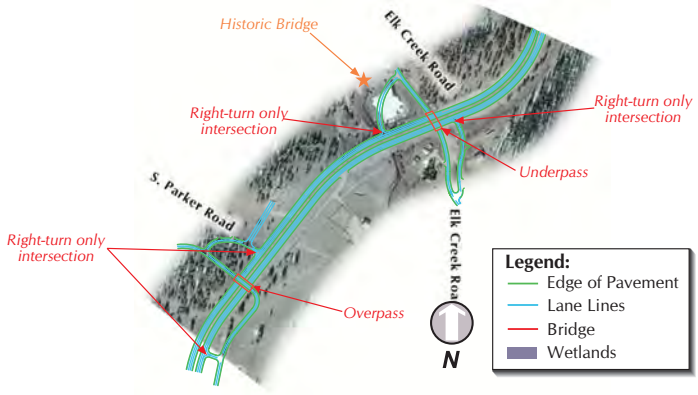
Configuration 11 is the same as Configuration 10 except the frontage road on the north side that connects Elk Creek Road with southbound US 285 was changed to avoid crossing Elk Creek. It curved around and through the existing pond and ties into US 285 just northeast of Elk Creek. This option was dismissed due to impacts to the riparian area of Elk Creek.

Figure 2-44: Shaffers Crossing Configuration 11 - Dismissed



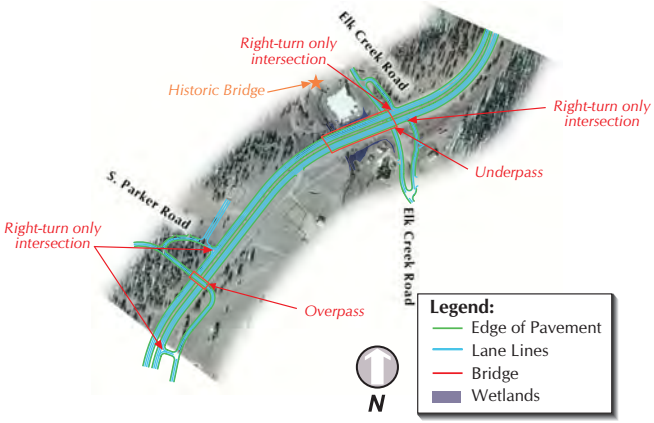
Configuration 12 is the same as Configuration 11 except the frontage road on the north side that connected Elk Creek Road with southbound US 285 was changed to stay further away from Elk Creek. It curved through the existing pond and ties into US 285 just northeast of Elk Creek. This option was dismissed due to impacts to the riparian area of Elk Creek.

Figure 2-45: Shaffers Crossing Configuration 12 - Dismissed



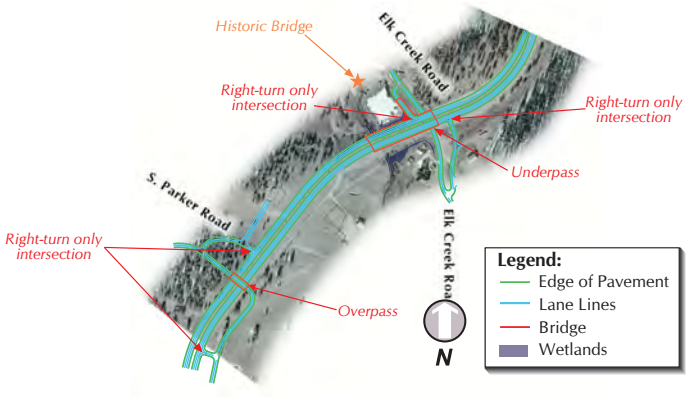
Configuration 13 was developed to open up the Elk Creek riparian area and provide improved wildlife crossing opportunities. This configuration has two bridges 483 feet long, which span Elk Creek, the riparian area, and Elk Creek Road. It connects Elk Creek Road with US 285 just east of the underpass. This configuration was dismissed because it was not cost effective.

Figure 2-46: Shaffers Crossing Configuration 13 - Dismissed



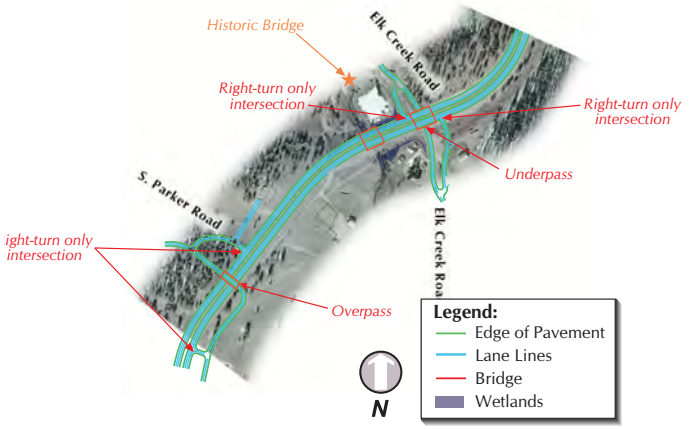
Configuration 14 was developed for the same reasons as Configuration 13. This configuration has two bridges 511 feet long, which also span Elk Creek, the riparian area, and Elk Creek Road; plus a third bridge 180 feet long, which is a connecting road to and from southbound US 285. This configuration was dismissed because it was not cost effective.

Figure 2-47: Shaffers Crossing Configuration 14 - Dismissed



Configuration 15 (or Variation V) was developed as a alternative to Configuration 13 and 14. It has two shorter bridges, 130 feet each, over Elk Creek. There are also two bridges over Elk Creek Road at 112 feet each. In addition Elk Creek Road is relocated to the northeast to allow for the southbound US 285 connecting road to be moved northeast away from the pond. This configuration was dismissed because it was not cost effective and did not provide noticeable benefits.

Figure 2-48: Shaffers Crossing Configuration 15 - Dismissed

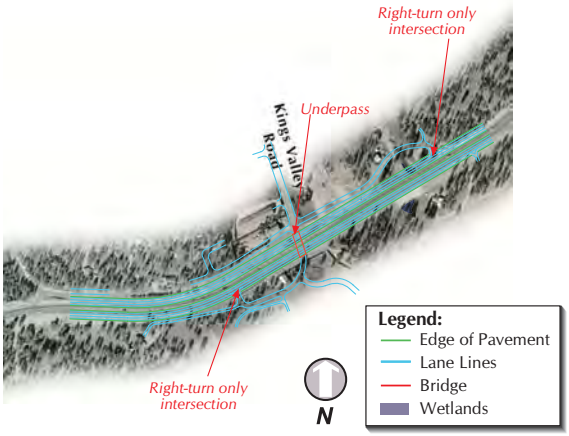


Kings Valley

Nine grade-separated intersection configurations were considered at this location. Four of these were advanced earlier in the process and were identified as Options A through D. The fifth was a variation of Option D and was identified as Option D Modified. The sixth and seventh options were identified as Options V and VI. Configurations 8 and 9 were developed following input from and after the Public Meeting #2. Eight of the nine configurations were dismissed following evaluation.

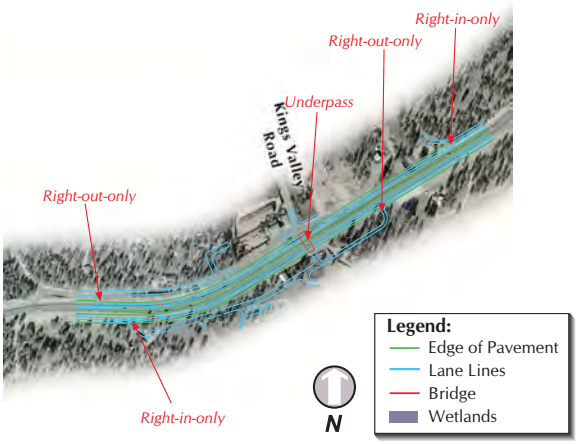
Configuration 1 (Option A or Option I) consisted of an underpass at Kings Valley Road and two right-in/right-out intersections with US 285 - one located on southbound US 285 north of Kings Valley Road and one located on northbound US 285 south of Kings Valley Road. This option was dismissed because it bisects a historic district, has direct wetland impacts, provides limited and difficult access to businesses from the underpass area, and has direct impacts to private property.

Figure 2-49: Kings Valley Configuration 1 - Dismissed



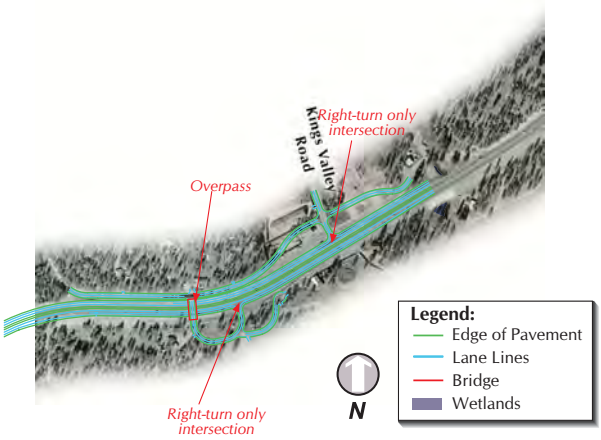
Configuration 2 (Option B) consisted of an underpass at Kings Valley Road and four right-in/right-out intersections with US 285 (located on each side of Kings Valley Road for both northbound and southbound US 285). This option was dismissed for the same reasons as Option A (it bisects an historic district, has direct wetland impacts, provides limited and difficult access to businesses from the underpass area, and has direct impacts to private property).

Figure 2-50: Kings Valley Configuration 2 - Dismissed



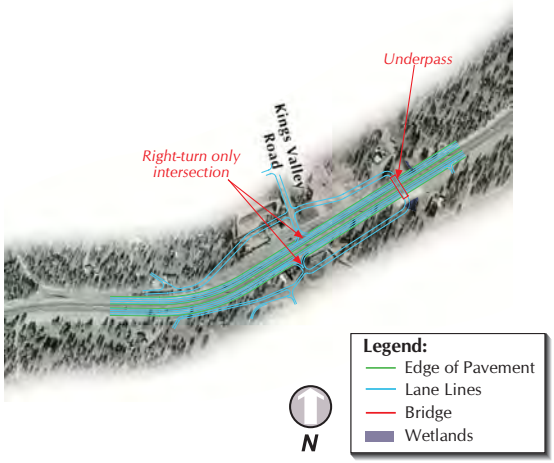
Configuration 3 (Option C or Option II) consisted of an overpass approximately 800 feet southwest of Kings Valley Road and two right-in/right-out intersections with US 285 - one located on southbound US 285 at Kings Valley Road and one located on northbound US 285 south of Kings Valley Road and north of the overpass). This option was dismissed because it has a lower level of public support and has greater impacts to private property.

Figure 2-51: Kings Valley Configuration 3 - Dismissed



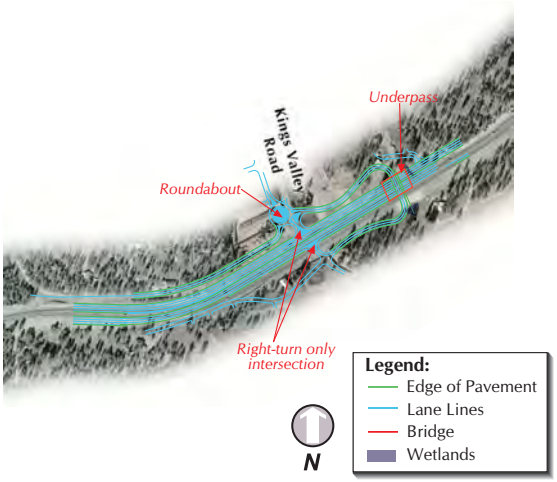
Configuration 4 (Option D or Option III) consisted of an underpass at approximately 750 feet northeast of Kings Valley Road and two right-in/right-out intersections with US 285 - one located on southbound US 285 at Kings Valley Road and one located on northbound US 285 at Kings Valley Road. This option was dismissed because it bisects an historic district, has direct wetland impacts, had a lower level of support from public input, and has direct impacts to private property.

Figure 2-52: Kings Valley Configuration 4 - Dismissed



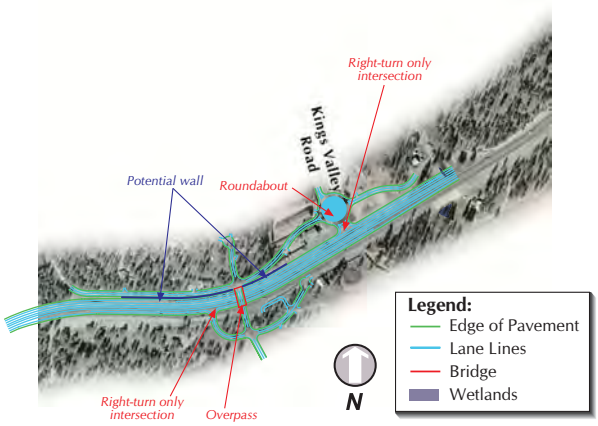
Configuration 5 (Option D Modified or Option IV) was the same as the Configuration 4 (Option D) except that a roundabout was proposed at the intersection of Kings Valley Road and the northwest side frontage road. This option was dismissed for the same reasons as Configuration 4. The roundabout did not receive public support and resulted in increased impacts to private property.

Figure 2-53: Kings Valley Configuration 5 - Dismissed



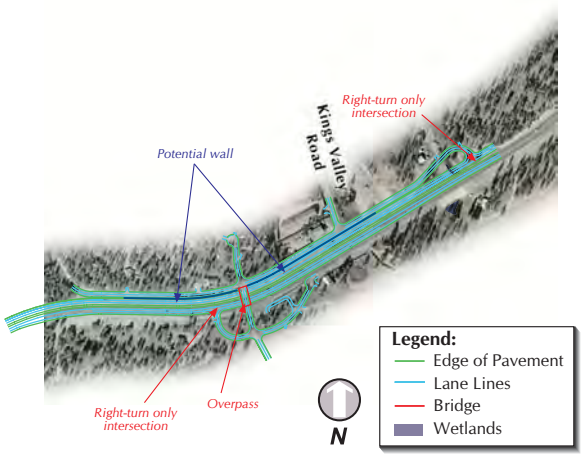
Configuration 6 (Option V) was the same as Configuration 3 (Option C or Option II) except that a roundabout was proposed at the intersection of Kings Valley Road and the northwest side frontage road. This option was dismissed as the roundabout did not receive public support and resulted in increased impacts to private property.

Figure 2-54: Kings Valley Configuration 6 - Dismissed



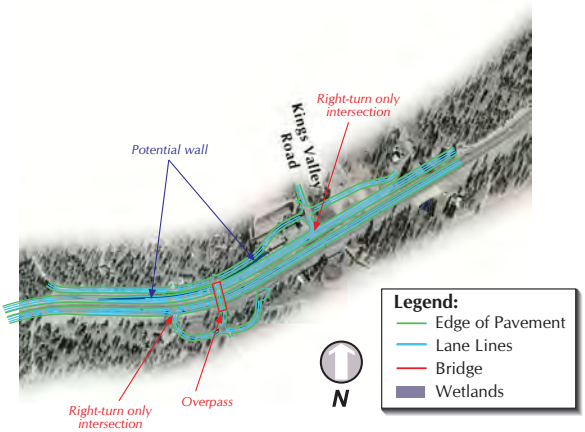
Configuration 7 (Option VI) consisted of an overpass approximately 550 feet southwest of Kings Valley Road and two right-in/right-out intersections with US 285 - one located on southbound US 285 north of Kings Valley Road and one located on northbound US 285 south of the new overpass. This option was dismissed because it required more out-of-direction travel and impacts private property.

Figure 2-55: Kings Valley Configuration 7 - Dismissed



Configuration 8 consisted of an overpass approximately 550 feet southwest of Kings Valley Road and two right-in/right-out intersections with US 285 - one located on southbound US 285 at Kings Valley Road and one located on northbound US 285 approximately 250 feet south of the overpass. This option was dismissed due to business impacts on the north side.

Figure 2-56: Kings Valley Configuration 8 - Dismissed

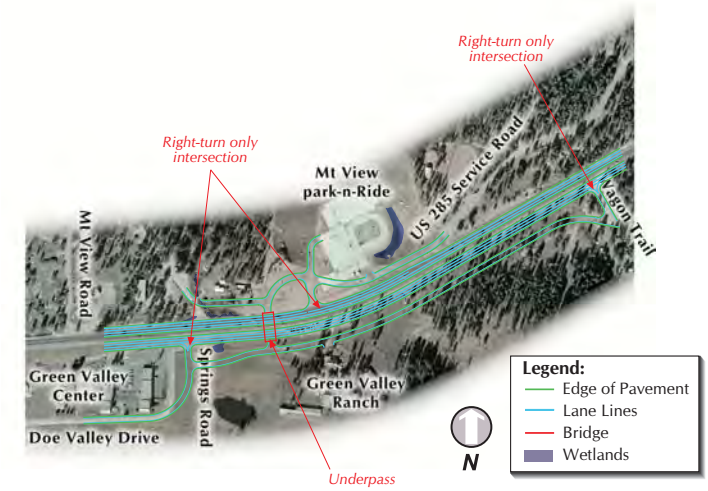


Green Valley Area

One grade-separated intersection concept (Option 1) was considered for this location. However, several minor variations were considered and analyzed. The concept includes an underpass located between the Mountain View park-n-Ride and the Green Valley Business Center. Right-in/right-out intersections are located at Springs Road and approximately 250 feet west of the Mountain View park-n-Ride access.

Northeast of the proposed underpass, variations included a driveway to connect with Old Glory Antiques, a short access road to connect Old Glory Antiques and the adjacent private drive (**Figure 2-57 on page 2-53**), and a longer frontage road to connect Old Glory Antiques, the private drive, and Mountain View Road (**Figure 2-22 on page 2-27**). The first option was dismissed because it required steep grades to the Old Glory Antiques parking lot and provided poor circulation. The second variation was dismissed as it provided less access control to US 285. The last variation was advanced as it provides better circulation to Old Glory Antiques and eliminates two existing accesses to US 285 with minimal impacts.

Figure 2-57: Green Valley Ranch - Dismissed



2.5.2.4 Other Intersection Configurations

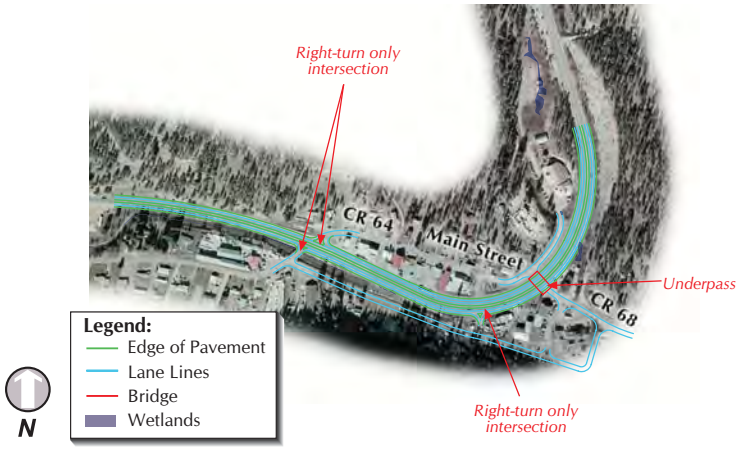
Other intersection configurations were considered in the Bailey and Wisp Creek/Rim Rock areas. These included grade-separated intersections, at-grade intersections, and partial movement intersections. These configurations are shown in **Figure 2-58 on page 2-54** through **Figure 2-70 on page 2-59**. These configurations went through screening processes, including several neighborhood and community meetings. A full analysis of alternatives screening can be found in the *Alternatives Development Technical Report*.

Bailey

There were seven roadway and access configurations studied for the Bailey area. Three configurations initially considered were identified as Options A, B and C. Input on these three configurations resulted in three additional configurations identified as Options I, II and III. Input on these configurations resulted in a seventh configuration. Six of the seven configurations were dismissed following evaluation.

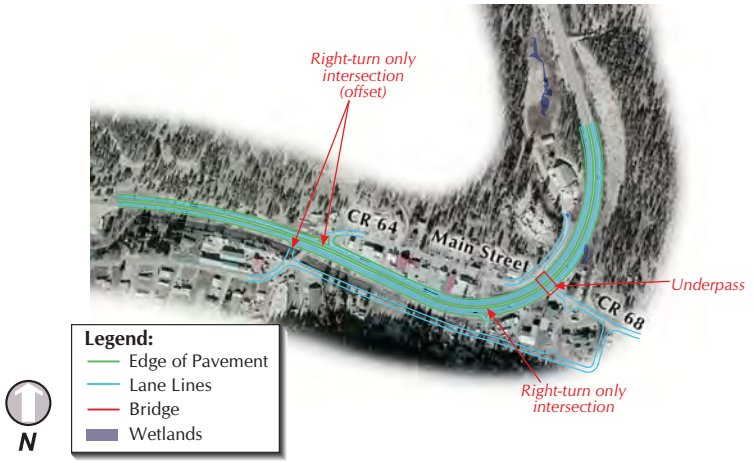
Configuration 1 (Option A) consisted of an underpass at PCR 68, a new bridge across the North Fork of the South Platte River southeast of US 285, and a new frontage road on the south side of the river connecting the new bridge with PCR 64. PCR 64 would be limited to a right-in/ right-out intersection. The East Main Street/ US 285 intersection was limited to right-in/right-out. This option was dismissed because of direct property impacts on the south side of the river, access restrictions to businesses, out-of-direction travel, impacts to river and park, high cost and right-of-way requirements, and a lower level of public support.

Figure 2-58: Bailey Configuration 1 - Dismissed



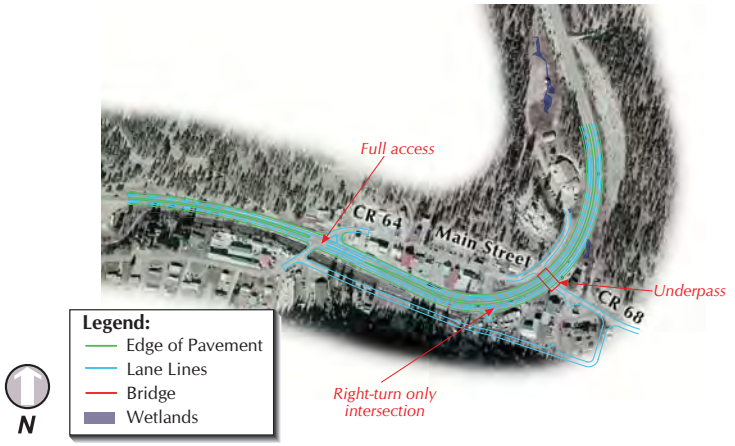
Configuration 2 (Option B) was the same as Configuration 1 but the right-in/right-out at PCR 64 was offset from the Main Street intersection on the north side of US 285. This option was dismissed for the same reasons as Configuration 1.

Figure 2-59: Bailey Configuration 2 - Dismissed



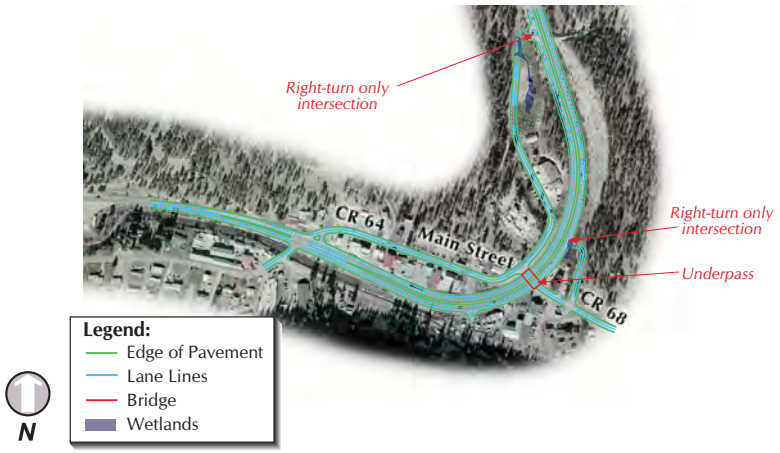
Configuration 3 (Option C) was the same as the first two configurations but PCR 64 remained as a full-access intersection. This configuration was dismissed for the same reasons as the first two configurations.

Figure 2-60: Bailey Configuration 3 - Dismissed



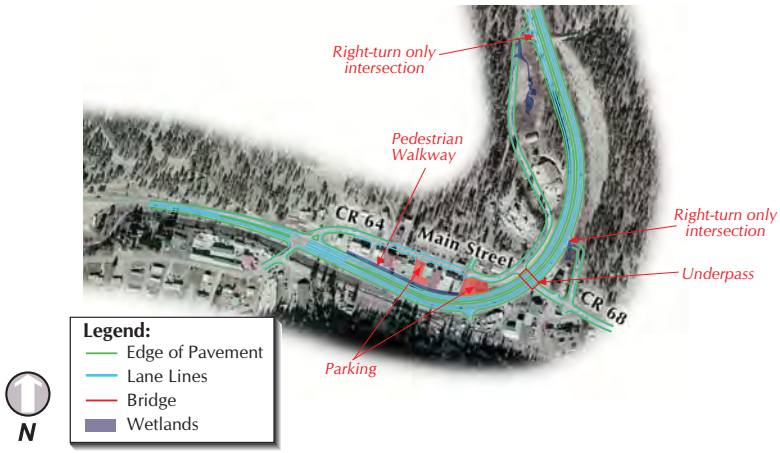
Configuration 4 (Option I) consisted of an underpass at PCR 68 and a right-in/right-out intersection for northbound US 285 approximately 300 feet north of PCR 68 (north of Bailey Propane). The East Main Street/ US 285 intersection was limited to right-in/right-out. This configuration was dismissed because it restricts access to businesses west of PCR 68, results in out-of-direction travel, has higher cost and right-of-way requirements and lower level of public support.

Figure 2-61: Bailey Configuration 4 - Dismissed



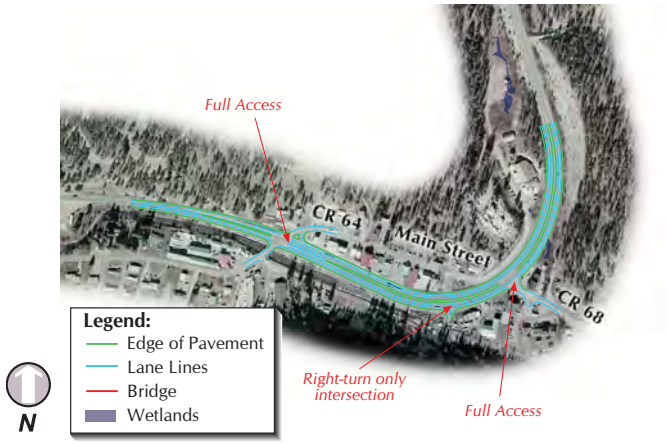
Configuration 5 (Option II) was the same as the Configuration 4 except that all on-street parking was removed and replaced with in-town parking lots accessed by Main Street. This configuration was dismissed for the same reasons as Configuration 4.

Figure 2-62: Bailey Configuration 5 - Dismissed



Configuration 6 (Option III) consisted of minor intersection improvements at PCR 64 (northbound US 285 left-turn bay, improved northbound right-turn radius, and improved southbound turn-radius) and PCR 68 (southbound US 285 left-turn bay, northbound right-turn deceleration lane, and westbound right-turn acceleration lane). Local accesses on the southeast side of US 285 were limited to right-in/right-out. This configuration was dismissed because it only moderately mitigates safety and operations of accesses on US 285.

Figure 2-63: Bailey Configuration 6 - Dismissed



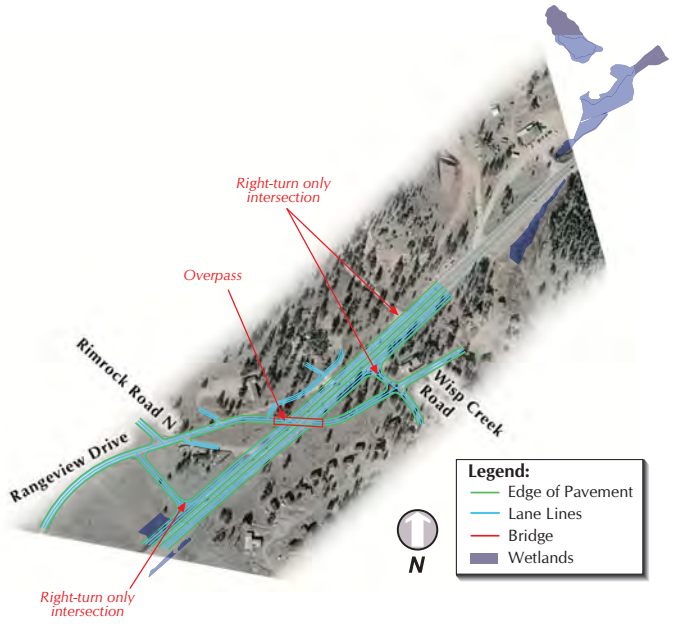
Wisp Creek/Rim Rock

Eight intersection configurations and two variations were considered in this area. One was advanced early in the process and is identified as Configuration 1. The remaining configurations were developed following input from public and neighborhood meetings.

All Wisp Creek/Rim Rock area configurations, except for Configurations 5, 6 and 7, meet the Purpose and Need of the project with minimal impacts to environmental resources. Some of the remaining configurations have serious concerns from adjacent neighborhoods due to traffic impacts, visual impacts, property impacts, and safety concerns. These are Configurations 1, 2, 3 and, to a lesser extent, 4. Seven of the eight configurations were dismissed following evaluation.

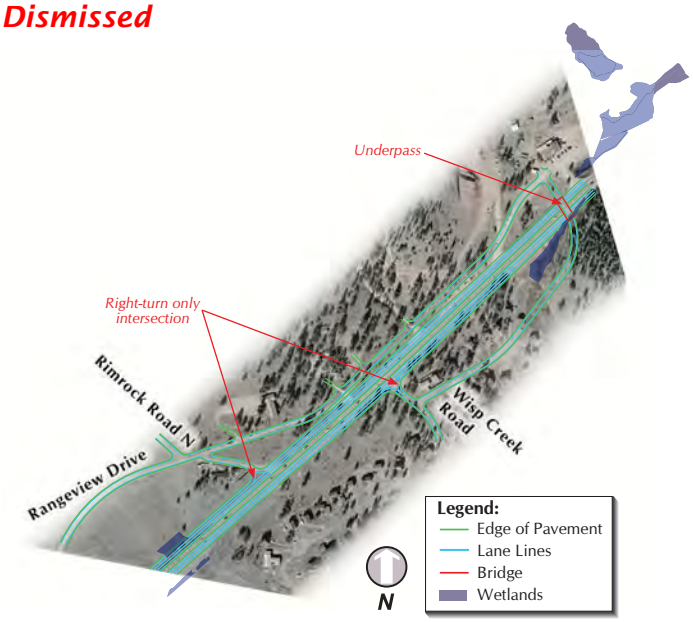
Configuration 1 connected Range View Drive to Wisp Creek Drive with an overpass at the US 285 crossing. Access to US 285 was from two right-in right-out intersections. The access point for the Rim Rock side (north) of US 285 was located west of Rim Rock Road. A new road would have been constructed through the existing pasture connecting to US 285. A new frontage road on the Rim Rock side connected Range View Drive to the veterinary clinic to the east. The access for the east side (south) of US 285 was from Wisp Creek Drive. There are minimal impacts to wetlands associated with this option. This configuration was dismissed due to visual impacts of the bridge structure, neighborhood concerns about increased traffic, and property impacts.

Figure 2-64: Rim Rock Configuration 1 - Dismissed



Configuration 2 was a variation of Configuration 1. The access connection for the Rim Rock side was revised to provide better roadway grades, and the frontage road on the Rim Rock connects from Range View Drive to Reggie's restaurant to the east. This frontage road provides access to properties that have impacts due to the widening of US 285. This configuration was dismissed due to visual impacts of the bridge structure, neighborhood concerns about increased traffic, and property impacts.

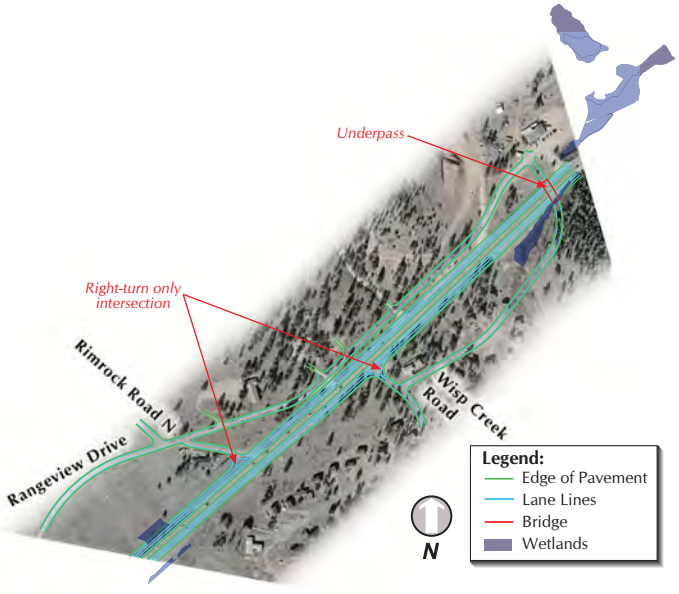
Figure 2-65: Rim Rock Configuration 2- Dismissed



Configuration 3 used at-grade, limited-access intersections. There was a right-in/right-out only access at Rim Rock Road. Northbound vehicles from the McKinley subdivision were required to make a right turn onto US 285 and then make a U-turn approximately ¼ mile to the south. Southbound US 285 traffic made a right turn into the McKinley subdivision. Vehicles traveling northbound on US 285 used a U-turn just northeast of Wisp Creek Drive or used the grade separation at either The Villages at Sunset or Pine Junction then take US 285 southbound to Rim Rock Road.

There was a ¾ intersection at Wisp Creek Drive. Left and right turns were allowed from US 285 to Wisp Creek Drive, and access to US 285 from Wisp Creek Road was limited to right-out. There were no left turns allowed from Wisp Creek Drive to US 285. Vehicles wanting to travel southbound on US 285 were required to make a right turn out of Wisp Creek Drive, use the U-turn or the grade separation at The Villages at Sunset or Pine Junction and then proceed south on US 285.

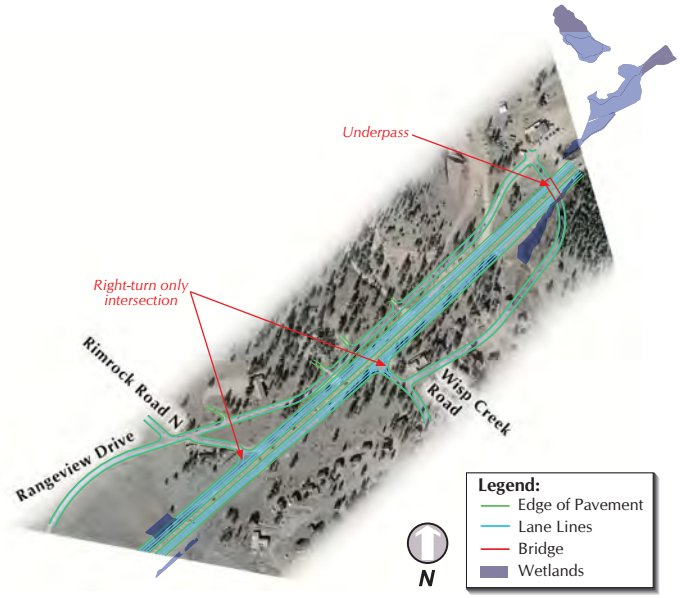
Figure 2-66: Rim Rock Configuration 3 - Dismissed



Both intersections and the U-turns operated at an acceptable level of service (LOS). The McKinley subdivision expressed concerns with the U-turn movements. This configuration was dismissed as it does not provide the level of access control and neighborhood access options that the advanced configuration provides.

Configuration 4 was the same as Configuration 1 except for the location of the southbound US 285 right-in/right-out intersection. Concern with the new road through the pasture in Configurations 1 and 2 led to the relocation of the right-in/right-out intersection. The new location was near the current access of Reggie's and the new road through the pasture was eliminated. This new configuration had 0.02 acres of additional wetland impact when compared to Configuration 1. This configuration was dismissed due to visual impacts of the bridge structure and neighborhood concerns about increased traffic.

Figure 2-67: Rim Rock Configuration 4 - Dismissed

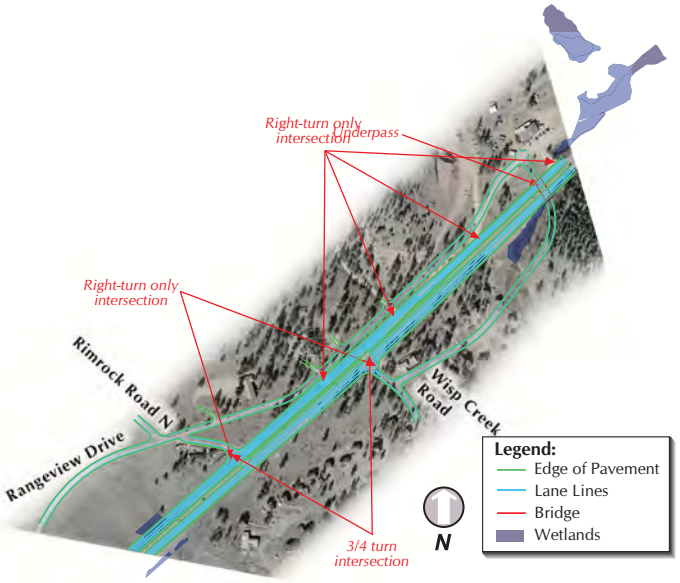


Configuration 5 uses at-grade, limited-access intersections. There was a ¾ intersection at Rim Rock Road. Northbound vehicles from the McKinley subdivision made a left turn onto US 285. Southbound US 285 traffic made a right turn into the McKinley subdivision. Vehicles traveling northbound on US 285 used the a U-turn just northeast of Wisp Creek Drive or the grade separation at either The Villages at Sunset or Pine Junction then took US 285 southbound to Rim Rock Road.

There was a ¾ intersection at Wisp Creek Drive. Left and right turns could be allowed from US 285 to Wisp Creek Drive, and access to US 285 from Wisp Creek Road would be limited to right out. There were no left turns allowed from Wisp Creek Drive to US 285. Vehicles wanting to travel southbound on US 285 would be required to make a right turn out of Wisp Creek Drive, and use the U-turn or the grade separation at The Villages at Sunset or Pine Junction and then go south on US 285.

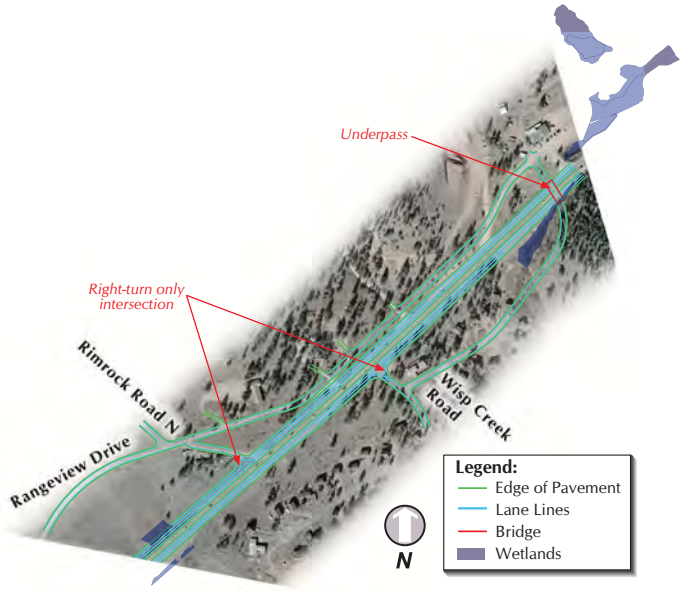
The Rim Rock Road intersection did not operate at an acceptable LOS and was dismissed as a viable option.

Figure 2-68: Rim Rock Configuration 5 - Dismissed



Configuration 6 differs from Configurations 1 through 3 in the location of the grade separation. The grade separation was close to Reggie's. Frontage roads on both sides of US 285 connected the Will O' Wisp and McKinley subdivision to the grade separation. This configuration had significant property impacts. In addition, there was a major impact to the high-quality wetlands located along Wisp Creek. This configuration was dismissed because it is not the least environmental damaging practicable option.

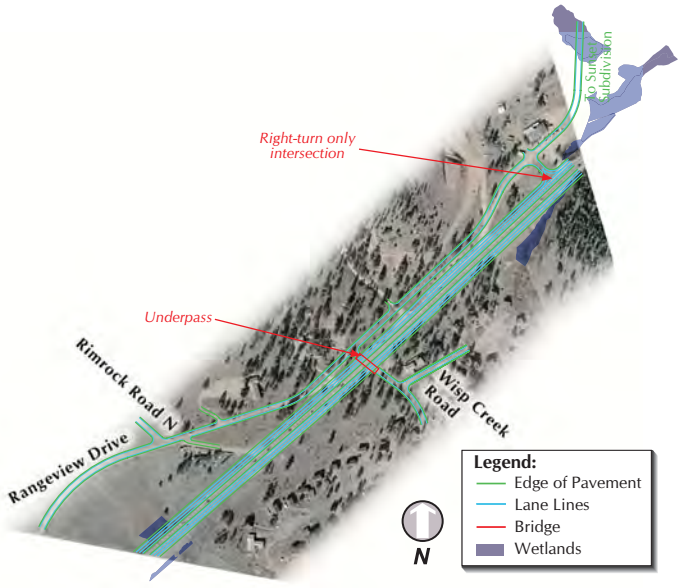
Figure 2-69: Rim Rock Configuration 6 - Dismissed



Configuration 7 used a right-in right-out only access at Reggie's. Northbound vehicles from the McKinley subdivision could make a right turn onto US 285 and then make a U-turn approximately ¼ mile to the south. Southbound US 285 traffic could make a right turn into the McKinley subdivision. Vehicles traveling northbound on US 285 could use a U-turn on US 285 or the grade separation at either The Villages at Sunset or Pine Junction then take US 285 southbound to access the McKinley subdivision.

There was an underpass at Wisp Creek Drive connecting to a frontage road that extended from Range View Drive to Reggie's. Will O' Wisp subdivision traffic could use the right-in right-out only access to US 285 near Reggie's. In addition to the at-grade intersection and the underpass, there was a frontage road connection to The Villages at Sunset. The frontage road allowed northbound vehicles from Rim Rock Road and Wisp Creek Drive to use the frontage road to access the grade separation at The Villages at Sunset then access US 285 northbound. The frontage road did not require a U-turn movement on US 285. The frontage road connection provided additional route choices for the McKinely subdivision, the Will O' Wisp subdivision, and The Villages at Sunset.

Figure 2-70: Rim Rock Configuration 7 - Dismissed



Due to the grade of the underpass and the frontage road, access could not be provided to the veterinary clinic. Also, access to Will O' Wisp homes near the underpass were affected due to the lowered grade. This configuration was dismissed due to loss of property access, impacts to property access, and high cost.

Two variations were considered and dismissed without further development. One variation included two full-access, unsignalized intersections. This variation was dismissed because further traffic could not be accommodated by these intersections. A second variation included an underpass instead of the overpass shown in Configurations 1 and 2. With the underpass, grades could not be achieved that provided access to both sides of US 285 without taking some residences or raising US 285 substantially. The resulting property and visual impacts were considered unacceptable.

2.5.3 Alternative Mode Options

A working group was formed specifically to discuss transit and TDM options. This group included representatives from agencies and community groups. It met twice and a *Transit, Land Use and Travel Demand Management Options* technical report was completed in March 2003. It is available for review at CDOT Region 1. Options from this report, considered but not advanced, are discussed below. Options included in the Preferred Alternative are included in **Section 2.4.2.8 beginning on page 2-28**.

2.5.3.1 Bicycle and Pedestrian Facilities

Both on-street and off-street facilities were analyzed for bicycle and pedestrian facilities.

Off-street facilities would accommodate both bicyclists and pedestrians. Off-street separated bike paths would be 10 feet wide with 2-foot shoulders on either side of the pathway. This option was advanced from preliminary screening for further analysis. Bike groups, such as Bike Jeffco, Bike Colorado and the State Trails coordinator with Colorado State Parks, were involved in the effort to develop this option.

On-street facilities would consist of the 10-foot shoulders on the proposed alignment. These shoulders would be acceptable for bicycle use but pedestrian use would be discouraged. This option was advanced from preliminary screening for further analysis.

Pedestrian facilities at new underpasses and overpasses are another option. This option was advanced for further analysis.

Following the detailed screening in Spring 2003, the off-street bike facilities were not advanced due to high amount of property impacts, right-of-way, and environmental impacts. There were also no obvious locations for them. Snow and sand removal would not be provided by CDOT. Cost for this option would be high relative to the usage and lack of connecting facilities.

The 10-foot shoulders for bicycle use along US 285 and pedestrian/bicycle facilities at underpasses and overpasses were advanced. This conclusion was provided at several public meetings, requesting further public input.

2.5.3.2 Inter City/Private Bus Option

This option could address weekend congestion. A similar service was provided previously by private carriers and has been discontinued. It is unlikely that there is significant demand to destinations of recreation areas, such a rafting or skiing, that would warrant intercity service. Many of the through trips in the study area are destined for second homes, campgrounds or other locations that may not be appropriately served with buses. CDOT has previously offered ski buses from numerous locations in the I-70 corridor on the weekend. The service was not well-utilized, despite the ability to provide service to key ski area destinations, its competitive pricing and that I-70 was a highly congested corridor. This option was not advanced for additional analysis.

2.5.3.3 HOV Lanes

High occupancy vehicle (HOV) lanes are recognized as a method of maximizing the person-moving capacity of roadway facilities and improving operating level of service for carpool, vanpool and

transit vehicles. Vehicles utilizing these lanes could bypass peak period congestion occurring in general-purpose auto lanes. This option requires an exclusive travel lane that would accommodate vehicles with more than one occupant. For the study area, it is assumed this option would occur as a four-lane cross section with the inside lane operating as HOV during peak periods. Analysis showed that in 2000, 17% of study area occupants carpool, making an occupancy requirement feasible.

There was a lack of public support for this alternative. Traffic calculations for an HOV lane in addition to a general-purpose lane showed that there would not be adequate capacity in the general-purpose lane to support the traffic demand if an HOV lane were employed. In addition, the HOV lane would be only marginally useful because only a short segment of US 285 would be converted. HOV lanes were not advanced for further analysis.

2.5.3.4 Reversible Lanes for HOV/Bus/ Through Trips

This option requires an exclusive travel lane that would accommodate buses, vehicles with more than one occupant, and through trips. This lane could be placed in an existing right-of-way or on a separate right-of-way and would be reversible to accommodate the highest flow of traffic during peak time.

Analysis shows that this option would only be marginally useful because there is only a short segment of the roadway that would be converted since US 285 from Denver to Conifer does not have an HOV/ bus lane. In addition, there are high capital, operating and maintenance costs, and the signage and lighting required are not consistent with the rural character of US 285. This option was not advanced for future analysis.

2.5.3.5 Bus-only Ramps

A bus-only ramp is beneficial because it reduces travel time for those riding the bus. If reduction in travel time is great enough, it can be an incentive attracting commuters to the bus and alleviating congestion on the roadway.

Ramp at Mountain View Park-n-Ride

There would be opportunity for buses to use a ramp at Mountain View park-n-Ride. The ramp could be built in the southbound direction. Analysis concluded that there would be a travel time savings of one minute, and the approximate cost would be $200,000. This option was not advanced for further analysis, for cost-benefit reasons.

2.5.3.6 Expansion of RTD Boundaries to Bailey

Currently, RTD boundaries end at the Jefferson County line. Additional bus service could help alleviate weekday congestion by providing greater options for travel.

Expanding RTD boundaries is not a likely option in the near term since service is currently available on the edge of Park County and Park County residents use the existing park-n-Rides. Park County residents already served by RTD would not want to incur the additional cost of expanding service. This option was not advanced for additional analysis. However, it could be reconsidered in the future and would not be precluded by the Preferred Alternative.

2.5.4 Transportation Demand Management (TDM) Options

TDM strategies are designed to make the most efficient use of existing transportation facilities by reducing the actual “demand” placed on these facilities. Using strategies that promote alternative modes, increase vehicle occupancy, reduce travel distances and ease peak-hour congestion, TDM efforts could extend the useful life of transportation facilities and enhance mobility options by maximizing the use of transportation facilities.

2.5.4.1 Local/Frontage Roads

The addition of local and/or frontage roads adjacent to US 285 would reduce demand on the primary roadways. If motorists had the opportunity to use these minor roadways for shorter localized trips, it would relieve some of the congestion on US 285. Construction of these new roadways would result in substantial right-of-way impacts and impacts to sensitive environmental resources. The option of full

frontage roads along US 285 was not advanced for further analysis. Site-specific frontage roads were included where local conditions merit. (See **Section 2.4.2.3 on page 2-16.**)

2.5.4.2 Transit Queue Bypass

Queue bypass lanes are physical improvements that allow transit vehicles to move around vehicle queues at intersections. Also known as "queue jump lanes," they address traffic congestion caused by traffic signals.

Because the signals on US 285 are located outside of, or at the limit of, transit service, this option would be ineffective. There are no planned traffic signals within the study area, so this method of reducing traffic congestion would not be feasible. This option was not advanced for further analysis.

2.5.4.3 Transit Signal Prioritization

This system alters the signal control so that when transit vehicles approach an intersection, the green phase of the signal is available as soon as reasonably possible. Signal priority for transit vehicles typically improves transit operations and service. An improvement in transit performance would provide additional incentive for people to switch modes and consequently reduce roadway congestion.

Because there are no planned traffic signals within the study area, this method of reducing traffic congestion would not be feasible. This option was not advanced for further analysis.

2.5.4.4 Residential Ecopasses

An Ecopass allows the Ecopass holder to make unlimited trips using the RTD system. An employer or similar entity subsidizes the cost of the pass. In the case of a "residential Ecopass" the pass must be initiated and subsidized by neighborhoods or developers.

An additional incentive to use transit may remove more commuters from single-occupancy vehicles and ease congestion on US 285. Eased congestion could result in a travel time savings for commuters as well. However, development in the study area and the level of bus service are not appropriate for Ecopasses. This option was not advanced for further analysis.

2.5.4.5 TDM Incentives for Developers

These incentives would be required as part of the development review process. The developer would have to make provisions for occupants to have eased access to transit or related Transportation Demand Management (TDM) measures that reduce automobile dependency. Some examples could be providing sidewalk or bicycle access from the development to a bus stop or mixed-use development with uninterrupted pedestrian connections.

This option could influence travel behavior by mode, cost, time, or route, reducing the number of vehicles using US 285 and providing other mobility options. This option was advanced for further analysis. After development of options and final screening, encouraging TDM incentives for developers was not included as an element of the Preferred Alternative.

CDOT will provide meeting support for Jefferson and Park Counties if they wish to consider requiring developers to meet specific TDM goals.

2.5.4.6 Direct Growth to Village Centers

Similar to the open space policy, this is a long-term strategy that aims to reduce automobile reliance by clustering development in a general area. By regulating growth and directing it towards a "Mixed-Use Village" type of settlement, trip distance and travel time are reduced. This policy would be a component of future land use and zoning planning and would need to be implemented by Park County and Jefferson County. This element is similar to the "TDM incentives for developers" option and was not recommended as an element of the Preferred Alternative. It is a long-term recommendation that requires cooperative measures from outside agencies.

2.5.5 Congestion Management Alternative

A stand-alone Congestion Management Alternative was developed which combined alternate mode/

land use/TDM options that had passed the initial fatal flaw screening. The Congestion Management Alternative is summarized in **Table 2-7**.

An analysis of the viability of the Congestion Management Alternative was conducted to determine if it should be carried forward as a stand-alone EA alternative. The analysis indicated that there would be a capacity shortfall of approximately 700 people/hour in the general-purpose lane and a capacity shortfall of approximately 210 people/hour in the HOV lane. Based on this analysis, even using fairly aggressive alternative mode estimates, the Congestion Management Alternative cannot meet travel needs in the study area.

Table 2-7: Congestion Management Alternative

Physical	Operational	Policy
◆ HOV Lanes During Peak Hours on 4-lane Facility	◆ Additional RTD Regional Bus service	◆ Carpool use of park-n-Rides
◆ Bus-only Ramp to Mountain View park-n-Ride	◆ Advanced Traveler Information Systems (ATIS)	◆ Vanpools/Carpools
◆ Access Management		◆ Telecommuting
◆ Passenger Amenities at park-n-Rides		◆ TDM Incentives - developers
		◆ Open Space Acquisitions
		◆ Direct Growth to Village Centers

Chapter 3: Affected Environment and Environmental Consequences

The purpose of this chapter is to provide a concise description of the general social, economic and environmental setting for the area that may be affected by the alternatives presented in Chapter 2.0 and to describe the environmental impacts that could reasonably be expected to occur with the alternatives described in **Section 2.4 on page 2-7**.

Jefferson and Park County statistics were gathered to identify the demographic, economic, land use and zoning issues that may exist around the study area.

The study area is the area that would be directly affected by the planned construction of a Preferred Alternative. As stated in Chapter 1.0, the study area is the 14.7-mile section of US 285 between Foxton Road in the north and the western side of Bailey in the south. This section lies between MPs 235.2 and 220.5. Field information collected for this area includes physical, cultural and biological resources, noise and vibration, and right-of-way.

3.1 Land Use and Zoning

3.1.1 Existing Land Use

The US 285 corridor is experiencing rapid growth and development as the Denver metropolitan and mountain-area suburb populations continue to expand further west into more rural areas. Many residents have chosen to live in the less densely populated foothills of southwest Jefferson County and eastern Park County and commute to employment centers in Denver. This shift in residential development has resulted in the demand for service-related industry. As the need for service-related industry has increased, land use changes have occurred along the US 285 corridor to permit this type of development. Because US 285 is the principal highway through this section of both Jefferson and Park Counties, commercial and industrial development has clustered along this roadway. Residential development also has grown on both sides of the roadway corridor into the mountainous terrain. See **Figure 3-1** for the existing land use along the study area. As a note, the exempt land use category refers to public land, such as schools, parks, and open space, that is exempt from taxation by the local government

Commercial development in Jefferson County is clustered around major cross streets with access to large residential development north and south of US 285. Kings Valley Drive, Richmond Hill Road, Elk Creek Road and Pine Valley Road are among the most developed intersections in the study area. Current land use and zoning will accommodate additional commercial development in these areas, much of which is currently planned or under review by the county.

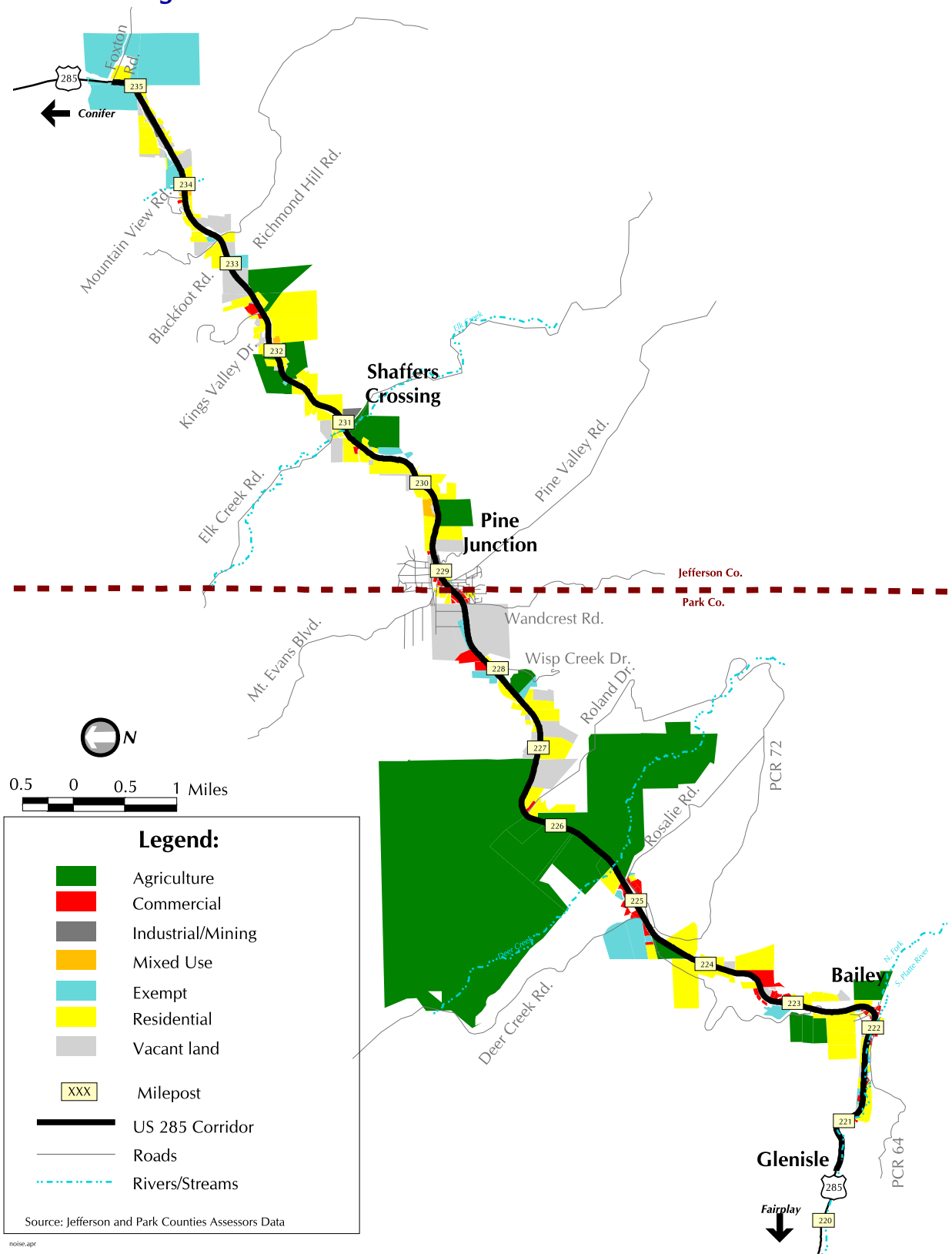
The Elk Creek Fire Station is located at the Richmond Hill/Blackfoot Road intersection with US 285. Elk Creek Elementary School is located south of Elk Creek Road between US 285 and the south side service road. Two Regional Transportation District (RTD) park-n-Ride lots are located along the study area - at Pine Junction and north of Mountain View Road. RTD currently provides peak-hour transit service between these lots and the Denver metropolitan area.

Residential development is scattered throughout the area in small subdivisions with large wooded lots. Because of the proximity to the Denver area, many of these homes are primary residences, rather than second or vacation homes that are more prevalent in Park County.

Park County recently approved a large mixed-use development consisting of commercial uses at the Wandcrest Road intersection and approximately 400 residential units south of US 285 between Wandcrest Road and Wisp Creek Drive. This development will be built in phases over the next five years.

In the Pine Junction area, which straddles the Jefferson/Park County border, RTD has plans to relocate the existing park-n-Ride lot on the southeast corner

Figure 3-1: Existing Land Use



of the intersection at Pine Valley Road to a location north of US 285 off Mt. Evans Road. The Pine Junction area is designated as a Park County activity center, with multiple parcels of commercial zoning. Further development at this location is highly likely.

The town of Bailey is located on US 285 at the bottom of Crow Hill. Numerous commercial establishments and residences have direct access to the highway at Park County Roads 68 and 64. Development in this immediate vicinity is limited by the North Fork of the South Platte River that runs parallel and south of US 285 in Bailey.

US 285 serves as the primary highway to recreational areas in Park and Summit Counties. Over 50% of Park County land is held as national forest land or state parks and recreational areas. Federal land holdings are generally considered non-developable lands. Tourism and recreation are among the leading uses of much of the land in Park County. This is true especially of land to the south and west of Bailey and the EA study area. Staunton State Park is located north of US 285 with access to the highway from Elk Creek Road. This park is currently in the planning stages to provide expanded facilities, including additional recreational amenities.

Extensive development of the study area has been somewhat limited due to the natural topography of the area, the cost of infrastructure development in mountainous terrain and, to a lesser extent, water availability. A study completed by the Denver Regional Council of Governments (DRCOG) estimates complete build-out of the Jefferson County existing zoning along US 285 at or beyond 2020. Build-out estimates have not been determined for the Park County portion of the study area. These limits illustrate that traffic growth along US 285 should begin to level off as the area reaches complete build-out. However, traffic volumes will continue to increase until that point is reached.

3.1.2 Existing Zoning

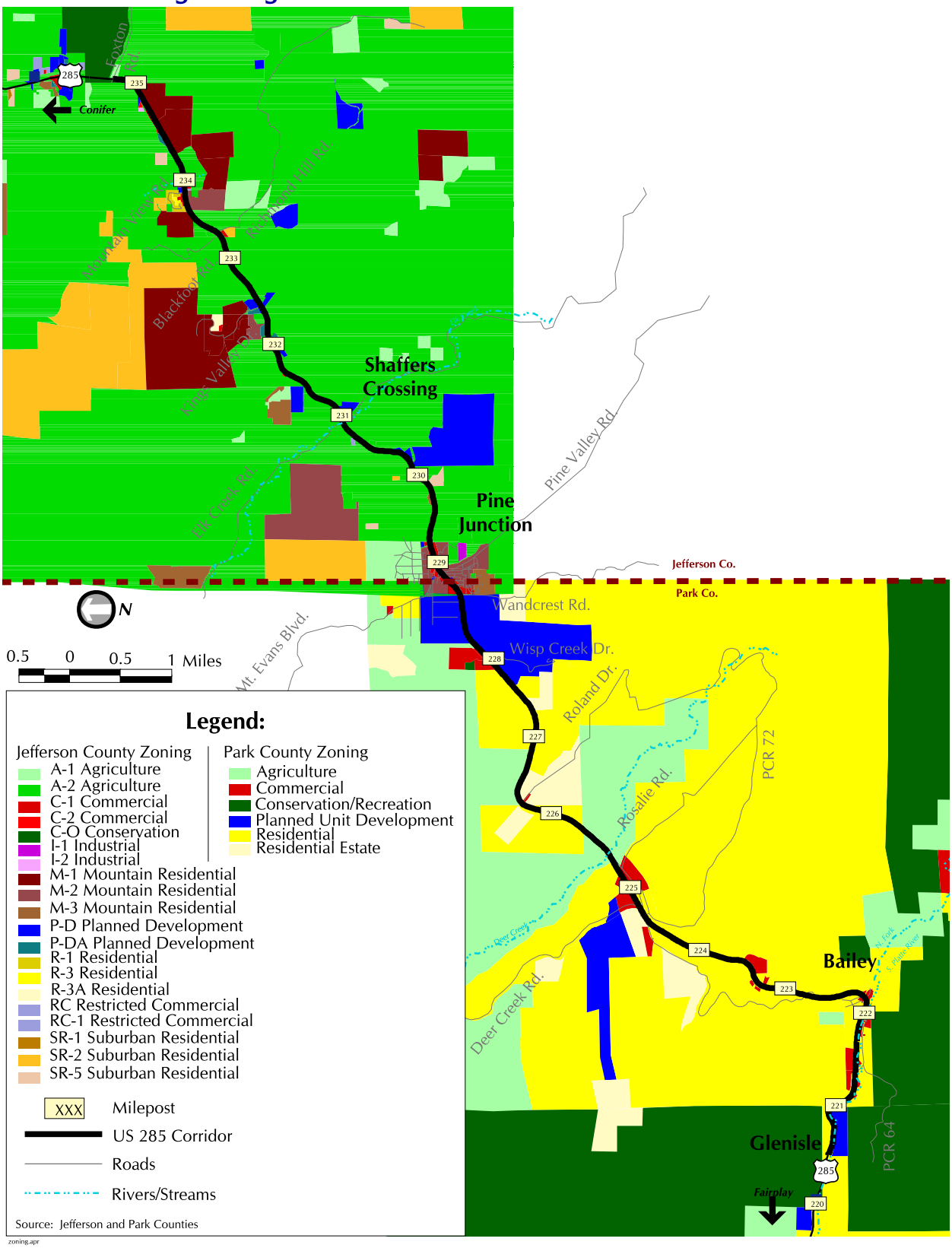
The majority of the land surrounding the US 285 study area within Jefferson County is zoned A-2 (Agricultural-Two District), where the minimum lot size is 10 acres. Most residential development in the area is SR-2 (Suburban Residential-Two District, one lot/two acres), or MR-1/MR-2 (Mountain Residential, 2.5 lots/acre). Commercial zoning (C-1) is concentrated at major intersections, such as Springs Road, Elk Creek Road, and within Pine Junction. While the C-1 zoning category allows varying subdistrict levels of commercial development ranging from the convenience to the regional level, most of the existing office or convenience establishments are between 5,000 to 10,000 square feet or less. Larger retail is located to the north of the study area in Conifer and Aspen Park.

Park County's zoning and land use regulations are currently being updated through revision of Land Use Regulations (LURs). LURs are still being revised and reviewed by the County Commission. Existing zoning along the study area is primarily zoned R (Residential Zone District), especially south of US 285. The Villages at Sunset, located near Wandcrest Road, was approved as Planned Unit Development (PUD) zoning with an average of one unit per two acres. The PUD Zone allows mixed-use residential and commercial development. Commercial zoning is concentrated at Rim Rock Road, between Rosalie Road and PCR 43A, and in Bailey. The LURs also designate Rural Centers in Pine Junction and Bailey and near Crow Hill. The purpose of Rural Centers is to concentrate denser development in these areas where infrastructure and services are already provided. Residential development inside Rural Centers is allowable at a maximum density of two units per acre, depending on water availability. Outside Rural Centers, residential development is permitted at one unit per 5 to10 acres, depending on topography. See **Figure 3-2** for a zoning map of the study area.

3.1.3 Land Use Plans

The *Conifer/285 Corridor Area Community Plan* contains policies that can be used as a guide in making land use decisions for areas along the US 285 study area between Conifer and Pine Junction. The Jefferson County Planning Commission initially adopted the plan in 1987. Most recently, community members started a grass roots effort to update the plan. The Planning Commission subsequently adopted the interim *Conifer/285 Corridor Area*

Figure 3-2: Existing Zoning



Community Plan in August 2002. While the recommendations in this community plan are not mandatory, they do represent the community's views for the type, quality and location desired for future development along the study area. The land use projections for Jefferson County that were used for traffic forecasting prepared for this EA are based on existing zoning and the land use recommendations from the interim *Conifer/285 Corridor Area Community Plan*.

As previously mentioned, Park County is in the process of updating their LURs. In July 2001, Park County completed and approved their *Strategic Master Plan*. This advisory document provides land use and growth management policy direction and serves as a basis for the update to the LURs that are being revised. Once adopted, the LURs will define the type, size and location of allowable development by zoning code. The *2002 Park County Profile, Demographic and Economic Overview* was released in late 2002 and shows growth trends and projections for Park County broken down by year 2000 Census tracts. The Pikes Peak Area Council of Governments prepared this report with assistance from Park County, Alma, and Fairplay. Demographic and economic projections also were provided from the Department of Local Affairs. Both the LURs and the Park County Profile were used in the development of land use projections that became a part of the Park County portion of the travel demand model.

3.1.4 Future Land Use

Currently, there are no future land use plans for Jefferson or Park Counties. There is some guidance in the plans mentioned above, but no formal, future land use plans have been adopted.

3.1.4.1 Jefferson County

Jefferson County provided geographic information system (GIS) zoning and land use coverages for use in the land use analysis portion of this EA. These data were used to calculate the remaining buildable areas of the county in the US 285 study area based on existing zoning regulations. While many of the residential subdivisions already platted along US 285 are already near complete build-out, the remaining agricultural zoned parcels still have the potential to develop at low densities and contribute to a significant amount of traffic growth on US 285. Jefferson County planners and the Land Use Committee have agreed that growth in this part of the county will continue at rates ranging from 3% to 5% per year until build-out is reached. Due to the study area's proximity to the Denver metropolitan area, it was estimated that approximately 90% of housing units are permanent residences and 10% serve as second homes. Business activity has been increasing in recent years in western Jefferson County to accommodate the abundance of residential growth. However, most of this commercial growth is being concentrated north of the study area in Conifer and Aspen Park as recommended in the *Conifer/US 285 Corridor Community Plan*.

3.1.4.2 Park County

Based on information from the Park County Land Use Committee, the county is currently processing 350 to 400 residential building permits per year. Most of this growth is occurring in the Hartsel area (south of Fairplay on SH 9) and is not likely to have a significant impact on the US 285 study area. However, there is still a substantial amount of platted land in the Platte Canyon area. Residential subdivisions located north of US 285 on Crow Hill and also between Deer Creek and Rosalie Road are expecting complete buildout within the next 20 years, if current growth rates continue. Housing units in the Platte Canyon area of Park County are estimated to include 20% second homes and 80% primary residences.

Even though there is much developable land in the county, the lack of infrastructure for access to utilities, lack of renewable water sources, and the lack of employment base restrict the development. Near-term development expected to impact the study area includes The Villages at Sunset just west of the Park County line (commercial and residential components on both sides of US 285). A King Soopers grocery store is also proposed to be developed north of US 285 just west of Deer Creek Road and Park County 43A (Midway). Additional housing units are anticipated in the Crow Hill area.

Park County is currently revising their Land Use Regulations. As a part of this revision process, the county is designating Rural Centers in Pine Junction, Crow Hill, and Bailey. The zoning for these Rural Centers will allow smaller lot sizes to promote more concentrated growth where infrastructure and services are already available. This action is consistent with recommendations from the *Strategic Master Plan* that was completed and approved by the Park County Commissioners in 2001.

Employment and business activity in Park County consists of small retail establishments, agricultural operations, and some light industrial businesses. Business size is generally around 1,000 square feet, with the exception of Bailey and Pine Junction, where 2,000 square feet was assumed as the average business size. Larger scale retail development such as the King Soopers and an anchor retail store with additional small-scale specialty retail business at The Villages at Sunset were estimated at between 40,000 and 75,000 square feet. These values are consistent with data found in the *Demographic and Economic Reconnaissance Report*, prepared for Park County in March 2000.

3.1.4.3 Land Use Committee

Early in the planning process, a Land Use Committee was formed to provide local information and feedback with regard to the types of development along the study area and how the area is likely to develop in the next 20 years. Initially formed during the *US 285 Foxton Road to Fairplay Feasibility Study* process, this committee consisted of members of Jefferson and Park County planning departments, Chambers of Commerce, homeowners associations, and community groups. The committee met several times in 2001 and 2002 to provide input on the initial land use assumptions for a maximum build-out of the study area and to clarify additional details about developments currently under review. This information helped to develop the assumption for the existing and future land use scenarios, based on existing zoning. These land use scenarios were developed and used as inputs to the travel demand model.

The Land Use Committee provided valuable input regarding the importance of the improvements on US 285 and how they would affect additional growth, in the short and long term. The committee agreed that growth along US 285 and on side roads accessing US 285 has mostly occurred over the past 10 to 20 years and will continue. The committee's sentiment was that this growth would occur regardless of the roadway improvements.

The committee's input was supplemented with land use/transportation expertise from the Denver Regional Council of Governments. A Delphi technique was used to evaluate the land use changes that would be expected if the Preferred Alternative were to be implemented. (The Delphi technique refers to the process by which the Land Use Committee, composed of community residents and business owners, planning staff from local governments, and land use experts from DRCOG and EPA joined their knowledge base of the existing conditions and past trends of growth patterns on the US 285 study area to formulate the anticipated result of anticipated future growth and change in the study area if the Preferred Alternative were implemented.)

Specific input obtained through the Land Use Committee process included:

- Detailed planning efforts were completed in Park County in July 2001 in a *Strategic Master Plan*, an advisory document that addresses land use and growth management issues and where future development is directed. This information was used to support the projection of future land uses in Park County.
- In Jefferson County, a substantial effort was completed to monitor and guide development along US 285. The *Conifer/285 Corridor Area Community Plan* identifies development trends and procedures for establishing where growth should occur along US 285. The interim *Conifer/285 Corridor Area Community Plan* was completed in August 2002. The final *Conifer/285 Corridor Area Community Plan* was adopted in September 2003. This Plan contains policies and goals that are to be used as a guide to making land use decisions. Some of the goals are:

- Protect and improve air quality.
- Minimize light, odor and noise pollution.
- Preserve significant historic, archaeological and paleontological resources.
- Encourage adaptive reuse of historic resources that cannot be preserved.
- Provide for a diversity of housing development that is compatible with the rural, mountain community character.
- Maintain and enhance the environment, biodiversity and rural character of the Conifer/285 Corridor Area through a network of private and public open space consisting of natural and scenic lands, wildlife habitat, trails, greenbelts, and passive and active recreation areas.
- Provide adequate public services.
- Provide a safe, efficient and environmentally sensitive transportation system. This system should provide multi-modal transportation opportunities.
- Provide retail, office, industrial, and community use activities that are needed for employment opportunities and for the convenience of local residents.
- Encourage retail, office, industrial and community use activities and open space in village centers to avoid strip development, especially along US 285.
- Preserve the area's visual resources.
- Maintain and improve surface, groundwater and stormwater quality as new development occurs.
- Preserve wildlife habitat and promote biodiversity.

Figure 3-3 illustrates the potential development areas and future activity centers identified for this EA. Specific areas along the US 285 study area were noted as contributing substantially to the increase in traffic in future years, including:

- Commercial Development at Kings Valley Drive.
- Staunton State Park expansion (north of US 285 on Elk Creek Road).
- Pine Junction Activity Center (Jefferson County).
- Pine Junction Rural Center (Park County).
- Pine Meadows and Brauch Ranch residential developments.
- The Villages at Sunset Residential Mixed-Use Development.
- Bailey Rural Center.
- Crow Hill Rural Center.

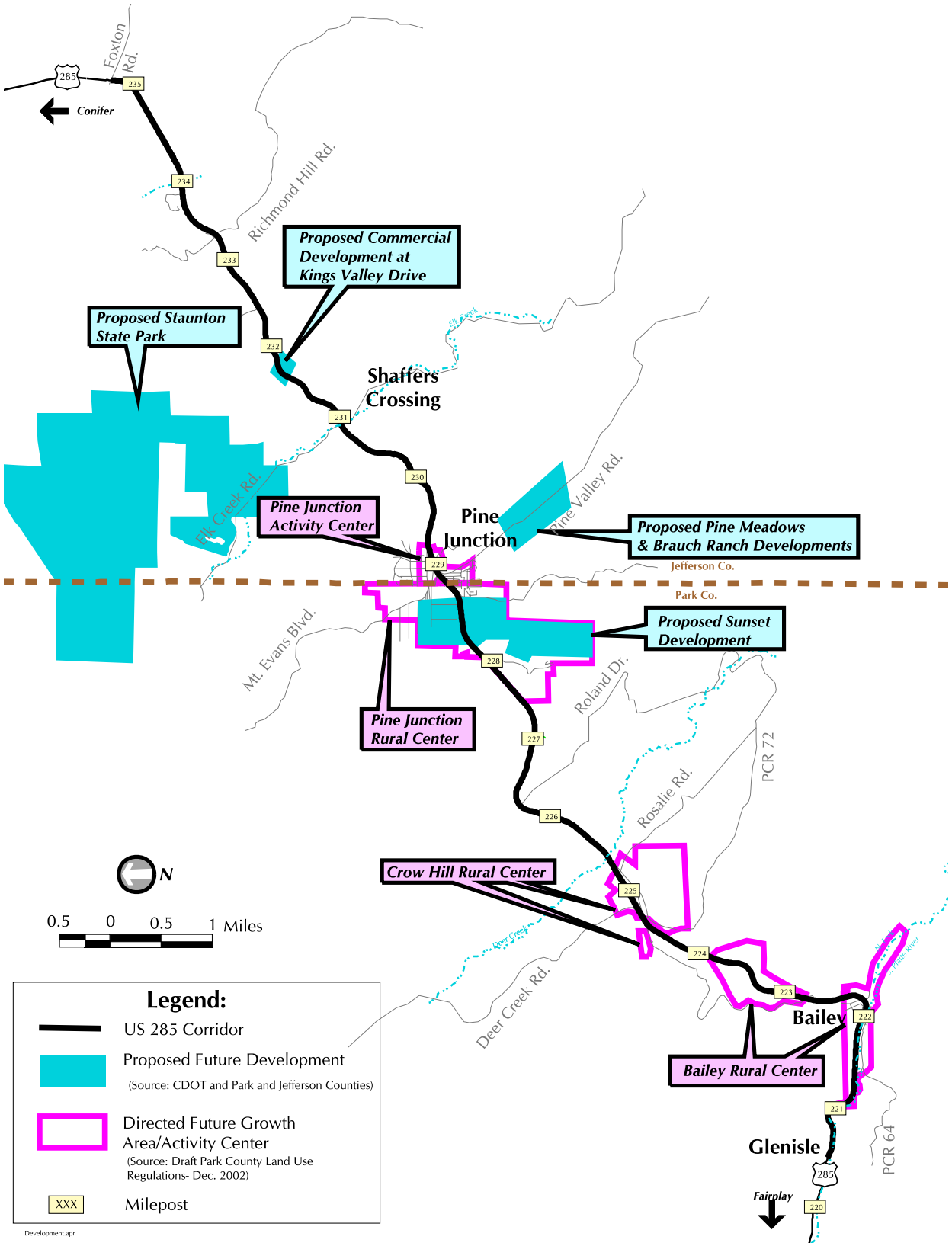
Both Jefferson County and Park County are employing land use policies to confront the demand identified in current and future development activities, trends, and land use forecasts. Village Centers and Rural Centers are excellent examples of the approach both counties are considering to concentrate growth and strengthen the balance of land use in local communities and reduce vehicle miles traveled on the US 285 corridor and on local roads. While the policies set forth in the respective county's planning documents may not reduce the demand for growth, they promote managed growth and provide local decision makers with tools for making better decisions regarding the approval of future development.

Two different land use scenarios were developed as a result of the Land Use Committee's input. These two scenarios were based on assumptions regarding existing and potential future zoning and the concentration of development in Village or Rural Centers located at particular areas in the study area. The two scenarios include:

- Existing Zoning Scenario
- Re-Zoning Scenario

Land use types were grouped into five categories for the ease of generating trips for travel demand forecasting, including residential, commercial, light industrial, general office building, and park-n-Ride. Residential land use was split between single-family residences and recreational homes with separate assumptions for Jefferson and Park Counties based on input from the Land Use Committee. Assumptions for Jefferson County residences included 90% single-family residences and 10% second homes.

Figure 3-3: Potential Development Areas and Activity Centers



Park County residences were divided into 80% single-family and 20% second homes. Commercial development was combined into a general retail category. Based on the existing land use in the study area and currently approved planning documents, industrial, office, and park-n-Ride uses were only forecasted in activity centers as designated by Jefferson and Park County.

Existing Zoning Scenario

The Existing Zoning Scenario was based on a complete build-out of the existing zoning provided by Jefferson and Park County. Both counties anticipate that all land areas in the study area will be built out to maximum allowable density by 2025. Jefferson County's remaining buildable units and gross leasable area (GLA) were calculated per zoning code as provided in the GIS data. In some cases, because of topographic constraints, the forecasts assumed that not all units could be reasonably constructed, especially in areas further north or south of the highway in the foothills. To account for topographic constraints or existing water limitations, some buildable development was reduced by 25% of its maximum.

Park County's remaining buildable land area was not available at the time of analysis. Therefore, rooftop counts were conducted to determine existing number of units and approximate GLA in the study area. The Park County Profile 2002 estimated that growth in housing units would average 3.2% annually over the next 25 years. This factor was applied to all existing units to arrive at a future year housing forecast. A 5% annual growth rate was applied to estimate future GLA for commercial development in the proposed Rural Centers (Pine Junction, Deer Creek, Crow Hill, and Bailey), and a 3% annual growth rate was applied to all other commercial development.

Re-Zoning Scenario

The Re-zoning Scenario was created to highlight potential effects of concentrated development in Village and Rural Centers as designated by Jefferson and Park County. Both counties have adopted or are in the process of adopting land use policies that encourage new retail, office, industrial, and community uses in Village and Rural Centers to avoid undesirable negative environmental and social impacts on the respective communities. These centers of development are intended to be mixed-use development with a balance of land uses that contain trip making to one central area along US 285. The Re-Zoning Scenario differs from the Existing Zoning Scenario in that it represents the counties' efforts to control or limit growth to areas that are best served by existing and planned infrastructure.

The final *Conifer/285 Corridor Area Community Plan* adopted by Jefferson County Planning Commission designates Village Centers in Aspen Park/ Conifer, just north of the study area, and a second center in Pine Junction. A relative comparison of acreages for each land use type within the Village Center boundaries provided the basis for allocating the percentages of land for retail, office, industrial, and residential uses in this area including:

- Retail/Office - 50% retail; 50% office.
- Light Industrial/Office - 50% industrial; 50% office.
- Residential - one unit/five acres; 90 single family, 10% second homes.

Park County is undergoing revisions to its land use regulations, and is updating their GIS data coverages to concentrate growth into Rural Centers in much the same way as Jefferson County's Village Centers. Rural Center boundaries have been designated for the Park County portion of Pine Junction, Crow Hill, and Bailey. The Bailey Rural Center includes two separate areas - one at the bottom of Crow Hill, and a second midway up Crow Hill near Park View Court. The same land use types and residential density assumptions used for Jefferson County Village Centers were also used in Park County for the Rural Centers.

The estimated percentages of land for retail, office, and residential uses include:

Bailey Rural Center (bottom of Crow Hill)

- 25% retail
- 25% office
- 50% residential at one unit /five acres; 80% single-family, 20% second homes

Bailey Rural Center (on Crow Hill)

- 13.5% retail
- 13.5% office
- 75% residential at one unit/five acres; 80% single-family, 20% second homes

Crow Hill Rural Center

- 37.5% retail
- 37.5% office
- 25% residential at one unit/five acres; 80% single-family, 20% second homes

The Pine Junction Rural Center land use projections within Park County were obtained from the *Sunset Parkway and US 285 Intersection System and Project Level Feasibility Study* based on the approved development plans for The Villages at Sunset.

All other land areas in the Park County portion of the study area were assumed to develop at the growth rates applied in the Existing Zoning Scenario. However, no other retail or office uses were assumed for any other areas outside the Rural Centers.

Both counties have recognized that water availability will continue to be a factor in determining the level of future development in the study area. Although existing zoning provides for suburban development densities in some areas of Jefferson County, staff is considering changing the zoning code to reduce allowable densities to minimize water depletion. While current zoning allows for one unit per 5 to 35 acres in agricultural zones, a less dense one unit per 10 to 35 acres is still under consideration. The Re-Zoning Scenario assumed a 10% reduction in residential units to account for the effects of low water availability and possible zoning ordinance changes. Park County's new land use regulations have anticipated water availability issues and have adjusted their zoning regulations accordingly to allow a minimum of one residential unit per 10 to 35 acres in agricultural zones, while directing growth to its designated Rural Centers.

3.1.4.4 Water and Growth

The issue of water playing a role in future development and potentially becoming a limiting factor on the amount of growth in the US 285 study area is being examined more seriously. Local community organization, as well as both Jefferson and Park Counties, are performing studies and taking action in an attempt to secure water to accommodate future land uses. The issue at hand relates to the appeal of suburban-mountain living within commuting distance to the Denver metropolitan area, related rapid population growth, and thus a higher demand on water resources. Residential development in this region usually has no urban municipal infrastructure and typically relies upon individual domestic wells and septic sewage systems. Limitations of adequate well water in many of the outlying areas will make development less attractive. Household wells in these areas produce water from depths of 100 to 400 feet, and many of these wells have been reported “dry” after the recent drought conditions. [(MGWRS) Jefferson County Mountain Groundwater Resource Study, Jeffco, 2003.]

Individual septic systems discharge effluent to leach fields from which effluent percolates into the upper 10 feet of soil, and a percentage of the effluent ultimately returns to the groundwater system. Increased growth in the study area results in increased demands on the groundwater supply, increased septic system effluent returning to the groundwater system, and heightened public concern about the sufficiency and quality of the groundwater supply.

Water supply and growth issues are of concern to county officials who must balance the needs of current residents with the requests for additional development of living space and water resources. An understanding of the current status of the groundwater resources of the areas surrounding US 285 is needed to provide a basis for future planning and zoning decisions that will allow reasonable development without causing undue harm to the area's vital water resources. A single source of comprehensive and consistent water resources information specific to the US 285 study area is not available; however, information gathered from studies and reports throughout Jefferson and Park Counties sup-

port the notion that water will play a vital role in shaping growth and development along the US 285 study area.[1] Interrelated water resource issues comprised of quantity, quality, rights and associated infrastructure and treatment facilities are likely to influence future land development patterns within the entire South Platte River Basin.

3.1.5 Environmental Consequences

This section discusses the effects of the No-Action Alternatives and the Preferred Alternative on land uses and on the *Conifer/285 Corridor Area Community Plan* and the *Park County Strategic Master Plan*. Both of these documents contain specific policies that address development and land use in the study area and were used as resources for this land use evaluation.

No-Action Alternative

The No-Action Alternative is likely to foster the continuation of growth and development based on forecasted trends in both Jefferson and Park Counties. For example, unplatted land that is currently categorized as agricultural may be rezoned to accommodate higher densities within a planned unit development (PUD). Commercial development is likely to occur near or adjacent to US 285. **Figure 3-2 on page 3-4** illustrates the existing zoning along the US 285 study area. While the land use policies set forth in Jefferson and Park County planning documents promote directed growth in Village and Rural Centers, there is no evidence to indicate that demand for housing and subsequent commercial development will be reduced. As traffic volumes on US 285 increase and reach the capacity of the two-lane road, some shifts in land use may occur. These shifts could include a slowing down of development in the study area, a slowing down of development outside the study area, or a shift in jobs-to-housing balance so fewer commuters are driving to the Denver metropolitan area.

Preferred Alternative

The Preferred Alternative is likely to foster continued growth and development according to forecasted trends in the same way as the No-Action Alternative. This alternative would likely increase demand for housing and commercial development, particularly in the vicinity of the new grade-separated intersections. (See **Figure 2-7 on page 2-11** for elements of the Preferred Alternative.)

An indirect effect of providing access improvements and grade separations at major intersections may result in concentrating commercial and industrial development in areas where easy access from the roadway is provided. Given CDOT's current direction to redesignate US 285 from Regional Highway (R-A) and Rural Highway (R-B) to Expressway (E-X) if the Preferred Alternative is implemented, the access control restrictions could provide an additional regulatory measure for Jefferson and Park Counties to only approve new development within the Village and Rural Centers or in areas that access US 285 via existing roads.

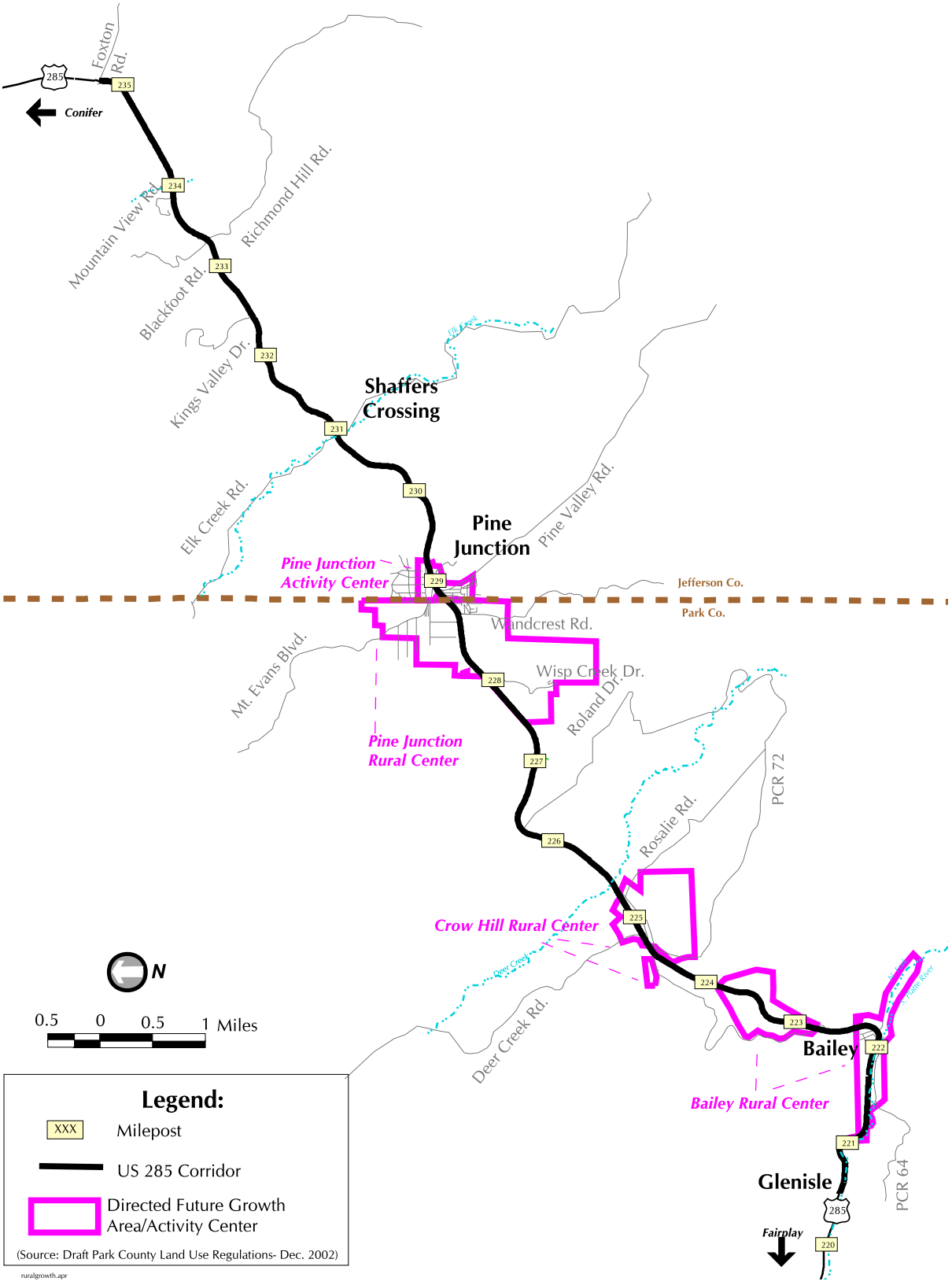
The Preferred Alternative is consistent with the approved land use plans and will not preclude Jefferson and Park Counties from developing new land use policies that would address growth management. This alternative would meet the existing and projected traffic demand based upon local land use plans and current travel demand forecasts.

3.1.5.1 Compatibility with Adopted Planning Documents

The final *Conifer/285 Corridor Area Community Plan Update*, adopted in September 2003, contains policies that encourage improvements to US 285, including widening the highway from two to four lanes, improving the roadway to a limited access facility without traffic signals, and improving substandard horizontal curves and poor sight distance. In addition to transportation improvements, the plan also developed policies that designate Village Centers in Aspen Park and the portion of Pine Junction within Jefferson County. The purpose of these Village Centers is to promote mixed-use development with a balance of land uses concentrated in these areas, resulting in the strengthening of the economic balance of these communities and reduction in vehicle miles traveled on US 285. A map of Jefferson County's Pine Junction Village Center is shown in **Figure 3-4**. The No-Action Alternative is

1.Growth Constraints of Water Supply on US 285 Corridor Technical Report.

Figure 3-4: Rural Activity Centers



not compatible with these policies; the Preferred Alternative is compatible with these policies.

The *Park County Strategic Master Plan*, adopted in July 2001, provides guiding principles and implementation measures with regard to transportation issues and the designation of Rural Centers. Rural Centers have been designated in Bailey, Pine Junction, and near Crow Hill as areas where new mixed-use development will be directed. Map locations for these Rural Centers are shown in **Figure 3-4 on page 3-12**. The plan acknowledges that by directing new development to these areas, it will limit the need for future road extensions by relying on the existing road network to serve new development. The guiding principles further recommend that future small-lot residential, commercial, and industrial growth be directed to these Rural Centers, while preserving the original plat of Bailey at the bottom of Crow Hill. Additional principles recommend revisions to Park County's land use regulations to limit residential, commercial, and industrial growth outside Rural Center boundaries. Park County is currently updating their land use regulations to reflect this policy direction. Both alternatives would be considered compatible with the *Park County Strategic Master Plan*.

The *Park County Strategic Master Plan* also proposes that the county coordinate with CDOT and actively take part in the planning process for the US 285 roadway improvements. To this end, representatives from the county have attended project team meetings and have been involved in small group discussions and committee meetings regarding specific actions being proposed in Park County. Both alternatives would be considered compatible with the *Park County Strategic Master Plan*.

3.1.5.2 US Forest Service Impacts

The US Environmental Protection Agency (EPA) has expressed concerns that widening US 285 could result in land use related impacts to the national forests and wilderness areas along the US 285 study area. Currently, there are no designated forest or wilderness areas directly adjacent to US 285 within the extent of the study area; however, the majority of the land surrounding US 285 is within the Pike National Forest. Coordination between the project team and the US Forest Service (USFS) was conducted to define forest-related concerns, as well as to address concerns of the EPA regarding impacts to forest lands resulting from the Preferred Alternative.

Concerns about the risk of wildfire in Colorado's wildland-urban interface (WUI) poses a challenge to public safety, fiscal responsibility, and natural resources such as air and water quality. As growth from the Denver metropolitan area creeps into the forested foothills of the Front Range, the landscapes that are at the highest risk for large-scale fire are the same areas where residential homes are being constructed. The movement of urban and suburban residents into the WUI significantly increases the risk of impacts from wildland fire, and the cost of suppressing large and destructive fires has pressed local and state resources beyond their fiscal capacity.

In response to these fire-related concerns, USFS officials and Jefferson County staff identified and mapped the "red zone." The "red zone" is a fire risk-related zone determined by a variety of factors including vegetation, population, density of built structures, and other related factors. The entire US 285 study area is located within the "red zone," according to the *State of Colorado Wildfire Hazard Mitigation Plan* (2001).

The USFS stated that some forest thinning is occurring or is planned to occur in the South Platte River area. The USFS will only participate in thinning projects on its land. If thinning is needed on private lands, it is not a responsibility of the USFS. Approximately 17,500 acres of thinning is scheduled to occur near the lower South Platte, Deckers, and Rampart Range areas. Future areas for wildland fire treatment and thinning are located in the Harris Park area.

No-Action Alternative

No existing or planned USFS land uses would be impacted by the No-Action Alternative. This alternative would result in the continuation of current growth trends and development patterns along the US 285 study area. New development would occur

in the "red zone," thus increasing the risk of fire damage.

The No-Action Alternative would provide no resolution of existing US 285 traffic, safety and access problems, and would allow traffic conditions to worsen in the future. Deteriorating traffic conditions predicted in the No-Action Alternative could hinder access to forest lands. Deteriorating traffic conditions also could impact the efficiency of travel out of and away from forest lands should a wildfire occur. Indirect impacts could result in the form of increased risk of injury due to forest fires and poor travel conditions.

The No-Action Alternative would not improve access points that lead to various recreational areas within the Pike National Forest, nor would it provide increased capacity and efficiency for users of the forest to access other USFS recreational areas.

Preferred Alternative

Wildfire

The Preferred Alternative addresses the issue of the potential of increased growth along the US 285 study area, and thus within the WUI. Positive impacts associated with the Preferred Alternative include improvements that would ensure the best possible access and efficiency, and therefore protection, in the event that people would need to escape from a wildland forest fire.

Because the entire US 285 study area is located within the "red zone," the widening of US 285 and the indirectly induced growth and development in the surrounding area could, therefore, increase the risk of fire damage. In addition, more development could increase the extent of the "red zone."

Recreational Use

USFS officials also expressed concern for impacts related to potential increases in the number of future recreational users along the study area, given that most designated campsites and recreation facilities are currently at or exceeding capacity. Improvements to US 285 combined with increased recreational use along the study area might result in increased trip generation that could have both negative and positive cumulative impacts to the facilities provided by the USFS. By exceeding the capacity of existing recreational services and amenities, this could cumulatively "overload" campsites and services adjacent to, and beyond, those within the cumulative impacts study area. Conversely, as recreational facilities become more crowded, users might find the improved roadway to be more feasible to access USFS facilities further west, and thus lessen the cumulative impact of increased congestion on the recreational system near the study area. In addition, a beneficial indirect impact of providing improved access to USFS facilities could result in an increase in the likelihood of future USFS improvements both within and beyond the study area.

3.1.6 Mitigation Measures

CDOT has met several times with representatives from Jefferson and Park County and with open space acquisition agencies to spearhead efforts to acquire open space along US 285.

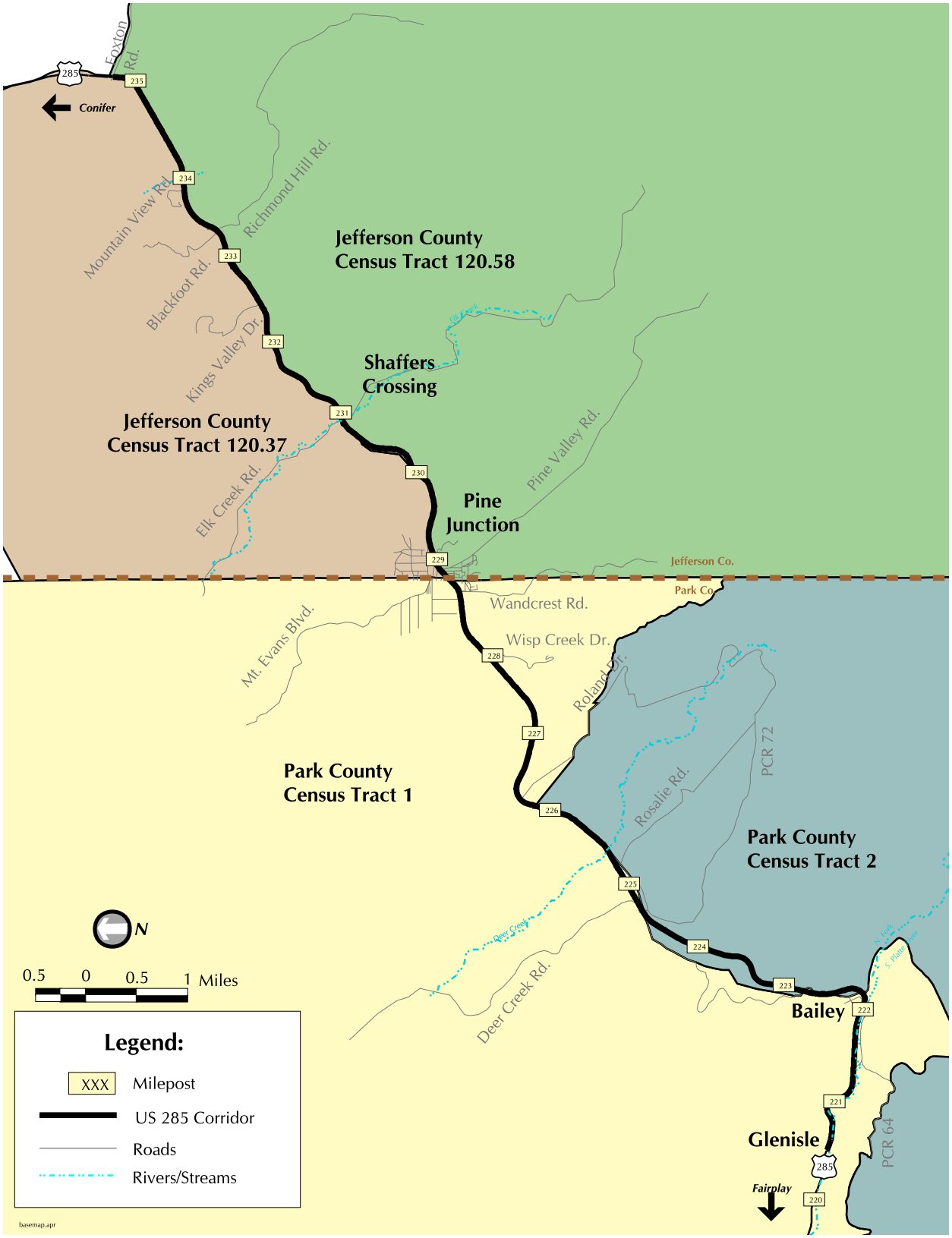
The Preferred Alternative is consistent with current Jefferson and Park County land use and zoning policies and supports any future land use policies by either county to limit rezoning only to the uses designated within their proposed Village and Rural Centers. Although implementing the Preferred Alternative would not directly affect the land use decisions made at the local level, development would likely cluster in areas where access is more easily available.

3.2 Social Conditions

3.2.1 General Population Characteristics

The US 285 study area passes through Jefferson County in the north and Park County in the south. There are several communities in the study area, none of which are incorporated. Therefore, the demographic information for this section is gathered from data on 2000 Census tracts 1 and 2 in Park County, and tracts 120.58 and 120.37 in Jefferson County (see **Figure 3-5**). The data are from the

Figure 3-5: Study Area Census Tracts



2000 Census and 2001 Population Estimates published by the US Bureau of the Census. **Table 3-1** shows the detail of this data.

The data show that the study area is generally less ethnically diverse than either Colorado or the counties. The Census tracts in the study area tend to have fewer people of Hispanic or Latino descent and racial minorities than in Colorado or either of the counties. There are exceptions, i.e., higher percentages of African Americans in Census tract 1 than in Park County, or higher percentages of Native Americans in CT 120.58 than in Jefferson County (see **Table 3-1.**).

Table 3-1: Demographic Statistics for Study Area

	Colorado	Entire Jefferson County	Entire Park County	Jefferson Co. Tract 120.37	Jefferson Co. Tract 120.58	Park Co. Tract 1	Park Co. Tract 2
Population, 2001 estimate	4,417,714	530,966	15,580	N/A	N/A	N/A	N/A
2000 Population	4,301,261	527,056	14,523	3,458	3,657	5,528	3,675
Percent change 2000-2001	2.7%	0.7%	7.3%	N/A	N/A	N/A	N/A
Percent change 1990-2000	30.6%	20.2%	102.4%	N/A	N/A	N/A	N/A
Median age	34.3	36.8	40	39.5	41.4	39.3	38.6
Percent 65 and over	9.7	9.6	7.3	4.1	6.8	6.2	5.4
Percent under 18	25.6	25.3	23.5	26.9	24.9	27.0	28.6
Percent Hispanic or Latino (any race)	17.1	10.0	4.3	5.6	0.9	3.4	3.3
Percent White alone	82.8	90.6	95.1	97	98.0	96.2	94.4
Percent African American alone	3.8	.9	.5	0	0	1.1	0.3
Percent Asian alone	2.2	2.3	0.4	0.3	0.3	0.6	0
Percent Native American alone	1.0	0.8	0.9	0.8	1.0	0.3	1.0
Some other race alone	7.2	3.2	1.2	0.7	0	0	1.3
Two or more races	2.8	2.2	1.8	1.3	0.7	1.8	2.9
Projected 2025 population*	6,463,157	633,272	118,563	5,168	5,465	8,261	5,492
Percent working outside of county of residence	32.1	51.3	63.0	53.2	44.5	64.5	66.9
Percent commute longer than 35 minutes	19.3	26.1	58.5	75.9	66.3	63.1	63.2

** Projected 2025 population from Colorado Department of Local Affairs (DOLA), Demography Section, Aug. 2002.*
N/A = not available

The communities along US 285 are increasingly becoming bedroom communities for workers who commute to the Denver area. Both the Park County *Demographic & Economic Reconnaissance Report* (March 2000) and *The Conifer Community Demographic Profile* prepared by the Jefferson County Planning and Zoning Department detail this conclusion. This conclusion is supported by the Census data provided in **Table 3-1**, that indicates the percentages of people who work outside the county of residence and commute longer than 35 minutes to work.

3.2.2 Community Facilities

Many of the community facilities that serve the residents of these Census tracts are located away from the immediate highway area that will be affected by construction. Many are located in nearby communities, such as Conifer or Pine. However, to access these facilities, area residents use US 285 during some portion of their journey. The hospitals and clinics that serve residents are located outside of the study area in other parts of Jefferson and Park Counties. The area is served by Intermountain Rural Electric for electricity and numerous private vendors for natural gas supplies. There are more than a dozen churches in the area; quite a few are located on US 285 or frontage roads. There is one post office in the study area, located in Bailey.

The Park County library is located at Deer Creek Road, and the Jefferson County library facilities are located outside of the study area.

Schools

There are two public elementary schools in the study area: Deer Creek Elementary, Park County School District RE-1, located on Deer Creek Road off of US 285, and Elk Creek Elementary, Jefferson County R-1 School District, located near South Parker Avenue on the US 285 Frontage Road. Middle and high schools are located outside the study area.

Public Safety

The Park County Sheriff's Office and the Colorado State Patrol provide law enforcement for the portion of the study area in Park County, with a substation located in Bailey. The Platte Canyon Fire District provides fire protection to Park County residents, and has a station located on US 285 at the west end of Bailey. The Platte Canyon Rescue Service provides emergency medical services to Park County residents, and its station is located near the intersection of Deer Creek Road and US 285. The Elk Creek Fire Protection District provides fire and emergency medical services to Jefferson County residents along the study area. The district's station is located just off of US 285 at Richmond Hill.

3.2.3 Housing

The cost of housing in the Census tracts within the study area is greater than the cost of housing in the state as whole, and generally greater than costs within the respective counties (see **Table 3-2**). The study area also tends to have a greater vacancy rate than the state and the counties, but this is due to the large number of second or vacation homes in the area. The median value of a home in the study area is greater than the median value in the state or the respective counties.

3.2.4 Environmental Justice

In February 1994 President Clinton issued Executive Order 12898 requiring federal agencies to incorporate consideration of environmental justice into the National Environmental Policy Act (NEPA) evaluation process. The purpose of this order is to ensure that minority and low-income populations do not receive disproportionately high and adverse human health or environmental impacts as a result of federal actions.

3.2.4.1 Minority Populations and Minority-Owned Businesses

The first step at identification of minority populations was based upon information from 2000 Census data at the block level. Minority populations are comprised of ethnic and/or racial minorities. According to Census data, race information is broken down into seven mutually exclusive categories: White, Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, some other race, and two or more races. It is important to note that Hispanic is not listed as a race category and data pertaining to the people of Hispanic origin are accounted for under ethnicity.

Table 3-2: Housing Statistics for Study Area

	Colorado	Jefferson Co.	Park Co.	Jefferson Co. Tract 120.37	Jefferson Co. Tract 120.58	Park Co. Tract 1	Park Co. Tract 2
1990 building permits*	11,388	1,737	124	N/A	N/A	N/A	N/A
1998/99 building permits*	51,156	2,924	388	N/A	N/A	N/A	N/A
2000 Housing Units	1,808,037	212,488	10,697	1,419	1,994	2,805	1653
Vacant	8.3%	3.0%	44.9%	6.9%	27.6%	23.2%	16.1%
Vacant for seasonal or recreational use	4.0%	0.7%	40.5%	4.1%	21.4%	18.5%	12.6%
Homeowner vacancy rate	1.4%	0.6%	3.3%	0.7%	1.8%	2.0%	1.6%
Rental vacancy rate	5.5%	3.6%	8.5%	5.5%	7.6%	9.5%	7.3%
Median value	$166,600	$187,900	$172,100	$225,400	$230,200	$184,900	$180,700
Median mortgage	$1,197	$1,288	$1,142	$1,627	$1,437	$1,173	$1,234
Median rent	$671	$760	$806	$939	$855	$913	$783

*Source: 2000 US Census Data; * Colorado Department of Local Affairs.*

The percentages of minority populations within each Census block were compared to the county averages. Park County and Jefferson County as a whole contain minority populations of 7.5% and 15.1% respectively. This analysis revealed that of the blocks located in Jefferson County, approximately 17 blocks within one-third to one-half mile of the study area, contain minority populations above the county average, and 32 blocks contain minority populations above the Park County average. The blocks with concentrations of minority populations along the study are located in Conifer, north of Shaffers Crossing, in Pine Junction, Deer Creek and along Rosalie Road, and near Bailey (see **Figure 3-6**).

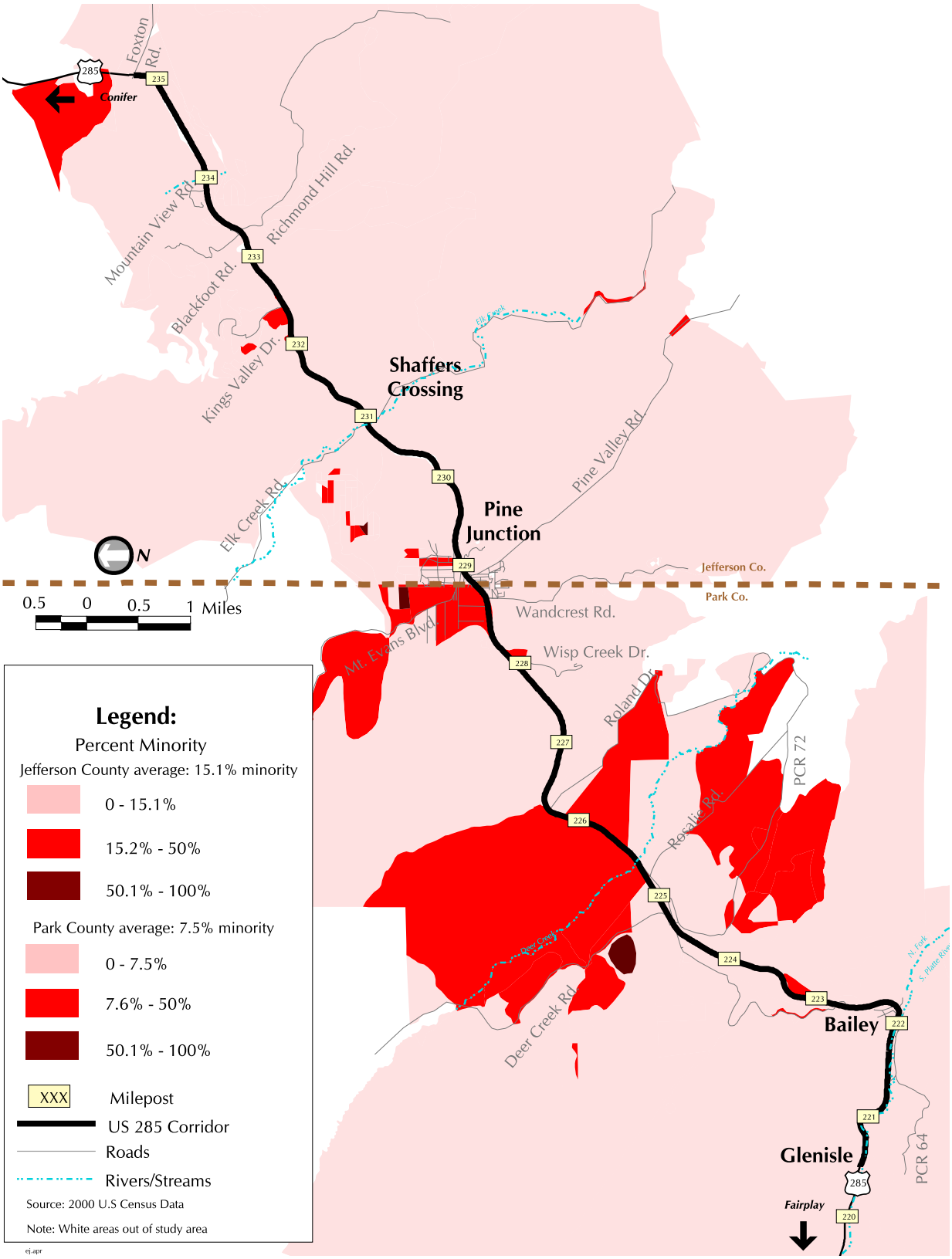
Information regarding minority business enterprises within the study area is derived from the Colorado Minority Business Office (MBO). According to the state office at the time of this writing, there are no known minority business enterprises in the study area.

3.2.4.2 Low-Income Populations

The Final DOT Executive Order on Environmental Justice (February 3, 1997) defines low income as "…a person whose median household income is below the US Department of Health and Human Services (HHS) poverty guidelines." The HHS guidelines provide a formula based on the number of persons in a household or family and their annual income. The 2002 national poverty level, according to HHS, was reported to be $18,100 for a family of four. Many communities feel that this figure is too low to accurately reflect the low-income households in an area. For instance, Jefferson County uses the low-income figure for the Denver Primary Metropolitan Statistical Area, which equals 30% of the Area Median Income (AMI), resulting in a low-income threshold of $20,950 for a household of four. Park County is currently reestimating their thresholds for determining low income. When released, the new threshold will be used to properly determine low income in Park County. In the meantime, coordination with the Park County planning department has determined that using the same low-income threshold as Jefferson County would be acceptable because the Park County block groups border Jefferson County, and approximately 80% of these residents are employed in Denver.[2] Thus, using the same threshold for both counties would

2.Gary Nichols, Park County Planning, personal communication, January 10, 2003.

Figure 3-6: Minority Blocks



prove to be more accurate and would provide more continuity in the analysis.

The low-income threshold used for this Environmental Justice analysis was based upon the $20,950 income level for a household of four people. Because none of the block groups within the study area average four persons per household, the actual income value to reflect this density is an extrapolated value of $18,030 for a household of 2.6 persons.[3] As Census data are released only in increments of $5,000, the analysis threshold will be $19,999. Using this figure also ensures a more inclusive analysis of potential low-income households in the study area.

According to 2000 Census data at the block group level, 10.8% of the households in Jefferson County and 11.8% of the households in Park County fall below the $19,999 low-income level. Within the US 285 study area, none of the 11 block groups exceed either of the county averages for low-income at a 2.6 person per household threshold. Only two block groups (both in Park County) exceed 10%, where over 10% of the households in the two block groups have incomes below $19,999. The two block groups contain a total of 2,147 households, 228 of which could be considered low-income because they are below the low-income threshold (see **Figure 3-7**).

However, the data collected from the US Census are geographically broad, and do not present the level of detail needed to identify impacts to minority or low-income populations. Thus, additional research was done to determine specific minority or low-income residences or businesses that may be affected by the project. This research included coordination with local minority, low-income and other related organizations, such as:

- Park County Crisis Center
- Gateway Youth and Family Services
- Mountain Resource Center
- English as a Second Language programs from area schools
- Our Lady of the Pine Catholic Church
- Timberline Health Clinic
- State of Colorado Minority Business Office (MBO)
- Local planning agencies (Jefferson and Park Counties)
- Chambers of Commerce

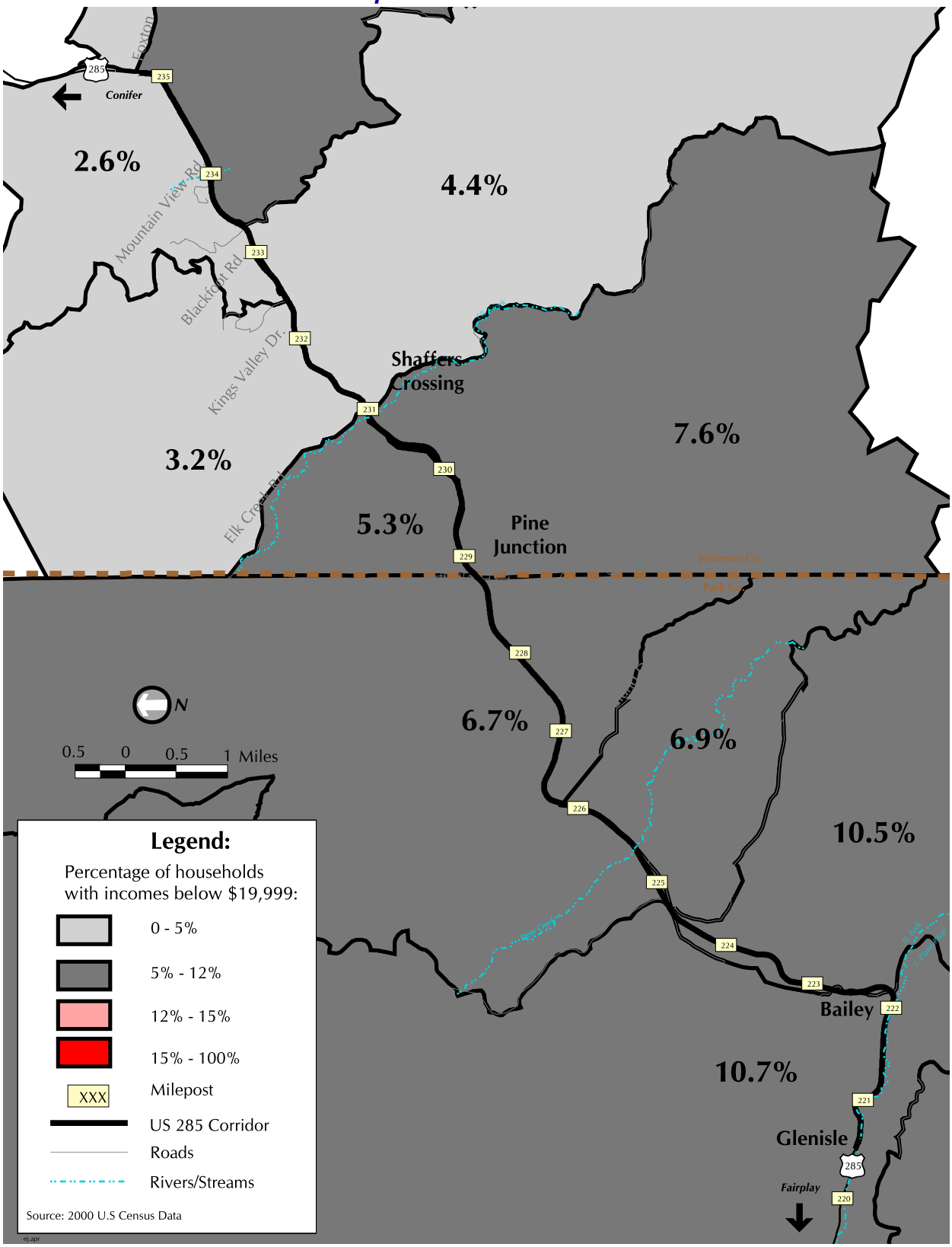
Conversations with these organizations listed above, as well as others within the study area, yielded no additional information regarding the location of potential minority and/or low-income populations. In addition, meetings were held with all property and business owners that are likely to be relocated by the Preferred Alternative. There were no indications during these discussions that these property and business owners should be classified as minority or low-income. Despite these extensive efforts, no concentrations of minority or low-income populations could be found. The minority and low-income populations in the study area are not clustered into neighborhoods, but scattered through the study area with rest of the population.

Despite the difficulty in locating populations of minority and low-income populations, an effort to reach these populations was made by the project team. The project team, after contacting the organizations, developed the best way to disseminate project information to these populations. Supplementary copies of the US 285 Newsletter #1 explaining the basic concepts of an EIS and the intent of the project were redistributed to areas of potential use by minority and low-income populations in June 2003, along with a letter about opportunities for comment, project contact information, and where to access project information. Additional copies of the project newsletter were distributed at frequently visited locations in the study area, including grocery stores, post offices, and other businesses that have a high use in the community.

Outreach to low-income and minority populations within the US 285 study area will continue through the course of the EA process. The project team will continue to call the identified community contacts and widely disseminate information at areas of

3.Low-income threshold was calculated by extrapolating the value for low-income based on 2.6 persons per household. The HUD low-income level for a three-person household is $18,850, and the HUD low-income level for a two person household is $16,800.

Figure 3-7: Low-Income Block Groups



common use before key project milestones to supply additional information and seek input to the process. In addition, the project team is attentive and responsive to any needs, issues, or concerns that may arise.

3.2.4.3 Environmental Justice Impacts

No-Action Alternative

As a result of the No-Action Alternative, there would not be any disproportionate impacts to minority and low-income populations. Traffic congestion increases associated with the No-Action Alternative could result in a decreased level of accessibility to employment, housing and community services and facilities. There would be no disproportionate impacts due to increasing noise levels or the introduction of hazardous materials into low-income and minority populations. The No-Action Alternative would result in no property acquisitions and no household relocation. Therefore, minority and low-income households would not be affected by right-of-way acquisition required for this alternative. Improvements to the existing study area proposed by the local jurisdictions would continue to occur as planned.

Preferred Alternative

Impacts to Low-Income Populations

Despite efforts to locate them, no concentrations of low-income populations were identified. Meetings and discussions held with all property and business owners that are likely to be relocated gave no indication that they could be classified as low-income. Therefore, it is not anticipated that the Preferred Alternative would result in disproportionately high and adverse impacts to low-income populations, and improvements in mobility and safety would benefit to low-income populations.

Impacts to Minority Populations

Despite efforts to locate them, no concentrations of minority populations were identified. Meetings and discussions held with all property and business owners that are likely to be relocated gave no indication that they could be classified as minority. Therefore, it is not anticipated that the Preferred Alternative would result in disproportionately high and adverse impacts to minority populations, and improvements in mobility and safety would benefit minority populations.

At the Kings Valley Drive intersection, the auto repair garage would likely be relocated. The garage employs eight people. On the average, workers at auto repair facilities earned approximately $21,000 per year in Jefferson County in 1997, the latest year with the available statistics. However, it is difficult to translate the wages into meaningful statistics, because information on residency, household size or household income cannot be determined for these workers. Therefore, it cannot be determined if these employees can be classified as low-income.

Summary

Overall, it is not anticipated that the Preferred Alternative would have direct, negative impacts on any low-income or minority communities. As a result of the Preferred Alternative, there would be no disproportionately high and adverse impacts to low-income and minority households because of changes in air quality resulting from vehicle emissions (see Air Quality, **Section 3.5 on page 3-41**), or changes in noise levels (see Noise, **Section 3.6 on page 3-45**) or through the introduction or handling of hazardous materials (see Hazardous Waste, **Section 3.15 on page 3-123**). Indirect impacts in the form of benefits could result in increased property values of low-income and minority households through the implementation of the improvements planned for the Preferred Alternative. Positive impacts could occur because improvements would result in a transportation facility with less congestion and better mobility for both local and tourist-related traffic. These improvements could increase accessibility and safety to employment, commercial and recreation enterprises in the study area.

3.2.4.4 Mitigation Measures

Even though there are no anticipated disproportionate impacts to minority or low-income populations with the Preferred Alternative, outreach to these populations within the US 285 study area will continue through the course of the EA process. The project team will continue to widely disseminate information at areas of common use before key project milestones to supply additional information

and seek input to the project. This dissemination will include special efforts to contact employees of the auto repair garage that is likely to be relocated. In addition, the project team is attentive and responsive to any needs, issues, or concerns that may arise.

3.2.5 Mobility

3.2.5.1 Travel Patterns and Characteristics

The 2000 ADT volumes shown in Chapter 1, **Figure 1-2 on page 1-9** indicate variations in the traffic patterns along the study area at different locations, at different times of the year, and at different times of day and direction.

Seasonal and Locational Variations

Based on the traffic volume data that were collected, summer weekday and weekend traffic volumes are greater than fall traffic volumes. The same was observed on weekends where summer weekend daily traffic volumes were higher than the fall weekend daily traffic volumes.

Summer weekend peak period traffic volumes are approximately 1.2 to 2.5 times greater than summer weekday peak period traffic volumes. This difference is more pronounced in the southern parts of the study area and less pronounced in the northern parts. This is due to the increased weekday commuting patterns in the northern parts of the study area. In fact, north of the study area, weekday peak volumes are slightly higher than weekend peak volumes.

During both the summer and fall, weekday and weekend daily traffic volumes were highest in the part of the study area located north of Crow Hill. The volumes begin to decrease in the area south of Crow Hill because there is a higher concentration of development located north of Crow Hill that is serviced by US 285. In addition, the primary direction of travel for this section of US 285 is towards the Denver metropolitan area; therefore, traffic volumes increase on US 285 as it proceeds north.

Weekday Summer. The highest summer weekday ADT volumes were observed in the northern section of the study area with 21,100 vehicles per day (vpd). Volumes decrease dramatically in the southern part of the study area leading into Bailey (14,700 to 7,400 vpd).

Weekday Fall. The same trend was observed in the fall weekday ADT volumes. The highest fall weekday ADT volumes were observed on the northern section of the study area between Foxton Road and Crow Hill with 17,700 vpd. The volume decrease follows the same pattern as the summer weekday traffic volumes decreasing quite a bit between Crow Hill and Bailey.

Differences in summer and fall weekday traffic volumes are as follows.

- In the segment south of Crow Hill to Bailey, daily traffic volumes are relatively consistent between the summer and fall seasons.
- In the segment north of Crow Hill, the summer weekday ADT volumes exceed the fall weekday ADT volumes by 3,400 vpd to 3,900 vpd.

Weekend Summer. The northern section of the study area carries the highest summer weekend ADT volumes at 24,200 vpd. Existing traffic volumes drop off to 12,100 vpd south of Crow Hill.

Weekend Fall. In the fall, the northern section of the study area was observed to carry the highest daily traffic volumes at 17,700 vpd. Traffic volumes decrease south of Crow Hill to 8,900 vpd.

Differences in summer and fall weekend traffic volumes are as follows.

- South of Crow Hill, summer weekend daily traffic volumes exceed fall weekend traffic volumes by approximately 3,200 vpd.
- North of Crow Hill, summer weekend daily traffic volumes exceed fall weekend traffic volumes by approximately 6,500 to 7,500 vpd.

Time and Direction Variations

The following observations were made regarding the directional distribution of traffic during the peak hours.

- The summer and fall weekday peak-hour traffic volume directional distributions are relatively consistent south of Crow Hill.

- North of Crow Hill the AM peak hour directional split is 70% to 80% northbound and 20% to 30% southbound. During the PM peak hour the directional split is reversed with the predominant direction of travel southbound at 55% to 60%.
- The summer weekend predominant direction of travel throughout the study area is southbound during a Saturday AM peak hour (55% to 75%) and northbound during a Sunday PM peak hour (60% to 80%).

Two representative locations along the study area were examined to determine the distribution of summer weekday hourly traffic volumes throughout a typical day (Tuesday through Thursday):

- South of Deer Creek Road
- South of Foxton Road

Figure 3-8 illustrates the average weekday vehicles per hour counted at these locations over a 24-hour period.

The following summarizes the results of the evaluation.

- South of Foxton Road, the weekday peaks are more defined than the other location analyzed. The AM. peak hour occurs between 7:00 a.m. and 8:00 a.m., and the PM peak hour occurs between 6:00 p.m. and 7:00 p.m.
- South of Deer Creek Road, the weekday traffic volumes along US 285 do not have the peaking characteristics they do near Foxton Road. Traffic volumes gradually rise beginning at 7:00 a.m., remain consistent between 11:00 a.m. and 6:00 p.m., then drop off after 7:00 p.m.
- On the weekend, Saturday traffic volumes generally peak between 11:00 a.m. and noon along the entire study area. On Sunday, the peak traffic volumes occur between 5:00 p.m. and 7:00 p.m.

3.2.5.2 Truck/Recreation Traffic

The vehicle classification data summarized in **Table 3-3** were collected along the US 285 study area in the summer and fall of 2000. They show that truck traffic accounts for 5% of the ADT volume on the weekend and 7% to 9% during the week. The other heavy vehicle traffic (recreational vehicles, commercial and privately operated buses, and large moving vans) accounted for approximately 5% of the ADT on the weekend and 6% during the week.

Table 3-3: ADT Heavy Vehicle Percentage

Season/Time	Truck (percent)	Bus/RV (percent)
Summer/Weekend	5	5
Summer/Weekday	7	6
Fall/Weekday	9	6

3.2.5.3 Amount of Travel

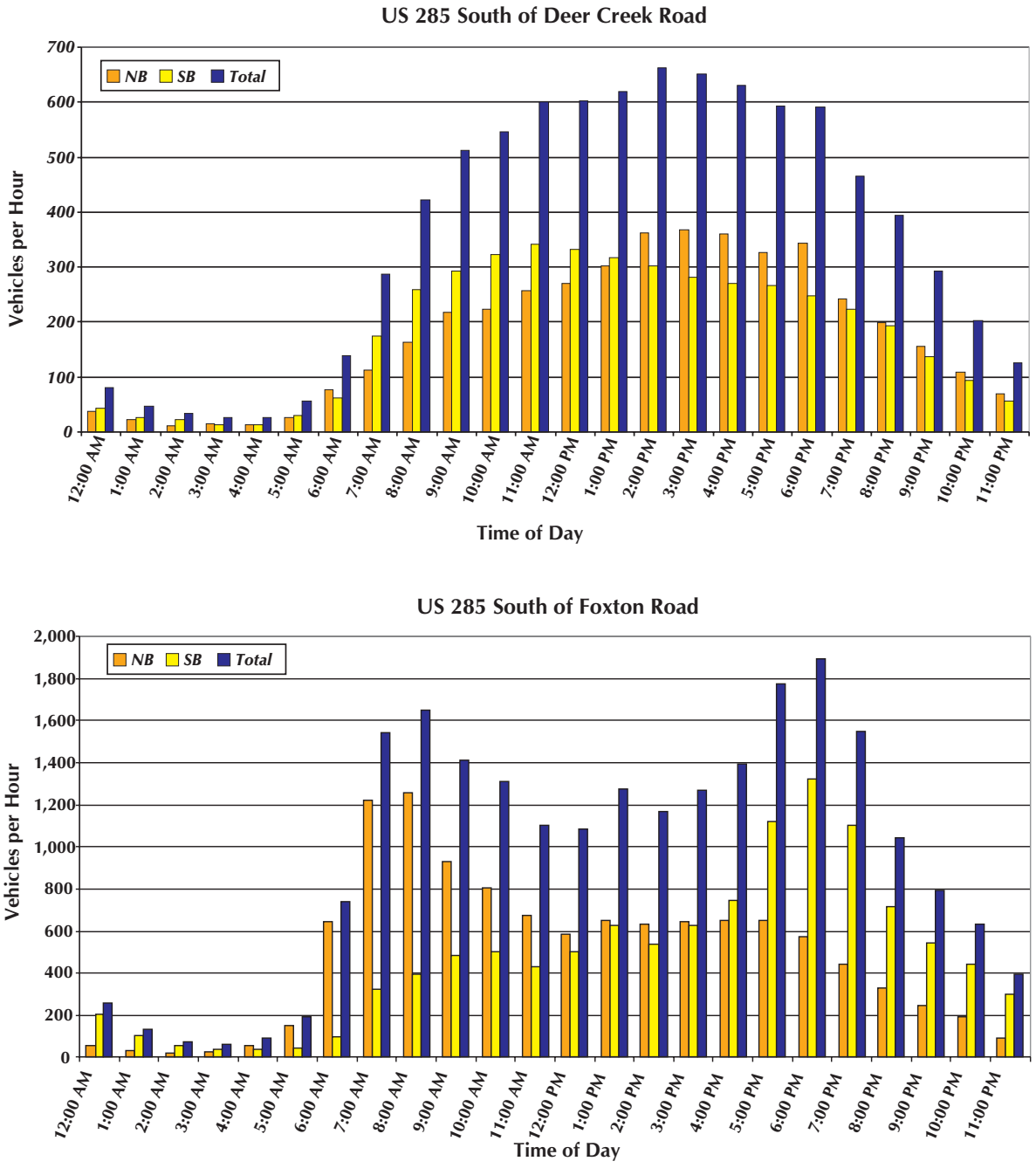
Vehicle Miles of Travel (VMT) provides a measure of the aggregate amount of daily travel that occurs on a given facility. **Table 3-4** summarizes future weekday daily VMT on US 285 in the study area for both alternatives. The range of VMT shown for the No-Action Alternative captures the forecast uncertainties due to the effect of capacity constraint as well as the effects of the two land use scenarios. Because the No-Action Alternative has less capacity, its amount of daily VMT is generally less than the Preferred Alternative. The land use scenarios also influence the amount of VMT - the Re-Zoning Scenario has about 3% less VMT than the Existing Zoning Scenario under the Preferred Alternative. (The two zoning scenarios are discussed in **Section 1.8.1.3 on page 1-17**)

Table 3-4: Daily Year 2025 Vehicle Miles of Travel (VMT)

	No-Action Alternative	Preferred Alternative	
	Low - High Range	Existing Zoning Scenario	Re-Zoning Scenario
Daily VMT	335,800 - 396,500	403,400	391,800

Note: The range estimated for the No-Action Alternative captures the effect of capacity constraint as well as the Existing and Re-Zoning Scenarios.

Figure 3-8: Average Weekday Hourly Volumes



Similar to VMT, Vehicle Hours of Travel (VHT) totals the amount of time vehicles spend traveling on a given facility. **Table 3-5** displays the PM peak hour VMT and VHT on US 285 in the study area. The VMT and VHT for the No-Action Alternative reflect the high end of the range of traffic volumes forecast for that alternative, since low end conditions are dependent on the highly unstable conditions in the northern portion of the study area due to capacity constraint. The No-Action Alternative has a larger PM VHT total than the Preferred Alternative due to congestion delays because of its lesser roadway capacity, despite the No-Action's lesser amount of PM VMT. In other words, fewer vehicles

would collectively spend more time traveling in the study area under the No-Action Alternative compared to the Preferred Alternative.

Table 3-5: PM Peak Hour Year 2025VMT and VHT

	No-Action Alternative	Preferred Alternative	
		Existing Zoning Scenario	Re-Zoning Scenario
PM Peak Hour Vehicle Miles of Travel (VMT)	27,800	32,300	31,300
PM Peak Hour Vehicle Hours of Travel (VHT)	760	600	590

Travel Time

Future estimated travel times to traverse the study area in the PM peak period were calculated for both the No-Action and Preferred Alternatives. The calculation assumed southbound PM peak weekday conditions in the year 2025. The travel time calculation takes into account the number of lanes, free flow speed, and the traffic volume, using procedures from the *Highway Capacity Manual*. The calculation also takes into account a factor for the percentage of no-passing zones in the No-Action Alternative. The travel times for the No-Action Alternative reflect the high end of the range of traffic volumes forecast for that alternative.

For planning purposes, the weekday summer peak period is used, as it represents the highest volume that occurs consistently. As discussed in Chapter 1, summer Sunday PM conditions have higher volumes but occur on a limited basis. A travel time analysis was not conducted for the Sunday PM time period, but the Preferred Alternative is expected to exhibit a similar percent travel time savings. For the Preferred Alternative, the travel times exhibited inconsequential differences between the two land use zoning scenarios. **Table 3-6** displays the travel time analysis results for each of the analysis segments of the study area.

Table 3-6: Year 2025 Estimated Travel Times

	No-Action Alternative (minutes)	Preferred Alternative (minutes)	Percent Travel Time Reduction, Preferred vs. No-Action
Bailey to Crow Hill	3.6	3.6	0%
Crow Hill to Deer Creek	1.3	1.1	15%
Deer Creek to Wisp Creek	4.3	3.0	30%
Wisp Creek to Pine Junction	1.7	1.2	29%
Pine Junction to Shaffers Crossing	3.1	2.2	29%
Shaffers Crossing to Richmond Hill	4.6	2.7	41%
Richmond Hill to Foxton Road	3.5	2.0	43%
Total	22.1	15.8	29%

Southbound PM Peak weekday conditions in the year 2025

Overall, a traveler gains a clear travel time advantage with the Preferred Alternative. The Preferred Alternative's total travel time is about 30% less than the travel time of the No-Action Alternative. The travel time savings are most dramatic in the northern segments between Foxton Road and Shaffers Crossing, which have the highest volume. The travel times under the Preferred Alternative are about 40% less than the No-Action travel times in this area. The two alternatives have the same projected travel times between Crow Hill and Bailey since no significant transportation improvements are made in this segment.

3.2.5.4 Traffic Operations

Roadway operations on US 285 were evaluated for existing conditions (year 2000) and the No-Action and Preferred Alternatives (year 2025) using Level of Service (LOS) standards (see Chapter 1). Both highway and intersection LOS were calculated for

weekday summer conditions during the PM peak hour.

Weekday summer conditions were used because they represent the high-end volumes that occur consistently. Weekend summer volumes are higher but occur too infrequently to influence design.

For the No-Action Alternative, the traffic forecast consisted of a range of volumes that reflected the effect of capacity constraint and the different zoning scenarios. The LOS that is presented for the No-Action Alternative assumes the high end of traffic conditions. For peak-hour conditions, both low-end and high-end conditions are at capacity for the northern segments of the study area. For the southern part of the study area, low-end conditions are highly unstable as they are dependent upon conditions in the northern portion of the study area.

For the highway, the analysis was performed for each of the analysis segments of US 285 by direction. **Table 3-7** contains the results of the US 285 operational analysis.The majority of the highway currently operates between LOS C and LOS E conditions. LOS conditions would generally deteriorate to E and F conditions under the No-Action Alternative. It should be noted that under the No-Action Alternative, peak spreading would occur because of the No-Action Alternative capacity constraint. In other words, peak-hour conditions would exist for a longer duration over the course of a day compared to the Preferred Alternative.

The Preferred Alternative improves the LOS to A and B in the northbound direction, and to LOS B and C in the southbound direction. An exception is the southbound LOS D in the Existing Zoning Scenario from Foxton Road to Richmond Hill; however, it is still an improvement over the LOS F of the No-Action Alternative. The two zoning scenarios result in the same projected LOS, except the Existing Zoning results in slightly worse conditions southbound from Foxton Road to Richmond Hill and from Shaffers Crossing to Pine Junction. In the Crow Hill to Bailey segment, the highway operates at LOS C in both alternatives since no major capacity improvements are included for this segment in the Preferred Alternative.

A highway weave LOS analysis was conducted for the southbound on-ramp at the proposed Deer Creek grade-separated intersection. There was concern about the close proximity of the ramp to the right-in/right-out access at Deer Creek Road. The PM peak hour analysis indicated that the traffic weaving movements would operate at LOS A conditions.

The LOS of major intersections with US 285 were evaluated for existing conditions and the future alternatives, based on PM peak-hour traffic characteristics. Signalized intersections were evaluated with an overall intersection operation rating, and unsignalized intersections are rated for each minor approach's operation. The majority of the major intersections would be replaced with a grade-separated intersection in the Preferred Alternative. **Table 3-8** contains the results.

Table 3-7: PM Peak Level of Service on US 285

Segment	Year 2000 Existing Conditions		2025 No-Action Alternative				2025 Preferred Alternative			
			Existing Zoning		Revised Zoning		Existing Zoning		Revised Zoning	
	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound
Bailey to Crow Hill	C	C	D	D	C	C	C	C	C	C
Crow Hill to Deer Creek	D	D	D	D	D	D	A	B	A	B
Deer Creek to Wisp Creek	C	E	D	E	D	E	A	B	A	B
Wisp Creek to Pine Junction	D	D	E	E	E	E	A	B	A	B
Pine Junction to Shaffers Crossing	E	E	F	F	F	F	A	C	A	B

Table 3-7: PM Peak Level of Service on US 285 (Continued)

Segment	Year 2000 Existing Conditions		2025 No-Action Alternative				2025 Preferred Alternative			
			Existing Zoning		Revised Zoning		Existing Zoning		Revised Zoning	
	North-bound	South-bound	North-bound	South-bound	North-bound	South-bound	North-bound	South-bound	North-bound	South-bound
Shaffers Crossing to Richmond Hill	E	E	F	F	F	F	B	C	B	C
Richmond Hill to Foxton Road	E	E	B*	D*	B*	C*	B	D	B	C

**Assumes No-Action Improvements, including 4-lane cross-section.*

Table 3-8: PM Peak Level of Service of Intersections

Intersection of US 285 &:	Minor Approach	Existing	No-Action Alternative	Preferred Alternative
PCR 64	Northbound	C	F	F[1]
	Southbound	B	F	F[1]
PCR 68	Northbound	B	C	C
Parkview	Northbound	B	C	B/C[2]
Mable Lane	Southbound	B	C	C
Deer Creek/PCR 43 (Signalized)	Overall	B	B	GSI[3]
Wisp Creek	Northbound	C	F	B
Wandcrest	Northbound	B	C	GSI[3]
Mt Evans Blvd. (Signalized)	Overall	B	B	GSI
Elk Creek	Northbound	E	F	GSI
	Southbound	C	F	GSI
Kings Valley West	Southbound	C	F	GSI
Kings Valley East	Southbound	F	F	GSI
Richmond Hill	Northbound	C	F	GSI
	Southbound	F	F	GSI
Springs Road	Northbound	C	F	GSI
	Southbound	F	F	GSI
Wagon Trail	Northbound	B	F	GSI

[1] *A northbound left turn lane on US 285 and other improvements are provided to improve capacity and safety at this intersection. Although operations are improved over the No-Action Alternative, the LOS of the side roads remains at F.*

[2] *LOS B under the Existing Zoning Scenario and LOS C under the Re-Zoning Scenario.*

[3] *A GSI is provided at this location because signalization was screened out by not meeting Purpose and Need. GSI: A grade-separated intersection is provided to serve this access in the Preferred Alternative.*

Most of the US 285 intersections operate at LOS F in the No-Action Alternative, and the majority of these are replaced by grade-separated intersections in the Preferred Alternative. Of those that are retained in the Preferred Alternative as intersections, the Preferred Alternative improves the LOS at

the Wisp Creek intersection to B, and does not change the LOS C rating at PCR 68, Parkview, and Mable Lane compared to the No-Action Alternative. Neither alternative improves the estimated future LOS F side-road operations at the intersection of PCR 64 with US 285 in the town of Bailey. However, the Preferred Alternative would provide minor intersection improvements for PCR 64 (a northbound US 285 left-turn bay, improved northbound right-turn radius, and improved southbound turn-radius) but these do not mitigate the operational rating. While other engineering options are available, input from the community guided the proposed intersection configuration.

The presence of grade-separated intersections has an impact on side-street intersections in the vicinity of each proposed grade-separated intersection. A LOS operations analysis was conducted at these intersections under the conditions of the Preferred Alternative. All of the side-street intersections would operate at LOS C conditions or better. The results for each side-street intersection are presented in Appendix E.

3.2.5.5 Access

The Preferred Alternative changes the existing unrestricted access to grade-separated intersections and right-in/right-outs coupled with U-turns at specific locations. The approaches/accesses are consolidated to improve safety, capacity, service level, visibility, and driving comfort compared to the No-Action Alternative. The *US 285 (Foxton Road to Bailey) Access Management Plan* report was prepared to further refine access management for the study area.

3.2.5.6 Access Delay

The Preferred Alternative provides access control characterized by grade-separated intersections and right-in/right-out accesses coupled with U-turns. While this design reduces the travel times on the highway compared to the No-Action Alternative, it does force some out-of-direction travel at many access locations.

To evaluate this impact, a comparison of delay to enter and exit the highway at each access point was made between the No-Action and Preferred alternatives. The calculation of access delay assumed the estimated 2025 volumes on US 285, along with estimated future turn movement volumes for the minor roadway at each access point. The total vehicle delay at each access point was calculated using *Highway Capacity Manual* (*HCM*) delay methodology for left-turning, through, and right-turning traffic from the minor roadway, together with delay of a vehicle turning onto the minor roadway from the highway.

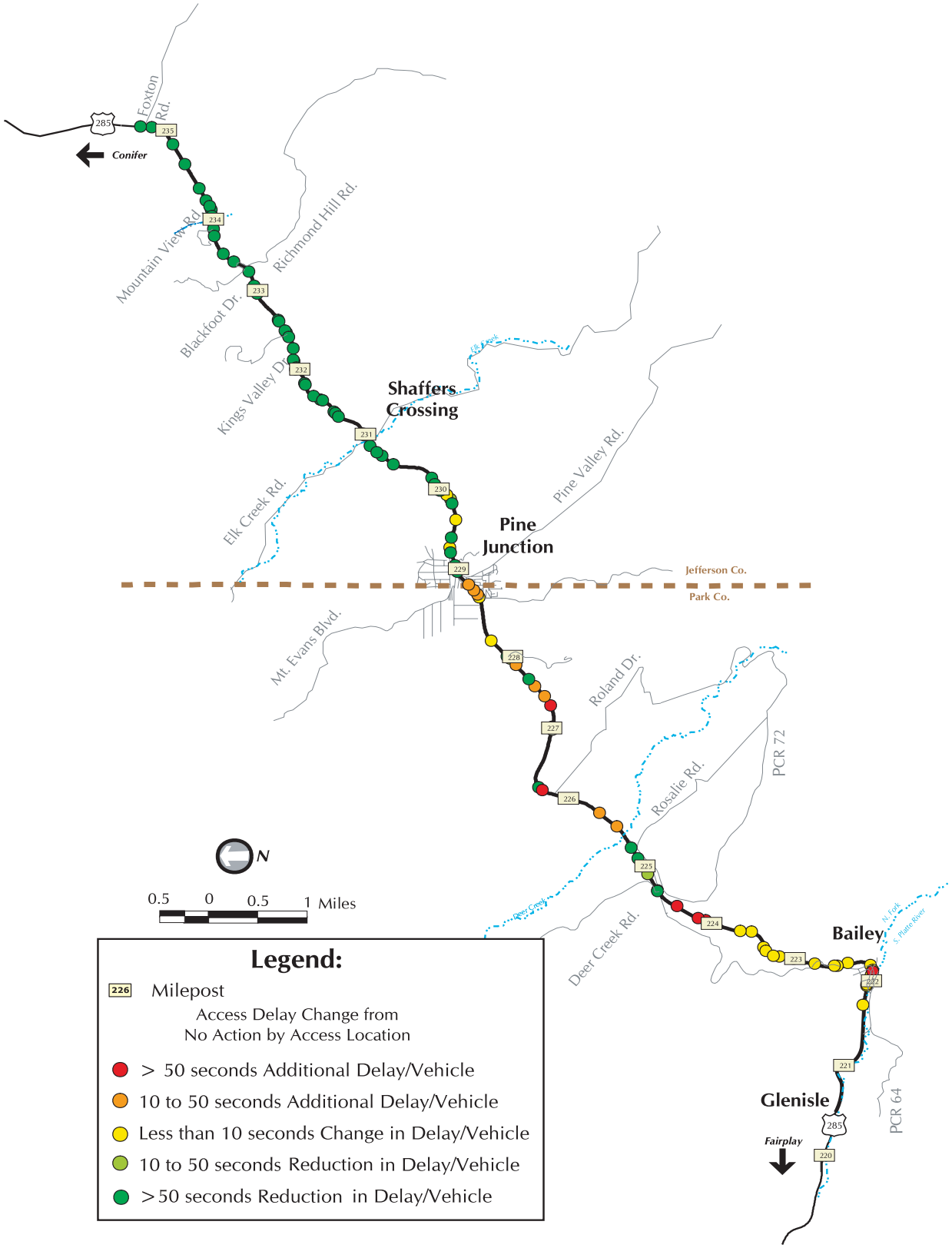
For the No-Action Alternative, access delay accrues due to either signal delay at signalized intersections, or wait time for gaps in US 285 traffic at unsignalized intersections.

For the U-turn access control scenario, access delay includes the out-of-direction travel time and the delay time to turn around. For example, the delay to make a left turn from an access point onto the highway is the total of:

- Right-out delay from the minor roadway, plus
- Travel time to the nearest U-turn or grade-separated intersection (including acceleration and deceleration time), plus
- Delay to perform the U-turn, plus
- Travel time from the U-turn or grade-separated intersection back to the access point (including acceleration time).

The result of the comparative analysis is displayed in **Figure 3-9**. The majority of access points demonstrate a savings of access delay for the access control of the Preferred Alternative compared to the No-Action Alternative. This is seen consistently in the northern portion of the study area, from Foxton Road to Pine Junction, where the higher traffic volume creates difficulty for vehicles to access the highway in the No-Action Alternative. Where the traffic volume is lower on the southern parts of the study area, the delay at some access points is greater in the Preferred Alternative compared to the No-Action Alternative, due to out-of-direction travel in the Preferred Alternative. Between Crow Hill and Bailey, the access delay remains the same between the two alternatives since no major access changes are proposed in this segment. Within Bailey, one intersection shows an increase in access delay. The

Figure 3-9: Change in Access Delay



East Main Street/US 285 intersection is limited to right-in movements only due to sight distance limitations. This results in increased access delay from out-of-direction travel.

The travel time incurred at highway access points is only a part of the total trip. Coupling the access travel time with the highway travel time demonstrates the overall travel time differences for trips that access and travel on the highway. For each access point, **Figure 3-10** displays the change in travel time (comprised of average access delay and highway travel time, between the No-Action and Preferred Alternatives, with assumed trip lengths based on trip distribution patterns). All of the access points realize an overall travel time savings for typical trips with the Preferred Alternative.

In many cases the savings in average trip travel time, as shown in **Figure 3-10**, is much greater than the change in access delay, as shown in **Figure 3-9**. This is because the Preferred Alternative, when compared to the No-Action Alternative, greatly reduces overall congestion along US 285 resulting in higher travel speeds. Travel time savings, as a result of these higher travel speeds, outweigh the changes in access delay.

3.2.5.7 Alternate Modes

The Preferred Alternative improves the environment for bicyclists due to its addition of 10-foot shoulders on either side of US 285 throughout the study area. The No-Action Alternative does not improve the shoulders over current conditions.

The Preferred Alternative includes strategies to address travel demand management, transit, and land use needs in the study area. These include improving access management and advanced traveler information systems, and the promotion of carpools and vanpools through DRCOG. Further, travel demand management incentives for new developments, additional open space acquisitions, and partnerships for transit-oriented developments near park-n-Rides are encouraged in the Preferred Alternative. The No-Action Alternative does not provide similar support for alternate mode strategies, but does not preclude such strategies.

3.2.6 Social Impacts

No-Action Alternative

The No-Action Alternative would not change population growth trends or development patterns within the study area. Demand for community facilities, services and housing would increase in response to the projected population growth (see **Section 3.1 on page 3-1**). The location of these resources would generally follow development and land use plans identified by the counties and cities.

As discussed in the Chapter 2, the No-Action Alternative includes the grade-separated crossing at Wandcrest Road that is included as part of The Villages at Sunset Development PUD. This is the location where the greatest amount of growth and development will likely occur. Access to and from this development will improve. However, if no improvements are made along the rest of US 285, access to and from other areas could be hindered by increased traffic and congestion.

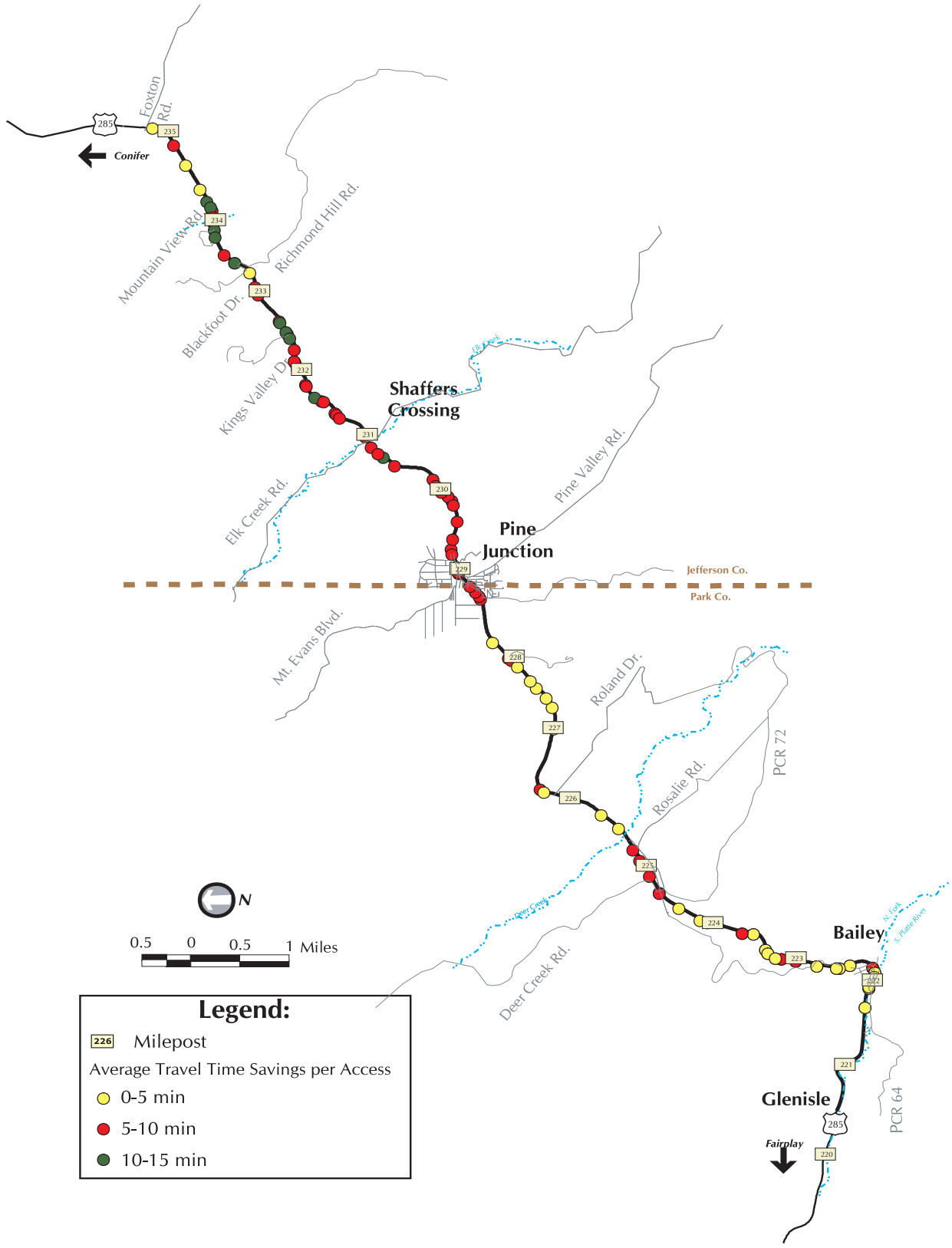
Under the No-Action Alternative, movement across and onto US 285 outside of The Villages at Sunset would not be improved, thereby making it extremely difficult to get access on and off the highway (for both commuter and tourist traffic) due to the increase in future traffic volumes. With the expected increase in population throughout the study area, this could become a more critical issue. The increased traffic congestion could be especially severe during the summer months, when there is increased tourist traffic. As congestion continues to increase, emergency response time would also increase.

Since the No-Action Alternative does not address safety and operating deficiencies at existing US 285 intersections, access points and crossings, the problems will likely worsen, creating greater congestion and safety/accident issues as the population grows in the study area.

Preferred Alternative

Implementation of the Preferred Alternative would not substantially alter the area population growth or other demographic characteristics or trends. Under this alternative there would be no direct impacts to social interaction and community cohesion in the

Figure 3-10: Change in Average Trip Travel Time



study area. However, the highway improvements would substantially reduce congestion, thus improving access for emergency vehicles; improving access to and from community facilities, such as libraries, and improving access to and from retail areas. The proposed improvements would not disrupt or separate any neighborhoods in the study area. Generally, impacts would be minimal, as most improvements would occur within highway or roadway right-of-way, preventing the division of existing communities. The widened highway may seem like a barrier in some locations, however.

Three residences and one business would be acquired and relocated as part of this alternative.

This alternative would improve safe connectivity between residential areas and current as well as future community facilities. This alternative would provide a safer, more efficient and convenient travel for groups and individuals traveling to schools, recreation areas, churches, businesses, police, fire protection and social activities. It would relieve congestion, reduce safety and accident issues, and improve emergency response time.

Access to Elk Creek School would be substantially improved by the proposed grade-separated intersection.

This alternative would have short-term impacts to access near the proposed construction locations. Access could be temporarily restricted during construction, resulting in delays or increased travel times. Emergency access would be maintained during construction.

Indirectly, the Preferred Alternative could cause a localized shift in the development patterns of expected future growth, thereby causing a shift in where future community facilities may locate. The Preferred Alternative may induce future development and future community facilities to locate on property closer to grade-separated intersections instead of scattered along US 285.

3.2.6.1 Safety

Overall, the Preferred Alternative improves the safety conditions of US 285 compared to the No-Action Alternative, by means of a variety of measures as follows.

Cross-section Geometrics

The typical cross-section of the Preferred Alternative includes a 22-foot depressed rural median, 10-foot shoulders, and 12-foot clear zones. This cross-section occurs consistently from Foxton Road to Crow Hill. From Bailey to the top of Crow Hill, improved shoulders and clear zones would be provided but not a median. These features offer an improved facility for safety. In contrast, the No-Action Alternative does not have a median, less than 25% of US 285 has acceptable shoulder widths, and less than 16% of it has an acceptable clear zone.

Access Control

The Preferred Alternative's access control of grade-separated intersections and right-in/right-out combined with U-turns would provide a safer facility than the No-Action Alternative's full movement intersections. The number of accidents could be expected to be reduced with the Preferred Alternative, per the results of a study that evaluated the safety effects of directional median openings[4].

Specific Sites

The sharp curve at the bottom of Crow Hill presents a safety concern for businesses and on-street parking in Bailey. The hill is a steep grade with a posted speed limit ranging from 40 to 50 mph. There is a potential for southbound downhill trucks to lose their brakes, miss the curve, and overturn. The consequences of such an accident include collisions with property and people in Bailey, and other vehicles on US 285, and environmental impacts to the river. The Preferred Alternative includes a Runaway Truck Escape Ramp (TER) to provide runaway trucks a means to avoid an accident at this location. The No-Action Alternative does not include any safety mitigation at this location.

The existing US 285 has a sharp curve near Roland Drive. It is the first sharp curve that has an advisory posted speed limit of 45 mph in many miles as a

4."Right Turns Followed by U-Turns vs. Direct Left Turns: A Comparison of Safety Issues", by Lei Xu, ITE Journal, November 2001, Volume 71, No. 11

vehicle travels south on US 285. The 5-year accident history at this location shows that the curve presents a safety hazard. Curve-related accidents by type are presented in the **Table 3-9**.

Table 3-9: Curve-Related Accidents near Roland Drive

Accident Type	Number of Accidents 1997 - 2001
Guard Rail Collision	4
Head On Collision	3
Overturned Vehicle	4
Sideswipe Opposite Direction	3

The Preferred Alternative improves the highway geometrics at Roland Curve by increasing the curve radius. The No-Action Alternative does not improve the highway's safety at this location.

3.2.6.2 Evacuation

Emergency evacuation of the area could be needed in case of wildfire. The US 285 roadway is the only evacuation route for the majority of residents in the area. The Preferred Alternative would provide the population a better evacuation facility compared to the No-Action Alternative. Its greater roadway capacity would allow a faster and safer emergency exit for vehicles from the area.

3.2.6.3 Emergency Services

The mobility of police, fire, and ambulance services can be significantly delayed because of heavy congestion on a limited-capacity roadway. The No-Action Alternative does not alleviate this situation. The Preferred Alternative would provide a higher capacity highway that allows more opportunities for emergency vehicles to pass traffic. Moreover, the cross-section of the highway in the Preferred Alternative would include a 10-foot shoulder that could be used by emergency vehicles, if needed, to pass congestion on the through lanes. The No-Action Alternative does not provide a shoulder that could be used in this manner.

Additionally, the access for the Richmond Hill fire station would be improved with the Preferred Alternative. Access for the fire station is a full-movement intersection under the No-Action Alternative, which would become a grade-separated intersection under the Preferred Alternative.

3.2.7 Mitigation Measures

Good communication with the communities and residents with regard to road delays, access, and special construction activities is recommended during the construction phase. This may be accomplished by radio and public announcements, newspaper notices and on-site signage.

3.3 Economic Conditions

Beginning in the early 1990s, the study area experienced large growth in housing and population. However, as the *Colorado Economic Outlook* (Center for Business and Economic Forecasting, Inc., June 19, 2002) points out, economic growth has flattened in recent years statewide. Growth is expected to continue in the future, but at a much steadier, more moderate pace.

There are no incorporated places located in the study area, so data for the four Census tracts outlined in **Figure 3-5 on page 3-15** are used where available. However, much of the available information regarding economic conditions is only published at the incorporated place or county level. Information at this level is used when it is appropriate and the only source available.

As noted in the *Demographic and Economic Reconnaissance Report* for the *Park County Strategic Master Plan,* March 2000, the proximity of the area to retailers and services in the Denver metropolitan area and the commute patterns of residents puts constraints on local business enterprises. The local retail sector is therefore mostly made up of restaurants and “mom and pop” convenience establishments catering to local residents and travelers using US 285. This is anticipated to change in the future, though, with a major grocery store proposed for the Deer Creek area. Currently, these small retail establishments are clustered in the unincorporated towns of Bailey and Pine Junction, and in the Deer Creek and Green Valley areas. There are many more retail

and service businesses located outside of the study area in the Conifer/Aspen Park area.

Jefferson County collected sales tax of $7.8 million on retail sales of $485 million in the third quarter of 2002 from businesses in the unincorporated areas of the county. Park County collected $323 thousand on retail sales of $19.8 million from businesses in the unincorporated areas of the county during the same period.

There is only a handful of recreational sites within the study area, but US 285 is a major thoroughfare for those traveling to nearby mountain recreational areas, including Denver mountain parks, National Forests, and various trails and ski resorts.

US 285 Retail/Commercial Businesses

From Foxton Road to Green Valley, there are two business locations on the frontage road to the north of US 285. They do not have direct access to the highway, and both use their properties for storage uses. One business provides mechanic and auto body repair services.

The Green Valley Center is a shopping/office complex on the south side of US 285 at Mountain View Road with 10 businesses that provide retail and services to the public, and one restaurant and bar. The complex provides off-street parking, with direct access to the highway. On the opposite side of US 285 is a retail business and a towing and moving business, both of which have very little off-street parking and access the highway directly.

At the intersection of Kings Valley Drive and US 285, there is a gas station/garage/storage business with access to the frontage road north of the highway.

At Shaffers Crossing the business access is on Elk Creek Road and on the frontage road south of the intersection with Elk Creek Road. There are five businesses on Elk Creek Road - three offer recreational services and two provide construction services and supplies. On the frontage road south of the intersection, there are two schools and an electric utility station.

Pine Junction, on the border of Park and Jefferson Counties, is a relatively dense center of commercial activity. To the east of the intersection, there is a feed store and storage business accessed from Glen Drive on the north of US 285. On the south side, the Pine Junction park-n-Ride faces US 285 in front of a gravel pit. Both of these access the highway directly and on Pine Valley Road. On Mt. Evans Boulevard north of US 285, there are five property and home service and supply businesses near the highway, and many more businesses along Mt. Evans Boulevard further north of the highway. At the intersection of Mt. Evans Boulevard and US 285, there is a gas station, two retail stores, and two service businesses. On Pine Valley Road just south of the highway there is an auto repair shop and a retail business. South of the intersection, there are numerous businesses located on both sides of US 285 that access the highway directly. These include two restaurants, an auto repair shop, two retailers, two light manufacturing businesses, and over a dozen service businesses.

At Wisp Creek on the north side of US 285, there are two commercial buildings, but both are currently unoccupied. On Roland Valley Drive, off of US 285, there is an auto repair business.

According to Park County plans, Deer Creek is expected to be a commercial center for the area. At present, there are two gas station/convenience stores, two restaurants, two retailers, four service businesses, one storage business and an electric utility station. None of these businesses access US 285 directly; however, they use the frontage road off of Rosalie Road on the south side of the highway, or they use PCR 43 or Delwood Drive on the north side of the highway.

The unincorporated town of Bailey has the most commercial activity in the study area that is closest to the highway. There is one gas station/convenience store, four restaurants, ten retailers, two lumber or home supply stores, and twelve service businesses. Six of these businesses are located between US 285 and Main Street in the center of town, eight are located on PCR 68, east of the highway, and two of the businesses are located on PCR 64, south of the highway.

Employment

The basic employment data for the study area are listed in **Table 3-10**.

As shown in **Table 3-10**, the strongest employment sectors are management/professional, services and government work. According to the Colorado Department of Labor and Employment, the sectors with the highest average wages are the management/ professional occupations and the construction/mining occupations. The *Colorado Occupational Employment Outlook 1998-2008*, January 2001, states that the services and construction sectors are the only categories expected to increase by the year 2008, with flat growth or declines for the other employment sectors in Colorado. The Colorado Department of Local Affairs (DOLA) estimates that Jefferson County will have an annual percentage growth in jobs of -0.4% in 2002, 8.0% through 2015, and 8.0% through 2025. DOLA estimates that Park County will have an annual percentage growth in jobs of -1.0% in 2002, 1.4% through 2015, and 0.8% through 2025. The unemployment rate was lower in the study area than it was in either Jefferson or Park County, or the state as a whole, according to 2000 Census data. However, since then the unemployment rate has risen in the state and the counties, and it should be assumed that it has risen in the study area as well. Incomes within the study area are generally higher than in Colorado or the counties, and there are fewer people below the poverty level.

Table 3-10: Employment Statistics for Study Area

	Colorado	Jefferson County	Park County	Jefferson Co. Tract 120.37	Jefferson Co. Tract 120.58	Park Co. Tract 1	Park Co. Tract 2
2000 Population	4,301,261	527,056	14,523	3,458	3,657	5,528	3,675
In Labor Force	2,331,898	300,673	8,134	2,580	2,144	3,078	2,070
Unemployed (in 2000)	99,260	9,546	232	33	37	87	37
Unemployed (in October, 2002)*	5.0%	4.5%	4.3%				
Occupation as percentage							
Management, professional	37.4%	41.3%	33.2%	54.4%	50.0%	35.1%	37.6%
Service	13.9%	11.5%	13.2%	6.3%	12.6%	10.6%	9.1%
Sales and office	27.2%	28.8%	26.4%	18.4%	22.7%	27.7%	27.8%
Farming, fishing, forestry	0.6%	0.1%	0.6%	0.0%	0.0%	0.4%	0.0%
Construction, mining, maintenance	10.5%	9.6%	16.7%	12.9%	7.3%	16.5%	12.6%
Manufacturing, transportation	10.5%	8.7%	9.9%	8.0%	7.3%	9.6%	12.9%
Government workers	13.9%	13.7%	14.3%	16.1%	12.9%	12.9%	14.1%%
Median household income (1999)	$47,203	$57,339	$51,899	$76,143	$76,353	$57,390	$56,218
Per capita income	$24,049	$28,066	$25,019	$32,733	$36,818	$26,868	$24,233
Percent below poverty level	9.3%	5.2%	5.6%	0.6%	2.4%	3.6%	4.5%

Source: 2000 US Census data.
* *Colorado Department of Labor and Employment, 2002.*

As shown in **Table 3-1 on page 3-16,** the study area has a high rate of workers who commute long distances to work. The number of people living in the study area who commute outside of the county where they reside is higher than for Colorado and Park County, and on a par with Jefferson County.

This trend has been noted in the planning documents for Park and Jefferson Counties (see interim *Conifer/285 Corridor Area Community Plan,* August 2002, and *Park County Strategic Master Plan,* February, 2001).

3.3.1 Environmental Consequences

There would be no direct impacts to long-term economic conditions in the study area under any alternative, once construction is finished. The growth in employment and business that the region is experiencing would be expected to continue. Indirectly, however, alternatives may cause a shift in the development patterns, altering where future retail and commercial enterprises decide to locate within the study area (see **Section 3.1.5 on page 3-11**). For impacts to minority and low-income populations, see **Section 3.2.4 on page 3-17**.

No-Action Alternative

The No-Action Alternative would not change population growth trends or development patterns within the study area. Demand for commercial facilities, services and construction would increase in response to the projected population growth (see **Section 3.2.1 on page 3-14**). The location of these would generally follow development and land use plans set forth by the counties and cities.

As discussed in Chapter 2, the No-Action Alternative includes the grade-separated crossing at Wandcrest Road that is included as part of The Villages at Sunset Development PUD. This is the location where the greatest amount of growth and development will likely occur. Access to and from this development will improve. However, if no improvements are made along the rest of US 285, access to and from other commercial areas could be hindered by increased traffic and congestion.

Under the No-Action Alternative, movement across and onto US 285 outside of The Villages at Sunset will not be improved, thereby making it extremely difficult to get access on and off the highway (for both delivery, commuter and tourist traffic) due to the increase in future traffic volumes. With the expected increase in population throughout the study area, this could become a more critical issue. The increased traffic congestion in the study area could be especially severe during the summer months, when there is increased tourist traffic.

Preferred Alternative

The Preferred Alternative could temporarily boost the economy of the study area through the construction period by providing employment of construction workers and purchase of construction material. The additional employment could provide a temporary economic boost to the region, through increased wages and retail sales to firms in the project vicinity, partially offsetting any lost revenue from increased congestion and access restrictions during construction.

Under this alternative there would be no direct impacts to economic conditions in the study area. Indirectly, however, the Preferred Alternative could cause a localized shift in the development patterns of expected future growth, thereby causing a shift in where future business activities may occur. The Preferred Alternative may induce future commercial enterprises to locate on property near the grade-separated crossings in the study area instead of other locations along US 285. This alternative would improve connectivity to designated development centers, thereby improving access to these businesses. One business would need to be acquired and relocated as part of this alternative.

US 285 Retail/Commercial Businesses

From Foxton Road to Green Valley, the businesses located on the frontage to the north of US 285 would have no impacts under the Preferred Alternative except for improved mobility. The improved frontage road would provide access to the grade-separated crossing at Green Valley Center. Short-term temporary impacts would occur during construction of the Preferred Alternative. Access to businesses located near construction sites might be impaired temporarily.

The Green Valley Center shopping/office complex on the south side of US 285 at Mountain View Road would retain its off-street parking, but without direct access to the highway. On the north side of US 285 are a retail business and a towing and moving business, both of which have very little off-street park-

ing. Their direct access to the highway would be removed, and they would have to use the improved frontage road to access US 285. Short-term temporary impacts would occur during construction of the Preferred Alternative. Access to businesses might be impaired during construction, which could cause patrons to go elsewhere. This could be offset by sales to construction workers in the area.

At the intersection of Kings Valley Drive and US 285, there is a gas station/garage/storage business with access to the frontage road north of the highway. The Preferred Alternative would avoid historic properties located south of the highway, and moves the frontage road for the grade-separated crossing at this intersection further north of the existing highway. Therefore, part or all of this business would need to be acquired and relocated as part of the Preferred Alternative.

At Shaffers Crossing, the business access is on Elk Creek Road and on the frontage road south of the intersection with Elk Creek Road. There are five businesses on Elk Creek Road - three offer recreational services and two provide construction services and supplies. These businesses would retain their access to US 285 through frontage roads constructed with the grade-separated crossing at Elk Creek Road. On the frontage road south of the intersection, there are two schools and an electric utility station. These facilities would have access to US 285 through an improved frontage road connection to a second grade-separated crossing, near Parker Avenue. Short-term temporary impacts would occur during construction of the Preferred Alternative. Access to the schools and businesses might be impaired during construction, which could cause some patrons to go elsewhere.

Pine Junction, on the border of Park and Jefferson Counties, is a relatively dense center of commercial activity and would have many changes in access for businesses with the Preferred Alternative. To the east of the intersection, there is a feed store and storage business that would be accessed from the new frontage road and Glen Drive on the north of US 285. On the south side, a new frontage road would replace the Pine Junction park-n-Ride facing US 285 in front of a gravel pit. The park-n-Ride would be relocated north of the intersection, as part of the No-Action Alternative. Access to the gravel pit would be located further south on Jefferson County Road 126.

On Mt. Evans Boulevard north of US 285, there are five property and home service and supply businesses near the highway, and many more businesses along Mt. Evans Boulevard further north of the highway. Access to these businesses from US 285 would be through a grade-separated crossing. At the intersection of Mt. Evans Boulevard and US 285, there are a gas station, two retail stores, and two service businesses. Access to these businesses from US 285 would be through a frontage road on the north side of the highway.

The businesses on Pine Valley Road just south of the highway - an auto repair shop and a retail business - would retain access to US 285 through the grade-separated crossing. South of the intersection, there are numerous businesses located on both sides of US 285 that currently access the highway directly. These include two restaurants, an auto repair shop, two retailers, two light manufacturing businesses and over a dozen service businesses. These businesses would have access to US 285 through new frontage roads on both the north and south sides of the highway. Short-term, temporary impacts would occur during construction of the Preferred Alternative. Access to businesses might be impaired during construction, which could cause patrons to go elsewhere. This could be offset by sales to construction workers in the area.

At Wisp Creek on the north side of US 285, there are two commercial buildings which are currently unoccupied. These locations would have access to US 285 via the frontage road on the north side of the highway, and their access might be impaired during construction.

At Roland Valley Drive, the Preferred Alternative would shift the alignment of US 285 south of the auto repair business located at the existing intersection. Access to this business would be through a reconfigured Roland Valley Drive as part of a grade-separated crossing. Short-term temporary impacts would occur during construction of the Preferred

Alternative. Access to businesses might be impaired during construction, which could cause patrons to go elsewhere.

The Preferred Alternative would provide two grade-separated crossings at Deer Creek. At present, there are two gas station and convenience stores, two restaurants, two retailers, four service businesses, one storage business and an electric utility station, though many more are planned. To facilitate this planned development, a modified diamond interchange at PCR 43 would provide access to existing and future businesses located north of the highway, and to those existing businesses located on the frontage road south of the highway. Businesses located at Delwood Drive would have access to US 285 through a second grade-separated crossing. Short-term, temporary impacts would occur during construction of the Preferred Alternative. Access to businesses might be impaired during construction, which could cause patrons to go elsewhere. This could be offset by sales to construction workers in the area.

The Preferred Alternative would have little or no impacts to the unincorporated town of Bailey, which has the most commercial activity in the study area that is closest to the highway. The existing accesses and streets would be maintained with minor improvements. Short-term, temporary impacts would occur during construction of the Preferred Alternative. Access to businesses might be impaired during construction, which could cause patrons to go elsewhere. This could be offset by sales to construction workers in the area.

3.3.2 Mitigation Measures

No mitigation measures are necessary.

3.4 Right-of-Way

3.4.1 Existing Conditions

The width of CDOT right-of-way varies between 200 and 440 feet. This variation in width derives from the mountainous terrain and avoidance of commercial and residential properties located near the highway. Some of the variation is also due to the right-of-way of the old alignment of US 285, some of which has been deeded to land owners and some retained by CDOT. There are approximately 150 parcels in Park County that are adjacent to the right-of-way, and just under 400 parcels in Jefferson County with adjacency to the right-of-way.

3.4.2 Environmental Consequences

At this early stage of design, it is difficult to exactly determine the number of right-of-way impacts that would be required to construct the Preferred Alternative. The Preferred Alternative has been developed with the intention of not impacting properties, particularly those occupied by residences or businesses. It appears at this early stage of conceptual design that three residential and one business acquisitions would be required for the Preferred Alternative, as well as some full and some partial parcel takes of undeveloped land.

No-Action Alternative

The No-Action Alternative would require no additional right-of-way, nor would it require any residential or business acquisitions.

Preferred Alternative

The majority of the widening of US 285 would occur within the existing right-of-way. However, some portions of the wider highway may require some partial land acquisition where the highway travels through commercial or densely spaced residential areas, or where widening of the highway necessitates additional cuts and/or fill. The grade-separated crossings would require numerous partial land acquisitions as well. Sixty parcels in Park County may require partial land acquisitions. In Jefferson County, 76 parcels may require partial or full land acquisition, including the residential and business acquisitions. Right-of-way from private parties would be obtained through fee acquisition or, in some cases, construction or other types of easements.

The business requiring relocation is located at 12425 S. US Highway 285. The business is a gas station/repair shop and a vehicle storage facility on two parcels with single ownership. It is owner occupied. The edge of pavement of the frontage road on the north side of US 285 would be moved approxi-

mately 125 feet north to accommodate the widening. Additional impacts could be anticipated because of conflicts with septic systems and wells on adjoining properties.

Adequate replacement facilities in the immediate vicinity of this business are limited. The business is located in a small pocket of commercially zoned land directly adjacent to the highway. Land use surrounding the commercial land is predominantly zoned agricultural and mountain residential. However during the past year, CDOT has coordinated with the owner of the property who has identified a suitable location for his business within the US 285 study area.

The garage employs eight people, one of whom is a minority. On the average, workers at auto repair facilities earned approximately $21,000 per year in Jefferson County in 1997, the latest year with the available statistics. However, it is difficult to translate the wages into meaningful statistics, because information on residency, household size or household income cannot be determined for these workers. Therefore, it cannot be determined if these employees can be classified as low-income.

Construction of the Preferred Alternative would require the acquisition of a residence located at the Mt. Evans Boulevard (Pine Junction) grade-separated crossing. This residential property is located at 33442 and 34443 Ella Avenue, and contains two structures (one residence and one garage) on two parcels, with one owner, according Jefferson County Assessor data. This acquisition would occur as a result of the realignment of US 285 so that the edge of pavement would be approximately 150 feet to the south.

Construction of the Preferred Alternative would require the acquisition of two residences at the Kings Valley grade-separated crossing. The first is located at 12485 S. US Hwy 285, and contains a single-family home with one owner, according to Jefferson County Assessor data. This acquisition would occur as a result of the addition of a frontage road on the north side of US 285.

The second Kings Valley acquisition is located at 12464 S. US Hwy 285, and contains four single-family homes on one parcel with one owner. Only the residence located closest to the existing highway and a portion of land would need to be acquired. This acquisition would occur as a result of the roads built on the south side of US 285 to access the grade-separated crossing.

Information on household size, household income and family characteristics is not available for the residents and owners of these relocation sites because to reveal the data would raise privacy issues. However, meetings held with all property and business owners likely to be relocated gave no indication they should be classified as minority or low-income.

Some of the partial land acquisitions could affect the residences located on these parcels. If the property acquired for construction of the Preferred Alternative contains leach fields or wells for the residences, then the leach fields or wells would have to be reconstructed in new locations. If such relocations were not possible, the residences would have to be acquired.

According to Census 2000 data, there were 3,413 housing units in the two census tracts surrounding the property. Of these, 652 were vacant, making a vacancy rate of 19.1%. Of these 652 vacant units, 499 were seasonal, showing the high percentage of seasonal vacancy housing units in the study area. There were 57 vacant housing units for sale in the area. Replacement housing for the residential properties acquired should be readily available in nearby neighborhoods.

Construction of the Preferred Alternative would require the full use of the existing right-of-way owned by CDOT near the Horn Cemetery, which lies slightly to the south and east of Deer Creek Valley Ranch on the south side of US 285. Currently there are two marked gravesites outside of the cemetery fences and within the CDOT right-of-way. If it is discovered that there are human remains in these gravesites, they would need to be investigated and removed prior to construction.

3.4.3 Mitigation

Acquisition of land for right-of-way will begin when the project is funded and moves toward construction. Right-of-way acquisition for US 285 will comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646), as amended and the Uniform Relocation Act Amendments of 1987 (Public Law 100-17), which contains specific requirements that govern the manner in which a government entity acquires property for public use. The purpose of this Act is to provide a uniform policy for fair and equitable treatment of persons displaced from their homes, businesses, or farms as a result of federal and federally assisted programs. The law is designed to ensure just compensation for all acquired properties and minimal impact on the current owners. All relocatees are given a minimum of 90 days in which to find replacement housing or business locations. All qualified relocatees receive monetary payments, which may include payments for moving expenses, business in lieu of payments, rent supplements, down payments and increased interest payments.

CDOT will implement and advise persons of the relocation process in the event that acquisition of housing or businesses occurs. No person should be displaced by a federal aid project unless and until adequate replacement housing has been offered to all affected persons regardless of race, color, religion, sex, national origin, age, or disability.

As part of full compliance with the Uniform Relocation Assistance Act of 1970, as amended, CDOT will provide assistance to any eligible owner or tenant in relocating their business or residence at the time of displacement. Benefits under the Act, to which each eligible owner or tenant might be entitled, will be determined on an individual basis and explained in detail, along with information regarding financial options.

The Uniform Act requires that a property owner be notified of CDOT's intent in acquiring their property before a real property appraisal is completed. Each property owner will be given the opportunity to accompany the appraiser during the inspection of the property. CDOT must then establish just compensation based on a current appraisal. The owner of real property acquired for right-of-way will be compensated at fair market value, in accordance with the Uniform Act, federal CFRs, state statutes, and CDOT policies and procedures. No owner will be required to surrender possession of the real property until paid the agreed purchase price or the amount deemed to be just compensation has been deposited with the court for the benefit of the owner.

Mitigation will be provided for the Horn Cemetery gravesites located within the right-of-way. Prior to construction, the CDOT staff archaeologist will investigate to determine if there are human remains located within the right-of-way. If human remains are discovered, a permit will be obtained from the Colorado Department of Public Health and Environment (CDPHE). The CDOT staff archaeologist will conduct coordination with the Park County Coroner's office, Horn Cemetery officials, and the CDPHE.

3.5 Air Quality

3.5.1 Existing Conditions

3.5.1.1 Overview of Issues

The primary air quality concern within the study area is motor vehicle emissions associated with traffic on US 285. Other air quality issues in the study area include particulate matter from wood burning, reentrained dust from unpaved roads, and street sanding. Impacts to visibility in Class I Wilderness Areas is also a concern.

3.5.1.2 National Ambient Air Quality Standards

The EPA has established National Ambient Air Quality Standards (NAAQS) for each of the six criteria pollutants to protect the public from the health hazards associated with air pollution. These pollutants are carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb),

and particulate matter (both particulate matter less than 10 microns in diameter [PM_{10}] and $PM_{2.5}$).

The Air Pollution Control Division (APCD) of the Colorado Department of Public Health and Environment monitors concentrations of these pollutants. Geographic areas that violate a particular pollutant standard are considered "nonattainment" areas for that pollutant.

3.5.1.3 Climate & Meteorology

The study area is situated within the Colorado foothills at elevations between 8,275 feet above sea level at Foxton Road to 7,730 feet at Bailey. The climate is moderate with average temperatures ranging from 30°F in January to 73°F in July, with low relative humidity. The average annual precipitation is 15.7 inches, with an average annual snowfall varying from 80 inches in Bailey to 59 inches in Conifer.

Wind direction within the study area is predominantly southwest to northeast, diagonally across several valleys. Wind patterns and air pollutant dispersion are strongly influenced by the local terrain, including the North Fork of the South Platte River.

3.5.1.4 Air Pollution Sources and Monitoring

The primary air pollution sources in the study area are motor vehicle emissions, wood burning, and reentrained road dust. The study area does not have any industrial or power generating sources of air pollution. The nearest air quality monitoring station is the Welch Station located 15 miles east of Foxton Road at 12400 West US 285 in the city of Lakewood. This station monitors ozone and meteorological conditions. Because of the differences in altitude and topography, data from the Welch Station are not indicative of pollutant concentrations or meteorological conditions in the study area.

Class I Visibility Areas

There are ten Wilderness Areas and two National Parks in Colorado which are designated as mandatory "Class I" areas for the purposes of visibility protection. There are no Class I areas within the study area. The nearest Class I area is the Eagles Nest Wilderness Area located approximately 50 to 60 miles northwest of the study area.

3.5.1.5 State Implementation Plans and Air Quality Conformity

The federal Clean Air Act requires states to submit plans, known as State Implementation Plans (SIP) to demonstrate how the state will meet the NAAQS for pollutants which they have designated as nonattainment. The Foxton Road to the Jefferson/Park County line segment of the study area is in Jefferson County, which is included in the Denver attainment/maintenance areas (formerly nonattainment) for carbon monoxide, PM_{10}, and 1-hour ozone. Although exceedances of the 8-hour ozone standard were recorded on 16 days in the Denver region during the summer of 2003, Denver has not been designated as nonattainment for the 8-hour ozone standard. Air quality planning agencies in the Denver region and EPA have developed an Ozone Early Action Compact. This Compact commits the Denver region to developing and implementing an Ozone Action Plan in return for deferring a potential designation as nonattainment for the 8-hour ozone standard. Park County is an attainment area for all NAAQS.

The Clean Air Act and related implementing regulations mandate that transportation plans, programs and projects conform with state air quality implementation plans and maintenance plans. A key element of the conformity provision of the Clean Air Act is that a project must not cause or contribute to an exceedance of any NAAQS. The requirements to demonstrate project conformity have been incorporated into the air quality analysis for this EA.

3.5.2 Environmental Consequences

The Foxton Road to Pine Junction segment of the study area is located in Jefferson County, which is included in the Denver attainment/maintenance area for carbon monoxide (CO), ozone, and particulate matter (PM_{10}). Therefore, the conformity provisions of the federal Clean Air Act apply. The impacts of motor vehicle emissions in the study area on concentrations of CO, ozone, and PM_{10} were analyzed for both the No-Action and Preferred

Alternative. Pollutant concentrations, rather than total emissions, are a better indicator of project level air quality impacts because they can be compared to the federal standards that were established to protect public health.

Carbon monoxide concentrations in the study area were calculated for future (2025) traffic conditions for both the No-Action and Preferred Alternatives. As shown in **Table 3-11**, neither alternative results in an exceedance of the CO NAAQS. The numbers shown are "worst-case" CO concentrations for receptors located near the edge of the highway shoulder (10 to12 feet from the travel lane). CO concentrations at buildings near the highway would be lower because most buildings are at least 50 to100 feet from the highway.

Table 3-11: Carbon Monoxide Concentrations by Alternative

Alternative	Maximum 8-hour CO concentration (ppm) (8-hour standard = 9.0 ppm)
No-Action	3.5 - 4.0 ppm
Preferred Alternative	3.0 - 3.5 ppm

Based on 2025 traffic projections

Carbon monoxide concentrations are higher for the No-Action Alternative due to increasing traffic congestion and delay as traffic volumes on US 285 continue to increase in the future. Stopping and idling at the existing signalized intersections also contribute to higher CO concentrations. The Preferred Alternative would eliminate all signalized intersections in the study area and would generally have free-flow traffic conditions throughout the day, including the peak travel periods. Reduced traffic congestion would result in lower carbon monoxide emissions.

Motor vehicle-related PM_{10} emissions are the primary sources of PM_{10} in the study area. Approximately 80% to 90% of vehicle-related PM_{10} is due to reentrained road dust associated with highway sanding in winter. The remainder is vehicle exhaust, and brake and tire wear. Since PM_{10} emissions are directly proportional to traffic volumes, total daily PM_{10} emissions would be higher for the Preferred Alternative than the No-Action Alternative because traffic volumes are higher for the Preferred Alternative.

Unlike calculating CO concentrations, localized PM_{10} concentrations in the study area cannot be calculated because there is no EPA-approved model for calculating PM_{10} concentrations at the project level. Therefore, maximum PM_{10} concentrations can only be estimated based on a comparison with regional PM_{10} modeling. Although the Jefferson County portion of the study area is located within the Denver PM_{10} attainment/maintenance area, it is outside the boundaries of the regional PM_{10} modeling area. The closest grid area in the regional PM_{10} model is located near the C-470/US 285 interchange in the southwestern part of the Denver metropolitan area. The highest modeled 24-hour average PM_{10} concentration in this grid for the 2015 maintenance year was 133 $\mu g/m^3$ (cubic micrograms. The federal 24-hour PM_{10} standard is 150 $\mu g/m^3$. Since traffic volumes in the study area are considerably less than volumes in the vicinity of the C-470/US 285 interchange, PM_{10} concentrations would also be less. Therefore, PM_{10} concentrations in the study area would not exceed federal standards.

Although ozone is not directly emitted by motor vehicles, it is an indirect by-product of motor vehicle emissions. Ozone is created by the reaction of nitrogen oxides (NOX) and volatile organic compounds (VOCs), primarily on hot summer days. Since ozone formation depends on the dispersion and reaction of NOX and VOCs and occurs over several hours, ozone is predominately a regional pollutant and cannot be quantified at the project level. Regional modeling for the Denver ozone attainment/maintenance plan demonstrates continued attainment of the federal 1-hour ozone standard in the future. During the summer of 2003, the Denver region exceeded the federal 8-hour ozone standard on 16 days. These exceedances occurred primarily in the western suburbs of Denver near the foothills.

The study area is located more than ten miles from the western suburbs of Denver. No exceedances of

federal ozone standards would occur in the study area because the topography, altitude, and prevailing wind direction generally preclude ozone formation and transport into the project area. Furthermore, motor vehicle NOX and VOC emissions in the corridor are considerably below the thresholds needed to produce ozone concentrations approaching federal standards.

The Jefferson County segment of US 285 is part of the Denver attainment/maintenance area for carbon monoxide, ozone, and PM_{10}. Therefore, it must be included in the conforming *Denver Regional Transportation Plan* (RTP). Since all of the proposed improvements to the Jefferson County section have not been included in the conforming RTP, completion of a project-level conformity determination and environmental decision document (Finding of No Significant Impact or Record of Decision) must be deferred until the improvements are included in the conforming RTP. This project has been coordinated with the Air Pollution Control Division (APCD) of the Colorado Department of Public Health and Environment. APCD concurrence is pending; a concurrence letter from the APCD will in the Final Decision Document.

3.5.3 US 285 Urban Air Toxics

In addition to the NAAQS set forth by EPA for the six criteria pollutants, EPA has also established a list of 33 urban air toxics. Urban air toxics, also known as hazardous air pollutants, are those pollutants that cause or may cause cancer or other serious health effects or adverse environmental and ecological effects. Most air toxics originate from human-made sources, including road mobile sources (e.g. cars, trucks, buses), non-road mobile sources (e.g. airplanes, lawnmowers, etc.) and stationary sources (e.g. factories, refineries, power-plants), as well as indoor sources (e.g. building materials). Some air toxics are also released from natural sources such as volcanic eruptions and forest fires.

These pollutants are in our atmosphere as a result of our industrialized society, but science has been providing more evidence about the risks they pose to human health. The health risks for people exposed to urban air toxics at sufficiently high concentrations or lengthy durations include an increased risk for contracting cancer or experiencing other serious health effects. These health effects can include damage to the immune system, as well as neurological, reproductive, developmental, respiratory and other health problems.

To better understand the harmful effects road sources of urban air toxics have on human health, in 1996 the EPA developed a list of 22 mobile source air toxics (MSAT), such as acetaldehyde, benzene, formaldehyde, diesel exhaust, acrolein and 1,3-butadiene, and assessed the risks of various kinds of exposures to these pollutants on human health. In July 1999, the EPA published a strategy to reduce urban air toxics. In March 2001, the EPA issued regulations for the producers of urban air toxics to decrease the amounts of these pollutants by target dates in 2007 and 2020. Under these regulations, between 1990 and 2020, on-highway emissions of benzene, formaldehyde, 1,3-butadiene, and acetaldehyde will be reduced by 67% to 76%, and on-highway diesel particulate matter emissions will be reduced by 90%. These reductions are due to the impacts of national mobile source control programs, including the reformulated gasoline program, a new cap on the toxics content of gasoline, the national low emission vehicle standards, the Tier 2 motor vehicle emissions standards and gasoline sulfur control requirements, and the heavy-duty engine and vehicle standards and on-highway diesel fuel sulfur control requirements. These are net emission reductions, that is, the reductions that will be experienced even after growth in VMT is taken into account.

The EPA has not yet determined how best to evaluate the impact of future roads and intersections on the ambient concentrations of urban air toxics. There are no standards for MSATs and there are no tools to determine the significance of localized concentrations or of increases or decreases in emissions. Without the necessary standards and tools, the specific impacts of this project cannot be analyzed in any meaningful way. With the information currently available, there are only two conclusions to be drawn: 1) there are likely to be localized concentrations of air toxics along the wider alignment of US 285 that are similar to those experienced by existing residences at similar distances from other similar arterial corridors, and 2) regardless of the alternative

chosen, emissions in the project area will decrease over time due to EPA's national control programs.

3.5.4 Mitigation Measures

Since motor vehicle emissions in the study area would not result in any exceedance of NAAQS, no direct project air quality mitigation is necessary. However, dust emissions during construction should be minimized by implementing techniques to control dust, such as regular watering of construction areas, and practical measures to control construction dust. These measures to control construction dust will be incorporated into the plans and specifications for individual construction projects in the study area.

Although it would not eliminate the need to increase highway capacity, expanding bus transit to accommodate the increasing population in the study area would help reduce vehicle miles traveled and motor vehicle emissions. As indicated in **Section 2.4.2.8 on page 2-28**, this is supported as an element of the Preferred Alternative. The Regional Transportation District currently provides weekday morning and evening express bus service between Pine Junction and the south Denver metropolitan area.

3.6 Noise

3.6.1 Overview

The following sections provide a summary of the FHWA noise regulations and an overview of the noise environment along the US 285 study area. More detailed information regarding the noise analysis can be found in Appendix G, *Noise Analysis Report*.

3.6.1.1 Study Area

An analysis was conducted to predict existing and future noise levels at residences, schools, churches, libraries, motels, commercial buildings, parks, and other areas of frequent human use. This analysis was used to determine any noise impacts that might occur with the various proposed alternatives.

Development along both sides of US 285 is generally dispersed or isolated but includes more concentrated residential development in the Green Valley Ranch area, the Kings Valley area, Pine Junction, the planned The Villages at Sunset near Wandcrest Road, Will O' Wisp Development, and the town of Bailey. Commercial development is also dispersed throughout the study area, but is more prevalent near major roadway intersections and the towns of Pine Junction and Bailey.

3.6.1.2 Noise Standards and Impact Criteria

Title 23, part 772, of the Code of Federal Regulations (23CFR772) describes the methods and process for the evaluation and mitigation of highway traffic noise in conjunction with major highway projects. This regulation, which is the FHWA noise standard, defines the criteria for noise impacts and is detailed in the 1995 document *Highway Traffic Noise Analysis and Abatement: Policy and Guidance*. The *CDOT Noise Analysis and Abatement Guidelines* (December 1, 2002) further define the CDOT criteria and analysis requirements for projects in Colorado.

A highway traffic noise impact is considered to occur when any noise-sensitive receiver (residence, park, business, etc.) is subjected to either of the following:

- Existing or future noise levels that approach or exceed the FHWA noise abatement criteria (NAC), or
- Future noise levels that substantially exceed the existing noise levels.

The FHWA NAC are listed in **Table 3-12**. To define the "approach" level, CDOT has set a value of 1 dB(A) (A-weighted decibels) below the criteria listed in **Table 3-12** as its threshold for determining noise impacts. Thus, a noise level of 66 dB(A) for residential receivers is considered to be a noise impact. CDOT defines a "substantial increase" as future noise levels that are 10 dB(A) greater than existing noise levels. Both of the above impact criteria are based on the hourly equivalent noise level, or L_{eq} (h) (the energy equivalent of a steady-state condition, over a period of one hour and applies to the loudest hour of the day).

Table 3-12: FHWA Noise Abatement Criteria

Activity Category	$L_{eq(}h)$, dB(A)	Description of Activity Category
A	57 (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (exterior)	Developed lands, properties or activities not included in Categories A and B above.
D	-	Undeveloped lands. No NAC value unless development is planned, designed, and programmed, and is likely to be built. Then applicable A, B or C category NAC applies.
E	52 (interior)	Residences, hotels motels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums.

** Hourly Equivalent Noise Level in A-weighted Decibels for the noisiest hour of the day*

3.6.1.3 Existing Ambient Noise Levels

Noise levels are predicted to determine the worst-hour noise levels for the existing conditions and conditions for the year 2025 for all design alternatives, including the No-Action Alternative. The process for determining the existing noise levels is discussed below, while the discussion regarding the analysis for future conditions is located in **Section 3.6.2 on page 3-47**.

To predict noise levels for the existing conditions, the existing worst-hour noise traffic volumes, speed, roadway elevations, alignments, and receptor locations (houses, parks, businesses, churches, motels, etc.) are required. These data are input into the Colorado version of the STAMINA 2.0 noise prediction model, which is the FHWA-approved model to predict noise levels for highway projects. STAMINA calculates the hourly, A-weighted L_{eq} at each receptor given the 1994 Colorado noise emission levels (noise produced by individual vehicles) of vehicles traveling on the subject highway, the worst noise-hour volume and speed of traffic, and the location of all roadways, receptors and terrain features of interest.

To predict the worst-noise hour existing noise levels, survey data were obtained for receptor locations, the existing alignment of US 285, and the location of existing terrain features, such as berms, rock cuts, and buildings. These data, which included the existing worst-hour traffic noise conditions, were input into the computer model. Traffic counts and truck percentages for the existing conditions were provided by Carter & Burgess, PBS&J, and CDOT Division of Transportation Development (DTD) statistics.

Adjacent to the US 285 study area from Foxton Road to west of Bailey, noise levels were determined for 319 Category B (residential) and 97 Category C (commercial) receptors located within 500 feet of the roadway. Due to the long study area length and rugged valley topography associated with much of the study area, multiple computer model runs were performed to better evaluate the large volume of data input needed to calculate individual noise levels for various segments of the highway. Existing condition noise level values were compared to the predicted future noise levels indicative of the completed project geometry and future traffic conditions to determine noise impacts.

A summary of the noise levels that were determined for the general study area are shown in **Table 3-13** (the milepost [MP] locations are approximate).

Complete results are detailed in Appendix G, *Noise Analysis Report*.

Table 3-13: Existing Condition Noise Levels

General Receptor Locations	Existing Noise $L_{eq(}h)$, dB(A)
Foxton Road at US 285 (MP 235.0)	59-60
US 285 Frontage Road West of Foxton Road (MP 234.0-234.9)	59-**67**
Green Valley Ranch (MP 233.5-235.0)	54-64
Broken Arrow Ranch/Richmond Hill (MP 233.0-233.9)	59-**66**
Kings Valley (MP 232.1-232.4)	58-**67**
Calfee Gulch/Elk Haven (MP 231.4-232.0)	57-65
Shaffers Crossing/Elk Creek Elementary (MP 230.1-231.0)	54-64
Douglas Ranch (MP 229.7-230.1)	56-62
Jubilee/Stone Chimney (MP 229.3-229.9)	61-**67**
Pine Junction (MP 228.7-229.0)	54-**66**
The Villages at Sunset (Planned) (MP 228.3-228.7)	60-65
Will O' Wisp (MP 227.8-228.2)	53-65
Rim Rock/McKinley (MP 227.0-228.0)	52-64
Roland Valley (MP 226.4)	51-65
Deer Creek/CR-43 + CR-72 (MP 224.6-225.6)	52-65
Crow Hill/Crow Valley (MP 222.5-224.3)	50-61
Bailey (MP 221.1-222.3)	49-65
Glenisle (MP 220.3-220.7)	51-62

Note: Noise levels that are in bold are levels that meet or exceed the Noise Abatement Criteria.

3.6.2 Environmental Consequences

The following discusses the results of the future condition noise analysis for receptors adjacent to the US 285 study area.

Future Condition Noise Analysis

Design year (2025) noise levels were predicted for the No-Action and Preferred Alternatives using Colorado's version of the STAMINA 2.0 noise prediction model in a similar fashion to what was done to determine the noise levels for the existing conditions. As described in **Section 3.6.1.2 on page 3-45**, a receptor is considered to be impacted by noise if the future noise levels approach or exceed the noise abatement criteria (66 dBA for category "B" residential receptors, 71 dBA for category "C" commercial/industrial receptors) or if a substantial increase in noise (10 dBA or greater) occurs to a receptor between the existing and future conditions. This analysis takes into account the ultimate location of the newly aligned roadway, the traffic conditions that are predicted to occur, and any alteration of the existing terrain caused by roadway cuts and fill areas.

No-Action Alternative

The No-Action Alternative consists of two major improvements. The first is a safety improvement project from Foxton Road to Richmond Hill which will add one through lane in each direction, flatten out select curves, and construct the grade-separated intersection at Richmond Hill Road. This project will construct many of the elements as proposed in the Preferred Alternative, but on a smaller template and without the grade-separated intersection at Green Valley Ranch. The second consists of the privately funded addition of a grade-separated intersection and frontage road system for the planned The Villages at Sunset just west of the Mt. Evans Boulevard (Pine Junction) intersection (approximate existing MP 228.7 west of Wandcrest Road). Other than potential minor corridor safety improvements, maintenance improvements, or privately financed improvements performed to accommodate future development, no major widening or realignment of US 285 would occur under this alternative.

Preferred Alternative

As described in Chapter 2, the Preferred Alternative consists of widening US 285 to four lanes from Foxton Road to Crow Hill and the construction of several grade-separated intersections at various locations along the study area. This is in addition to the No-Action Alternative improvements as described above.

Data that were input into the future conditions noise model included the proposed roadway align-

ment, future speed limits, major terrain features, and receptor locations. Traffic volumes used in this portion of the analysis were provided by Carter & Burgess, Inc., and PBS&J, and reflect the worst-hour traffic noise conditions. A 50-50 split was used to divide the traffic into northbound and southbound segments, as was done in the existing conditions model. For the newly widened segments of US 285, the speed limit is projected to be 55 mph, while the segments of US 285 south of the Deer Creek intersection will retain the existing speed limit ranging from 40 to 50 mph. Truck percentages for the various segments were taken from CDOT DTD statistics.

Although local traffic at the new grade-separated intersections would produce some noise due to traffic using the crossings and the frontage roads, the small overall volume of this traffic at speeds much lower than that on US 285 would not appreciably increase the overall hourly noise levels to adjacent receptors. As a result, US 285 throughout the study area will remain the dominant noise source. Local traffic was not included in the model.

Predicted Noise Levels and Impact Determination

Table 3-14 lists the impacted receptor locations and their predicted noise levels for existing conditions and both the Preferred and No-Action Alternatives.

Table 3-14: Predicted Future Noise Levels for Impacted Receptors

Noise Receptors		Noise Levels, $L_{eq}(h)$, dBA		
ID*	Description	Existing Conditions	No-Action Alternative	Preferred Alternative
R2A	Foxton Road Residence	62	**67**	**67**
R7	Green Valley Ranch Residence	63	**67**	**67**
R10	Green Valley Ranch Residence	64	**68**	**68**
R11	Green Valley Ranch Residence	63	**67**	**67**
R16	11515 N. US 285 Frontage Road	61	65	**66**
R25	Green Valley Ranch Residence	58	65	**66**
R27A	Green Valley Ranch Residence	62	**66**	**67**
R30	Green Valley Ranch	61	**66**	**66**
R32	Green Valley Ranch Residence	64	**70**	**70**
R39	Sunny Acres Residence	61	64	**66**
R41	Sunny Acres Residence	64	**67**	**68**
R44	Broken Arrow Ranch Residence	63	65	**66**
R45	Broken Arrow Ranch Residence	64	65	**67**
R46	Broken Arrow Ranch Residence	65	**67**	**68**
R47	Broken Arrow Ranch Residence	64	**66**	**67**
R49	Broken Arrow Ranch Residence	64	**66**	**66**
R54	12134 S. US 285	62	65	**66**
R58	Kings Valley Residence	64	**66**	**66**
R60	Kings Valley Residence	**69**	**70**	**69**
R61	Kings Valley Residence	**67**	**68**	**67**

Table 3-14: Predicted Future Noise Levels for Impacted Receptors (Continued)

Noise Receptors		Noise Levels, $L_{eq}(h)$, dBA		
ID*	Description	Existing Conditions	No-Action Alternative	Preferred Alternative
R64**	Kings Valley Residence	65	**67**	**67**
R65	Kings Valley Residence	64	65	**67**
R66**	Kings Valley Residence	65	**66**	**73**
R67	Kings Valley Residence	60	62	**68**
R68	Kings Valley Residence	60	61	**67**
R69	Kings Valley Residence	60	62	**67**
R72	Kings Valley Residence	62	64	**69**
R75	12595 S. US 285	63	65	**67**
R82	12824 S. US 285	65	**66**	**67**
R85	12894 S.US 285	63	65	**66**
R86	12835 S. US 285	64	65	**68**
R87	12935 S. US 285	65	**66**	**69**
R90	13035 S. US 285	64	**67**	**68**
R90A	Shaffers Crossing Residence	64	**66**	**66**
R95	13361 Douglas Ranch Drive	62	64	**66**
R98	13505 S. US 285	63	64	**66**
R100	13525 S. US 285	**67**	**68**	**71**
R105	Pine Junction Residence	63	**66**	**66**
R105B**	Pine Junction Residence	64	**66**	**70**
R118P	The Villages at Sunset (planned)	64	**67**	**69**
R120	Rim Rock/McKinley Residence	64	**66**	**68**
R125	Rim Rock/McKinley Residence	62	64	**66**
R127	Will O' Wisp Residence	60	61	**66**
R129	Will O’ Wisp Residence	59	60	**66**
R130	Will O' Wisp Residence	59	60	**66**
R131	Will O’ Wisp Residence	61	62	**66**
R132	Will O' Wisp Residence	63	64	**67**
R173	Rim Rock/McKinley Residence	64	65	**67**
R182	Rim Rock/McKinley Residence	62	64	**66**
R184X	22 Roland Valley	62	64	**68**
R185A	Horn Cemetery	65	**68**	**69**
R233	Bailey Residence	65	**69**	**69**
C12	Water Treatment Plant	**66**	**67**	**71**

Table 3-14: Predicted Future Noise Levels for Impacted Receptors (Continued)

Noise Receptors		Noise Levels, $L_{eq}(h)$, dBA		
ID*	Description	Existing Conditions	No-Action Alternative	Preferred Alternative
C14**	Long Brothers Garage	**67**	**68**	**73**
C14B	12424 Big Timber Drive	65	**66**	**71**

** "R": Residential Receivers (Category B); "C": Commercial Receivers (Category C)*
***: Properties identified as right-of-way acquisitions are with the Preferred Alternative*
Note: Noise levels that are in bold are levels that meet or exceed the Noise Abatement Criteria.

A total of 52 residential and 3 commercial receivers were found to be impacted by noise under the Preferred Alternative, and are shown in **Figure 3-11**. Note that all of the above receptors that are considered impacted are so because the future noise levels are predicted to be at or above the 66 dBA residential or 71 dBA commercial approach criteria. Although most receptors in the study area will experience, in general, noise level increases of 3 to 8 dBA between now and 2025, no impacts are due to a substantial increase in future noise levels (10 dBA) over the existing noise levels. Overall noise levels will increase for most receptors due to a combination of traffic volume increases, realignment of roadway segments closer to homes and businesses, and alteration of existing terrain.

3.6.3 Mitigation Analysis

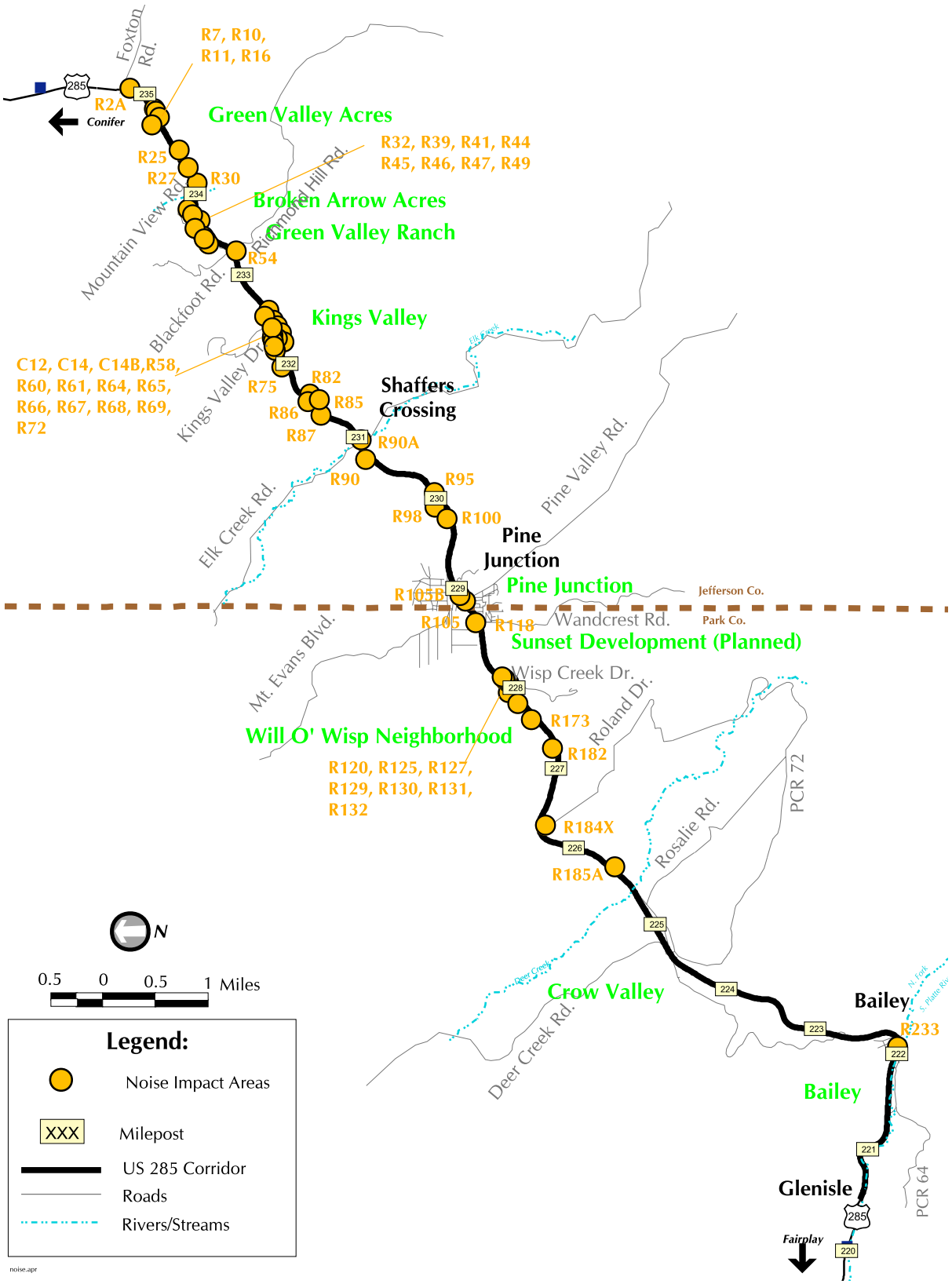
All receptors that are shown to be impacted by noise in conjunction with a major highway project must be considered for mitigation and undergo an analysis for feasibility and reasonableness of noise abatement. As a result of the analysis, any noise mitigation that is found to be feasible and reasonable must be incorporated into the highway project.

For the 55 impacted receptors under the Preferred Alternative, noise mitigation in the form of noise barriers (walls or earth berms) were considered and evaluated in accordance with the CDOT noise analysis guidelines. Measures such as traffic controls and lane restrictions would not effectively reduce noise levels over the long term, and additional alterations of the highway alignment within the available study area footprint to reduce overall noise levels would be marginal. Speed reductions also would not be effective, because it takes a 20 mph reduction in speed to result in a noticeable overall decrease in noise levels.

For a noise barrier to be feasible, it must be able to be constructed in a continuous manner so that a minimum noise reduction of 5 dBA is achieved for the first row of receivers without any potential safety or maintenance issues. A noise barrier is usually not effective if it needs to be constructed with gaps across access points (streets or driveways) or large drainage ditches. If a noise barrier appears to be feasible, reasonableness issues that need to be addressed are cost versus benefit, existing and future noise levels, increase in noise levels over existing, and development type. Any mitigation that is considered is designed to protect outdoor, ground floor areas of frequent human use. This is typically in the front or back yard of a residence, a common gathering area in a park, or an outside use area of a business, such as an eating or picnic area.

In general, it is neither feasible nor reasonable to provide mitigation for isolated or groups of very dispersed receivers or receivers on the hillside overlooking the highway. To properly mitigate these properties, a noise barrier would need to be constructed surrounding each home, or a sufficient length of barrier would need to be constructed along the highway edge so that noise does not wrap around or flank the ends of the barrier. In many cases, access points prevent the barrier from being constructed in a continuous manner. Barriers such as these also are very unlikely to meet the cost-

Figure 3-11: Noise Impacted Areas



benefit criteria for reasonableness, as the wall is providing noise reduction to a very small number of homes or has to be constructed to excessive heights to properly mitigate hillside homes. This is the case for many of the impacted properties that are mostly located adjacent to the southbound lanes overlooking the highway.

To determine the benefit of the noise barrier, all receivers, whether they are considered impacted or not, are included in the analysis if the proposed noise barrier provides them at least a 3 dBA noise reduction. Thus, the number of benefited receivers for a proposed barrier may differ from the number of receivers that met the noise impact criteria. As is common prudent practice, barriers were analyzed for groups of homes and neighborhoods, where applicable. It is not considered feasible or reasonable to build a barrier to protect only one or two impacted home(s) in a neighborhood setting without considering the adjacent properties or the discrete neighborhood itself.

For noise barriers analyzed, the STAMINA computer noise model was used to determine noise reductions based the length, height, and location of the barrier.

All barriers were modeled on CDOT right-of-way property, ranging from the side of the road to the actual or future right-of-way property line. Potential feasible barriers (in the form of walls) were evaluated for cost-benefit based on a unit wall cost of $30 per square foot. This value is then divided by the total decibel benefit. Reasonable cost-benefit values for walls are in the range of $3,750-$4,000 per decibel reduction provided to benefited receivers (all receiving at least 3 dBA reduction).

Based on the location of the receivers and configuration of the US 285 study area and its proposed improvements, 23 noise barriers containing 28 separate barrier segments, were evaluated. This takes into account 47 impacted receivers, 45 additional potentially benefited first-row receivers, and 81 additional potentially benefited second/third-row receivers. Four receivers (R2A, R118P, R185A, and R233) were not analyzed in detail; those receivers will be discussed in **Section 3.6.3.2 on page 3-53**. This analysis did not take into account the four properties (R64, R66, R105B, and C14) identified as probable right-of-way acquisitions, which are not subject to abatement evaluation.

3.6.3.1 Noise Barrier Analysis

Table 3-15 shows the areas and the number of receivers that may be benefited by a noise barrier that were considered in the barrier benefit analysis.

Table 3-15: Noise Barrier Analysis

Barrier #	General Barrier Area	Barrier Height/Approximate Length (ft.)	Receiver Analysis		
			Benefited Receivers	Total Noise Reduction (dBA)	Approximate Estimated Cost per dBA reduction
1**	Green Valley Ranch East	8/2100 + 8/1400 + 10/550	25	169	$5,900
2	North US 285 Frontage Road	20/1770	6	37	$28,000
3	Green Valley Ranch	10/310	1	5	$18,000
4	Sunny Acres/Broken Arrow Acres	15/2440	13	75	$15,000
5	Green Valley Ranch West	10/1180	5	31	$12,000
6	Richmond Hill	10/310	1	5	$18,000
7	Kings Valley (NE Quad)	10/400	1	5	$23,000
8	Kings Valley (SE Quad)	10/1500	6	39	$12,000

Table 3-15: Noise Barrier Analysis (Continued)

Barrier #	General Barrier Area	Barrier Height/Approximate Length (ft.)	Receiver Analysis		
			Benefited Receivers	Total Noise Reduction (dBA)	Approximate Estimated Cost per dBA reduction
9	Kings Valley (SW Quad)	10/220	1	6	$11,000
10*	Kings Valley (NW Quad)	10/520 + 10/830	7	41	$10,000
11	West of Kings Valley	20/520	1	6	$50,000
12	South US 285 Frontage Road	10/780	3	15	$16,000
13	Calfee Gulch Road	20/450	1	6	$44,000
14	Elk Haven Road	11/240	1	5	$15,000
15	Shaffers Crossing (SW Quad)	10/600	4	19	$9,400
16	Shaffers Crossing (NW Quad)	10/270	1	5	$16,000
17	Douglas Ranch	12/730	2	13	$21,000
18*	East of Pine Junction	20/470 + 20/280	2	8	$57,000
19	Pine Junction	8/880	3	16	$13,000
20	Rim Rock East	10/1300	5	28	$13,000
21*	Will O' Wisp	10/810 + 12/1060	41	201	$3,100
22	Rim Rock/McKinley	16/2800	11	63	$21,000
23	Roland Valley	8/620	3	23	$6,500

** Barrier designed in 2 separate segments*
*** Barrier designed in 3 separate segments*

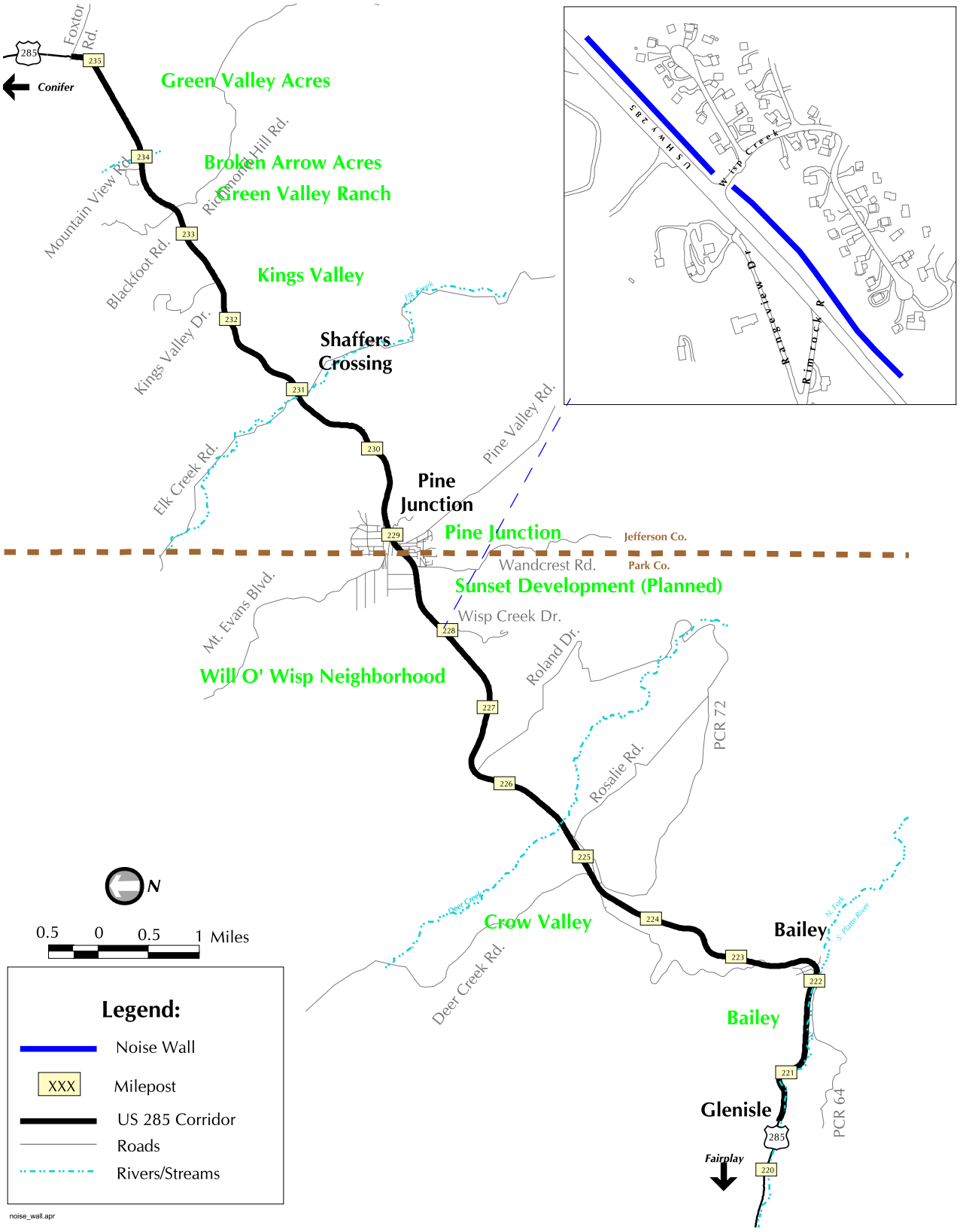
Of these analyzed barriers, Barrier 21 meets the CDOT criteria for both feasibility and reasonableness (see **Figure 3-12**). Barrier 21, for the Will O' Wisp subdivision, is located south of US 285 at approximately MP 228.0 and consists of a western and eastern segment on either side of the subdivision access at Wisp Creek Road. This barrier is recommended as part of the Preferred Alternative and will be reanalyzed during final design to determine its ultimate feasibility and reasonableness factors, final location and impacts to other environmental resources, particularly wildlife movement.

While most of the other barriers did show at least a 5 dBA reduction to at least one receiver, thus meeting the feasibility requirements, they far exceed the criteria for cost-reasonableness. For the most part, these barriers attempt to mitigate noise for isolated or dispersed groups of homes, which is very difficult to achieve given the acceptance criteria. It is also difficult to mitigate noise for the many homes along US 285 that are elevated relative to the highway.

3.6.3.2 Other Impacted Receivers

Three receivers, Horn Cemetery west of Deer Creek (R185A), a residence just west of Foxton Road (R2A), and a multi-family residence (R233) on US 285 in Bailey, also will experience future noise levels above the 66-dBA impact level. Barriers for any of these properties, however, were not recommended. The cemetery has only sporadic use and a barrier at this location would constitute little recognizable benefit. Because the segments of the US 285 study area at R2A and R233 do not involve any capacity widening or major highway realignment,

Figure 3-12: Recommended Noise Walls



these residences do not qualify for mitigation evaluation at this time. If at some future time major improvements are proposed for the areas of US 285, these receivers, as well as others in the adjacent area, will need to be re-evaluated in accordance with the CDOT noise guidelines.

3.6.3.3 Proposed Villages at Sunset Development

The proposed Villages at Sunset development, as it has been platted and recorded with Park County, meets the requirements for "Planned, Designed, and Programmed" development as defined in the FHWA noise regulation and was analyzed for noise impact in conjunction with this EA (analyzed as receiver R118P). The analysis did show the potential for future noise levels to reach 66 dBA along the southern edge of the development, just north of the proposed Sunset Parkway. At this point in time, however, it is difficult to determine exactly where the proposed homes are going to be, and how many will be in existence in the future. For this reason, because of the uncertainty of the development at this time, mitigation determination for the Sunset area will be deferred until the construction of the Preferred Alternative in this area. A noise analysis will be required concurrently with the design to determine impacts and, if necessary, mitigation strategies.

3.6.4 Other Considerations

A major concern for residents is the use by truck operators of engine compression brakes (commonly referred to as "Jake Brakes") on steep downhill grades throughout the study area. These devices emit, when applied, a very distinct rattling sound which can be heard over long distances. In response to this, the Colorado State Legislature amended section 42-4-225 of the Colorado Revised Statutes by passing House Bill 00-1142, which states that all commercial vehicles equipped with engine compression brake devices are mandated to have mufflers installed on those devices. Non-compliance with this requirement results in a fine of $500.

Enforcement of this requirement, as is the case with other traffic laws, is the responsibility of the local law enforcement agencies. To assist in this effort, "ENGINE BRAKE MUFFLERS REQUIRED" signs will be installed in various locations throughout the study area, preferably just before long and/or steep downgrade sections. Possible locations for these signs are near Richmond Hill, Shaffers Crossing, Pine Junction, Roland Valley, Deer Creek, and Crow Hill.

Additionally, in locations where guardrails are needed for safety purposes, it is recommended that the use of Type 7 concrete barriers (approximately 24-36 inches in height) be evaluated in place of the typical type 3 steel and wood post guardrail if there are homes on the other side of the guardrail. Depending on the topography of a given area, the presence of this barrier has the potential to deflect and "soften" tire-generated traffic noise to some extent. This evaluation must take into account the associated drawbacks of providing this type of barrier, particularly the ability for wildlife to get across the barrier.

3.7 Water Resources and Quality

Water resources are crucial to a balanced ecosystem as well as for economic development and recreational needs. Components include lakes, streams, irrigation, groundwater, water quality, floodplains, wetlands, basin hydrology, stream hydraulics, floodplains, aquatic life and aquatic habitat. Each of these components is inter-related and make up the system as a whole. The system is included within a drainage basin consisting of "an area of land that drains water, sediment, and dissolved materials to a common outlet at some point along a stream channel." The main influences on the character of a basin are topography, climate, and geology. In turn, these aspects influence the soils, vegetation, the amount and quality of runoff, and the shape and character of basin streams and lakes.

3.7.1 Background

The study area is located in the North Fork subbasin of the South Platte River. Stream flow in the

basin is driven by snowmelt, with the majority of the runoff volume occurring in the late spring/early summer. Low flow occurs in the late fall and winter months. The natural flow regime has been modified due to irrigation, water diversions, and other hydrologic modifications.

3.7.2 Surface and Groundwater Resources

3.7.2.1 Surface Waters

The streams in the study area have water flows that vary with controlled releases, snowpack, temperature, weather patterns, and season. Most drainages flow intermittently, typically in response to spring snowmelt or high-intensity precipitation events. As shown in **Figure 3-13 ,** the Preferred Alternative crosses several ephemeral and perennial streams that drain to the southeast into the North Fork of the South Platte River. Depending on their volume and location, these local and regional drainages support agricultural, wildlife, recreational and domestic water uses. Elk Creek and Deer Creek deliver the highest flows to the North Fork. These streams are:

North Fork of the South Platte River. Located adjacent to the south side of US 285 from project terminus near Glenisle (MP 221.7) to Bailey where the river flows generally east and south through Pike National Forest, whereas US 285 continues in a direction up Crow Hill and generally to the northeast towards Conifer.

Crow Gulch. Located northwest of Bailey near Crow Hill, crossing beneath US 285 at approximately MP 223 and flows into the North Fork of the South Platte River at Bailey.

Deer Creek. Located north of Rosalie Road, crossing beneath US 285 at approximately MP 224.4 and eventually flows into the North Fork of the South Platte River.

Roland Gulch. Located at Roland Drive crossing beneath US 285 at approximately MP 226.3, eventually flowing into the North Fork of the South Platte River.

Wisp Creek. Located north of Wisp Creek Drive crossing US 285 at approximately MP 228.3 and eventually flowing into Roland Gulch and into the North Fork of the South Platte River.

Pine Gulch. Flows southeast through the town of Pine and eventually flows into the North Fork of the South Platte River. Although Pine Gulch is located within the general US 285 study area (near MP 228.8), this stream does not traverse the highway.

Elk Creek. Flows southeast below US 285 at Shaffers Crossing (MP 233.1) and eventually flows into the North Fork of the South Platte River.

Gooseberry Gulch. Flows southeast below US 285 south of the proposed Kings Valley grade-separated interchange (MP 232.5).

Casto Creek. Runs parallel to US 285 along the southeast side of the roadway between MP 233.8 and MP 235 and eventually flows into Kennedy Gulch past James Q. Newton Park.

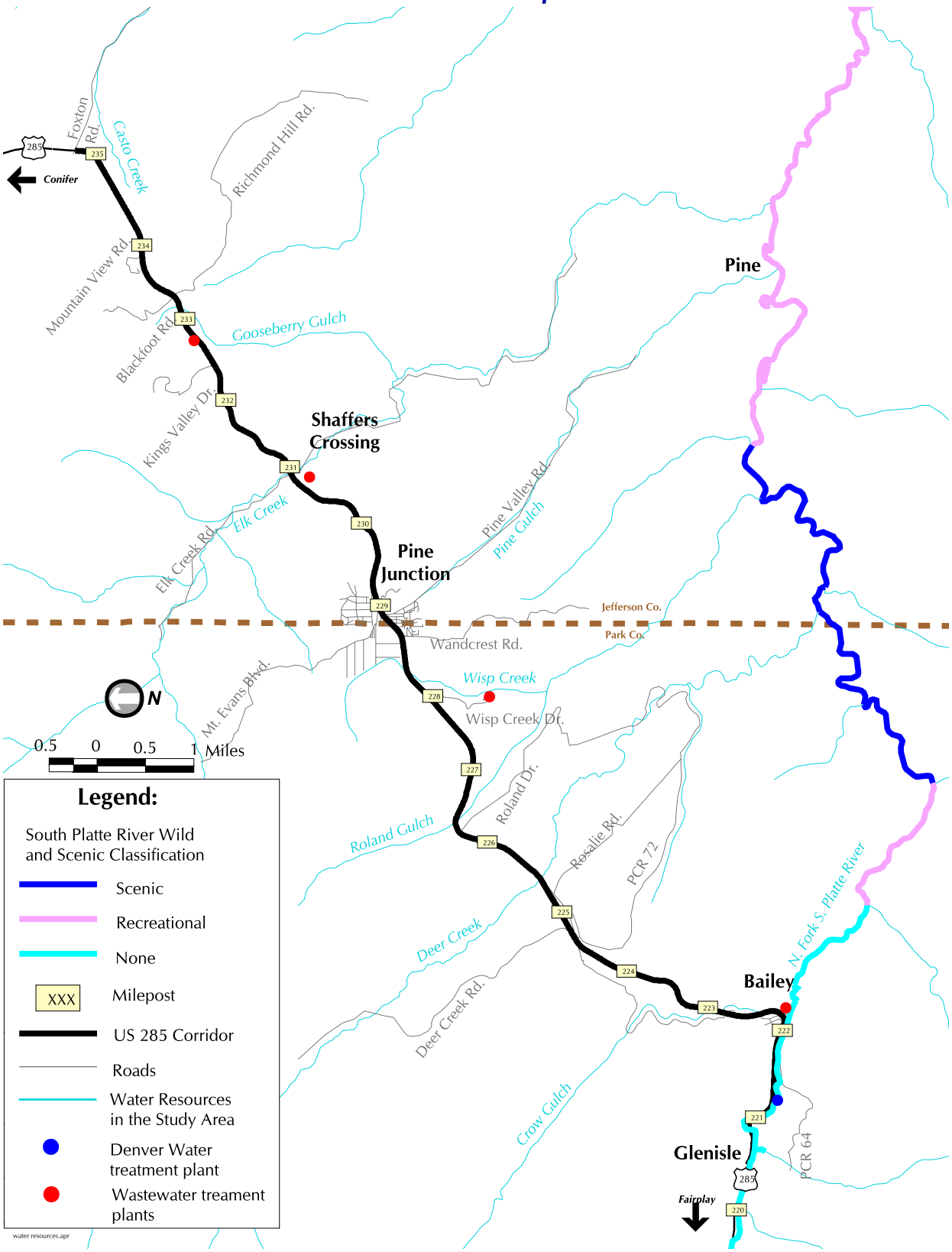
Stream Classifications

The Colorado Department of Public Health and Environment's (CDPHE) Water Quality Control Division (WQCD) establishes stream standards for various stream segments across the state. The standards are designed to maintain the quality of Colorado's stream segments to ensure beneficial uses are protected. The current stream segment classifications for the North Fork of the South Platte River and tributaries are Cold Water 1, Recreation 2, Domestic Water, and Agricultural (Segment COSPUS04).

Bailey Drinking Water System

In the US 285 study area, the town of Bailey draws its drinking water from the North Fork of the South Platte River. The intake and treatment plant are located near the west end of proposed Preferred Alternative's changes to the roadway (**Figure 3-13**). The drinking water system serves 105 customers within Bailey.

Figure 3-13: Water Resources in the North Fork of the South Platte River Watershed



3.7.2.2 Groundwater Resources

Groundwater is a general term for water beneath the Earth's surface. Such water can be collected with wells for consumption or it may flow naturally out of the surface at springs or streams. The condition of groundwater is important for both human use and natural systems. Human activities and other natural processes on and below the surface can affect the amount and quality of groundwater. Groundwater availability can be impacted by overpumping. Common contaminants in groundwater in less developed areas include septic tank effluent, nitrates, dissolved minerals, metals, and natural radiation. For the most part, groundwater pumping is regulated under state water law by the Office of the State Engineer in the Colorado Department of Natural Resources while its use as drinking water is regulated by the federal Safe Drinking Water Act (SDWA). The Water Quality Control Division (WQCD) in the Colorado Department of Public Health and Environment (CDPHE) is charged with administering the SDWA.

Domestic Drinking Water Systems

With the exception of Bailey, communities in the US 285 study area rely primarily on groundwater for public water supply. Public water supplies are regulated under the federal Safe Drinking Water Act (SDWA). Although groundwater quality in the study area is generally good, the Water Quality Control Division (WQCD) is completing several studies of source water protection for drinking water supplies in Colorado, known collectively as the Source Water Assessment Program (SWAP). The SWAP will delineate source water assessment areas, identify potential contaminant sources, and determine the susceptibility of all public water systems in a given watershed or river basin.

3.7.3 Water Quality

3.7.3.1 Federal and State Regulations for Water Quality

The federal Clean Water Act (CWA) governs most aspects of water quality in the United States. The purpose of the act is to "restore and maintain the chemical, physical and biological integrity of the nation's waters." The provisions of the act are administered by WQCD.

Numerous entities currently monitor water quality in the Upper South Platte Basin. The Coalition of the Upper South Platte (CUSP) includes the US Geological Survey (USGS), the Colorado Department of Public Health & Environment (CDPHE), the US Forest Service (USFS), Park County, the Denver Water Department (DWD), and the city of Aurora. It was formed to assess the quantity and quality of the surface and groundwater resources in the basin through stakeholder involvement. Additional monitoring data are available from the CDOW and CDPHE. Efforts are underway by these regional and local stakeholders to protect water resources in the North Fork of the South Platte River watershed. Several relevant studies of water quality in the region are included in the list of references in the *US 285 Foxton Road to Bailey Water Resources Technical Report*.

Under Section 402 of the Clean Water Act, a National Pollutant Discharge Elimination System (NPDES) permit for point discharge and stormwater is required if a proposed project impacts more than a specific size of land. Under the NPDES and Colorado regulations, a Colorado Pollutant Discharge System (CPDS) permit is required if one or more acre of land disturbance is anticipated on a construction project, or if the project is part of a larger plan. Since the Preferred Alternative disturbs more than one acre, a CPDS is required for stormwater discharge associated with construction activity. See **Section 3.7.5 beginning on page 3-62** for mitigation measures related to this permit.

3.7.3.2 Current Status of Water Quality Within the Study Area

Stream segments that do not meet water quality standards are considered to be impaired. An impaired stream segment is defined as one that does not fully or partially support one or more of its designated uses. Under the CWA, these stream segments are placed on Colorado's 303(d) list of impaired waters. Once on the 303(d) list, a Total Maximum Daily Load (TMDL) is established. The TMDL identifies and describes the necessary mea-

sures to meet water quality standards. The final TMDL developed for a given stream segment is approved by EPA.

No stream segments within the study area are listed on the state's 303(d) list. However, two segments located upstream of the study area are impaired by heavy metals (copper, cadmium, and zinc) from past mining activities. These segments are: the North Fork of the South Platte River, from Hall Valley area to Geneva Creek, and Geneva Creek, from confluence of Scott Gomer Creek to confluence with the North Fork of the South Platte River. In addition, Geneva Creek above Gomer Creek is being monitored for listing as impaired for cadmium, copper, and zinc. (Details are noted in the *US 285 Foxton Road to Bailey Water Resources Technical Report*.) The confluence of Geneva Creek with the North Fork is approximately 10 miles above the west end of the study area. Because they involve upstream segments, the actions taken resulting from the TMDL process may affect future baseline conditions for streams along the US 285 corridor (C-B, 2002). These impaired stream segments do not flow into the two streams which the Driscoll Model indicates will have water quality impacts for copper (**Table 3-17 on page 3-62**).

In the northeastern part of Park County, and presumably in the US 285 study area, a critical concern is potential groundwater contamination of domestic wells by individual sewage disposal systems.

3.7.3.3 Wastewater Treatment Facilities

The Upper South Platte Basin contains seven wastewater treatment plants (WWTPs), all of which are permitted facilities. Residences and businesses not served by these facilities are serviced by septic system or small WWTPs that dispose on site rather than to streams. Those permitted WWTPs located in the study area are:

- Mountain Water & Sanitation District, Jefferson County. Discharges to an unnamed tributary of Gooseberry Gulch.
- Will-O-Wisp Metropolitan District, Park County. Discharges to Wisp Creek.
- Bailey Water & Sanitation District, Bailey. Discharges to the South Platte.

A smaller wastewater treatment facility is located at the Elk Creek Elementary School. Septic systems that dispose of effluent to leachfields are regulated by each county to prevent impacts to groundwater quality. Many private residences and recreation facilities in the study area are on septic systems.

3.7.4 Environmental Consequences

Potential impacts to water resources from the Preferred Alternative could occur from bridge construction, culvert extensions, encroachment on existing floodplains, and overall increases in highway runoff. Direct impacts are most likely to occur where shifts in the alignment encroach into existing floodplains, and could occur during construction activities. These potential impacts will be reduced by the implementation of permanent and temporary best management practices (BMPs) in the study area.

3.7.4.1 Direct Impacts

The No-Action Alternative will result in no new direct impacts to water resources. However, with the No-Action Alternative, the implementation of BMPs or other improvements to water resources will not be realized to address unchecked sediment loading or highway runoff.

The North Fork of the South Platte River has been channelized and altered by floodplain encroachment through Bailey. The Preferred Alternative would bring the highway in closer proximity to the stream through this area, requiring the installation of two retaining walls to reduce encroachment. The retaining walls would reduce streamside vegetation and would further diminish the existing stream banks at those locations. There is a potential for increased water runoff into the stream with the Preferred Alternative. The runaway truck escape ramp with a planned containment structure, will significantly reduce the potential for trucks overturning and spilling hazardous materials into the North Fork.

Impacts to the Bailey Drinking Water Treatment Plant will be temporary. Retaining walls shown in

the Preferred Alternative do not extend to the water intake and plant location. Rather, fill is shown in and upstream of this site (Appendix C, Exhibit 1). Notification of the plant operator prior to start of construction, use of BMPs to minimize construction-related impacts, and rapid slope stabilization are critical at this site.

The major streams (generally, from southwest to northeast) in the study area are: North Fork of the South Platte River, Crow Gulch, Deer Creek, Roland Gulch, Wisp Creek, Elk Creek, Gooseberry Gulch, and Casto Creek shown in **Figure 3-13 on page 3-57**. These sub-basins have tributary drainage areas of one square mile or greater within the study area.

At Crow Hill, the runaway truck escape ramp may allow additional sediment and spills to reach Crow Gulch. However, it is anticipated in the final design of the ramp that containment features will be included to minimize hazardous material spills.

Deer Creek flows through a culvert under US 285, and will remain so under the Preferred Alternative. New retaining walls are planned where Deer Creek crosses under US 285. The walls would reduce the vegetative cover now growing directly adjacent to the stream. However, they are necessary both on the culvert ends upstream (approximate 10 foot height) and downstream (approximate 16 foot height) to minimize the highway fill-slopes in the area of the stream crossing. The culvert size for Deer Creek would be increased to allow for wildlife passage. This also would allow for greater movement of surface water.

A new bridge on a new alignment over Roland Gulch (MP 226.4) is planned. Potential impacts to Roland Gulch from the Preferred Alternative are temporary sedimentation, due to the highway construction activities, and the potential for long-term impacts if drainage from the bridge is not directed away from the stream channel. Under the Preferred Alternative, bridge piers may be placed in the proximity of the stream and adjacent wetlands.

The Preferred Alternative indicates that Wisp Creek (MP 228.2) would continue to flow through a pipe under the highway. There could be temporary sediment impacts during construction.

Elk Creek's flows are conveyed through a culvert under US 285 (MP 233.1); this conveyance would be preserved in the Preferred Alternative. There may be temporary sediment impacts during construction. Gooseberry Gulch flows into Elk Creek south of the highway. The design for this area is a wall to protect the road slope. There could be temporary sediment impacts during construction.

Casto Creek may not be directly affected by the new roadway improvements as the creek parallels both the recently completed CDOT Phase-V improvements and the beginning of the Preferred Alternative.

Under the Preferred Alternative, the estimated impervious surface area of the highway would increase from approximately 96 acres to approximately 122 acres. As growth continues to occur adjacent to the highway, increases in impervious surface from development would create changes in runoff characteristics. As impervious surface areas increase with highway widening, the road surface conveys the drainage water more rapidly across the road. These changes could affect the drainage system of a highway and could also impact nearby receiving waters.

Highway and bridge construction can result in short-term direct impacts in the form of increases of sediment levels to streams, wetlands and other nearby receiving waters. Pollutants in highway runoff are varied and depend on such things as surrounding land uses, litter laws, auto-emission regulations, traffic characteristics, climatic conditions, maintenance practices and other variables. These pollutants may affect streams in the study area, and include nutrients, petroleum products, lubricants, heavy metals from parts wear, trash and sediment.

CDOT estimated the potential for water quality impacts resulting from increased impervious sur-

faces using the Driscoll model (Harelson, 2003; Driscoll and others, 1989) at six sites and for three metals: copper, lead, and zinc. **Table 3-16** lists the state (CDPHE) water quality standards, EPA freshwater aquatic life criteria (maximum concentration), and the Driscoll Toxicity Threshold, all calculated for a hardness of 100 mg/L of $CaCO_3$, for copper, lead, and zinc. This hardness was used in the Driscoll model for two reasons: the Driscoll program map indicates that the North Fork of the South Platte River has a hardness of 100; and the Denver Water Board reports a seasonal hardness variation of 85-120 mg/L $CaCO_3$ (Harelson, 2003). Note that, in **Table 3-16**, the CDPHE standards are the most restrictive of the three standards.

Table 3-16: Water Quality Standards and EPA Freshwater Aquatic Life Criteria

Constituents (Dissolved)	CDPHE Acute Standards[1]	EPA Freshwater Criteria Maximum Concentration (CMC)[2]	Driscoll Toxicity Threshold[3]
Copper	13.4	13.9	18
Lead	64.6	81.6	82
Zinc	118	120	321

(All concentrations are reported as micrograms per liter, or ug/L)

[1]Acute toxicity levels are calculated from Table Value Standards for Colorado Water Quality Regulations for this stream segment, using a hardness of 100, which is also used in the Driscoll model, Harelson (2003). Note that regulatory standards are more restrictive than the toxicity level used for recurrence times in Driscoll's model.

[2] Source: EPA, National Recommended Water Quality Criteria: 2002, at epa.gov/waterscience/standards/wqcriteria.html. Criteria are calculated using a hardness of 100.

[3]See Harelson, 2003 for details.

Of these three metals, only copper exceeds state water quality standards or the Driscoll toxicity threshold at two sites (**Table 3-17**). Where US 285 traverses Crow Gulch and Roland Gulch, the copper concentration levels contained in the stream as a result of highway runoff are modeled to exceed toxic thresholds, as defined by the model, approximately two to three times per year. Since water quality standards for these streams are more restrictive than the Driscoll model thresholds (**Table 3-16**), exceedances may happen more frequently.

Results of the water quality modeling can be analyzed with guidelines from the Design Procedures of Driscoll and others (1990):

- If the ratio of estimated stream concentrations to CDPHE acute standards is less than 0.75, a toxicity problem is unlikely.
- If the ratio of estimated stream concentrations to CDPHE acute standards is between 0.75 and 5.0, a toxicity problem is possible.
- If the ratio of estimated stream concentrations to CDPHE acute standards is greater than 5.0, a toxicity problem is likely, and reduction measures are recommended.

The ratios of stream concentrations calculated by the Driscoll Model to the CDPHE acute standards are shown in **Table 3-17**. These ratios indicate that a toxicity problem is possible for Crow Gulch and Roland Gulch. The model application results suggest that installed BMPs, such as stormwater retention ponds, would significantly decrease runoff pollutant concentrations. (See **Section 3.7.5.4 on page 3-64**.) Based on this analysis, the potential pollutant loading to the North Fork of the South Platte River is well within the criteria outlined in the modeling exercise.

3.7.4.2 Indirect Impacts

No-Action Alternative

Indirect impacts from the No-Action Alternative could result in potential changes over time to the highway drainage system as growth increases along the highway. Therefore, associated development should include BMPs to help address runoff to minimize overloading the highway drainage system.

Table 3-17: US 285 Water Quality Impacts from Driscoll Model[1]

Constituent	Copper concentrations in ug/L[2]			Lead concentrations in ug/L[2]			Zinc concentrations in ug/L[2]		
3- year frequency of pollutant level at Annual Flows[1]	Driscoll model stream, once in 3 years, ug/L	Ratio of Driscoll stream model to CDPHE WQ std.[3]	Ratio of Driscoll stream model to EPA Criteria[3]	Driscoll model stream, once in 3 years, ug/L	Ratio of Driscoll stream model to CDPHE WQ std. [3]	Ratio of Driscoll stream model to EPA Criteria[3]	Driscoll model stream, once in 3 years, ug/L	Ratio of Driscoll stream model to CDPHE WQ std.[3]	Ratio of Driscoll stream model to EPA Criteria[3]
Locations of Driscoll Analyses									
North Fork of South Platte at Bailey	2	0.15	0.14	2	0.03	0.02	5	0.04	0.04
Crow Gulch	**31**	**2.3**	**2.2**	51	0.79	0.62	94	0.80	0.78
Deer Creek	11	0.82	0.79	17	0.26	0.21	36	0.30	0.30
Roland Gulch	**33**	**2.5**	**2.4**	53	0.82	0.65	97	0.82	0.81
Elk Creek	10	0.75	0.72	14	0.22	0.17	30	0.25	0.25
North Fork at South Platte mainstem	9	0.67	0.65	14	0.22	0.17	29	0.24	0.24

[1] *See Harelson (2003) for details. Analysis was for both annual flow and low flow in October. The higher concentrations of metal pollutants occurred for annual flows, so they are shown here. Concentrations are for a calculated maximum to occur once every 3 years.*

[2] *All concentrations are listed in ug/L, or micrograms per liter.*

[3] *Ratios are calculated by dividing the Driscoll model resulting stream concentrations by the standards or criteria listed in Table 3-16*

Preferred Alternative

Potential indirect impacts of the Preferred Alternative to water resources include increases in peak runoff flows due to larger impervious areas, increased nutrient loading to North Fork of the South Platte River, and increases in development due to the improved highway.

Increased development may lead to the construction-related generation of sediment reaching stream channels within the study area. These sediments would be transported downstream over time, particularly in times of higher runoff, and this could cause sediment to build-up in downstream impoundments.

3.7.5 Mitigation Measures

3.7.5.1 Erosion, Sediment and Stormwater Control Measures

Best Management practices (BMPs) are required under Section 402 of the Clean Water Act (see **Section 3.7.3.1 on page 3-58**) and address short-term (construction-related) and long-term impacts. BMPs are “schedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce the pollution of waters of the United States” (40 CFR 122.2). BMPs include, but are not limited to, “treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage” (40 CFR 122.2).

Comprehensive descriptions of BMPs and CDOT policies related to stormwater management and erosion control are contained in CDOT's *Stormwater Management Plan* (SWMP) for each project and in the CDOT manual entitled *Erosion Control and Storm Water Quality Guide* (CDOT, 2003). This information is available on the Web at http// www.dot.state.co.us/environmental/envWaterQual/wqms4.asp (scroll down to the guide). CDOT has developed construction specifications to minimize the potential for water contamination. These specifications, described in CDOT's *Standard Specifications for Road and Bridge Construction*, including Section 107.25 (Water Quality Control Specification) and Section 208 (Erosion Control Specification), provide contractors with guidelines pertaining to discharges, sedimentation and the implementation of BMPs. CDOT also has a Disincentive Specification that provides project engineers with the ability to fine contractors for noncompliance with these specifications. In addition, CDOT staff on a Regional Erosion Control Advisory Team (RECAT) review projects during construction to ensure that appropriate and sufficient BMPs are used. These documents and policies provide a coordinated effort to mitigate for short- and long-term impacts to receiving streams.

3.7.5.2 Construction of BMPs

BMPs are divided into two categories: short-term and long-term. Short-term, or temporary BMPs control stormwater and erosion during construction activities. Typical temporary BMPs implemented by CDOT include the following:

Erosion and Sediment Control

- Use of erosion control blankets, erosion bales and silt fences;
- Use of phased seeding and mulching;
- Use of mulching and tackifier;
- Construction of temporary sediment traps and basins, berms diversions and check dams;
- Construction of concrete washout and saw water containment basins;
- Provision of inlet and outlet protection.
- When working in or near water, sediment will be controlled by use of silt fence erosion logs, as needed, or by diverting the water.

Stormwater Quantity and Quality Control

- Construction of extended dry ponds and wet detention ponds;
- Construction of infiltration basins.
- Notification of potentially affected drinking water and wastewater treatment plants prior to the start of construction activities, and coordination with these facilities throughout construction in order to minimize potential impacts.

Typical long-term, or permanent BMPs implemented by CDOT include the following:

Erosion and Sediment Control

- Phased seeding and mulching throughout the study area;
- Use of erosion control blankets on steep slopes;
- Construction of permanent sediment traps and basins, berms, diversions and check dams;
- Provision for inlet and outlet protection;
- Construction of slope drains, v-ditches and culverts.

Stormwater Quantity and Quality Control

- Construction of grass swales and buffer strips;
- Building extended dry ponds and wet detention ponds.

3.7.5.3 Maintenance BMPs

Maintenance BMPs are long-term, nonstructural activities to mitigate potential impacts by chemicals or sediments that can come from transportation corridors (e.g., vehicle wear, hazardous spills, litter). These BMPs include the following: consistent road sweeping operations; proper management of storage materials so they are not eroded away or do not leak into streams; and other good housekeeping practices, such as routine removal of sediment from stormwater drains and catchment basins.

3.7.5.4 Mitigation Measures for the Preferred Alternative

Mitigation measures for the Preferred Alternative will follow the detailed design, BMP selection, and policies cited in references in **Section 3.7.5.1 beginning on page 3-62** in order to assure implementation of appropriate mitigation. Streambank rehabilitation, using bioengineering techniques or similar stream enhancements, will be considered along the stream reach of the North Fork of the South Platte River in the Bailey area as part of the mitigation plan, and will be implemented where feasible. Appropriate, temporary BMPs will be designed to minimize potential impacts from construction activities. The Preferred Alternative would bring the highway in closer proximity to the stream through this area, requiring the installation of two retaining walls to reduce encroachment. The stream will be returned to its pre-construction condition to the extent feasible.

The runaway truck escape ramp would significantly reduce the potential for trucks overturning and spilling hazardous materials into the North Fork of the South Platte River. However, measures will be taken at the proposed runaway truck escape ramp to minimize the possibility of additional sediment and spills reaching Crow Gulch. To meet water quality stream standards (**Table 3-17**), a stormwater retention pond sized for an 80th percentile storm, will be constructed to minimize copper concentrations in the stream (Harelson, 2003).

On the south side of US 285 at the West Deer Creek tributary, retaining walls would be constructed on the culvert ends of the three roadway crossings (Rosalie Road, PCR 43A and Arcadia Drive) both upstream and downstream to minimize highway fill-slopes in the area of the stream crossing.

The culvert size for Deer Creek is being increased to allow for wildlife passage. This will also allow for greater movement of surface water.

A new bridge is planned on a new alignment over Roland Gulch. Fill from the current highway would be removed, and the existing wetland complex will be restored as mitigation for wetland impacts in the study area.

To meet water quality stream standards (**Table 3-17**), a pond will be sized for an 80th percentile storm in order to minimize copper concentrations entering the stream (Harelson, 2003). The configuration of this water quality pond will be determined during final design, but it will be separate from the existing pond/proposed wetland complex, and an upland location will be sought for the water quality treatment pond. The new bridge would allow the free flow of seasonal high water flows and wildlife passage.

Under the Preferred Alternative, Wisp Creek would continue to flow through a pipe under the highway. During construction, BMPs will be implemented to reduce the potential for sediment entering the stream system. After construction, stream bank restoration will be assessed for this site.

Elk Creek flows are conveyed through a culvert under US 285; this conveyance would be preserved in the Preferred Alternative. Temporary and permanent sediment ponds are recommended for both the east and west sides of the highway near the stream channel. In addition, stream restoration measures will be considered for this stream crossing.

Where Gooseberry Gulch flows under US 285 northeast of Elk Creek, a wall will be constructed to protect the stream from the road slope.

Casto Creek may not be directly affected by the new roadway template because it parallels both the recently completed CDOT Phase-V improvements and the beginning of the Preferred Alternative. However, measures will be implemented to protect the stream channel from roadway runoff.

The Preferred Alternative will incorporate appropriate BMPs in the construction plans and provisions that ensure that water quality standards are being met. Where appropriate and feasible, water resource mitigation measures for construction projects will include the following aspects:

- Notification of the Bailey drinking water plant and of wastewater treatment plants prior to any

construction activity that might impact their operations;

- Use of temporary erosion and stormwater control measures during construction;
- Implementation of permanent BMPs for erosion, stormwater, and sedimentation controls;
- Installation and maintenance of culverts and other drainage systems that prevent direct stormwater discharges into nearby receiving waters;
- Purchase of CDOT ROW as needed to permit construction of permanent BMPs;
- Reduction of erodible sediment sources;
- Development of a water quality monitoring program before, during and after any construction projects in Bailey, or as required in other areas, and addition of BMPs if the program demonstrates a need;
- Use of maintenance BMPs (sweeping, maintaining culverts, etc.);
- Evaluation of v-ditches, rundowns and other permanent BMPs to direct runoff along the highway corridor, especially near lateral stream channels.
- Stream bank restoration of the North Fork of the South Platte River in Bailey and evaluation of restoration potential in smaller streams that are noted above.
- Purchase of additional right-of-way where needed along cut and fill slopes to adequately support vegetation.

Potential impacts to receiving waters will be reduced by the implementation of temporary and permanent BMPs along the study area and adherence to the CDOT specifications by construction contractors. CDOT maintenance will remove any temporary BMPs used during construction and maintain any permanent structures, including constructed BMPs.

Maintenance work in wetlands, streams, or near sensitive stream corridors requires advance coordination with CDOT environmental staff who obtain the necessary permits, provide guidance regarding environmental issues, and complete environmental clearances for maintenance activities.

3.7.5.5 Water Quality and Hydrologic Monitoring

Monitoring of conditions before, during, and after construction constitutes a critical component for objective evaluation of possible short-term, adverse impacts and for measuring the effectiveness and sustainability of implemented structural and non-structural BMPs. Annual monitoring reports providing results of the program and presentations at local stakeholder entities, such as the Coalition of the Upper South Platte (CUSP) and the Chatfield Watershed Authority, are envisioned to be included in the monitoring program efforts supported by CDOT for the Preferred Alternative. To the extent possible, other relevant data and information collected by others (e.g., United States Geological Survey [USGS], City of Aurora, and State Engineer's Office [SEO]) will be incorporated into the documentation of hydrologic and water quality conditions in the study area. Details of the monitoring program for highway improvements along US 285 will be developed during final design. Additional information regarding stream monitoring can be found in the *US 285 Foxton Road to Bailey Water Resources Technical Report*.

3.8 Wetlands

This section describes the wetland resources of the US 285 study area. Wetlands are regulated under Section 404 of the Clean Water Act (33CFR323), Executive Order 11990, FHWA Regulations (23CFR771 and 777), and FHWA Technical Advisory T6640.8A. These regulations and the 404(b)(1) guidelines require that impacts to Waters of the US be avoided or minimized and unavoidable impacts mitigated. See Appendix F, Wetland Finding, for additional information.

The Remote Sensing and Geographic Information Group of the US Department of Interior provided baseline inventories of biological resources for the US 285 study area based on June 2001 color-infrared aerial photography at a scale of 1:6000 (*US Highway #285 Vegetation Survey and Mapping,* December

13, 2001). This report used a modified version of the Anderson classification system. It did not specifically identify wetlands, but did identify classes such as Willow/Mixed Riparian Shrublands, Mixed Cottonwood-Blue Spruce Riparian Woodland, and Sedge/Graminoid Emergent Wetland/Riparian Herbaceous Vegetation that could contain wetland components. Utilizing these base maps, each site was field checked to determine if wetland vegetation was present, then the area was remapped to indicate wetlands and reclassified to fit the required Cowardin Wetland Classification System.

In accordance with Corps of Engineers requirements, CDOT uses three parameters to delineate wetlands - hydrology, soil, and vegetation. However, the field season of 2002 was characterized by one of the most severe droughts in recorded Colorado history. Because of their dependency on water, wetland ecosystems were especially impacted. Initial wetland identification for this EA was based only on the presence of wetland vegetation.

Wetland delineations were conducted in accordance with the U.S. Army Corps of Engineers (COE) *1987 Wetlands Delineation Manual* (Environmental Laboratory 1987) in May 2004. Wetland boundaries were mapped with a Trimble ProXR Global Positioning System supplemented by field measurements.

3.8.1 Study Area and the Affected Environment

During wetland delineations, 44 wetland sites totaling approximately 10.9 acres were identified within the study area. These wetlands are shown in **Figure 3-14**. Wetlands are associated with roadway crossings of Upper Casto Creek, Gooseberry Gulch, Elk Creek, Wisp Creek, Roland Gulch, Deer Creek, and parallel to the existing roadway along Crow Gulch, North Fork of the South Platte River, and unnamed tributaries to Elk Creek and Deer Creek. 60% of the wetlands are emergent and 40% are scrub/shrub. Very minor areas of forested wetland are also present.

It is likely that the current roadway and past development have disturbed historic wetlands and caused stream relocations. Today, the study area wetlands are generally confined by the existing steep topography and their close proximity to the existing roadway. Therefore, avoidance and minimization may be inhibited by the topography and roadway location. Typical wetlands are narrow streambank bands of willow (*Salix* spp.), alder (*Alnus incana* subsp. *tenufolia*), and birch (*Betula fontinalis*). At Deer Creek, wetlands extend into broad sedge meadows dominated by Nebraska sedge (*Carex nebrascensis*) and beaked sedge (*Carex rostrata*) with hairgrass (*Deschampsia cespitosa*), Canada reedgrass (*Calamagrostis canadensis*), spikerush (*Eleocharis* spp.), and Artic rush (*Juncus arcticus*).

Because of their size, relatively undisturbed nature, and the general lack of large wetlands in the study area, wetlands located at Deer Creek and tributary from the west, Roland Gulch, Elk Creek, and Wisp Creek are important wetlands.

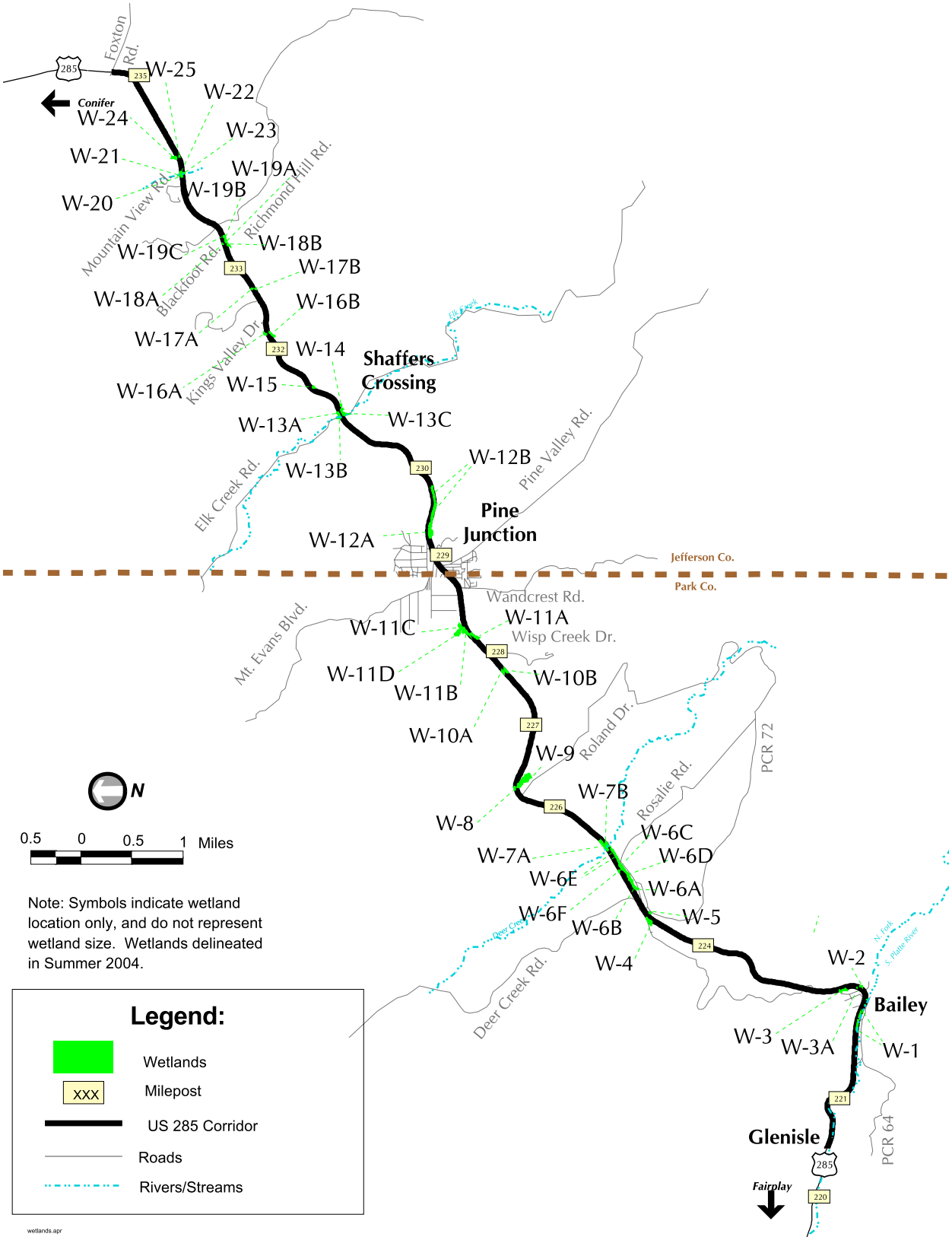
Most study area wetlands are associated with tributary drainages to the South Platte River and are therefore anticipated to be jurisdictional under Section 404 of the Clean Water Act. CDOT also will mitigate impacts to any non-jurisdictional wetlands (generally isolated from stream systems).

3.8.2 Functional Value

Because they are usually areas of dense plant cover, wetlands are highly valuable to wildlife species for food, nesting, and cover. Wetlands protect the water quality of streams and lakes by serving as buffer zones to trap agricultural or other runoff that contains nutrients, pesticides, herbicides, and sediments. Functions of US 285 wetlands include wildlife habitat and travel corridors, production of export/food chain support, sediment/nutrient removal and retention, streambank stabilization, flood flow attenuation and storage, dynamic water storage, groundwater recharge/discharge, and recreation/education potential.

Wetland functions will be addressed for each study area wetland in the Final Decision Document. All wetlands will be avoided to the extent practicable.

Figure 3-14: Approximate Wetland Locations



Wetlands of moderate to high value will be identified in coordination with Jefferson and Park Counties. Special attention will be given to avoiding and minimizing primary and secondary impacts at these locations.

3.8.3 Wetland Environmental Impacts

Wetland impacts from the construction of the Preferred Alternative are identified as permanent and temporary, as well as, direct and indirect. Current estimates indicate that the Preferred Alternative would result in the permanent loss of approximately 0.727 acre of wetlands in the study area (if the Shaffers Crossing Variation 1 is chosen) or a permanent loss of approximately 0.739 acre of wetlands (if the Shaffers Crossing Variation II is chosen). There would be temporary loss of approximately 1.130 acres (for either Variation). Permanent direct impacts would result from fill placement in wetlands due to highway widening and realignment. Temporary direct impacts would occur from the placement of fill for temporary access roads and work areas located in wetlands. After completion of that portion of construction, the fill would be removed and the wetland restored.

In the scoping and alignment analysis phases and preliminary design of the Preferred Alternative, CDOT worked with its consultants to avoid and minimize impacts to wetlands and other aquatic resources. Wetlands were identified very early in the project. Wetland impacts decreased following formal wetland delineations in spring 2004 since the delineations showed actual wetland area to be generally smaller than previously identified by aerial photograph interpretation. Wildlife crossings were also identified early in the project. In considering design options, both wildlife and wetlands played a major role in various design decisions. The result was an alignment that was shifted away from wetlands, where possible, and the utilization of numerous retaining walls to limit encroachment into wetlands when avoidance was not possible. A possible indirect impact of trying to limit encroachment with walls is that these walls may interfere with the subsurface hydrology, that may in part support the very wetlands they were meant to protect. Wetland monitoring would ideally occur 2-3 years prior to construction. Duration would vary based on whether the years were representative of normal precipitation patterns. Post-construction monitoring would be two years, with normal precipitation, unless well testing indicated there was a change in hydrology. If a change were observed, the Corps of Engineers would be contacted and a method to evaluate the impact would be determined. Options are being analyzed that may mitigate for this indirect impact to wetlands; they are discussed later in the **Section 3.8.4 on page 3-72**.

Additional indirect impact may come from the increase in impervious surfaces resulting from additional lanes on US 285. This may increase runoff potential. It may also increase surface flows in adjacent streams, potential for erosion, or the creation of channels in wetlands that previously were channel free. This flow may contain pollutants associated with roadway runoff. Sediment from winter sanding operations may also enter wetlands. Sedimentation may increase with lane additions, resulting in the gradual filling in of adjacent wetlands. Chemicals, such as magnesium chloride and road salts, may impact water quality, thus impacting wetland plants and wildlife. Additional sediment and erosion can be expected during and post construction, until bare fill and cut slopes can be successfully revegetated. Planting of disturbed areas will be done as soon as possible. Disturbed areas may also allow the invasion of noxious weeds.

Because the road is being widened primarily on its existing alignment, much of the wetland areas impacted would be wetlands that are already impacted by normal roadway activity and maintenance practices.

Table 3-18, documents permanent and temporary impacts at each wetland.

Areas in which larger wetland impact would likely occur are discussed on **page 71.**

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Table 3-18: Permanent and Temporary Wetland Impacts

Wetland Number	Approximate Station	Wetland General Location	COE Jurisdictional? (preliminary)*	Wetland Impacts (Acres)	
				Permanent	Temporary
1	20 - 40	Bailey, North Fork of the South Platte River	Yes	0.002	0.034
2	44	Crow Gulch, east side of US 285	Yes	0	0
3A	47-48	Crow Gulch, west side of US 285	Yes	0	0
3	51-56	Crow Gulch, north of Bailey	Yes	0.022	0.011
4	162-166	Meadow south of Dellwood Drive	Yes	0.001	0.005
5	168	Meadow east of CR 72	Yes	0	0
6 A	181-182	Pond west of Arcadia Drive	Yes	0.002	0.003
6 B	182-186	Deer Creek tributary east of Arcadia Drive	Yes	0.001	0.008
6 C	193-197	Meadow west of Rosalie Road	Yes	0.004	0.268
6 D	186-198	Deer Creek tributary west of Rosalie Road	Yes	0.025	0.224
6 E	199-206	Deer Creek tributary east of Rosalie Road	Yes	0.002	0.032
6 F	193-195	Meadow between CR 43A and Bulldogger Road	Yes	0.047	0
7 A	205-213	Deer Creek, west side of US 285	Yes	0.129	0.148
7 B	208-212	Deer Creek, east side of US 285	Yes	0.106	0.082
8	263-269	Roland Gulch north of US 285	Yes	0	0
9	263-269	Roland Gulch, south of US 285	Yes	0.002	0.061
10 A	327-329	Swale, tributary to Wisp Creek, west side US 285	Yes	0.058	0.026
10 B	325+50-329	Swale, tributary to Wisp Creek, east side US 285	Yes	0	0
11 A	349-354	Wisp Creek, south side US 285	Yes	0.050	0.021
11 B	354-357	Wisp Creek, north side US 285	Yes	0.014	0.048
11 C	356-360	Meadow north of Wisp Creek and upper Wisp Creek	Yes	0	0
11 D	357-359	Meadow on slope northwest of Wisp Creek	No	0	0
12 A	409-435	Upper Elk Creek Tributary	Yes	0.116	0.069
12 B	436-438	Lower Elk Creek Tributary	Yes	0	0.025
13A	398-501	Pond area northeast of Elk Creek, Shaffers Crossing Variation I	Yes	0.003	0.035
13A	398-501	Pond area northeast of Elk Creek, Shaffers Crossing Variation II	Yes	0.015	0.035
13B	497-498	Elk Creek, Shaffers Crossing	Yes	0.003	0.002
13C	497-501	Elk Creek tributary, southeast side of US 285	Yes	0	0.008

Table 3-18: Permanent and Temporary Wetland Impacts (Continued)

Wetland Number	Approximate Station	Wetland General Location	COE Jurisdictional? (preliminary)*	Wetland Impacts (Acres)	
				Permanent	Temporary
14	503-504	Small drainage tributary to Elk Creek, northeast side US 285	Yes	0.002	0
15	518	Small drainage northeast of Shaffers Crossing, northwest side of US 285	No	0	0.002
16A	557	Small drainage, west of Kings Valley Drive north side of US 285	Yes	0.058	0.002
16B	557	Small drainage, west of Kings Valley Drive south side of US 285	Yes	0.034	0.003
17A	582	Gooseberry Gulch, north side of US 285	Yes	0.010	0.001
17B	582	Gooseberry Gulch, south side of US 285	Yes	0	0
18A	609	Small drainage, west of Blackfoot Road, north side of US 285 east of Richmond Hill	Yes	0	0.002
18B	609	Small drainage, south of Blackfoot Road, south side of US 285 east of Richmond Hill	Yes	0	0
19 A	611	Seep on southeast side of US 285 east of Richmond Hill	No	0	0
19 B	612	Seep on southeast side of US 285 east of Richmond Hill	No	0	0
19 C	613	Seep on southeast side of US 285 east of Richmond Hill	No	0	0
20	654	Roadside ditch west of RTD parking	No	0	0
21	655	Small drainage west of RTD parking	No	0.002	0.008
22	655	West of RTD parking	No	0.034	0
23	655-656	Culvert outlet east of Spring Road	No	0	0
24	664-665	Storm water detention pond east side of RTD parking	No	0	0.002
25	664	Culvert outlet south of RTD parking	No	0	0
		Total - with Variation I		**0.727****	**1.130*****
		Total - with Variation II		**0.739****	**1.130*****

Note: Wetland impacts decreased following formal wetland delineations in summer 2004 since the delineations showed actual wetland area to be generally smaller than previously identified by aerial photograph interpretation
** To be confirmed by the COE*
*** 0.253 acre of wetland will be mitigated under CDOT Project NH2854-100 "Foxton Road to Richmond Hill"*
**** 0.023 acre of temporary wetland impacts will be restored under CDOT Project NH2854-100 "Foxton Road to Richmond Hill"*

Original wetland impacts were based on area from wetland photograph interpretation. Wetland impacts in this EA are based on summer 2004 wetland delineations.

Wetland - 6a through 6e West Deer Creek Tributary Sta. 181-206

This wetland is contiguous with West Deer Creek Tributary, located primarily in an incised channel which runs parallel to US 285 for several thousand feet. Direct impact would occur at three locations due to the widening of two existing road crossings and the addition of a new road crossing. Parts of the existing dirt roads would be paved. In various locations along this drainage the current plan is to install retaining walls, sometimes on both sides of the stream to limit encroachment required to accommodate roadway widening. Permanent impact as a result of roadway fill, was originally planned to be approximately 0.529 acre.

At the June 2003 resource agency meeting, requests were made to modify the frontage road location to minimize these impacts. This resulted in a new permanent impact of only 0.034 acre. Indirect impacts due to wall placement and changes in hydrology are not known. Temporary impacts from wall construction are estimated to be approximately 0.535 acre.

Wetland - 7a and 7b Deer Creek Sta. 205-213

The sedge wetlands at Deer Creek are separated by the existing roadway. Although they are connected by a large culvert, most of the wetland hydrology is provided by subsurface groundwater flows. The initial proposal for the design at Deer Creek was to leave the existing culvert in place. A bridge to allow for large wildlife crossing was considered, but the grade of the roadway would have to be raised such that additional wetland impacts were likely to result from fill slopes and additional retaining walls. During a subsequent joint state and federal resource agency meeting, the idea of providing a wildlife underpass was reintroduced. It was felt that the additional impacts to wetlands would be more than offset by the benefits of the wildlife crossing and continuation of the Deer Creek riparian area. The proposed design would provide a 24-foot x 12-foot arch wildlife crossing. This would require the existing roadway grade to be raised approximately three feet.

With the use of walls to minimize encroachment, widening would permanently impact approximately 0.235 acre. The proposed wall and fill may have negative impacts on the subsurface hydrology of the downstream wetlands. To determine those impacts, CDOT will install groundwater monitoring wells south (downstream) of the road and north (upstream) of the road. Temporary impacts to wetlands at this location are estimated to be approximately 0.23 acre.

Wetland - 9 Roland Gulch Sta. 263-269

This wetland/pond complex would be impacted due to a safety realignment of a dangerous curve. Existing US 285 over Roland Gulch passes the stream in a culvert. The Preferred Alternative would replace the culvert with a bridge at a new location. The new, three-piered bridge would allow seasonal high flows and wildlife to pass freely. Permanent impact from the construction of the piers would be approximately 0.002 acre. Temporary impacts would be 0.061 acre because of coffer dams needed to dewater the existing pond and temporary work areas and access roads. The use of a bridge at this location would also allow CDOT to remove the old roadway fill as mitigation.

Wetland - 12a and 12b Headwater West Elk Creek Tributary Sta. 409-438

This sedge meadow has no obvious surface water source or channel. As it narrows near Sta. 420, it alters into a narrow channel that is directly adjacent to existing US 285 and parallels it for approximately 1,500 feet. The US 285 alignment would be shifted slightly and would cross the northwest corner of this wetland, resulting in the permanent loss of approximately 0.116 acre of wetlands and 0.094 acre of temporary impacts. To minimize impacts, retaining walls would be used along the wetland/highway interface. The existing access road would be relocated to the south. A 200-foot-long wall would border this wetland to the south because of the frontage road. The extensive use of walls in this

area may indirectly impact area hydrology. To determine those impacts, CDOT will install groundwater monitoring wells south (downstream) of the road.

Wetland - 13a, 13b, and 13c Elk Creek Sta. 398-501

With Variation I at Shaffers Crossing, approximately 0.006 acre of wetlands would be permanently impacted at this site, and with Variation II at Shaffers Crossing, 0.018 acre of wetlands would be permanent impacted at this site. There would be approximately 0.045 acre of wetlands temporarily impacted (with either Variation). An interchange would be constructed for safety purposes.

3.8.3.1 Measures to Avoid and Minimize Impacts

CDOT, in coordination with state and federal resource agencies, has evaluated several alternatives, many of which would have impacted substantially more wetlands than the Preferred Alternative as well as Elk Creek. The Preferred Alternative would be the least damaging to the aquatic environment as required by 404 (b)(1) guidelines.

To summarize, the following items were included in the Preferred Alternative to avoid or minimize impact to wetlands or Waters of the US:

- At Green Valley Ranch, the Preferred Alternative avoids permanent and temporary impact to wetlands.
- At Kings Valley, widening to the north was chosen to avoid impact to wetlands and historic properties.
- At Shaffers Crossing (Elk Creek), the two Variations under consideration minimize impact to wetlands and Waters of the US. Approximately 0.02 acre of wetland impact was avoided in this location.
- At Pine Junction, widening to the north minimizes impact to wetlands.
- At Wisp Creek, widening to the south minimizes impact to wetlands. Approximately 0.4 acre of impact was avoided in this location.
- At Roland Gulch, removing the old fill and replacing it with a bridge minimizes impact to wetlands. Approximately 0.8 acre of wetland impact was avoided at this location.
- At Deer Creek and West Deer Creek, realigning the frontage road minimizes impact to wetlands. Approximately 1.3 acres of wetland impact were avoided in these locations.
- In Bailey, placement of a retaining wall minimizes impact to wetlands.

3.8.4 Mitigation Measures

After avoidance and minimization of wetland impacts, compensation is the next step in wetland mitigation sequencing. CDOT replaces all impacted wetlands, whether Section 404 jurisdictional or non-jurisdictional. CDOT plans to replace all directly impacted wetlands on a 1:1 basis.

Five potential mitigation sites have been identified within the US 285 study area (see **Table 3-19** and **Figure 3-15**). Most of the selected sites are restoration sites and therefore have a high probability of success. These sites will be evaluated to assure that they represent the type of wetlands impacted and that they replace functional values similar to those of the impacted wetlands. All site selections will be coordinated with the Corps of Engineers and the EPA, as well as other interested resource agencies.

Figure 3-15: Wetland Mitigation

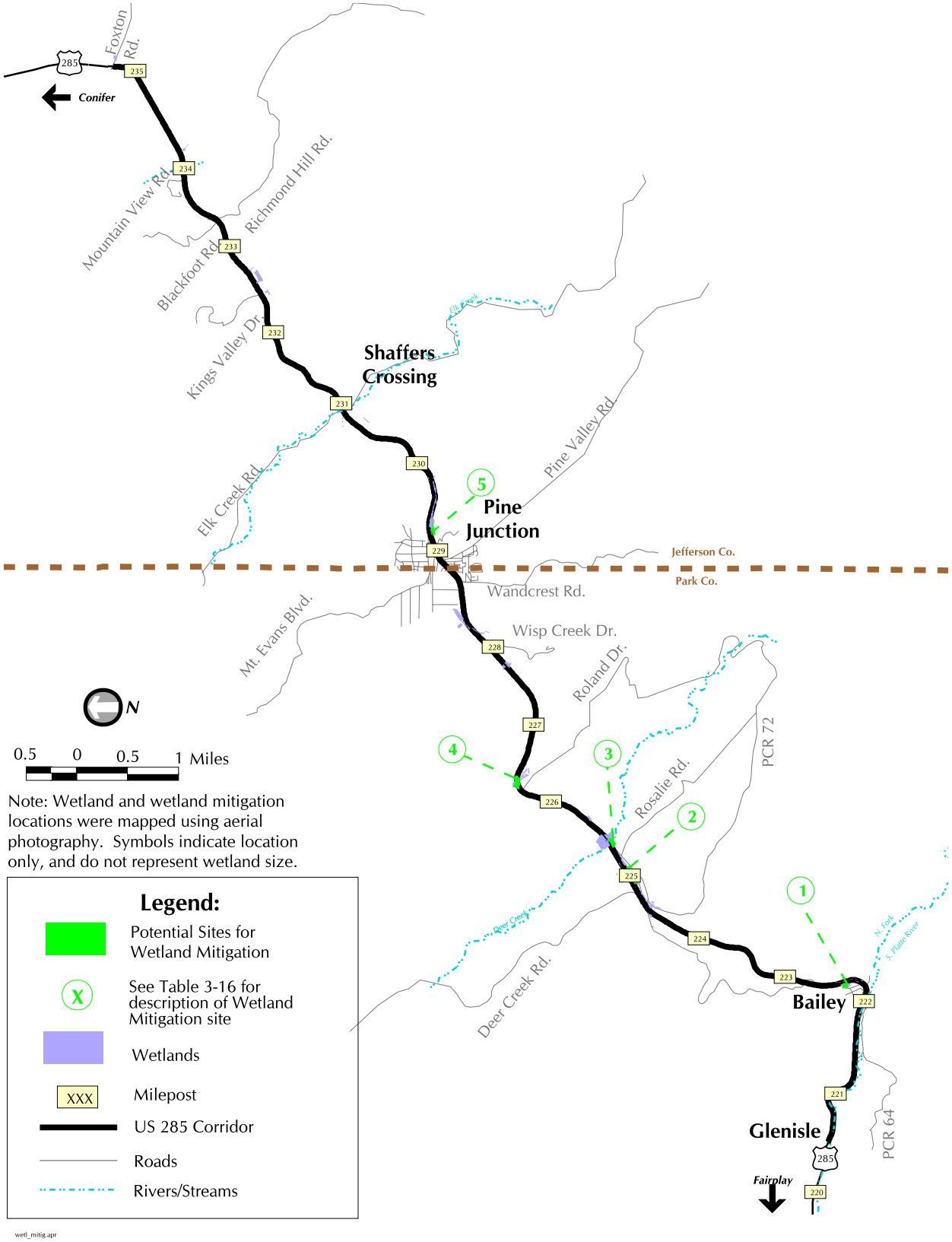


Table 3-19: Potential Wetland Mitigation Sites

Mitigation Site	Description	Possible Area in Acres
1	Restoration of a filled portion of Wetland #3.	0.34
2	West Deer Creek Tributary (Station 170-205)	1.5
3	Westward expansion of Wetland #7b, south side of US 285, possible restoration.	0.28
4	Restoration of Wetland 9 Roland Gulch. Removal of existing roadway fill.	0.75
5	Removal of dirt road adjacent to Wetland 12a.	0.09
	Total	**2.96**

Mitigation Site #1 Sta. 51-56 - Located on the west side of US 285 at the bottom of Crow Hill, this existing scrub/shrub wetland (W-3b) was partially filled several years ago. It is presently used as a storage area. At least part of the site is within existing CDOT right-of-way. Removal of the fill material and the planting of native willows will result in the restoration of approximately 15,000 square feet of scrub/shrub wetlands.

Mitigation Site #2 Sta. 170-205 - West Deer Creek Tributary is currently located between existing US 285 and an unpaved frontage road south of US 285. Current design will encroach on this tributary at several locations. It also would receive increased highway runoff from lane additions. A new shopping center also would be discharging pavement runoff into this drainage. CDOT has commitments to address stormwater runoff; however, secondary impacts to this channel over time as the area becomes more urbanized are inevitable. CDOT proposes to utilize this incised channel as wetland mitigation for impacts to this tributary of Deer Creek and for some of the impacts anticipated at Deer Creek itself. In locating wetland mitigation along this channel, CDOT also would be helping to protect the high quality sedge wetland associated with Deer Creek. CDOT proposes to broaden the narrow bottom of the existing incised channel to create additional wetlands. It also proposes to install a series of subsurface sheet metal check dams similar to those installed under a previous project at Meyer Ranch Open Space, to stabilize the channel and prevent head cutting that would eventually occur with increased stormwater runoff. It is anticipated that a minimum of 1.5 acres of wetland mitigation would occur at this location to compensate for impacts to the Deer Creek Tributary and to Deer Creek.

Mitigation Site #3 Sta. 204-207 - Located between W-5b and W-7b, this site is at the confluence of Deer Creek and West Deer Creek Tributary. Portions of this site appear to have been previously filled. Monitoring wells would be necessary to determine the level of groundwater and whether excavation to expose it is feasible. This is also the site of the largest wetland permanent take. If selected, this site would create/restore a minimum of 12,000 square feet of emergent, sedge dominated wetlands.

Mitigation Site #4 Sta. 260- 270 - Stationing is approximate because the site is located off the new alignment. US 285 would be relocated away from the existing alignment in order to flatten a dangerous curve. CDOT proposes to remove the existing fill and restore the wetlands to a mix of scrub/shrub and emergent wetlands using locally collected willows and herbaceous plugs. Removal of the fill and its replacement with a bridge, along with the wetland restoration, would open up a wildlife corridor that has been closed for decades.

Mitigation Site #5 Sta. 410 - This proposed site is located at the headwaters of West Elk Creek Tributary. Mitigation involves removal of the existing dirt access road and restoration of 4,000 square feet of

sedge meadow. Revegetation would be from sedge plugs taken from the adjacent sedge wetland.

3.8.4.1 Mitigation of Temporary and Indirect Wetland Impacts

Approximately 1.130 acres of temporary impacts may occur as a result of the construction of the Preferred Alternative. Temporary impacts are those impacts associated with the construction activities required to build the proposed highway improvements. These impacts are considered temporary because they will only result in the short-term loss of a wetland and its functions. They include temporary access roads, temporary work areas, such as excavation for the construction of wall foundations, and placement of berms to prevent surface water inundation of excavated areas. During design and construction, every effort will be made to minimize these impacts.

It is recommended that all these areas be restored as closely as possible to their original condition. At designated temporary work areas or access roads, it is recommended that wetland shrubs be trimmed to ground line, but not completely removed, then covered with a geotextile fabric and then an additional layer of straw. This would define existing topographical elevations and protect wetland rootstocks and seed banks. These areas could then be covered with a minimum of two feet of clean fill. After work has been completed, all temporary fill could be removed offsite as quickly as possible to give the wetland plant communities a chance to regenerate. Ideally, this work should occur when the plants are dormant or at the end of the growing season. If necessary, any site temporarily disturbed may be revegetated with either transplants or locally grown nursery native species.

Both short- and long-term water quality issues affect adjacent wetlands. Water quality concerns are discussed in **Section 3.7.3 beginning on page 3-58**. Stormwater basins would be required at many locations. No direct runoff would be allowed to enter any existing wetland without some type of treatment, preferably runoff would be directed into stormwater basins. Slopes would be revegetated as soon as possible to stabilize fill slopes and cuts.

Where possible, vegetative buffers would be established between the roadway and wetlands or adjacent water bodies to aid in water quality protection. CDOT is required to develop a construction-related stormwater management plan. Permanent stormwater/sediment control for affected wetlands will be addressed during design. These plans will be included in the 404 Public Notice for public review. CDOT has standard BMPs that are routinely included in all highway plans. These BMPs will be observed.

There were concerns expressed over the effects of the numerous walls used to minimize impacts to wetlands and streams. CDOT is researching the possibility of placing these walls on footers that would allow subsurface water to pass freely. The effects of these walls, with or without these footers, cannot be estimated at this time. CDOT commits to long-term monitoring of these sites both before and after construction. This would include groundwater monitoring and vegetative surveys to determine any impacts that may occur to wetlands due to changes in hydrology as a result of the construction of walls. After construction and a reasonable monitoring period, if it appears that wetlands have been impacted, CDOT commits to working with the Corps of Engineers and EPA to mitigate for these impacts.

3.9 Floodplains

Executive Order 11988, Floodplain Management, requires federal agencies to avoid direct or indirect support of development in floodplains whenever a practical alternative exists. The base flood (100-year flood) is the regulatory standard used by federal agencies and most states to administer floodplain management programs. As described in the Code of Federal Regulations, 23 CFR 650 Subpart A, floodplains provide natural and beneficial values serving as areas for fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, aquaculture, forestry, natural flood moderation, water quality maintenance, and groundwater recharge.

Flood insurance rate maps (FIRMs) from the Federal Emergency Management Agency (FEMA) were used

to identify streams with FEMA-regulated 100-year floodplains within the Area of Potential Effect (APE). There are three FEMA regulated floodplains[5] along the US 285 study area, including the South Platte River, Deer Creek, and Elk Creek. There are no designated floodways[6] in the US 285 study area. This segment of US 285 generally lies outside of the 100-year floodplains of the streams, with the exception of stream crossings.

3.9.1 Existing Conditions

US 285 intersects Deer Creek and Elk Creek, and parallels the South Platte River from Bailey upstream to the southern terminus of the study area. In addition, US 285 intersects 11 streams that do not have designated FEMA-regulated 100-year floodplains. The 100-year water surface elevations were calculated for these streams, and the floodplain limits were approximated using these water surface elevations. Approximate floodplain widths of the streams crossing or adjacent to US 285 are shown in **Table 3-20 on page 3-78**. There are three streams that run parallel to US 285 in addition to the South Platte River. They are the west tributary to Deer Creek, the 1st east tributary to Elk Creek, and Wisp Creek shown in **Figure 3-16**.

The segment of US 285 in the study area is located entirely in the mountain hydrologic region. The majority of drainages along the study area are ephemeral streams, typically active only during spring snowmelt and higher intensity rainfall events. There are also streams that support wetlands throughout the growing season and that have surface water tied to groundwater. The South Platte River, Deer Creek, and Elk Creek are the only perennial streams within the APE. These three streams provide flood attenuation, groundwater recharge, water quality, wildlife habitat, and aesthetic values. Drainage basins for the streams within the APE range in size from 1 acre to over 47 square miles. Peak discharges are primarily generated from snowmelt, but historical rainfall data indicate the potential for substantial runoff to occur from rainfall events as well. There is no significant history of flooding reported along US 285, and calculated flood depths in the streams within the APE are typically shallow. Severe flooding is not expected to be a significant concern.

3.9.2 Environmental Consequences

Impacts to the 100-year floodplain can occur in two forms: 1) directly through changes to the capacity of the floodplain (e.g., embankment fill, bridge piers); or 2) indirectly through an increase in the total volume of water arriving at and being conveyed by the floodplain. Indirect impacts are especially important when considering cumulative impacts to floodplains from all the previous, current, and planned projects in an area.

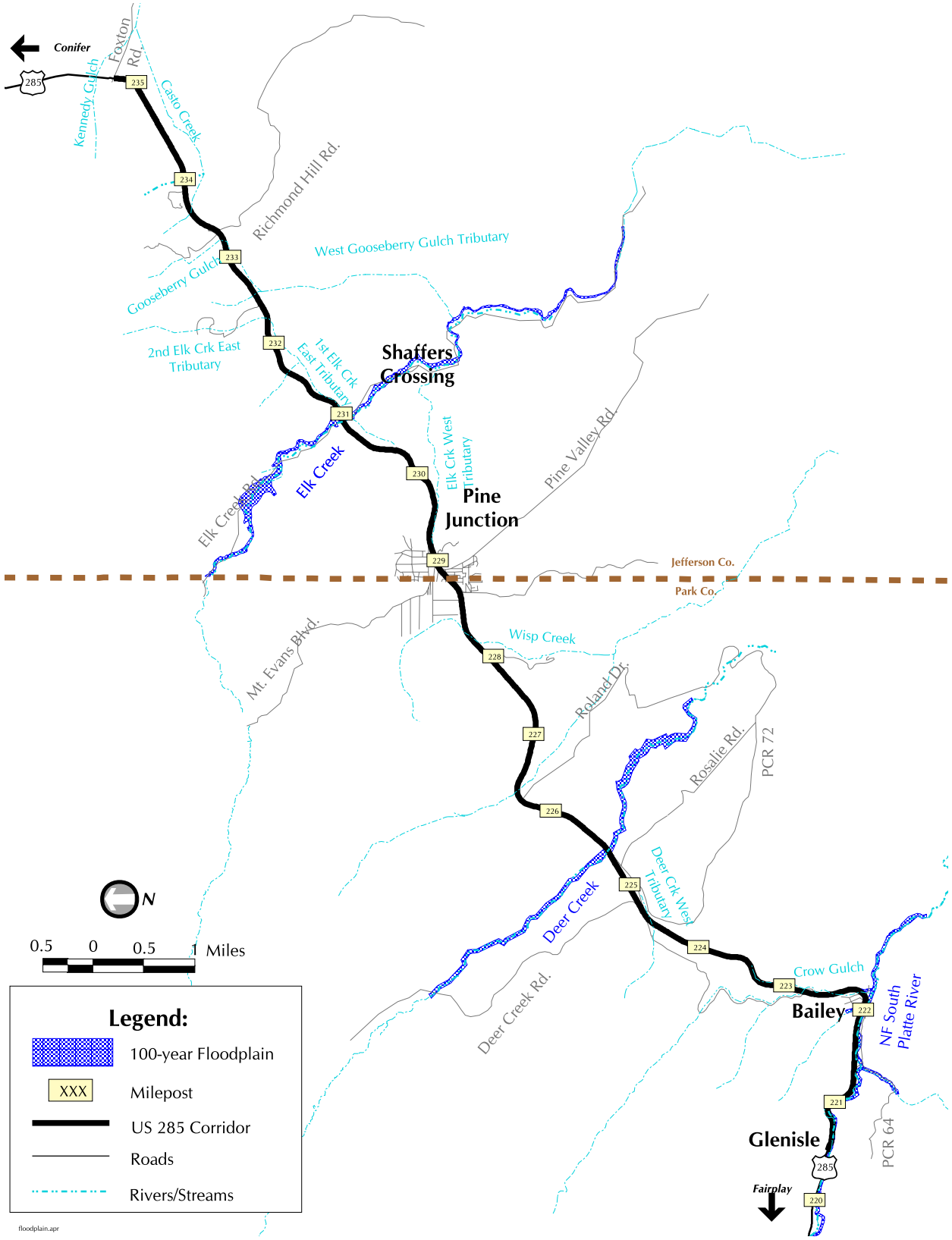
Fill needed to accommodate additional highway lanes can impact 100-year water surface elevations upstream from the project area. This type of impact is typically not significant since the volume of fill added to 100-year floodplains is generally not substantial relative to the total volume in a 100-year floodplain.

In the steep, narrow channels in the mountainous terrain along the US 285 study area, however, floodplains that lie parallel to the roadway can be reduced in volume, and measures must be taken to ensure that the floodplain impacts are minimized.

5.Floodplains: A FEMA regulated floodplain is the area of inundation by floodwaters during a 100-year flood as shown on a National Flood Insurance Program Flood Insurance Rate Map (FIRM). Base Flood Elevations, which are the water surface elevations at intervals along the stream channel, may or may not have been determined for a floodplain, depending upon the level of detail of the hydraulic study. Encroachments may be allowed in the 100-year floodplain, subject to backwater increase limitations, which are typically not more than one foot of allowable backwater increase.

6.A Regulatory Floodway is a corridor delineated along the stream channel reserved for conveyance of floodwaters. Highly detailed studies are conducted to determine the limits of a Regulatory Floodway, and Base Flood Elevations are very accurately determined. Encroachments are not allowed within the limits of the Floodway without providing compensatory mitigation for the lost flood storage and conveyance, or a revision of the Flood Insurance Rate Map (FIRM). All stream channels have an associated floodplain, whether or not it has been defined, but not all stream channels have defined Floodways. Floodways are typically only defined for floodplains where the risk of loss of life and economic losses warrant a floodway designation.

Figure 3-16: Floodplain Locations



Backwater from bridges and culverts must be carefully evaluated to ensure a minimal risk of flooding new areas. Flooding depths in the streams intersecting US 285 are generally quite shallow and will not pose any significant backwater concerns since new structures will have equivalent or greater capacity. These types of impacts are evaluated in more detail in the *US 285 EIS Floodplain and Drainage Technical Assessment,* July 2004.

No-Action Alternative

The No-Action Alternative is not expected to have any impacts to floodplains in terms of changes to the capacity of the floodplain or through an increase in the total volume of water being conveyed by the floodplain within the study area.

Preferred Alternative

The primary source for impacts to floodplains is mainline widening. The floodplains of the South Platte River, Crow Gulch, Deer Creek, Deer Creek west tributary, Wisp Creek, Elk Creek, Elk Creek west tributary, Elk Creek 1st east tributary, Elk Creek 2nd east tributary, Gooseberry Gulch, Gooseberry Gulch west tributary, Casto Creek, and Casto Creek east tributary could be impacted by mainline widening. **Figure 3-16** shows the existing floodplain locations.

In addition, the proposed interchanges and frontage roads along the study area expand the APE, and would impact the floodplains of several smaller tributaries adjacent to US 285. These proposed interchange and frontage road designs were analyzed for floodplains impacts; the resulting impacts from these additions are provided in **Table 3-20 on page 3-78**. The floodplains of the west Deer Creek tributary and 1st east Elk Creek tributary could be impacted by frontage road and side street construction.

These floodplain impacts would result from minor fill encroachments. The extent of the fill encroachments is very small relative to the floodplain volumes. Furthermore, culverts would be replaced with equivalent or larger structures, and backwater is not expected to increase.

As a result, there will be no significant adverse impacts on natural and beneficial floodplain values, and there will be no significant change in flood risk. Therefore, it has been determined that these encroachments are not significant.

Figure 3-17 shows the locations of floodplain impacts. The estimated encroachment area at these locations is provided in **Table 3-20**. Drainage designs for the 50-year and 100-year events minimize long-term, on-site impacts to the natural and beneficial values of these floodplains.

All streams in the study area are ungauged and peak flow data are not available. The design approach is consistent with procedures recommended by the CDOT *Drainage Design Manual*. The hydrologic modeling used to estimate the 50-year and 100-year flood events considered basin characteristics, including basin geometry, basin area, annual precipitation, and local rainfall intensity.

Table 3-20: US 285 Floodplain Assessment Impact Summary

Potential Encroachment Site	Stream name	Tributary	Encroachment Type	Crossing Road	Approximate Floodplain Width (feet)	Potential Encroachment Area (ft.^{2})
1	South Platte River		Longitudinal	N/A	230	57
2	Crow Gulch		Crossing	U.S. 285	22	39
3	Deer Creek Tributary	West Tributary	Crossing	Arcadia Road	118	0
4	Deer Creek Tributary	West Tributary	Longitudinal	N/A	118	0
5	Deer Creek Tributary	West Tributary	Longitudinal	N/A	118	0
6	Deer Creek Tributary	West Tributary	Longitudinal	N/A	118	54

Table 3-20: US 285 Floodplain Assessment Impact Summary

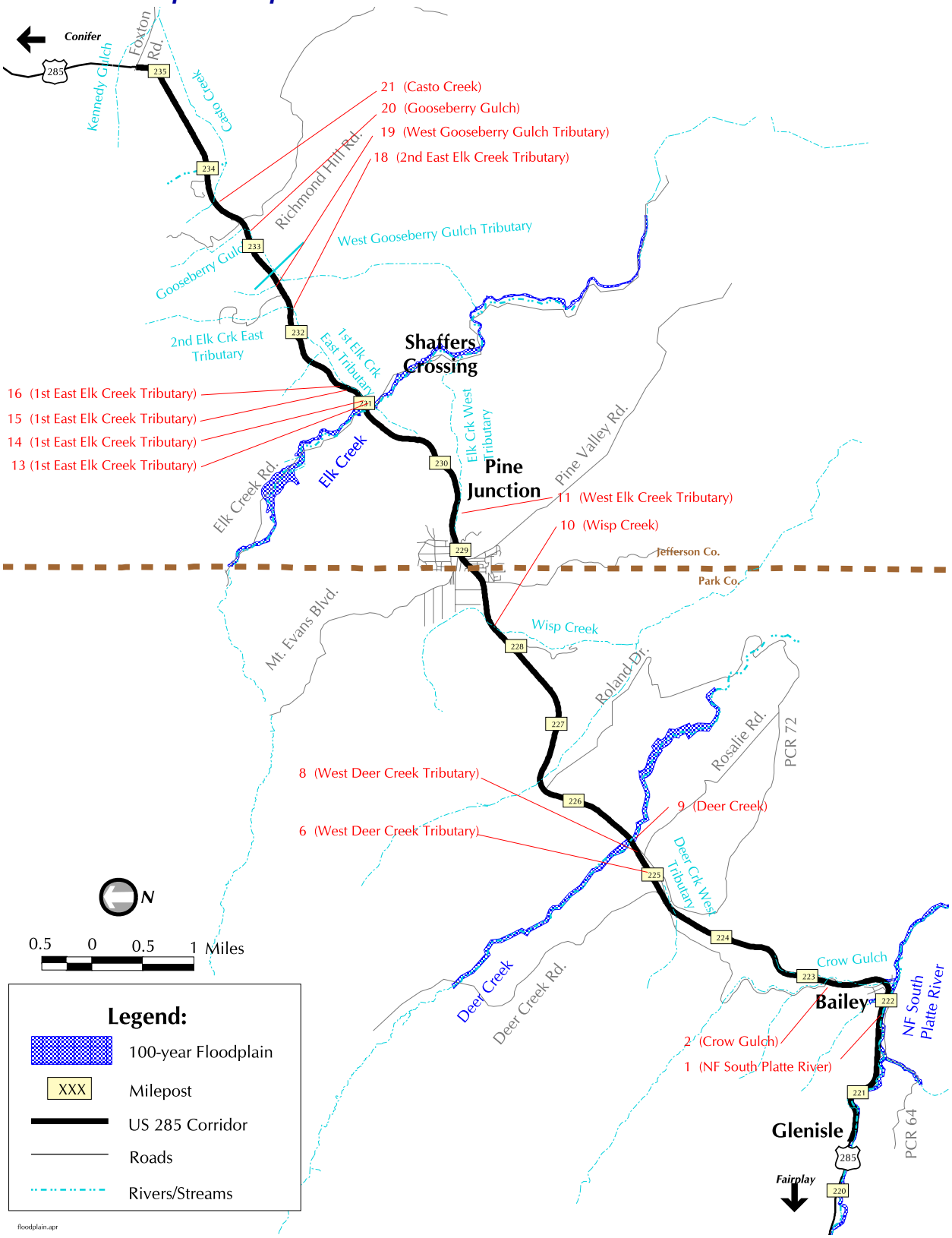
Potential Encroachment Site	Stream name	Tributary	Encroachment Type	Crossing Road	Approximate Floodplain Width (feet)	Potential Encroachment Area ($ft.^2$)
7	Deer Creek Tributary	West Tributary	Crossing	Proposed connection to Arcadia Road	60	0
8	Deer Creek Tributary	West Tributary	Crossing	Rosalie Road	22	378
9	Deer Creek		Crossing	U.S. 285	308	912
10	Wisp Creek		Longitudinal and Crossing	U.S. 285	48	473
11	Elk Creek Tributary	West Tributary	Longitudinal	N/A	66	202
12	Elk Creek		Crossing	U.S. 285	200	0
13	Elk Creek Tributary	1st East Tributary	Crossing	South Elk Creek Road	26	791
14	Elk Creek Tributary	1st East Tributary	Crossing	South Elk Creek Road	26	2576
15	Elk Creek Tributary	1st East Tributary	Longitudinal	N/A	26	5,177
16	Elk Creek Tributary	1st East Tributary	Longitudinal	N/A	26	304
17	Elk Creek Tributary	1st East Tributary	Crossing	U.S. 285	62	0
18	Elk Creek Tributary	2nd East Tributary	Crossing	U.S. 285	32	9,919
19	Gooseberry Gulch Tributary	West Tributary	Crossing	U.S. 285	128	4,459
20	Gooseberry Gulch		Crossing	U.S. 285	124	6,768
21	Casto Creek		Crossing	U.S. 285	116	3,358
22	Casto Creek Tributary	East Tributary	Crossing	U.S. 285	86	0

3.9.3 Mitigation Measures

Minimal change to historic drainage patterns is expected within, or down-gradient from, the Area of Potential Effect (APE). Impacts to floodplains are minimized by following standard stream crossing design criteria, avoiding direct encroachments on stream channels and adjusting the alignment where possible. Bridge and roadway designs seek to minimize impacts to floodplains in compliance with FHWA requirements, including efforts to span 100-year floodplains. Retaining walls are proposed to minimize encroachments into floodplains and wetlands. Final design will adhere to CDOT drainage criteria for both major and minor hydraulic structures, and will follow all FEMA requirements. The Preferred Alternative will avoid significant encroachment in floodplains. All practical measures to minimize impacts to floodplains are incorporated in the Preferred Alternative.

Stormwater Best Management Practices (BMPs) will be implemented during construction to minimize erosion and downstream sedimentation caused by mainline widening. Temporary impacts caused by construction to aesthetics, wildlife habitat, and water quality maintenance functions of floodplains are also minimized by the use of appropriate stormwater BMPs. The hydrologic and hydraulic analysis of floodplains and drainage features is included in

Figure 3-17: Floodplain Impact Locations



the *Floodplain and Drainage Technical Assessment Report,* July 2004.

Under the direction of CDOT, the implementation of BMPs identified in the *Erosion Control and Stormwater Quality Guide,* 2002, will minimize water quality impacts to floodplains. Two types of erosion control and water quality measures will be implemented; temporary (during construction) and permanent (post-construction). Specific measures include:

Temporary (construction) BMPs

- Developing and implementing a Stormwater Management Plan (SWMP) for each project phase that will contain measures to prevent the inadvertent transport of noxious weeds into the construction site by heavy equipment and fill dirt.
- Excluding construction vehicles from entering wetland areas by installing temporary fencing.
- Diverting clean water runoff during construction.
- Identifying and using appropriate concrete washout areas well away from floodplains to ensure polluted water does not leave the site.
- Using soil stabilization practices (such as erosion control blankets and mulching in impacted areas) to reduce erosion.
- Installing structural BMPs (such as silt fences and erosion bales down-gradient from impacted areas) to reduce off-site siltation.
- Developing an emergency spill response program and implementing spill prevention practices (such as locating staging areas, and fuel and hazardous construction material sites well away from floodplains) to reduce risks from accidental spillage and leaching.
- Fencing existing shrubs and trees to avoid damage, and replacing trees and shrubs where maintenance and water requirements can be met.
- Constructing, grading, and seeding incrementally to reduce soil loss during construction and use of native grasses in seed mixes. Native shrub seeds should be included in the seed mix where conflicts with maintenance will not occur.
- Providing ditch and slope rounding to prevent erosion.

Permanent (post-construction) BMPs

- Installing detention basins, infiltration beds, or other structural controls to reduce and minimize the effects of increased runoff due to increases in impervious surfaces.

In addition to the above measures, Park and Jefferson counties and local governments will be contacted and issues related to floodplain encroachment will be discussed and addressed.

3.10 Wild and Scenic Rivers

3.10.1 Existing Conditions

Wild & Scenic Rivers Act

The Wild and Scenic Rivers Act, passed in 1969, was an attempt to balance river development with river protection. In the Act, Congress declared that "certain selected Rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values, shall be preserved in free-flowing condition, and … shall be protected for the benefit and enjoyment of present and future generations." To be eligible for inclusion in the National Wild and Scenic Rivers System, a river must be both free-flowing and possess one or more Outstandingly Remarkable Values (ORVs).

Proposed Wild and Scenic River Designation of the South Platte River System

In 1995, the US Forest Service proposed to designate portions of the North Fork of the South Platte River and the South Platte River between Elevenmile and Strontia Springs Reservoirs into the National Wild and Scenic Rivers system. In accordance with Section (d)(1) of the Act, a Draft Legislative Environmental Impact Statement (DLEIS) was prepared which identified a total of 72.3 miles of the South Platte River system as eligible to the National Wild and Scenic Rivers System.

The closest eligible segment of the river system to the study area is located along the North Fork of the South Platte River, which begins approximately 1.5 miles southeast of Bailey at the confluence of Crow Gulch with the North Fork and extends from that point eastward toward the confluence of the North Fork and South Fork rivers.

The DLEIS, completed in 2000, identified three segments (Segments F,G,&H) of the North Fork of the South Platte River for potential eligibility (**Figure 3-13 on page 3-57**), for a total distance of 22.9 miles. Segments F and G are located upstream of the study area and are not applicable to this EA. Segment H involves the potential classification of the lower North Fork of the South Platte River and includes sub-segments H1, H2 and H3. Sub-segment H1 begins approximately 1.5 miles downstream from the town of Bailey (**Figure 3-13 on page 3-57**). It has a length of 1.5 miles and a potential classification of recreational. Sub-segment H2, a 4.9-mile length, has a potential classification of Scenic. The lowermost sub-segment H3, has a 16.5-mile length, and has a potential classification of recreational. The determination of these potential classifications has yet to be finalized by the US Forest Service.

A total of nine alternatives were analyzed in the DLEIS, of which seven recommended designation of various river segments along the South Platte River and the North Fork of the South Platte River. One non-federal recommendation (Alternative A2), created an opportunity for local stakeholder groups to work together to develop an alternative for managing the South Platte River corridor in lieu of federal designation. Such an alternative would protect the water quality, ensure free flow, and protect the ORVs, including recreational, scenery, geology, fisheries and wildlife.

The Proposed Action alternative resulting from the DLEIS led to a "No Action with ORVs protected." Under this alternative, both rivers' ORVs would be protected by measures other than adding the rivers to the National Wild and Scenic Rivers system. Thereby, the alternative chosen would be a substitute for designation and certain measures to protect the ORVs would be recommended. These measures would likely involve the establishment of locally generated agreements, ordinances, legislation, and other measures to protect the ORVs along both stream corridors.

At the time of the release of the DLEIS, the A2 Alternative had not been fully developed. As a result, the US Forest Service completed a Supplemental Draft Environmental Impact Statement (SDEIS) in 2000 (USDA, 200b) which fully considered the A2 Alternative. Watershed management is one important component of the A2 Alternative because the stakeholder group (CUSP) developed directly from this component to ensure future protection of the ORVs in both stream corridors.

Currently, the US Forest Service is in the process of making a final decision regarding the Preferred Alternative and intends to release the Final Legislative Environmental Impact Statement in 2003. A Management Plan will then be developed to detail procedures for implementing the Preferred Alternative, including the final boundaries for the selected river corridors.

3.10.2 Environmental Consequences

CDOT does not anticipate any direct or indirect impacts to the proposed Wild and Scenic designations, because of the distance from the highway to sub-segment H1. The implementation of BMPs at strategic locations along the study area would ensure that the recreational or scenic characteristics of the stream system would not be modified, and long-term increases in sedimentation or surface runoff would be addressed to the extent feasible. In this way, future design and construction of transportation improvements in the study area would take into consideration any stream impacts.

Short-term encroachments and increased sedimentation in the North Fork and its tributaries during construction are inevitable. Through the use of BMPs, the proposed water monitoring program during construction, and continued participation with the stakeholder group (CUSP), as discussed in **Section 3.7.3 on page 3-58**, the proposed Wild and Scenic designations would not be adversely affected by future CDOT actions.

3.10.3 Mitigation Measures

Mitigation measures include the use of BMPs during construction and the implementation of permanent BMPs at all major tributaries of the North Fork that traverse the study area. **Section 3.7.5 beginning on page 3-62** has further details regarding the types and uses of BMPs that will be considered during design and construction. Additionally, after a construction project is funded, CDOT will implement a water monitoring program in the basin to collect baseline data prior to any on-site construction activities. Aside from the studies noted in the *US 285 Foxton Road to Bailey Water Resources Technical Report*, no data are available. However, CDOT will design and implement monitoring before and during construction in order to assess BMP effectiveness and to ensure that water quality standards will be maintained.

3.11 Vegetation and Wildlife

Information used in this section was obtained from the Natural Diversity Information Source (NDIS), the Colorado Division of Wildlife (CDOW), the United States Fish and Wildlife Service (USFWS), and Jefferson and Park Counties. Additional information was compiled by the US Geological Survey and presented in a Geographical Information System (GIS) format. Published literature (journals and natural history books) was used to supplement information provided by the agencies.

Analysis of wildlife and ecological issues for the study area began with creation of a GIS baseline inventory of the study area. This inventory examined a 500-foot buffer on both sides of the highway. Mapping of vegetation was based on the modified Anderson (1976) classification system and included 34 land-use classes. Sensitive species potentially occurring within the study area were identified through the Colorado Natural Heritage Program's natural heritage database.

This information was supplemented with data provided by the agencies identified above. This process identified 52 sensitive species, including amphibians, birds, fish, mammals and plants potentially occurring along the US 285 corridor between Conifer and Fairplay. Only those species located within the US 285 study area are discussed in the sections below. Also discussed in this document are economically important wildlife which include mule deer and elk.

3.11.1 Environmental Setting

The study area is located within the Southern Rocky Mountain Steppe Eco region (Bailey 1995), an open woodland - coniferous forest - alpine meadow province. Vegetation type varies with altitude, latitude, the prevailing west winds, and slope exposure. Residential, commercial and roadway development greatly influenced and fragmented the ecosystems of the study area, and habitat loss and fragmentation are continuing to occur at a rapid pace. Additionally, US 285 and residential and commercial development adjacent to the highway have patterns. As development has occurred, wildlife species that require a specific habitat have been driven from the study area, opening the area up to species that are generalists (species that can exist in a variety of habitats and are not limited to specific habitat types).

3.11.2 Vegetation

The majority of the study area lies within the upper montane forest region characterized by ponderosa pine (*Pinus ponderosa*) and Douglas fir (*Pseudotsuga menziesii*), which frequently alternate. Douglas fir is predominantly found in moist, sheltered areas while ponderosa pine is found on lower, drier exposed slopes. Lodgepole pine (*Pinus contorta*) is also common in the study area above 8,500 feet. In general, ponderosa pine will be found on south facing slopes, Douglas fir will be found in greater abundance on north facing slopes, and lodgepole pine prevail on north facing slopes at the elevations found in the study area.

Within the ponderosa pine/Douglas fir forest, vegetation varies greatly based on aspect and soil type. In forests dominated by ponderosa pine, the under story is comprised of common juniper (*Juniperus communis*), kinnikinnik (*Arctostaphylos uva-ursi*) and bitter brush. On rocky soils and outcrops, mountain shrub ecosystem plant species such as mountain mahogany (*Cercocarpus montanus*) are common. Scattered quaking aspen (*Populus tremuloides*), lodgepole (*Pinus contorta*) and limber pine (*Pinus flexilis*) also

occur throughout the forest. On north facing slopes, Douglas fir are the dominant species, soils are moist and often fine textured, (Mutel and Emerick 1992) and forest litter is often thick with little herbaceous understory. Understory composition, when present, is similar to that found in ponderosa pine forests. Groundcover in more park-like conditions is similar to that of natural, dry meadow ecosystems.

Grassland meadows are interspersed with forested areas. Common species include blue grama (*Bouteloua gracilis*, smooth brome (*Bromus inermis*), sun sedge (*Carex heliophila*), and whiskbroom parsley (*Harbouria trachypleura*).

Wetland and riparian areas are present adjacent to study area streams. Typical wetlands are narrow streambank bands of willow (*Salix* spp.), alder (*Alnus incana* subsp. *tenuifolia*), and birch (*Betula fontinalis*) with some areas of sedge *(Carex* spp.) and grass (*Calamagrostis canadensis, Deschampsia cespitosa*) meadows, and one area of forested wetland dominated by blue spruce (*Picea pungens*). Wetland areas are discussed in greater detail in **Section 3.8 on page 3-65**.

Areas of previous disturbance adjacent to US 285 are often more sparsely vegetated and contain fewer native species than undisturbed areas outside of the influence of the existing road. Urban development, trails, roads, railroads, and other disturbances along US 285 have contributed to the current condition and composition of vegetation communities in the study area.

3.11.3 Noxious Weeds

In accordance with the Colorado Noxious Weed Act (revised 2003) and E.O. 13112 - Invasive Species, CDOT in cooperation with the FHWA now addresses noxious weeds at every level of project development, construction and maintenance.

The Act defines noxious weeds as “an alien plant or parts of an alien plant that have been designated by rule as being noxious or has been declared a noxious weed by the local advisory board, and meets one or more of the following criteria: a) aggressively invades or is detrimental to economic crops or native plant communities; b) is poisonous to livestock; c) is a carrier of detrimental insects, diseases, or parasites; d) the direct or indirect effect of the presence of this plant is detrimental to the environmentally sound management of natural or agricultural ecosystems.

The Act establishes three lists of noxious weeds. List A identifies 17 species targeted for eradication in the state of Colorado. List B contains 40 species that the noxious weed plan shall be designed to stop the continued spread of the listed species. List C has 14 species in which plans developed will not stop the continued spread of the species but shall provide additional educational, research, and biological control resources to jurisdictions that choose to require management. The 17 species identified on list A will require mapping along with weeds identified on county and CDOT lists. Additional species on List B and List C shall be identified in the project corridor. Control and mapping requirements for B list species will be determined on the amount of infestation. List C species, no extra control efforts will be used to manage List C beyond the normal BMPs such as native seeding and use of certified weed-free mulch. **Table 3-21** identifies noxious weeds on CDOT, Colorado Weed Act, Jefferson and Park County lists.

The Colorado Department of Agriculture mapped the US 285 corridor in 2002 at quarterquad scale. Quarterquads are one quarter of a standard 1: 24,000 USGS 7.5 minute topographic quadrangle and cover 9,000 acres. Twenty weeds were mapped statewide; limited county information is available for an additional seven species. Study area weed infestations identified on the quarterquads were: diffuse knapweed in Jefferson and Park Counties and Dalmatian toadflax, leafy spurge, oxeye daisy, and yellow toadflax in Jefferson County.

Highway right-of-way is frequently disturbed by maintenance actions, utility installation or repair, and access construction. Overgrazing, drought, and other land uses on adjacent properties also may support and enhance weed populations. Many noxious weeds could be present in limited amounts in the right-of-way, even if the Department of Agriculture maps has not identified them at this time.

Table 3-21: Noxious Weed Species of Jefferson and Park Counties

Common Name	Scientific Name	Colorado Noxious Weed List**	Jefferson County	Park County
Black henbane*	*Hyoscyamus niger*	B		
Bull thistle*	*Cirsium vulgare*	B		
Canada thistle*	*Cirsium arvense*	B	Noxious weed	Noxious weed
Chinese clematis*	*Clematis orientalis*	B		
Common teasel	*Dipsacus sp.*	B	Weed of concern	
Cypress spurge	*Euphorbia cyparissias*	A	Weed of concern	
Dame's rocket*	*Hesperis matronalis*	B		
Field bindweed*	*Convolvulus arvensis*	C		
Hoary cress (whitetop)*	*Cardaria draba*	B	Weed of concern	
Houndstongue*	*Cynoglossum officinale*	B	Weed of concern	
Jointed goatgrass*	*Aegilops cylindrica*	C		
Knapweed, diffuse*	*Centaurea diffusa*	B	Noxious weed	Noxious weed
Knapweed, Russian*	*Centaurea repens*	B	Noxious weed	Noxious weed
Knapweed, spotted*	*Centaurea maculosa*	B	Noxious weed	Noxious weed
Leafy spurge*	*Euphorbia esula*	B	Noxious weed	Noxious weed
Musk thistle*	*Carduus nutans*	B	Noxious weed	Noxious weed
Native hemp dogbane	*Apocynum cannabinum*			Noxious weed
Orange hawkweed*	*Hieracium aurantiacum*	B	Weed of concern	
Oxeye daisy*	*Chrysanthemum leucanthemum*	B		
Perennial pepperweed*	*Lepidium latifolium*	B		
Plumeless thistle*	*Carduus acanthoides*	B		
Purple loosestrife*	*Lythrum salicaria*	A	Noxious weed	
Russian-olive*	*Elaeagnus angustifolia*	B		
Russian thistle	*Salsola iberica*		Noxious weed	Noxious weed
Salt cedar*	*Tamarix chinensis, T. parviflora, and T. ramosissima*	B		
Scentless chamomile	*Anthemis arvensis*	B		Weed of concern
Scotch thistle*	*Onopordum sp.*	B	Weed of concern	
Toadflax, Dalmatian*	*Linaria dalmatica*	B	Weed of concern	Noxious weed
Toadflax, yellow*	*Linaria vulgaris*	B	Weed of concern	Noxious weed
Yellow starthistle*	*Centaurea solstitialis*	A	Weed of concern	
Common mullein	*Verbascum thapus*	C	Weed of Concern	

**CDOT top 25 noxious weeds to be mapped*

***Detailed information can be found on the following Web site http://www.ag.state.co.us.DPI/weeds/statutes/weedrules.pdf*

3.11.4 Wildlife

Habitat is present for a variety of wildlife species within the study area, and many species travel through or near US 285. (See **Figure 3-18**.) Although wildlife is common in the study area, development has reduced species diversity.

Large, economically important mammals common to the study area include elk (*Cervus elaphus*), mule deer (*Odocoileus hemionus*), American black bear (*Ursus americanus*), and mountain lion (*Felis concolor*). Medium sized carnivores include coyote (*Canis latrans*), red fox (*Vulpes vulpes*), striped skunk (*Mephitis mephitis*), and raccoon (*Procyon lotor*). Numerous small mammal species are also present.

The study area is an activity area for elk and deer, encompassing both summer and winter range for these species (Coil 2002, NDIS). Deer cross the highway at grade at Wisp Creek. During mule deer rut in November and December, US 285 between Green Valley and Foxton Road is also frequently crossed by deer (Coil 2002). On August 12, 2002, representatives from CDOW and CDOT met on site to examine locations where vehicle collisions with elk and deer most frequently occur. These locations include the area west of Green Valley Grill, Kings Valley, Shaffers Crossing, Wisp Creek, and Woodward Ranch.

Based on habitat requirements and altitude, amphibians and reptiles likely to be present in the study area are western toad (*Bufo boreas complex*), northern leopard frog (*Rana pipiens*), short-horned lizard (*Phrynosoma hernandesi*), eastern fence lizard (*Sceloporus undulatus*), milk snake (*Lampropeltis triangulum*), western terrestrial garter snake (*Thamnophis elegans*), and the common garter snake (*Thamnophis sirtalis*). Riparian areas along Wisp Creek, Elk Creek, Deer Creek, and Roland Gulch are most likely to provide suitable habitat for northern leopard frog, western terrestrial garter snake, and common garter snake. No northern leopard frogs were present during the 2000 CDOW site surveys (Clark 2002). The short-horned lizard is found throughout Colorado in areas of sparse vegetation (Hammerson 1999). The eastern fence lizard and milk snake occur in sunny, rocky areas.

Birds resident year-round in the study area include hairy woodpecker *(Picoides* villosus), Stellar's jay (*Cyanocitta stelleri*), common raven (*Corvus corax*), and white-breasted nuthatch (*Sitta carolinensis*) (Mutel and Emerick 1992). Other common species that may migrate to lower areas for the winter include mountain chickadee (*Poecile gambeli*), black-capped chickadee (*Poecile atricapillus*), American robin (*Turdus migratorius*), pine siskin (*Carduelis pinus*), and dark-eyed junco (*Junco hyemalis caniceps*). Birds present in the summer include sharp-shinned hawk (*Accipiter striatus*), northern goshawk (*Accipiter gentilis*), red-tailed hawk (*Buteo jamaicensi*), northern flicker (*Colaptes auratus*), western bluebirds (*Sialia mexicana*), yellow warbler (*Dendroica petechia*), and spotted towhee (*Pipilo maculatus*).

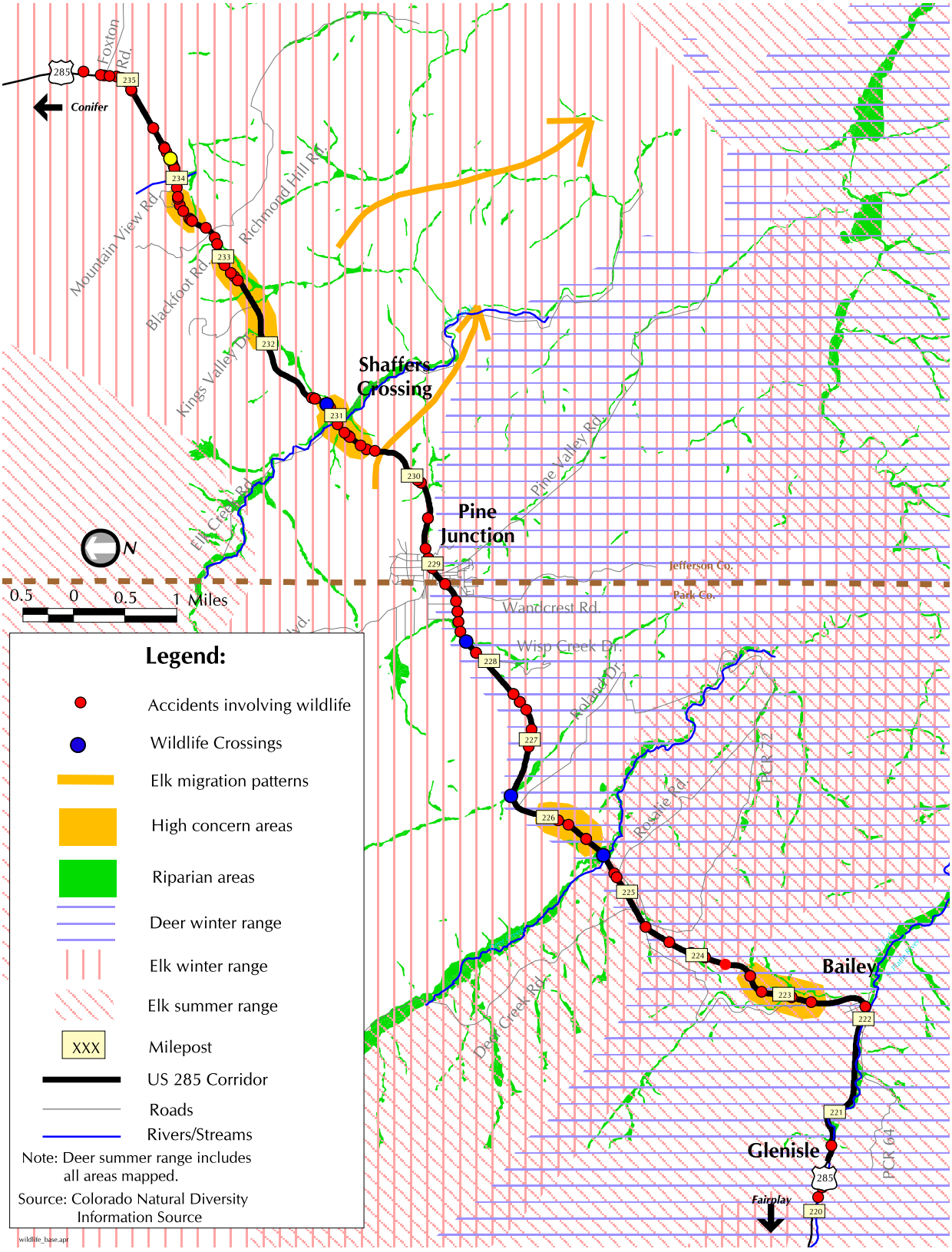
3.11.5 Aquatic Resources

The study area crosses several streams and runs adjacent to the North Fork of the South Platte River near Bailey, Colorado. All streams within the study area are tributary to the North Fork of the South Platte River. Descriptions of these surface waters are provided in **Section 3.7.2 beginning on page 3-56.** These perennial streams of the study area provide habitat for a variety of coldwater aquatic organisms including aquatic insects and fish.

Aquatic insects common to coldwater streams of Colorado include stoneflies, mayflies, caddisflies, true flies, and elmid beetles. These groups make up nearly 100% of the aquatic insects in Colorado mountain streams.

The North Fork of the South Platte River generally provides excellent habitat for sport fish, including brown trout, rainbow trout, and Snake River cutthroat trout. This river flows for approximately 50 miles before its confluence with the South Platte River (downstream from Cheesman Reservoir) where it is considered a Gold Medal Stream. However, the Buffalo Creek fire of 1996 impacted Buffalo Creek and the North Fork of the South Platte River downstream from Buffalo Creek. The results of a stream survey conducted by the CDOW after

Figure 3-18: Wildlife Issues and Wildlife Crossings



the fire indicate the lower reaches of Buffalo Creek were negatively impacted by sediment from the erosion of the hillsides denuded by the fire.

Fish surveys conducted by CDOT in the late 1980s indicate the presence of rainbow trout (*Oncorhynchus mykiss*) and brown trout (*Salmo trutta*) in Roland Gulch and Elk Creek; however, no fish were observed in Crow Gulch or Wisp Creek. Fish species occurring within the North Fork of the South Platte River include brown trout, rainbow trout, brook trout (*Salvelinus fontinalis*), longnose sucker (*Catostomus catostomus*), white sucker (*Catostomus commersoni*), and longnose dace (*Rhinichthys cataractae)*. Species similar to those found in Roland Gulch and Elk Creek in 1980 and in the North Fork of the South Platte River would be expected to inhabit other perennial streams of the study area; however, residential development adjacent to the streams within the study area may have altered the density and diversity of these fish communities.

3.11.6 Vegetation Environmental Consequences

No-Action Alternative

The No-Action Alternative would not involve land disturbing activities likely to directly impact vegetation along US 285. The continued use of anti-icing agents could indirectly impact vegetation along US 285.

Preferred Alternative

Direct impacts to vegetation would occur from clearing, excavation, and grading for highway improvements. New road cuts, fills, and interchanges and frontage roads would result in the removal and loss of existing vegetation. A review of the Natural Diversity Information Source revealed no conservation sites or sensitive plant communities within the study area. **Table 3-22** identifies habitat type and amount of land that would be taken as part of the Preferred Alternative. This does not include The Villages at Sunset interchange and associated roads.

Table 3-22: Acres of Habitat by Type Impacted by the Preferred Alternative

Ground Cover Type	Acres
ASPEN FORESTS	3.94
CEMETERY	0.01
COMMERCIAL-Green Valley Variation 1	6.99
COMMERCIAL-Green Valley Variation 2	6.95
COMMERCIAL-Shaffers Crossing Configuration 14	6.99
COMMERCIAL-Shaffers Crossing Configuration 13	7.43
COTTONWOOD RIPARIAN WOODLAND	0.43
CROPLAND/PASTURE	0.80
DISTURBED ROADSIDE HERBACEOUS VEGETATION-Green Valley Variation 1	31.64
DISTURBED ROADSIDE HERBACEOUS VEGETATION-Green Valley Variation 2	31.61
DISTURBED ROADSIDE HERBACEOUS VEGETATION-Shaffers Crossing Configuration 14	31.64
DISTURBED ROADSIDE HERBACEOUS VEGETATION-Shaffers Crossing Configuration 13	31.64
DISTURBED UPLAND GRASSLANDS	28.46
DOUGLAS-FIR FORESTS	3.02
FOOTHILL/MOUNTAIN GRASSLANDS	5.08

Table 3-22: Acres of Habitat by Type Impacted by the Preferred Alternative (Continued)

Ground Cover Type	Acres
GRAVEL/BORROW PIT	3.63
HIGHWAY #285	69.57
MESIC MOUNTAIN SHRUB MIX	0.64
MIXED CONIFER FORESTS	0.09
MIXED COTTONWOOD-BLUE SPRUCE RIPARIAN WOODLAND	0.00
PONDEROSA PINE WOODLANDS	78.54
PONDEROSA PINE/DOUGLAS-FIR MIX-Green Valley Variation 1	39.74
PONDEROSA PINE/DOUGLAS-FIR MIX-Green Valley Variation 2	39.74
PONDEROSA PINE/DOUGLAS-FIR MIX-Shaffers Crossing Configuration 14	39.74
PONDEROSA PINE/DOUGLAS-FIR MIX-Shaffers Crossing Configuration 13	39.54
PONDS AND OPEN WATER-Green Valley Variation 1	0.04
PONDS AND OPEN WATER-Green Valley Variation 2	0.04
PONDS AND OPEN WATER-Shaffers Crossing Configuration 14	0.04
PONDS AND OPEN WATER-Shaffers Crossing Configuration 13	0.01
RECLAIMED GRAVEL PIT	3.12
RESIDENTIAL	3.26
ROADSIDE, UNVEGETATED, ROADCUTS, NON-PAVED SHOULDER	9.46
SEDGE/GRAMINOID EMERGENT WETLAND/RIPARIAN HERBACEOUS VEGETATION-Green Valley Variation 1	7.77
SEDGE/GRAMINOID EMERGENT WETLAND/RIPARIAN HERBACEOUS VEGETATION-Green Valley Variation 2	7.30
SEDGE/GRAMINOID EMERGENT WETLAND/RIPARIAN HERBACEOUS VEGETATION-Shaffers Crossing Configuration 14	7.77
SEDGE/GRAMINOID EMERGENT WETLAND/RIPARIAN HERBACEOUS VEGETATION-Shaffers Crossing Configuration 13	7.77
TALUS SLOPES AND ROCK OUTCROPS	0.37
TRANSPORTATION, COMMUNICATIONS & UTILITIES-Green Valley Variation 1	15.76
TRANSPORTATION, COMMUNICATIONS & UTILITIES-Green Valley Variation 2	15.81
TRANSPORTATION, COMMUNICATIONS & UTILITIES-Shaffers Crossing Configuration 14	15.76
TRANSPORTATION, COMMUNICATIONS & UTILITIES-Shaffers Crossing Configuration 13	15.76
WILLOW RIPARIAN SHRUBLANDS	0.02
WILLOW/MIXED RIPARIAN SHRUBLAND	1.11
XERIC MOUNTAIN SHRUB MIX-Green Valley Variation 1	3.81
XERIC MOUNTAIN SHRUB MIX-Green Valley Variation 2	3.81
XERIC MOUNTAIN SHRUB MIX-Shaffers Crossing Configuration 14	3.81

Table 3-22: Acres of Habitat by Type Impacted by the Preferred Alternative (Continued)

Ground Cover Type	Acres
XERIC MOUNTAIN SHRUB MIX-Shaffers Crossing Configuration 13	3.70
Green Valley Variation 1 Gross Area Impact	317.28
Less paved, developed, disturbed area	108.66
Net Habitat Impact Area Green Valley Variation 1	208.62
Green Valley Variation 2 Gross Area Impact	316.80
Less paved, developed, disturbed area	108.66
Net Habitat Impact Area Green Valley Variation 2	208.14
Shaffers Crossing Configuration 14 Gross Area Impact	317.28
Less paved, developed, disturbed area	108.66
Net Habitat Impact Area Shaffers Crossing Configuration 14	208.62
Shaffers Crossing Configuration 13 Gross Area Impact	317.39
Less paved, developed, disturbed area	108.66
Net Habitat Impact Area Shaffers Crossing Configuration 13	208.74

Most of the study area's plant community has been altered over the years. Within the existing right-of-way, smooth brome is the dominant plant species. In areas adjacent to the right-of-way, surveys conducted in the spring of 2003 showed that the plant community exists in a somewhat natural state in areas further from the highway. The plant community within the different habitat types is typical of the ponderosa pine–Douglas-fir Zone. In areas where livestock are kept, most of the vegetation has been reduced to 'weedy' species and are overgrazed. Some of the more common plant species found during surveys include yarrow (*Achillea lanulosa*), ponderosa pine, pussy toes (*Antennaria parvifolia*), fringed sage (*Artemisia frigida*), kinnikinnik (*Arctostaphylos uva-ursi*), and juniper (*Juniperus communis*). Two state noxious weeds, diffuse knapweed (*Centaura diffusa*) and Russian thistle (*Salsola iberica*), are found throughout the study area.

The Roland Valley Drive area would temporarily lose the most native vegetation. The highway at this location would be shifted to the south to eliminate a sharp curve. The existing roadbed would be removed, along with all fill material, and revegetated with native vegetation. The new alignment would bridge the wetland area and would not permanently impact wetlands or other sensitive habitats containing less common plant communities. There would be some loss of wetland vegetation and change in wetland species where the new bridge would shade the existing wetland and riparian plants. Bridging and realigning the highway in this area would actually benefit native plant communities. This is because the wetlands and their associated plant communities that were previously covered with fill material would return. There would be a loss of some vegetation permanently at this location; however, the connection of the stream corridor would more than off-set the loss of a small amount of vegetation.

Riparian vegetation would be lost at Elk Creek, Wisp Creek, Roland Gulch and Deer Creek. These losses will be avoided as much as possible during construction.

3.11.7 Noxious Weeds Environmental Consequences

The construction of the Preferred Alternative would disturb areas that are already inhabited by weeds and would disturb areas that are currently weed free, resulting in the potential for the introduction of

weeds into these areas. The construction process would widen the roadway removing existing tree and shrub cover at many locations, replacing these stable areas with bare fill and cut slopes. Temporary roads and work areas would also be susceptible to weed invasion.

3.11.8 Wildlife Environmental Consequences

No-Action Alternative

No new direct impacts are associated with the No-Action Alternative. Indirect impacts, such as loss of habitat and habitat fragmentation, are expected to remain similar to what is occurring today due to practices such as development and subdivision of ranches. No additional loss of habitat would occur as part of the No-Action Alternative. Habitat fragmentation would remain the same as currently exists or slightly increase from the noise associated with the anticipated increase in traffic (Van Der Zande et al., 1980; Reijnen et al., 1995; Reijnen et al., 1996). The No-Action Alternative would not alleviate any of the problems (roadkill, permeability of the highway, etc.) that currently exist and these problems will only increase. As traffic volume increases, the permeability of US 285 to wildlife would decrease and the likelihood of wildlife/vehicle collisions would increase (Rost and Bailey 1979; Trombulak and Frissell 2000). With a decrease in permeability, spatial distribution of forest carnivores would decrease (Douglas and Ernst 1985).

Preferred Alternative

The Preferred Alternative generally falls within the existing highway's template. Currently there are no barriers in the median of the highway to reduce head-on automobile collisions. Under the Preferred Alternative this would not change; there would be a depressed median separating the eastbound and westbound lanes. This is much better for wildlife since no barriers would exist between the lanes of traffic. Loss of wildlife habitat under the Preferred Alternative would occur as a result of a wider median, interchanges, and frontage roads.

The loss of wildlife habitat along the highway would only slightly decrease the overall value of wildlife habitat in the project area, as the value of habitat directly adjacent to US 285 is marginal in most locations. The best habitat is near Deer Creek, Roland Gulch, Kings Valley, Wisp Creek and Elk Creek. Wildlife use of habitat directly along US 285 is limited and the loss of habitat at the local scale should not adversely impact wildlife. The greatest impacts to wildlife habitat in the study area would occur at riparian or wetland locations since these are less commonly distributed throughout the landscape. Throughout the study area, development and human related disturbances have reduced the value of wildlife habitat.

Direct impacts to wildlife associated with the Preferred Alternative include the barrier effect that blocks movement routes and subdivides species into smaller subpopulations, avoidance of roadside habitats because of traffic noise, roadkill, and avoidance of nearby habitat by forest and grassland birds (Forman and Alexander 1998; Forman and Deblinger 2000).

The Road-Effect Zone (REZ) is the area over which significant ecological effects extend outward from the road (Forman and Deblinger 2000). As the highway is expanded and habitats along the highway are directly or indirectly modified, the REZ will increase proportionally. The REZ varies in the study area and is physically influenced by topography, vegetation, human activities and development.

Research indicates that the REZ varies between taxonomical groups, with avian species suffering the greatest. Evidence indicates that traffic noise, rather than visual disturbance, air pollutants, or predators along roads, is the primary cause for avian community changes (Forman and Deblinger 2000). The REZ for avian species can extend for hundreds of feet from a busy road; population densities for the more sensitive forest-interior species can be reduced by the REZ by approximately 2100 feet. Mammalian species are affected by the REZ through the elimination of suitable habitat and the interruption of major travel corridors between large core patches of suitable vegetated habitat (Forman and Deblinger 2000).

The Preferred Alternative would increase the width of the highway and the REZ, but would allow for greater permeability of the highway to wildlife in some areas over what currently exists. A depressed center median is planned throughout the study area instead of Type 7 barrier ('Jersey' barrier). This would ensure that no barriers exist on the highway surface that could interfere with wildlife movement. However, to lessen impacts to wetlands and other sensitive resources, such as historical structures, retaining walls would be incorporated into the Preferred Alternative. The study area covers 13.3 miles along US 285. Approximately 3.8 miles, or 28.6% of the study area would have either cut slopes with walls, or mechanically stabilized earth (MSE) retaining walls. These walls would vary in length from approximately 45 to 1,440 feet with average height ranging from 1 to 32 feet. These walls could add to the barrier effect in some areas.

On May 13, 2003, the CDOT staff biologist reviewed each wall location to examine existing use by wildlife (through tracks, scat, etc.) for the purpose of identifying future conflict areas. All of the wall locations as proposed in the Bailey - Crow Hill area are in fill areas that currently are very steep slopes going up to the highway and do not receive much wildlife use. This area has not been identified as a wildlife/vehicle problem area.

At the top of Crow Hill there is a large cut where a retaining wall is proposed. Deer tracks and elk scat were found at the top of this cut but a crossing location could not be determined. This wall would not have an influence on wildlife movement.

The only location identified where a retaining wall could impact wildlife movement that currently exists is near Kings Valley. This location will be discussed later.

The installation of underpass structures, specifically for wildlife and large enough to allow through passage by elk, would greatly increase the permeability of the highway over existing conditions (Yanes et al. 1995; Lyren 2001). Currently, no underpasses exist specifically for the purpose of increasing the permeability of US 285 to wildlife. Under the Preferred Alternative five areas that currently are not permeable would have structures installed to increase the permeability of the highway to large mammals.

Smaller animals use culverts intended for water conveyance. Studies in Spain showed culverts to be an effective means of allowing vertebrates the use of habitats on both sides of the road (Yanes et al. 1995) and can help with the conservation of rare species. Lyren (2001) showed that in areas where there was a sufficient number of underpasses or culverts, coyotes (*Canis latrans*) had home ranges similar to coyotes in undeveloped areas. Lyren also demonstrated that bobcats (*Lynx rufus*) would use culverts when available. Clevenger and Waltho (1999) found that culvert use was positively correlated with traffic density, road width, road clearance and culvert length. The authors showed that most species preferred small culverts with low openness and that dry culverts can mitigate harmful effects of a high-speed highway. Hass (2000) suggests that culvert and underpass use is positively associated with the amount of cover present around the underpasses. Clevenger and Waltho (1999) suggest that culverts should be frequently spaced (492 to 984 feet) near shrub or tree cover to maximize usefulness.

Areas identified as being problematic for wildlife movement across US 285 in the study area were west of the Green Valley Grill, Kings Valley, Shaffers Crossing, Wisp Creek and Deer Valley Park Association (Woodward Ranch). Because of engineering constraints or impacts to other resources, no improvements are planned as part of the Preferred Alternative at Woodward Ranch and Kings Valley. Locations identified under the Preferred Alternative for the installation of wildlife underpasses or span structures include Deer Creek, Roland Gulch, Wisp Creek, Elk Creek, and near the Green Valley Grill. The locations where permeability can increase and where restraints occur are discussed in further detail in the following sections.

To increase the effectiveness of wildlife crossing structures, lighting near structures is not proposed. If, during final design, the lack of lighting at a wildlife crossing structure is shown to reduce the safety of the roadway, then CDOT will coordinate with a biologist familiar with the impacts of lighting on

wildlife and a lighting specialist. Lighting will not be allowed to be directed towards crossing structure entrances.

At larger wildlife crossing structures, signage stating no loitering or trespassing is necessary to reduce use by humans. Signage should also identify the structure as a wildlife crossing.

Deer Creek

This is an area that is used by both deer and elk for seasonal movement between summer and winter ranges. An underpass for wildlife has been proposed for this location. Development will occur north of the Woodward Ranch and impact wildlife habitat; however south, the property owner is exploring options for a conservation easement.

Roland Gulch

At Roland Gulch the drainage currently is blocked with fill material from previous construction along US 285. Under the Preferred Alternative the highway would be shifted to the south to alleviate a sharp corner. As a result of this southward shift all existing fill would be removed and a bridge approximately 600 feet in length and approximately 30 to 40 in height at Roland Creek would replace the fill material. This bridge would have three piers for support that would be in the floodplain and possibly the creek; however, this would not affect the functionality of the creek or decrease the value of the creek. Bridging the creek would greatly increase the permeability of the study area for all species and would allow for the reconnection of Roland Creek upstream and downstream where the highway has severed the connection.

The area occupied by the fill and the highway would be retained in the future as highway right-of-way. It would function as open space, thus maintaining the value of this area as a wildlife crossing.

Wisp Creek

The Wisp Creek area was identified as an area where principally deer/vehicle collisions are of concern. In addition to improvements done as part of the Preferred Alternative, a grade-separated intersection would be constructed to serve The Villages at Sunset housing development. The development will force wildlife to attempt to cross US 285 more likely to the west at Wisp Creek. Currently there are two small culverts at this location that smaller carnivores may use to cross under the highway. Under the Preferred Alternative one retaining wall per each side of the highway would be constructed in the vicinity of Wisp Creek. The wall as proposed on the north side of the highway averages 11 feet high and by 440 feet long. The wall as proposed on the south side of the highway averages 11 feet high and 510 feet long. These walls pose problems as a barrier to movement across the highway and could lead to injuries or death of wildlife attempting to escape off the highway. There is also the potential that a noise wall (100 feet long, 7 feet high) could be constructed on the south side of the highway from Wisp Creek Drive east.

The two existing culverts in this area are not large enough for larger mammals to pass through. The culvert that carries Wisp Creek under US 285 measures 30 inches in size and under the Preferred Alternative would be extended but not increased in size. Willows (*Salix spp.*) and sedges grow up to and enclose the entrance to this structure. Use of this structure by wildlife likely is very limited. An additional culvert exists approximately 150 feet west of Wisp Creek that does not carry water except during storm events. This structure is 30 inches in diameter and could be used by smaller vertebrates to get across the highway.

The Wisp Creek corridor is threatened by planned development. Approximately 2,100 feet east of where Wisp Creek crosses under US 285 the Sunset Parkway interchange will be constructed under the No-Action Alternative regardless of other projects along US 285. Development will occur on both the north and south sides of this interchange and will limit areas where wildlife can freely move. In addition, there will be more human activity and automobiles than currently exists. This will likely result in wildlife being forced west along Wisp Creek.

On May 13, 2003, a CDOT biologist examined this general location to determine the amount of use by wildlife based on physical evidence (tracks, scat, etc.). Along the existing north right-of-way, the old US 285 roadbed is used by both deer and elk. This

area is above the highway and partially hidden by the road cut and vegetation. It appears that the animals are crossing the highway to the east and west of the existing guardrail. The proposed retaining wall in this location is not as long as the existing guardrail and, therefore, is not a new barrier to movement. Tracks showed that wildlife (principally elk) do at times move south to north and jump over the guardrail. Along this stretch the remains of two elk were found that most likely were hit by cars. Within the general area of the culvert west of Wisp Creek numerous deer and elk tracks showed that they are crossing at this location. One carcass was found near this culvert.

A 36-inch culvert will be installed under US 285 with the Preferred Alternative, thus improving crossing conditions for small mammals.

Shaffers Crossing (Elk Creek)

The situation at Elk Creek is similar to Roland Gulch; the drainage was filled when US 285 was constructed. To increase the permeability of the Elk Creek drainage, a steel arched structure measuring 24 x 12 feet is proposed just west of Elk Creek. A short bridge may be substituted for the culvert in this location. A structure of this size would allow for the movement of all wildlife species residing within this general area. Field review of this property showed that deer and elk come down the ridge to the northwest of the creek and mainly stay on the west side of the creek, where the new underpass is proposed. The landowner commented that he has seen deer cross in the existing water culvert, though not commonly because Elk Creek flows through it.

Under the Preferred Alternative, there are two variations at the Elk Creek Road intersection. Both of the Preferred Alternative variations have an overpass at the existing Elk Creek Road and a right-turn-only intersection on the south east side of the intersection. The difference between the two variations is in how traffic is directed on the north side of the intersection.

Both variations would have a small amount of impacts to wetlands and aquatic resources and are the least damaging to wildlife. Variation number one has the least impacts to wetlands and aquatic resources at a total of 0.03 acre. Variation number two would impact 0.07 acre. Variation number one would have a right-turn-only intersection east of the existing Elk Creek Road for motorists exiting off US 285 to access areas north of US 285. This would require removal of some trees and part of the existing hill. The area where removal of vegetation is necessary is not optimal habitat for wildlife and, with the existing large road cut along US 285, is likely used very little by wildlife. Thus, this variation has the least impact to wildlife. Variation number two would use the existing right turn lanes for motorists exiting off of US 285 but would require a new right-turn-only lane west of Elk Creek Road for motorists wanting to go west on US 285. Of the two variations, variation number one is the least damaging alternative, followed by variation number two.

Kings Valley

No new structures are proposed at Kings Valley. Because of other resources and the general topography of this area, an underpass is not possible. A retaining wall located east of the Longs House on the south side of the highway is proposed which would measure 365 feet in length with an average height of 8 feet.

On May 14, 2003, this area was assessed to determine current wildlife use and whether the retaining wall would block movement. Near the east end of the proposed wall, numerous elk tracks on both sides of the highway indicate that elk cross regularly within this area. Bones near the highway suggest that some crossing attempts were not successful. Since no new wildlife movement structures are proposed for this area, and in combination with the retaining wall, wildlife would not benefit from the Preferred Alternative and may actually be worse off than under the No-Action Alternative. Wildlife, especially deer, has a high site fidelity returning to the same location each year, and the young learn these areas (Garrott et al. 1987). Therefore, wildlife mortality would continue to occur, as there is no alternative at this location.

Green Valley Grill

A structure identical to the Elk Creek structure is proposed near the Green Valley Grill. At the location where deer and elk currently are being hit there is no good opportunity for increasing permeability because of the close proximity of private residences and businesses. A location west of the problem area has been identified for the wildlife underpass structure. This would allow greater permeability of the highway in this area.

Wildlife is currently staging for crossing of the highway on a wide, flat area that is the old roadbed. If this area is removed, or the approach to it is made steeper, then the wildlife may not use this area and may be more prone to using the wildlife underpass.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA [16 U.S.C. 701-711]) was enacted in 1918. Subsequent amendments have expanded the definition of migratory birds to include virtually all birds found in the United States. The MBTA establishes provisions regulating take, possession, transport, and import of migratory birds, including nests and eggs. The USFWS does allow the removal of some inactive nests, but not the nests of eagles, hawks or other closely related species.

Executive Order 13186 outlines the responsibilities of federal agencies to protect migratory birds. The Executive Order directs departments and agencies to take certain actions to further implement the Migratory Bird Treaty Act. These actions include, but are not limited to, the following:

- Support the conservation intent of the migratory bird conventions by integrating bird conservation principles, measures, and practices into agency activities and by avoiding or minimizing, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions.
- Restore and enhance the habitat of migratory birds, as practicable.
- Prevent or abate the pollution or detrimental environmental impacts caused by highways on nesting birds
- Ensure that environmental analyses of federal actions required by the NEPA or other established environmental review processes evaluate the effects of actions and agency plans on migratory birds, with emphasis on species of concern.

Based on the authority conferred to the USFWS by the MBTA, the USFWS may determine when taking of a migratory bird can occur. This determination may be based upon breeding habits, times of migratory flight, or other biological factors. Therefore, in order to reduce the potential take of a migratory bird, the USFWS requests that agencies avoid activities that may result in the taking of migratory birds from the time that the first egg is laid until the last young is fledged. The USFWS suggests that activities that could impact nesting birds should not be permitted during the time period of April 1 to August 15 (Carlson 2003). This range of dates will decrease the likelihood of destroying the nests of those species that nest early and allow the young of late-nesting species to fledge.

3.11.9 Aquatic Resources Environmental Consequences

No-Action Alternative

No additional direct impacts are anticipated with the No-Action Alternative. However, indirect impacts to aquatic resources may increase with the continued degradation of water quality associated with development and growth along US 285 and roads connecting to the highway.

Preferred Alternative

Direct impacts. Direct impacts to aquatic resources would include direct removal of fish and aquatic insect habitat as a result of bridge structure placement. For the Preferred Alternative, the only crossing with this condition is Roland Gulch where a bridge would replace fill material from previous construction. This bridge would have three piers for support that may be placed in the stream. The direct impacts associated with this placement of the piers are expected to be minor. Other stream crossings involve the replacement or preservation of culverts that have historically impacted the streams. As such,

direct impacts associated with the Preferred Alternative are also expected to be minor.

Indirect impacts. Indirect impacts associated with and common to all streams affected by the Preferred Alternative include:

- Increase in downstream sedimentation resulting from the erosion and transport of soil disturbed during construction activities.
- Water quality degradation resulting from hazardous materials and other contaminant releases related to increased traffic and associated accidents.
- Increase in stream temperatures resulting from runoff from increased impervious surface areas.
- Water quality degradation resulting from increased deicer application.

Indirect impacts associated with specific design and construction activities are described below:

North Fork of the South Platte River. The Preferred Alternative includes shifting the current alignment of US 285 closer to the North Fork of the South Platte River. To avoid direct encroachment of the river, two retaining walls are proposed. Erosion and transport of soils disturbed during construction of these walls immediately adjacent to the river could result in short-term sedimentation downstream. The sedimentation could impact trout spawning areas and aquatic insects habitat.

Deer Creek. Deer Creek is a major tributary to the North Fork of the South Platte River and is expected to support aquatic resources similar to those of the river. Deer Creek currently flows through a culvert under US 285 and will remain so under the Preferred Alternative. This alternative establishes new retaining walls where Deer Creek flows under US 285. This would result in the sedimentation of substrate within the stream and temporary reduction of fish spawning and aquatic insect habitat immediately downstream from the disturbance.

3.11.10 Vegetation Mitigation Measures

The following BMPs will mitigate some of the Preferred Alternative's impacts on vegetation:

- Minimize the amount of disturbance and limiting the amount of time that disturbed locations are allowed to be non-vegetated.
- Develop and implement a noxious weed management plan.
- Avoid, to the maximum amount possible, wetlands and riparian plant communities.
- Salvage suitable topsoil for use in revegetation.
- Implement temporary and permanent erosion control measures to limit erosion and soil loss.
- Reseed all disturbed locations except rock cuts with native plant seed mixtures.
- Replace trees and shrubs as recommended by the CDOT Landscape Architect and as required by the Senate Bill 40 permit.
- The site shall be monitored for three years post construction to determine the success of the revegetation. During this time control of noxious weeds shall be required. Noxious weeds must be less than 5% of the foliar cover after three years shall be the determination of successful weed control. After three years of monitoring if 70% or greater of plantings have survived and 70% or greater of the disturbed area is re-vegetated with favorable species and as determined by foliar cover, then the site shall be declared successfully reclaimed.

3.11.11 Noxious Weeds Mitigation Measures

An Integrated Weed Management Plan shall be developed for each construction phase of the project. The plan will include: identification and mapping of existing noxious weeds; potential impacts from invasive species spread into adjacent properties, wetland, riparian or other sensitive habitats; and preventative control measures. Specific mitigation measures shall include:

- Prohibit the use of weed-infected topsoil.
- Identify the species of weed and then treat before, during and after construction with an appropriate herbicide.
- Limit disturbance areas to minimum necessary.
- Identify sensitive areas such as threatened and endangered habitat and coordinate with specialists to assure no or minimal impact.
- Revegetate with native species as soon as possible. This will be done in phases as different portions of the improvements are completed.
- No importation of topsoil onto the project site.
- All construction vehicles must be cleaned prior to entering the construction site.
- Only certified weed forage will be used on the project.

3.11.12 Wildlife Mitigation Measures

Throughout the study area, there are 72 locations where culverts are necessary for water conveyance. At a location where a culvert needs to be upsized for water conveyance, the location will be evaluated during design to determine if the culvert needs to be modified or a second culvert needs to be added for animal passage. These 72 locations will greatly increase the number of locations where wildlife can safely cross the highway. One culvert will be specifically intended for the purpose of water conveyance in the main flow channel. The other culvert will be located slightly higher, which will allow for a dry passage for wildlife movement. In storm events the higher culvert would allow for conveyance of excess water. These culverts range in size from 24 to 126 inches. The average distance between these culverts is 1,116 feet, the longest distance is 3,400 feet, and the shortest is 200 feet.

At larger wildlife crossing structures signage stating no loitering or trespassing is necessary to reduce use by humans. Signage should also identify the structure as a wildlife crossing.

Once construction is completed, the study area would be reviewed. If wildlife mortality is occurring in locations where it was not possible to install structures, or new locations become problematic, then CDOT would investigate other methods of informing motorists of wildlife on the road. Active signage would be one of the methods considered.

To alleviate impacts on wildlife, the following mitigation measures are identified:

- Install wildlife underpass structures
- Plant cover around the wildlife underpass structures to 'funnel' wildlife to the structures.
- Develop and implement a Noxious Weed Management Plan.
- Clearing and grubbing needs to occur between August 16 and March 31 to protect nesting birds per the Migratory Bird Treaty Act. Clearing and grubbing outside of this time will only be allowed once surveys have determined no active (eggs or young) nests.

3.11.13 Aquatic Resources Mitigation Measures

Impacts to aquatic resources of the North Fork of the South Platte River and its major tributaries resulting from the Preferred Alternative can be avoided or minimized by design and incorporation of appropriate BMPs. Specifically, designing Roland Gulch Bridge to place piers outside the stream channel would avoid direct impacts to aquatic resources of Roland Gulch.

BMPs can also reduce construction and operation impacts when properly deployed. The use of silt retention structures, such as straw or hay bales or silt fences, in areas where construction will disturb soils can avoid or minimize downstream sedimentation. Construction during periods of low flow can minimize impacts related to scouring and the transport of sediment downstream. Construction activities will be scheduled to avoid or minimize impacts to spring and fall spawning areas.

Other BMPs utilized to contain contaminants from construction, operation and maintenance operations are described in **Section 3.7.5 beginning on page 3-62**.

3.12 Threatened, Endangered or Sensitive Species

3.12.1 Threatened or Endangered Species

The study area contains potential habitat for federal- and state-listed threatened or endangered species and state rare species. Field habitat investigations and surveys for species with potential for occurrence in the study area were conducted in spring 2004.

Federal Candidate, Proposed and Listed Species

The Endangered Species Act of 1973 as amended (16 U.S.C. 1531 et seq.) protects threatened and endangered species. Endangered species are species in danger of extinction throughout all or a significant portion of their range. Threatened species are likely to become endangered in the foreseeable future throughout all or a significant portion of their range. The US Fish and Wildlife Service (USFWS) provided a list of all species protected under the Endangered Species Act (ESA) of 1973 (as amended) that have the potential to occur in Jefferson and Park Counties (**Table 3-23**). Species known or thought to be present in the study area are discussed below. Species that do not exist in the project area are discussed no further.

Bald Eagle

In 1967, the bald eagle was designated as endangered in the contiguous 48 states. Although once numbering around 50,000, only about 800 breeding pairs remained by 1972. Breeding pairs now number close to 3,000 nationally, and there has been an increase in the number of hatchlings per nest. The bald eagle is also protected under the Bald and Golden Eagle Protection Act and Migratory Bird Treaty Act. In 1995, the bald eagle was reclassified from endangered to threatened in the contiguous 48 states.

The study area could potentially be used by migrating bald eagles. Since the study area lacks bald eagle habitat components, the likelihood of resident bald eagles in the study area is minimal.

Table 3-23: Federally Listed and Candidate Species Potentially Occurring in the Study Area

Species	Status	County	Present in Study Area
Amphibians			
Boreal toad *Bufo boreas boreas*	Candidate	Park	No - None present in CDOW surveys.
Fish			
Greenback cutthroat trout *Oncorhynchus clarki stomias*	Threatened	Park	No - None present in 1980s stream surveys.
Pallid sturgeon *Scaphirhynchus albus*	Endangered	Jefferson and Park	No - Project will not impact water sources that are part of the South Platte River system.
Birds			
Bald eagle *Haliaeetus leucocephalus*	Threatened	Jefferson and Park	Yes - Transitory during migration.
Whooping crane *Grus americana*	Endangered	Jefferson and Park	No - Project will not impact water sources that are part of the South Platte River system.
Least tern (interior population), *Sterna antillarum*	Endangered	Jefferson and Park	No - Project will not impact water sources that are part of the South Platte River system.

Table 3-23: Federally Listed and Candidate Species Potentially Occurring in the Study Area (Continued)

Species	Status	County	Present in Study Area
Piping plover *Charadrius melodus*	Threatened	Jefferson and Park	No - Project will not impact water sources that are part of the South Platte River system.
Mexican spotted owl *Strix occidentalis lucida*	Threatened	Jefferson and Park	No - Jefferson County designated critical habitat is not in the study area vicinity. Breeding habitat is not present in the study area.
Mammals			
Preble's meadow jumping mouse *Zapus hudsonius preblei*	Threatened	Jefferson	No - The study area is above the elevational range of this species.
Canada lynx *Lynx canadensis*	Threatened	Jefferson and Park	No - CDOW maps show this area as potential habitat due to the vegetative cover and resources that are needed to support a lynx population. However, the project is located in habitat that lynx do not use because of the development in this area.
Black-tailed prairie dog *Cynomys ludovicianus*	Candidate	Jefferson	No - Appropriate habitat is not present in the study area.
Invertebrates			
Uncompahgre fritillary butterfly *Boloria acrocnema*	Endangered	Park	No - Appropriate habitat is not present in the study area.
Pawnee montane skipper *Hesperia leonardus montana*	Threatened	Jefferson and Park	No - The study area is above the elevation range of this species.
Plants			
Penland alpine fen mustard *Eutrema penlandii*	Threatened	Park	No - The study area is below the elevational range of this species.
Ute ladies'-tresses orchid *Spiranthes diluvialis*	Threatened	Jefferson	No - The project is above the elevational range of this species.
Colorado butterfly plant *Gaura neomexicana coloradensis*	Threatened	Jefferson	No - The project is above the elevational range of this species.

3.12.2 State-Listed Species

The Colorado Division of Wildlife tracks species and lists species as threatened or endangered. Colorado Statute 33-2-105 states that, "...it is unlawful for any person to take, possess, transport, export, process, sell or offer for sale, or ship and for any common or contract carrier to knowingly transport or receive for shipment any species or subspecies of wildlife appearing on the list of wildlife indigenous to this state determined to be endangered or threatened within the state..." Six state-listed species either currently occur or have historically occurred in Jefferson and Park Counties (**Table 3-24**), although none are thought to be present in the study area.

Table 3-24: State-Listed Species Identified for Jefferson and Park Counties

Species	Status	Present in Study Area
Boreal toad *Bufo boreas boreas*	State Endangered	No - None present in CDOW surveys (Clark 2002).
Common shiner *Notropis cornutus*	State Threatened	No - None present in CDOW 1980s stream surveys.
Lake chub *Couesius plumbeus*	State Endangered	No - None present in CDOW 1980s stream surveys, probably extirpated from the state.
Northern river otter *Lutra canadensis*	State Endangered	No - Found in rivers with a minimum flow of 10 cubic feet per second (Fitzgerald et al. 1994). Unlikely since South Platte is channelized in a developed area and streambank vegetation is low.
Rio Grande sucker *Catostomus plebeius*	State Endangered	No - Restricted to the Rio Grande drainage (Woodling 1985).
Western burrowing owl *Athene cunicularia*	State Threatened	No - Found in shortgrass prairie (Kingery 1998).

3.12.3 State Rare Species

State rare species are species identified by the Colorado Natural Heritage Program (CNHP) natural heritage database as declining in all or a portion of their ranges. CNHP tracks and ranks Colorado's rare and imperiled species and habitats and provides information and expertise to promote the conservation of Colorado's valuable biological resources (CNHP 2002). Thirty-three state rare species have the potential to be present in the study area (**Table 3-25**). Species known or thought to be present in the study area are discussed below.

Table 3-25: State Rare Species Potentially Present in Jefferson and Park Counties

Species	Status	Present in Study Area
Sagebrush vole *Lemmiscus curtatus*	G5, S1	No - No sagebrush or sagebrush-wheatgrass rangeland in study area.
Townsend's big-eared bat ***Plecotus townsedii***	**G4T4, S2**	**Yes**
Brazilian free-tailed bat *Tadarida brasiliensis*	G5,S1	No - not found in Jefferson or Park Counties.
Fringed myotis *Myotis thysanodes*	G4, G5, S3	No - Study area is above the elevation range of this species.
Peregrine falcon ***Falco peregrinus***	**G4T3, S2B, SZN**	**Yes**
American white pelican *Pelecanus erythrorhynchos*	G3S1B, SZN	No - No large reservoirs present in the study area.
Barrow's goldeneye *Bucephala islandica*	G5S2B, SZN	No - breed in the Flattops in lakes at approximately 10,500 feet.

Table 3-25: State Rare Species Potentially Present in Jefferson and Park Counties (Continued)

Species	Status	Present in Study Area
Brewer's sparrow *Spizella breweri*	Not tracked by CNHP	No - No sage (Artemesia spp.) habitat present in study area.
Ferruginous hawk *Buteo regalis*	G4, S3B, S4N	No - associated with plains grassland species.
Flammulated owl ***Otus flammeolus***	**Not tracked by CNHP**	**Yes**
Grasshopper sparrow *Ammodramus savannarum*	Not tracked by CNHP	No - associated with plains grasslands.
Gray vireo *Vireo vicinior*	G4, S2B, SZN	No - Study area is above the elevation range of this species.
Horned lark *Eremophila alpestris*	Not tracked by CNHP	No - No shortgrass prairie with bare ground present in study area.
Greater sandhill crane *Grus canadensis*	G5T4, S2B, S4N	No - breed in a variety of wetland habitats, particularly flooded fields and beaver ponds, also marshes and wet meadows. Not present in wetlands in the study area.
Lark bunting *Calamospiza melanocorys*	Not tracked by CNHP	No - associated with plains grasslands.
Long-billed curlew *Numenius americanus*	G5, S2B, SZN	No - associated with plains grasslands.
McCown's longspur *Calcarius mccownii*	G5, S2B, SZN	No - associated with plains grasslands.
Red-headed woodpecker *Melanerpes erythrocephalus*	Not tracked by CNHP	No - Study area is above the elevational range for this species.
Three-toed woodpecker *Picoides tridactylus*	Not tracked by CNHP	No - No spruce-fir forest habitat in the study area.
Williamson's sapsucker ***Sphyrapicus thyroideus***	**Not tracked by CNHP**	**Yes**
Greater sage grouse *Centrocercus urophasianus*	G4, S4, SC	No - No sage habitats in the study area.
Western snowy plover *Charadrius alexandrinus*	G4T3, S1B, SZN, SC	No - breed only in southeastern Colorado on reservoir edges.
White-tailed ptarmigan *Lagopus leucurus*	G5, S4	No - associated with alpine tundra.
Flathead chub *Hybopsis gracilis*	Not tracked by CNHP, SC	No - restricted to the Arkansas River Basin.
Iowa darter *Etheostoma exile*	Not tracked by CNHP, SC	No - Surveys by the CDOW (1980s) did not find any in any of the streams in the study area.
Mountain sucker *Catostomus platyrhynchus*	Not tracked by CNHP, SC	No - found in northwestern Colorado.
Rio Grande chub *Gila pandora*	G3, S1, SC	No - restricted to the Rio Grande Basin in Colorado.

Table 3-25: State Rare Species Potentially Present in Jefferson and Park Counties (Continued)

Species	Status	Present in Study Area
Rio Grande cutthroat trout *Oncorhynchus clarki virginalis*	G4T3, S3, SC	No - None present in CDOW 1980s stream surveys.
Wood frog *Rana sylvatica*	G5, S3, SC	No - found in the mountains surrounding North Park.
Northern leopard frog *Rana pipiens*	**G5, S5, SC**	**Yes - See Section 3.11.4**
Short-horned lizard *Phrynosoma hernandesi*	**Not tracked by CNHP**	**Yes - See Section 3.11.4**
Eastern fence lizard *Sceloporus undulates*	**Not tracked by CNHP**	**Yes - See Section 3.11.4**
Lined snake *Tropidoclonion lineatum*	**G5, S3**	**Yes - See Section 3.11.4**

SC - State Special Concern (not a statutory category)
G1 - Globally critically imperiled; typically 5 or fewer occurrences
G2 - Globally imperiled; typically 6 to 20 occurrences
G3 - Globally vulnerable; typically 21 to 100 occurrences
G4 - Globally apparently secure; usually > 100 occurrences
G5 - Globally demonstrably secure although it may be rare in parts of its range
S1 - State critically imperiled; typically 5 or fewer occurrences
S2 - State imperiled; typically 6 to 20 occurrences
S3 - State vulnerable; typically 21 to 100 occurrences
S4 - State apparently secure; usually > 100 occurrences
S5 - State demonstrably secure
G#T# - Trinomial rank (T) is used for subspecies or varieties; ranked on same criteria as G1-G5
S#B - Refers to breeding season imperilment of elements that are not permanent residents
S#N - Refers to non-breeding season imperilment of elements that are not permanent residents; SZN used where no consistent location can be discerned for migrants or non-breeding populations
S? - Unranked; some evidence that species may be imperiled

Townsend's Big-Eared Bat

Townsend's big-eared bat subspecies *Plecotus townsendii pallescens* occurs over most of the western two-thirds of the state to elevations of about 9500 feet. Habitat is semidesert shrublands, pinyon-juniper woodlands, and open montane forests. This species is frequently associated with caves and abandoned mines (Fitzgerald et al. 1994). The habitat in the study area does not lend itself to use as hibernacula or day roosts. Townsend's big-eared bats would only be transitory in the study area and the Preferred Alternative would not impact this species.

Peregrine Falcon

Colorado had no active peregrine falcon nest sites in the 1970s; 89 active nest sites were present in 1999 following protection under the Endangered Species Act (Federal Register 1999). In Colorado, nest sites are typically cliffs between 4,500 to 9,000 feet elevation, with most being found in the lower end of this range (Kingery 1998). Pinyon-juniper and ponderosa pine forests are the most common habitats (Kingery 1998). Within the study area, the location best suited for nesting by peregrine falcons is Lone Rock.

Raptors - Including Peregrine Falcon

On the mornings of April 12 and 13, 2004, the large cliff face near Roland Gulch was observed for evidence of raptor nesting. A hand-held Global Positioning System was used to determine local time sunrise for both mornings. The biologist would arrive at the site before sunrise in a position where observation of the cliff face was possible. The biologist would watch and inspect the cliff face using Swarovski 10X42 binoculars from prior to sunrise to two hours after sunrise. This would allow for the observation of any raptors using the cliff face as a night roost, raptors in the area developing a pair bond near the cliff, the presence of whitewash from historic nests, or any nests located on the cliff face. No evidence of nests was observed. No raptors were observed perched on the cliff or leaving the

cliff on either morning. A red-tailed hawk was observed hunting in the general area on the morning of the 12th, but the red-tail was not seen near the cliff. On the morning of the 13th a Cooper's hawk was observed hunting near the base of the cliff in the Ponderosa forest. This bird was not observed using the cliff either. Based on the observations made on the 12th and 13th, plus the fact that the Colorado Division of Wildlife has not noted nesting on the cliff in the recent past, it is doubtful that any raptors are using the cliff as a nest site.

If construction does not begin prior to April 1, surveys of the cliff to identify nesting raptors will be necessary.

Flammulated Owl

In Colorado, flammulated owls are present in ponderosa pine and Douglas fir forests between 6,000 and 10,000 feet elevation. Aspen are often used for nest cavities. If surveys identify active nest sites these sites will not be impacted until fledging is confirmed. Removal of potential nesting habitat is permissible if conducted between August 16 and April 31.

Williamson's Sapsucker

Williamson's sapsuckers are typically found in ponderosa pine and aspen forests between 7,000 to 10,700 feet elevation (Kingery 1998). Aspens are an essential habitat component for nesting; coniferous forests are used for foraging and tree wells.

The study area was assessed for habitat capable of supporting Williamson's sapsuckers on 4/12/04. Based on the assessment of the study area, there are many areas that offer suitable foraging habitat in Ponderosa pine forests but adequate aspen nest sites are not found within areas that will be impacted under the Preferred Alternative. Based on the assessment of the study area, it is unlikely that nest sites will be affected as a result of the Preferred Alternative. Surveys specifically for this species are not justified based on the small amount of aspens impacted and the close proximity of existing aspens to US 285. To protect against the take of an active nest, which are protected under the Migratory Bird Treaty Act of 1918, nesting habitat for all avian species should be removed between August 16 and April 31 when nesting is not occurring.

3.12.4 Environmental Consequences

The US Fish and Wildlife Service (USFWS) is mandated under the Endangered Species Act (ESA) of 1973 (as amended) with the listing and recovery of species identified as threatened or endangered. The USFWS was contacted to receive the list of threatened or endangered species identified for Jefferson and Park Counties. **Table 3-23 on page 3-98** identifies those species, their habitat requirements, and the potential for them to occur within the study area. Both the No-Action and Preferred Alternatives would have 'no effect' on listed or proposed species.

The No-Action Alternative would not involve land-disturbing activities likely to directly impact vegetation along US 285. Thus, there would be no impact associated with this alternative to Williamson's sapsucker.

Preferred Alternative

Direct impacts to vegetation would occur from clearing, excavation, and grading for highway improvements. New road cuts, fills, interchanges, and frontage roads will result in the removal and loss of existing vegetation. **Table 3-22** identifies the type and amount of habitat impacted by the Preferred Alternative. Aspen and ponderosa pine woodland/ mixed conifer will be impacted. The amount of impacts is quantifiable; the quality of the habitat loss as it pertains to Williamson's sapsuckers is not.

3.12.5 Mitigation Measures

No mitigation measures are necessary for threatened or endangered species.

3.13 Visual Quality

3.13.1 Existing Conditions

The FHWA DOT-FH 119694 American Society of Landscape Architects (ASLA) Guidelines were used to develop a methodology for assessing visual impacts. The methodology included field interpretation of the existing visual character and land use, contact with local planning agencies to obtain important viewshed information, and identifying vantage points for motorists and residents. Issues raised from public involvement also were addressed.

The land immediately adjacent to US 285 is not a part of the National Forest System, but long-distance views are to portions of the Pike National Forest. To assess the visual character of the study area, the study area was broken down into four distinct landscape units containing similar elements. The visual landscape units within the study area are defined as follows.

Grassland Meadows and Drainages

These areas are open and flat to rolling terrain. Many of these areas provide a wider viewshed that enhances the scenic quality. Agriculture and grazing activities are present in the study area. Meadows and open space are considered visually sensitive areas in the *Conifer/285 Corridor Area Community Plan* (July 1987).

The highway enters the Platte River Canyon near Bailey. Occasional patches of scrub/shrub and riparian vegetation occur at the drainage locations. Vegetation common to this landscape is willow, alder, aspen and cottonwood. This landscape unit is most often viewed in the foreground and middleground. These could be considered areas of higher scenic quality since they afford a wider and longer viewshed and are less common.

Shaffers Crossing, southbound US 285, MP 231

Coniferous Forest

Much of the study area is vegetated with coniferous trees, immediately adjacent to the road and into the background viewsheds.

US 285 southbound, between Pine Junction and Deer Creek

Rock Outcroppings

Throughout the study area, rock outcroppings occur immediately adjacent to the highway - some altered by previous road construction, some natural with coniferous tree growth. The landforms create areas of higher scenic quality. Similar landscapes occurring in Jefferson County are considered to be visually sensitive areas according to the *Conifer/285 Corridor Area Community Plan* (July 1987).

Southbound US 285, south of Bailey, MP 222.5

Rural Residential, Commercial, and Developed Areas

Rural home sites, ranches, and commercial establishments appear sporadically throughout the study area and in greater density near towns and major road crossings such as Shaffers Crossing, Pine Junction, and Bailey. The land uses contain elements common to a commercial landscape character such as signs, utilities, lighting, parking lots and a larger percentage of vehicles. The architectural styles, building heights, materials and colors vary. Elements common to highways are found within the highway right-of-way, such as overhead utilities, lighting, signing, signals, guardrail, fencing, and maintenance yards.

Pine Junction, southbound US 285, MP 229

Viewsheds

The four visual landscape units were inventoried for existing foreground, middleground, and background views to and from the study area and distinctive (scenic) views outside the study area.

The foreground landscape views are those immediately visible from the highway and describe the local character of the area. The foreground is defined as the area within 0 to 0.5 mile. Views along US 285 are generally confined to the foreground elements.

The middleground is defined as 0.5 mile to 4 miles from US 285, while the background views are 4 miles or greater. The background views include the Pike National Forest and some distant wilderness areas. Along a large portion of the study area, views are contained within this immediate basin, controlled by the mountains on either side of the highway. The highway can be seen from vantage points outside of the highway corridor depending on the elevation of the viewer.

According to the *Conifer/285 Corridor Area Community Plan* (July 1987) developed by the Jefferson County Planning & Zoning Department, "visual resources of this corridor are among its most important values. Views of the area's beauty attract peo-

ple to the community and provide pleasure to its residents." The goal described in the *Plan* is to preserve the area's visual resources. Policies and design guidelines have been developed to identify visually sensitive areas and site-specific design concepts to follow to integrate future development into the landscape and minimize visual impacts. Structures, roads, and utilities should be sited and designed so that they do not visually dominate the landscape. Development should try to achieve a visually cohesive appearance compatible with the character of the area.

Visually sensitive areas for the Jefferson County portion of the study area have been defined as:

- View corridors along transportation routes, especially the foreground
- Steep slopes
- Meadows

Significant views identified in the *Park County Strategic Master Plan* (Feb. 5, 2001), Visual Priority Map, include a view origin near Bailey that extends south towards the Kenosha Mountains and Lost Creek Wilderness, and a view origin along PCR 43 looking south along the Deer Creek valley towards the North Fork of the South Platte River drainage. Another view was identified west of Bailey near Glenisle looking northwest towards the Mt. Evans Wilderness. **Figure 3-19** indicates the location of these views. These scenic vistas were described in the *Master Plan* as being important to residents as "character-defining attributes." A goal listed in the *Master Plan* identifies the desire to "improve the quality of new development as it relates to site and architectural design, compatibility with existing rural character and sensitivity to natural environment."

3.13.2 Environmental Consequences

No-Action Alternative

The No-Action Alternative would result in the least change to the existing visual character. Regardless of whether the Preferred Alternative is constructed, a grade-separated intersection with frontage roads is planned for Sunset Boulevard in the Pine Junction area.

Preferred Alternative

Visual impacts of the Preferred Alternative were determined by comparing existing conditions as determined by field visits and photographs with roadway plan sheets, artists' renderings of proposed structures, and similar features recently constructed in highway sections northeast of the study area.

Visual impacts associated with the Preferred Alternative would be both short and long term.

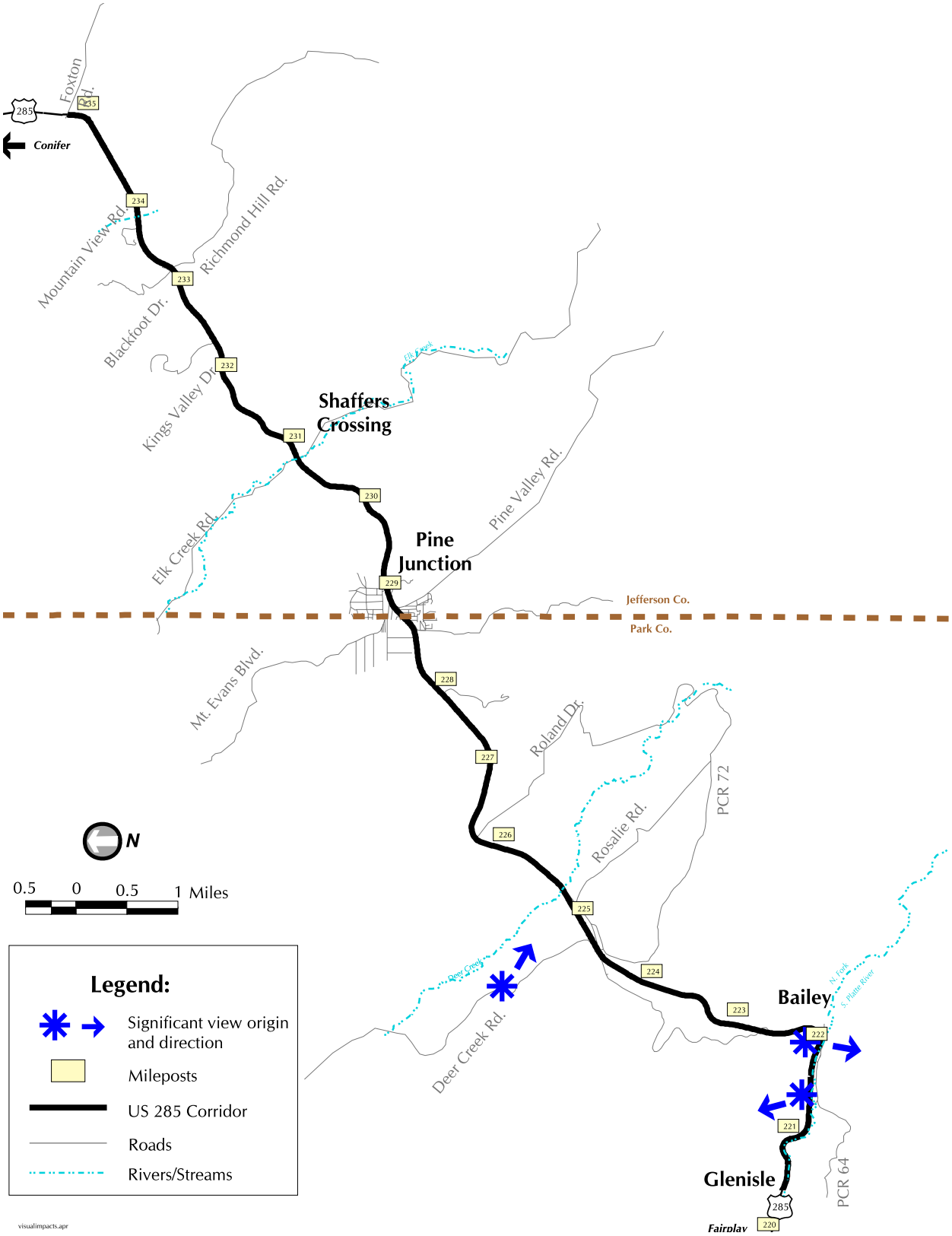
Short-term visual impacts associated with the Preferred Alternative include:

- Construction equipment, signing, and excavated material associated with construction in the staging areas
- Dust and debris associated with construction activity
- Traffic congestion associated with construction activity and detours
- Unvegetated slope

Long-term visual impacts associated with the Preferred Alternative include:

- Expansion of paved surface width
- Expansion of clear zone width
- Grade-separated intersections
- Frontage roads
- Cut and fill slopes
- Rock cuts
- Retaining walls
- Alignment changes, including bridge construction
- Lighting
- Runaway truck escape ramp north of Bailey
- Additional features, such as guardrails

Figure 3-19: Visual Resources



Following are descriptions of the long-term visual impacts.

Expanded Paved Surface and Clear Zone

Road widening would significantly alter motorists' foreground and middleground views of the roadway and adjacent countryside and commercial areas. Background views of foothills and mountain peaks also would be changed. Roadway width, which currently varies from 24 to 54 feet, would increase to a typical width of 98 feet (in areas with four 12-foot lanes, 28 feet of shoulders, and a 22-foot median) plus widened clear zones (See **Section 2.4.2.1 on page 2-9** and **Figure 2-8 on page 2-12**). In areas where grade-separated intersections are sited, auxiliary lanes, additional medians, and 30-foot-wide frontage roads are planned on one or both sides of the roadway as well as intersection lighting. Informal roadside pull-outs would be eliminated or consolidated.

Completed US 285 phase east of Aspen Park

More extensive foreground views of pavement and greater distance to forested areas would be perceived as a substantial difference in visual character. It is anticipated that the change in roadway character from a winding two-lane road to a four-lane high-speed highway would diminish the human connection to the natural environment. Additionally, the roadway would become a much more prominent foreground and middleground landscape feature in views from residences and commercial sites.

Rim Rock Road to Wisp Creek area, view to northeast

Grade-Separated Intersections and Frontage Roads

Grade-separated intersections are required at seven locations (see **Section 2.4.2.7 beginning on page 2-22** and **Figure 2-17 on page 2-24** through **Figure 2-23 on page 2-27**) to improve safety at heavily used intersections. Frontage roads would consist of two 12-foot lanes with 3-foot shoulders. Grade-separated intersections and associated frontage roads and auxiliary lanes would dominate foreground and middleground views.

Grade-separated intersection with overpass at Aspen Park, view to southwest

Locations of grade-separated intersections with overpasses are:

- **Elk Creek School Area at Old US 285 Frontage Road, south of Shaffers Crossing:** Foreground and middleground approaches to the interchange would be dominated by the bridge. Southbound motorists would additionally have views dominated by additional frontage roads, and the fill slope for the approach to the bridge on the east side of the highway would be seen.

- **Kings Valley:** For motorists approaching Kings Valley from the west, the foreground views would be dominated by the bridge and its associated fill slope on the south side of the highway. Motorists approaching from the east would have foreground and middleground views dominated by the bridge, as well as by a frontage road and low retaining walls on the north side of the highway. Views to the south of Pikes Peak would be diminished.

Additionally, grade-separated intersections with overpasses and their associated structures would dominate middleground views from area residences and commercial sites, especially in the Kings Valley vicinity.

Underpasses and associated cut slopes would dominate foreground views for frontage road motorists and area residents. Locations of grade-separated intersections with underpasses are:

- Deer Creek Area at PCR 43 (northwest side)/PCR 72 (southeast side)
- Deer Creek Area at PCR 43A - the southwest bound bridge would not include an auxiliary lane
- Mt. Evans Boulevard (Pine Junction)
- Shaffers Crossing area at Elk Creek Road - due to space limitations, the underpass would be tunnel-like with the vertical face abutments of the bridges placed near the edge of the shoulder
- Green Valley

Grade-separated intersection with underpass at Conifer. Note vertical facie abutments of the bridges placed near the edge of shoulder

Cut and Fill Slopes

Cut and fill slopes are generally at a grade of 3:1 (horizontal to vertical) and occasionally 2:1, have a soil surface, and can be revegetated. As a result of these relatively shallow slopes, the disturbance limits would extend well beyond the roadway for moderate to high cuts and fills. Visual changes could occur in areas where the expanded roadway, increased line of sight, or realignment requires cut and fill slopes. Existing cut and fill slopes are partially revegetated with medium-sized trees, and exposed rock has weathered to muted colors. New cut slopes would dominate foreground views for motorists, and fill slopes would dominate middleground views for area residents, especially while exposed rock and soils weather and vegetation develops. Major areas of cut and fill slopes would be located in the vicinities of:

Crow Hill
Deer Creek
Rim Rock Road
Pine Junction
Shaffers Crossing
Kings Hill
Richmond Hill
Green Valley Ranch

Cut slope adjacent to US 285 east of Aspen Park

The rock outcrop on the north side of the road approximately 0.25 mile east of Pine Junction would likely be removed during cutslope grading. In place of a scenic and unusual rock formation, motorists' views would be of a typical vegetated cut slope.

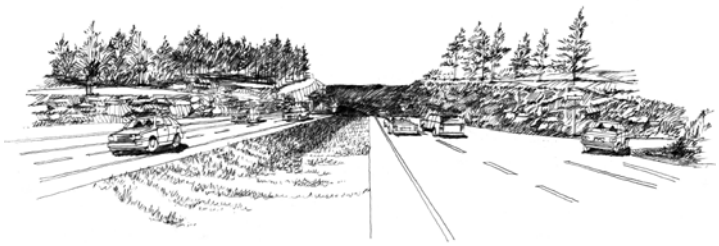
Rock Formation east of Pine Junction

Rock Cuts

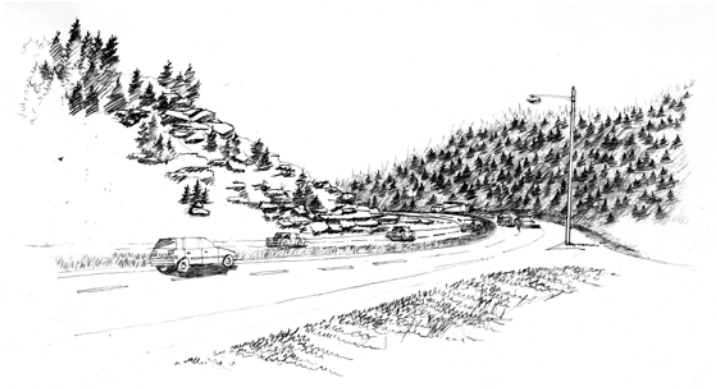
Rock cuts are excavated bare rock, generally with slopes steeper than 2:1. Rock cuts (**Figure 3-20**) are required in narrow valleys and at sides of slopes to accommodate additional roadway width and safety improvements, including clear zone, rockfall catchment, sight distance, and shoulders. Some rock cuts may be faced with artificial rock panels (see Retaining Walls discussion in next paragraph). Rockfall mesh, rock bolts, barriers, shotcrete facing, and/or extra-wide catchment ditches would be used to contain rock falls. Some rock cuts would be engineered cuts with rock bolts, anchors, and shotcrete used for slope stabilization. High rock cuts of freshly exposed rock devoid of vegetation would dominate motorists' foreground and middleground views, but allow greater distance views of scenery. Rock cuts, especially at Shaffers Crossing, would be highly visible from area residences and commercial sites. Some rock cuts would be visible in back ground views. Vicinities of major rock cuts are:

Rock cut adjacent to US 285 near Turkey Creek park-n-Ride

- **Crow Hill:** 1,400 feet long, 20 to 35 feet high
- **Rim Rock west:** 400 feet long, 20 to 25 feet high
- **Wisp Creek:** 800 feet long, 15 to 20 feet high
- **Sunset West:** two cuts, both 600 feet long, 10 to 20 feet high
- **Sunset:** 300 feet long, 10 feet high
- **Pine Junction:** 1,400 feet long, 25 to 35 feet high
- **Shaffers Crossing:** 1400 feet long, 170 feet high

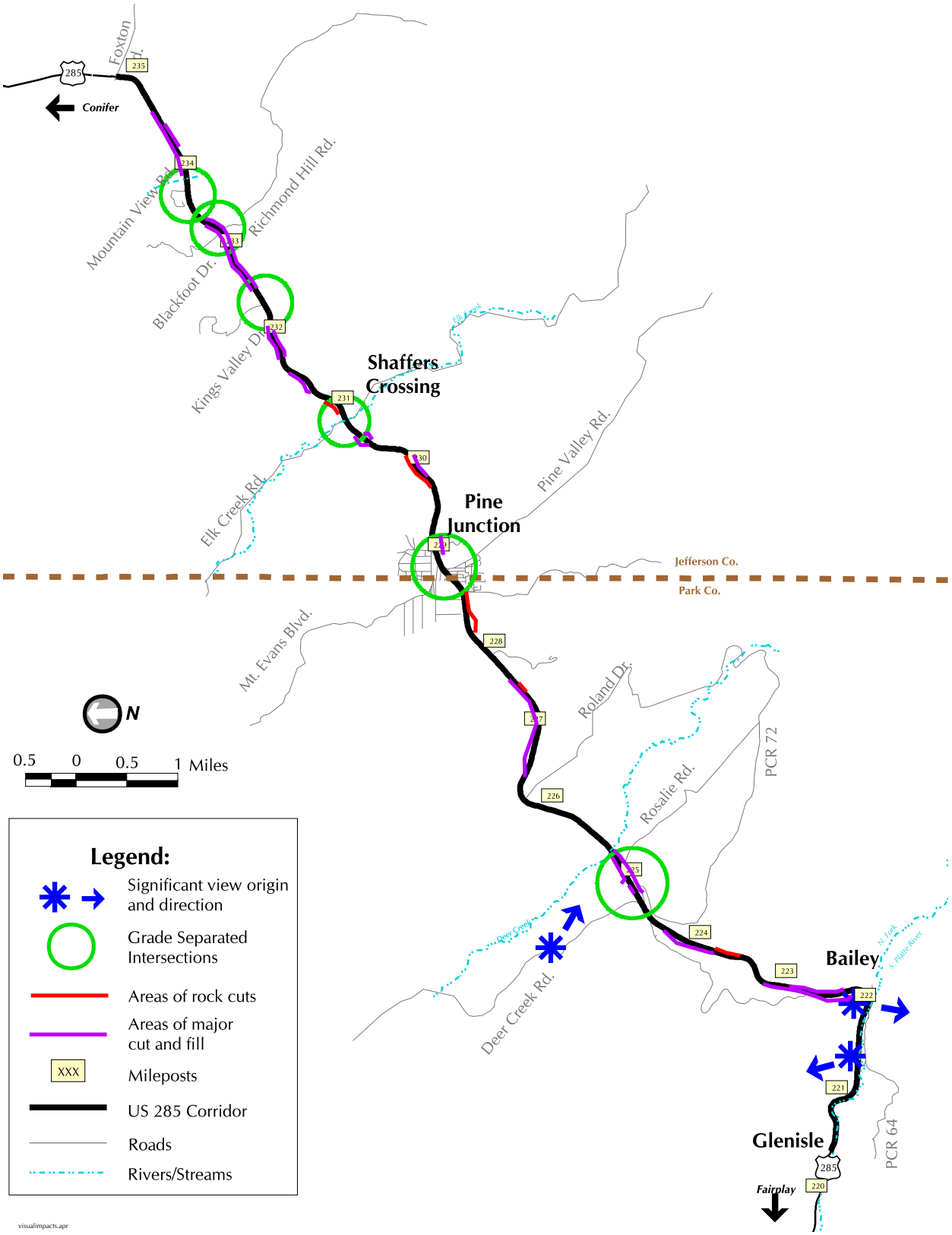


Artist rendering - Top of Crow Hill



Shaffers Crossing view to the northwest

Figure 3-20: Locations of Major Cuts/Fills, Rock Cuts and Overpasses



Retaining Walls

Retaining walls are required to limit the extent of rock and soil cuts and fill slopes in ecologically or historically sensitive sites at private property and in areas required for adequate line of sight. Retaining walls can vary in height. Most walls would be on the downhill side of the road with low visibility to motorists.

Retaining wall adjacent to US 285 east of Aspen Park

Retaining walls would alter the rural character of the roadway and natural slope shapes and would dominate foreground and some middle ground views from areas residences and businesses. General vicinities and the range of lengths and heights of the retaining walls are listed below, with a reference in parenthesis to the specific walls on **Figure 2-24 on page 2-32** and in **Table 2-3 on page 2-31**):

- **North Fork of South Platte River at Bailey:** 45 to 1100 feet long, 3 feet high (1 on **Figure 2-24**)
- **Crow Hill:** 50 to 990 feet long, 3 to 30 feet high (2, 3 and 4 on **Figure 2-24**)
- **Deer Creek:** 85 to 1,150 feet long, 2 to 32 feet high (5, 6 and 7 on **Figure 2-24**)
- **Wisp Creek:** 295 to 1,440 feet long, 10 to 15 feet high
- **Pine Junction:** 185 to 1,075 feet long, 2 to 30 feet high (8 and 9 on **Figure 2-24**)
- **Shaffers Crossing:** 95 to 750 feet long, 2 to 10 feet high (10 on **Figure 2-24**)
- **Kings Valley:** 150 to 830 feet long, 3 to 28 feet high (11 and 12 on **Figure 2-24**)
- **Green Valley Ranch:** 80 to 775 feet long, 3 to 15 feet high

Noise Walls

Two noise walls constructed of concrete or masonry are planned on the south side of the highway both east and west of Wisp Creek Drive to reduce highway noise in a residential area adjacent to the south side of the highway.

Noise Wall Example

Noise walls would alter the rural character of the roadway and would be highly visible from area residences on the south side of the highway. Additionally, noise walls would dominate foreground and middle ground views from the highway as well as from residences on the north side of the highway. Scenic mountain views from the residential area could be blocked in the area of the noise wall.

Alignment Changes

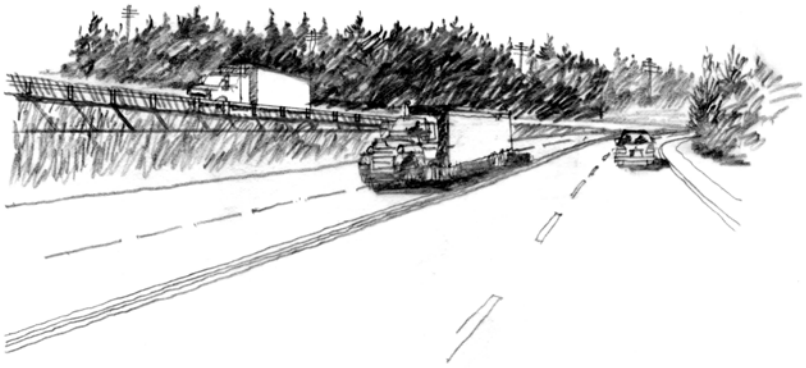
The Preferred Alternative alignment generally follows the existing roadway. The alignment alterations were the greatest in the following locations (See **Section 2.4.2.1 on page 2-9**):

- **East of Crow Hill summit:** Center line would be shifted 22 feet to the west; edge of pavement shifted 42 feet to the west.
- **Deer Valley Ranch:** Center line would be shifted 10 feet to the southeast.
- **Roland Gulch:** Center line would be shifted 450 feet to the southeast.
- **Between Roland Drive and Rim Rock Road (west):** Center line would be shifted 15 feet to the north.

Roland Gulch fill slope and culvert, view to west.

The greatest alignment shift would occur at Roland Gulch bridge replacement where new bridges would be constructed south of the existing stream crossing. Access to Roland Drive would be maintained. The existing culvert and fill slope would be removed. The new bridges, possibly of steel girder construction, are planned to be two 650-foot-long structures, approximately 40 feet above Roland Gulch stream. Four spans would be required; one span would be placed in wetlands adjacent to the stream. Currently the surrounding area is mainly coniferous forest; the new bridges would give greater views of the stream and wetlands, especially in the area where the existing sparsely vegetated fill slope would be removed. Additionally, the new alignment would provide a dramatic view of Lone Rock for northeastbound motorists and preserve views towards the Mt. Evans Wilderness for southwestbound motorists.

A runaway truck escape ramp and associated retaining wall north of Bailey would be visible from the northeast area of town. A 22-foot high, 280-foot-long retaining wall is planned along a portion of the east side of the ramp to avoid impacts to wetlands. The view for motorists traveling down Crow Hill would be of a 1% grade, 1,225-feet-long, 26-foot-wide gravel ramp with a 12-foot-wide paved tow truck access road. A 3:1 fill slope is planned along the remainder of the south and east end of the ramp. The foreground view from Bailey and for motorists going up the lowest portion of Crow Hill would include the vegetated fill slope.



Artist rendering - Runaway Truck Escape Ramp

Lighting

Fixed-source roadway lighting would be installed at major intersections to provide safe and comfortable operation. Factors that affect the location and use of lighting include the ability of motorists to see turning roadways and other vehicles, traffic volumes, and nearby land uses. Placement of fixed-source roadway lighting would create light pollution and alter the rural character of the roadway to more urban night views. New fixed-source lighting is proposed at the following locations:

- Runaway truck escape ramp entrance
- Deer Creek grade-separated intersections
- Pine Junction grade-separated intersection
- Shaffers Crossing grade-separated intersections
- Kings Valley grade-separated intersection
- Richmond Hill grade-separated intersection
- Green Valley grade-separated intersection

During final design of the roadway, there will be more detail on locations of additional lighting.

Additional Features

Guardrails would typically be located at Crow Hill areas that currently have guardrails, as well as added in the vicinities of Bailey, Wisp Creek, Kings Valley and Green Valley. Replacing existing metal W-beam guardrails, the new feature would be a wire rope safety fence, which allows better maintenance access for snow removal and improved wildlife passage.

3.13.3 Mitigation Measures

Construction

To minimize air quality impacts, dust suppression techniques would be practiced to keep construction associated dust to a minimum and controlled.

Revegetation

The revegetation plant species would be native trees, shrubs, and grasses of the Colorado foothills. Species would be placed in appropriate sun exposure, soil, and moisture conditions. Riparian vegetation would be planted at creek and wetland edges. Trees and shrubs would be grouped in patterns similar to those of existing vegetation.

To help stabilized soils disturbed by construction, native seed mixes would be spread using broadcast methods appropriate to site conditions. Topsoil would be salvaged prior to construction, stockpiled and placed on slopes to be seeded. Noxious weed control would be used before salvaging on-site topsoil and during plant establishment. Mulch tackifier products would be used to reduce seed loss from wind or water erosion. Where necessary for erosion protection, slopes would be covered with erosion control blankets.

Clear Zones

CDOT would identify trees in the clear zone to be removed to accommodate the proposed cross section. To establish a natural appearing edge, trees would be randomly removed beyond the clearing line, and new tree and shrub plantings would vary in size and height.

Grade-Separated Intersections

Public input will be solicited on aesthetic issues such as bridge design treatments at grade-separated intersections. These would include facing materials, colors, textures, and aesthetic elements. The *US 285 Aesthetics Study and Design Guidelines* drafted in June 2004 provides general visual treatments of selected structural elements within the study area (see the *US 285 Aesthetics Study and Design Guidelines* Technical Report).

Cut and Fill Slopes

Cut slopes would be completed to provide naturally appearing foreground views. Techniques would include undulating finish grades, creating pockets for native shrubs and trees, studding with boulders, and establishing large areas of native grass. Where feasible, rock outcroppings would remain exposed, and native rock placement would be used to smooth abrupt transitions to adjacent landforms and to accentuate ridges and drainages. Tops and bottoms of cut slopes would be rounded.

Drainages would be reestablished and planted with appropriate, native species. Channel edges would

be rolled back, rounded and reseeded. Erosion control measures would include rock rip-rap, erosion control blankets, and other techniques as necessary.

Fill slopes in riparian areas would be constructed with minimum disturbance to wetland and creek edges. Native riparian trees and shrubs would be planted at the toe of slope, and native rock placement would be used to prevent erosion and encroachment into riparian areas.

Rock Cuts

It is recommended that rock cut locations be analyzed by a geotechnical engineer or engineering geologist during final design. Rock removal methods which allow a natural appearing cut face would be identified. As much as practicable, the final cut faces would be formed to a shape and texture consistent with adjacent areas. Where possible, blasting or ripping would be tailored to terminate at natural rock joints.

Prior to construction, natural drainage locations would be noted, and, where practicable, replacement drainages courses would be similar in appearance and location. To blend shotcrete areas with adjacent slopes, shotcrete could be tinted and/or sculpted to match the color and texture of adjacent natural surfaces. Coatings of rockfall mesh would also match adjacent soil or rock colors. Rockfall mesh would be pinned to conform with the slope at excavated surfaces to reduce the "spider-web" appearance for a more natural look. Revegetation would be performed as practicable to establish a natural appearance with varying shrub and tree species and sizes.

Retaining Walls

To provide a more natural appearance, retaining walls at the roadside edge would undulate horizontally and vertically where feasible and be colored to match adjacent dry soil. Proposed wall types include concrete, precast units and mechanically stabilized earth (MSE), ground nail walls and boulder walls. Retaining walls may be terraced with planting areas. The *US 285 Aesthetics Study and Design Guidelines* drafted in June 2004 provides general visual treatments of selected structural elements within the study area (see *US 285 Aesthetics Study and Design Guidelines* Technical Report). A design charette was held June 10, 2004 to provide coordination with Jefferson and Park Counties on preferred color schemes, custom fixtures and general study area appearance. The *US 285 Aesthetics Study and Guidelines* will be used during continued coordination with unincorporated towns and county agencies during final design of each breakout project to establish final color schemes and aesthetic treatments for features within that portion of the study area.

Lighting

To control light dispersion outside of the roadway area, installation of cut-off lenses would be considered. Cut-off lenses may require placement of one or more additional lights to ensure adequate night visibility. Elimination of fixed-source roadway lighting for light pollution reasons alone is discouraged since lighting facilitates accurate and comfortable vision at night.

3.14 Historic Preservation

Section 106 of the National Historic Preservation Act (NHPA), as amended, and implementing regulations found at 36 CFR Part 800, require that federal agencies take into consideration any effect a proposed action may have on historic properties. This is generally accomplished through the Section 106 compliance process, which consists of the following steps:

- Identify consulting parties.
- Identify and evaluate historic properties located within the Area of Potential Effect established for an undertaking.
- Assess adverse effects to properties listed on, or eligible for listing on, the National Register of Historic Places (NRHP).
- Consult with the State Historic Preservation Officer (SHPO) and, as appropriate, the Advisory Council on Historic Preservation (ACHP) and other interested parties to resolve adverse effects.

For purposes of this EA, a merger of Section 106 and NEPA was undertaken. The merger was done to combine the requirements of Section 106 with FHWA's responsibilities under NEPA. The SHPO was consulted early on to review potentially eligible properties, to give input on alternatives considered in the vicinity of historic resources, to involve the public in this process, to develop mitigation measures and to review the EA and Final Decision Document. Through this process, adverse effect to all historic properties was avoided, thus substantially streamlining the Section 106 process.

3.14.1 Native American Consultation

As mandated by Section 106 of the National Historic Preservation Act (as amended) and the revised Advisory Council on Historic Preservation regulations (36 CFR 800), in January 2003, FHWA and CDOT contacted 16 federally recognized Indian tribes with an established interest in Jefferson and Park Counties (see Agency Correspondence, Appendix B). Consultation with a Native American tribe recognizes the government-to-government relationship between the United States government and sovereign tribal groups, and federal agencies must be sensitive to the fact that historic properties of religious and cultural significance to one or more tribes may be located on ancestral, aboriginal, or ceded lands beyond modern reservation boundaries. Consulting tribes are offered the opportunity to identify concerns about historic properties and comment on how a project might affect them. If it is found that the project will impact cultural resources that are eligible for inclusion on the National Register of Historic Places and are of religious or cultural significance to one or more consulting tribes, their role in the consultation process may also include participation in resolving how best to avoid, minimize, or mitigate those impacts. By describing the proposed undertaking and the nature of known cultural sites, and consulting with the interested Native American community, CDOT and FHWA strive to effectively protect areas important to American Indian people.

Tribes invited to participate as consulting parties included the following:

- Apache Tribe of Oklahoma
- Cheyenne and Arapaho Tribes of Oklahoma
- Cheyenne River Sioux Tribe
- Comanche Tribe of Oklahoma
- Crow Creek Sioux Tribe
- Kiowa Tribe of Oklahoma
- Northern Arapaho Tribe
- Northern Cheyenne Tribe
- Oglala Sioux Tribe
- Rosebud Sioux Tribe
- Southern Ute Indian Tribe
- Standing Rock Sioux Tribe
- Ute Mountain Ute Tribe
- Ute Tribe of the Uintah and Ouray Agency ("Northern" Ute)
- White Mesa Ute Tribe

Five tribes indicated a desire to be consulting parties: the Northern Ute Tribe, Southern Ute Indian Tribe, Kiowa Tribe of Oklahoma, and Cheyenne and Arapaho Tribes of Oklahoma (the latter consisting of two distinct tribes administered under a unified tribal government). None of the consulting tribes raised specific issues about the Preferred Alternative in the context of known archaeological sites and/or places of religious or cultural significance within or near the US 285 study area. Follow-up correspondence was sent to the five consulting Native American tribes for the US 285 study area (Cheyenne and Arapahoe Tribes of Oklahoma, Kiowa Tribe of Oklahoma, Southern Ute Tribe, Ute Tribe of the Uintah and Ouray Agency).

By initiating, encouraging and facilitating Native American consultation, FHWA and CDOT have fulfilled their legal obligations in this regard as stipulated in the Section 106 and Advisory Council regulations.

3.14.2 Archaeological Properties

A search of the study area and project files housed at the Office of Archaeology and Historic Preservation (OAHP), Denver, and at the CDOT Archaeological Unit revealed that five previous archaeological resource inventories have been conducted completely or partially within the Area of Potential Effect (APE) established for the US 285 EA. The APE consists of the US 285 right-of-way, a 100-

foot corridor beyond the right-of-way on each side of the road, five 50- to 175-acre parcels corresponding to the proposed grade-separated intersections, and a 1,312-foot-long by 820-foot-wide segment of new alignment proposed for the Bailey bypass. One previously documented prehistoric site and one prehistoric isolated find are located within the study area. In 1986, however, the SHPO evaluated both localities as not eligible for listing on the National Register of Historic Places (NRHP) based on the significance criteria codified in 36 CFR Part 60.4.

CDOT conducted an intensive archaeological resource inventory of the study area in October and November 2002, and January, April, May, and June 2003. According to federal mandate, the investigation was completed to determine whether National Register eligible archaeological properties are located within, and would be adversely affected by, the Preferred Alternative. The highway right-of-way between Foxton Road and Bailey was completely inventoried during earlier CDOT projects along US 285; consequently this area was not resurveyed. In addition, approximately 30% of the remaining APE was not surveyed because of the presence of steep terrain, severe impacts resulting from commercial and residential development, and/or lack of landowner permission to enter private property. However, all areas considered to have the potential to contain intact archaeological materials were subjected to a pedestrian survey.

The inventory resulted in the reevaluation of the single known site and the identification and recordation of 20 previously undocumented archaeological resources. One site (5PA2424) recorded during the survey was subsequently found to be outside of the revised APE boundary, reducing to 19 the number of new sites and isolated finds within the study area.

Of the 19 newly identified resources and one previously recorded site within the APE, all but one site were determined as not eligible for listing on the National Register. One site requires small-scale test excavations in order to complete a comprehensive NRHP evaluation. However, as discussed in **Section 3.14.5.1**, test excavations were unnecessary in the context of this undertaking, and were therefore not conducted. The January 21 and June 26, 2003, letters requesting Section 106 SHPO review of the findings of the phased archaeological reconnaissance, and the SHPO letter of response dated January 29, 2003, are included in Appendix B.

3.14.3 Historic Properties

Historic resources were evaluated for the defined Area of Potential Effect (APE). The APE for historic properties research follows the study area and extends 200 feet out from the centerline of the existing road with more extensive areas at the location of intersections. Activities undertaken to identify historic resources in the APE included a file search at the Colorado Historical Society, a review of the National Register of Historic Places (NRHP) and State Register of Historic Places (SRHP) listings, a review of the information on historic properties from Park County and Jefferson County staff, and a review of previous historical resource assessments in the general area. In addition, a field assessment was conducted to assess potential historic properties in the study area.

There are four main criteria used to determine if a property is eligible for inclusion on the National Register of Historic Places. These criteria are that the property is:

- **Criteria A**. Associated with events that have made a significant contribution to the broad pattern of our history;
- **Criteria B.** Associated with the lives of persons significant in our past;
- **Criteria C.** Embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or that possess high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; or
- **Criteria D.** Has yielded, or may be likely to yield, information important in history or prehistory.

There are seven properties in the study area that are identified as eligible for or listed on NRHP. A single property is listed on the NRHP, the Glen Isle Resort (5PA32). The Glen Isle Resort is also on Park County's Register of Historic Places. Two proper-

ties, the Elk Creek Fire Station #1 (5JF1944), and the Denver, South Park & Pacific Railroad (5PA418) are officially eligible for inclusion on the NRHP. In addition, four other properties have been identified to be eligible for the NRHP based on the field assessments and research conducted for this EA. These four other individual historic properties are the Clifton House Hotel (5JF2128), the Bridge on Old US 285 over Elk Creek (5JF3545), the Elk Creek (Urmston) School and Grange (5JF3538) in Jefferson County and the Deer Creek Valley Ranch (5PA310) in Park County.

A final property in the area is the Entriken Cabin. It is located in the Bailey Historic Park and is on the State Register of Historic Properties.

Potential Long Historic District

The Clifton House Hotel, the David Long House and the Elk Creek Fire Station are part of a potential "Long Historic District." Defining the proposed Long Historic District was outside of the scope of work for this project, so its eligibility has not been determined. The Clifton House Hotel and the Elk Creek Fire Station #1 are described below. The David Long House, while not individually eligible, is a contributing structure to the potential historic district. These three buildings were all associated with the Long family.

Table 3-26 on page 3-121 lists the historic properties in the US 285 study area and shows their historic status. **Figure 3-21** shows the location of the historic properties.

The following briefly describes the historic properties in the APE starting from the northeast and continuing to the southwest.

1. Clifton House Hotel, (Pollitz-Long Ranch) 12414 S. US Hwy 285 (5JF2128)

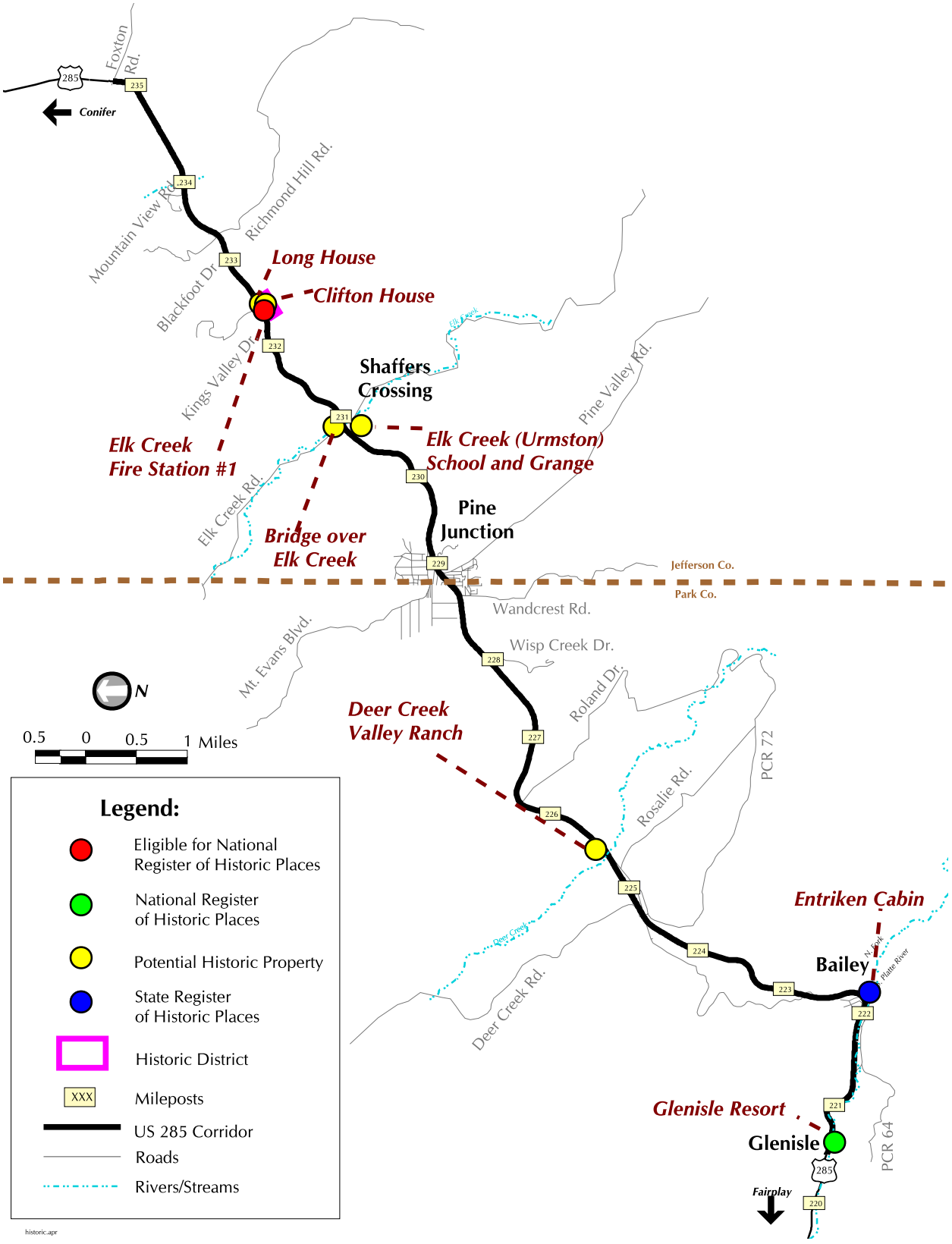
The Clifton House Hotel was an early inn serving stagecoach travelers along the wagon and stage road between Denver and Leadville. It is one of the few roadside inns remaining in this corridor. The property is also significant for its lengthy association with one family, the Long family, which had a major influence on the area by their work in providing services to stagecoach travelers, telephone service, emergency medical service, fire service and auto services. The Clifton House Hotel is eligible for the National Register under Criteria A and C.

2. Elk Creek Fire Station #1, 12424 S. US 285 (5JF1944)

Build around 1949, this is the oldest fire station still extant in the area. It was determined eligible for inclusion on the NRHP under Criteria A in July 1999.

Elk Creek Fire Station #1

Figure 3-21: Historic Resources



3. Bridge on Old US 285 over Elk Creek (5JF3545)

This bridge, built in 1925, is eligible for inclusion on the NRHP under Criteria C because of its design and its intact condition for its age. This bridge was built in the formative period in bridge engineering. It was a transitional period in bridge design to have concrete-encased steel I-beams for the bridge superstructure. In the 1920s and 1930s, Colorado Division of Highway (CDH) experimented with steel I-beams with spandrels encased in concrete. Very few of this design were built because the costs were high; even fewer remain intact today.

The bridge is also significant for its architectural features. The stone masonry wing walls represent 19th century technology. The bulkheads exhibit bush hammered concrete panels. This bridge has retained its integrity, which is also significant. Not that many bridges from this period have retained their integrity. Many have been widened or the guardrails have been replaced by thrie beams.

4. Elk Creek (Urmston) School and Grange, 13034 S. US Hwy 285 (5JF3538)

This unique hexagonal building has had several historically important uses. This building was constructed around 1920 and is built around a center pole that rises up from the roof peak. It was originally built as a Grange hall but was also used for dances. The Grange was formed in 1917. In the late 1920s it housed the Urmston School also known as the Elk Creek School. It was used as the school until 1936. It has been used as a barn and an outbuilding. It is eligible under Criteria A and C as it is significant for its architecture and its uses as a one-room school house.

Elk Creek (Urmston) School and Grange

5. Deer Creek Valley Ranch, 64057 S. US Hwy 285 (5PA310)

The ranch house at this site was built in 1876. The Deer Creek Valley Ranch is eligible for inclusion on the NRHP under Criteria A and Criteria C. The ranch was significant as an early ranch and stage stop and its architecture has retained its integrity over its more than 120 year life.

Deer Creek Valley Ranch

6. Denver, South Park & Pacific Railroad (5PA418)

The DSP&P Railroad played a significant role in the mining and transportation history of the mountainous regions of Colorado. Its history dates back to the late 1860s. The communities in the study area, such as Jefferson, grew with the development of the railroad. This resource was determined eligible for inclusion on the NRHP under Criteria A in May 1988. In this study area, the railroad ran through the town of Bailey in the area where US 285 is today; however, there are no visible remains of the railroad tracks or grade through the study area.

7. Glen Isle Resort, US 285 South of Bailey (5PA32)

This resort, which was listed on the National Register of Historic Places in January 1985, is over 100 years old. The resort is now one of the oldest continuously operating resorts in the state. It is significant for its architecture and for its association with the development of tourism in Park County and thus meets NRHP eligibility Criteria A and C. It was listed on the Park County Register of Historic Places in August 2003.

Glen Isle Resort

Table 3-26: Currently Designated Historic Properties

I.D. Number	Address	Name/Description	Year Built	Status
5JF2128	12414 S. US Hwy 285	Clifton House Hotel (Pollitz - Long Ranch)	1875	NRHP - Eligible
5JF1944	12424 S. US Hwy 285	Elk Creek Fire Station No. 1	1948	NRHP Officially Eligible, July 1999
5JF3545	On old alignment of US 285 across Elk Creek just north of Shaffers Crossing	Bridge on Old US 285 over Elk Creek	1925	NRHP - Eligible
5JF3538	13034 S. US Hwy 285	Elk Creek (Urmston) School and Grange (hexagon)		NRHP - Eligible
5PA310	64057 S. US Hwy 285	Deer Creek Valley Ranch	1876	NRHP - Eligible
5PA418		Denver South Park & Pacific Railroad	1877-1879	NRHP Officially Eligible, May 1988
5PA32	US 285 South of Bailey	Glen Isle Resort	1901	On NRHP, January 1985

Sites are listed by location from the north end of the study area (Conifer) to the south end past Bailey.

These findings were submitted to the SHPO; concurrence was provided in correspondence dated February 20, 2004.

3.14.4 Paleontological Resources

In May 2002, a paleontological field survey was conducted by the CDOT paleontologist along US 285 from Foxton Road through the town of Bailey. The APE for paleontological resources includes the US 285 right-of-way, a 100-foot corridor beyond the right-of-way on each side of the road, five 50- to 175-acre parcels corresponding to the proposed grade-separated intersections, and a 1,312-foot-long by 820-foot-wide segment of new alignment proposed for the Bailey bypass.

With the exception of one location southwest of Pine Junction, the entire US 285 study area lies on geologic units of Holocene or Precambrian age. Holocene deposits can produce prehistoric bone, shell, and/or plant material; but because the sediments are less than 10,000 years old, any material found could be in an archaeological context and should be evaluated by a qualified archaeologist. Precambrian rocks in Colorado are igneous and/or metamorphic in origin. These rock types' modes of formation generally preclude preservation of identifiable fossil remains. None of the mapped Holocene and Precambrian geological units required on-the-ground reconnaissance for paleontological resources.

The only potential fossiliferous bedrock unit mapped within the US 285 study area limits is an unnamed Tertiary gravel unit that caps hills about 300 feet above nearby major drainages. All available exposures of this unit within the study area were examined. No fossils were found. Furthermore, no previously recorded unnamed Tertiary gravel unit fossil localities have been identified within the study area limits. Based on these findings, no further research is required for paleontological resources.

3.14.5 Historic Preservation Environmental Consequences

3.14.5.1 Archaeological Properties Environmental Consequences

No National Register eligible archaeological localities will be impacted by the Preferred Alternative proposed in the EA. One archaeological site within the Area of Potential Effect evaluated as "need data" will not be impacted by the project. Therefore, no test excavations to determine NRHP eligibility will be undertaken at that locality as part of this analysis.

3.14.5.2 Historic Properties Environmental Consequences

No-Action Alternative

There would be no direct impacts to any of the historic properties with the No-Action Alternative.

Preferred Alternative

The Preferred Alternative would not have any impacts on the Clifton House Hotel (5JF2821) and the Elk Creek Fire Station (5JF1944). The Preferred Alternative was chosen, in consultation with the SHPO, to specifically avoid impacts to these historic properties. The widening of US 285 will take place on the north side of the existing highway in that area. The Elk Creek Fire Station #1 (5JF1944) is situated about 40 feet from the south edge of the highway. The new plans show that with the improvements, it will be about 50 feet from the south edge of the highway. The Clifton House (5JF2821) and associated buildings are further south of the highway and will not be impacted by the improvements. The access from the highway to these properties will be changed, but there will be no specific impacts to these historic properties.

The Preferred Alternative will have no impact to the potential "Long Historic District."

Several configurations were proposed for the intersection with Elk Creek Road at Shaffers Crossing. Some of those configurations would have impacted the NRHP eligible historic bridge on old US 285 over Elk Creek (Elk Creek Bridge 5JF3545). The Preferred Alternative would not have any direct impacts to the historic bridge.

The Elk Creek (Urmston) School, hexagonal grange (5JF3538) is located about 500 feet to the south of US 285 just west of Shaffers Crossing and Elk Creek. There would be no impacts to this historic resource from the Preferred Alternative.

The buildings at the Deer Creek Valley Ranch (5PA310) are located in Park County slightly east of the point where US 285 crosses Deer Creek. The barn, located 250 feet north of US 285, is the closest building to the highway. Plans call for the widening to be to the south in this area; therefore, there would be no impact to the historic buildings at the ranch. The Preferred Alternative was chosen, in consultation with the SHPO, to specifically avoid impact to the ranch.

There would be some modifications to the entrance to the Deer Creek Valley Ranch. The north edge of US 285 would be about 20 feet closer to the ranch and it would be approximately seven feet higher at Deer Creek than its existing condition to allow construction of a wildlife crossing underneath the road. A retaining wall would be built on the north side of US 285 to the immediate west of the entrance road into the ranch. That retaining wall would extend from the ranch entry road to the west of Deer Creek. The ranch entry road connection with US 285 would be approximately 2 feet higher than it currently is; that would mean the existing roadbed of the ranch entry road would have to be reconstructed for a distance of about 150 feet to taper that grade to meet the existing grade. The road improvements would not directly impact the barn or the house or any of the other buildings on the ranch. The entry sign may be temporarily impacted. That sign has been at the ranch since at least the 1920s and has only had the wooden weathered lettering replaced in the mid 1980s.

The Glen Isle Resort (5PA32) slightly west of Bailey, which is listed on the NRHP, would not be impacted by the Preferred Alternative. The proposed highway improvements will actually stop at the west end of Bailey, a point that is over a mile to the east of Glen Isle Resort.

The Denver South Park & Pacific (5PA418) railroad grade enters the study area at Bailey from the southeast, coming from Estabrook. The current alignment of the highway generally follows the railroad through town continuing to the west out of the study area. There are no visible remains of the railroad tracks or grade through the study area. The highway improvements in Bailey would not impact the railroad.

3.14.6 Mitigation Measures

There is no mitigation needed for historic properties.

3.14.7 Summary of Coordination

Coordination with appropriate agencies and other parties has occurred relative to archaeological resources and Native American interests. Coordination with the SHPO relative to historic properties has been extensive, including several meetings with the SHPO's representative individually and several meetings where the SHPO attended along with other agencies.These meetings have included:

- **January 16, 2003.** Meeting with SHPO to discuss merger schedule and expectations.
- **February 3, 2003.** Field review of potentially eligible properties.
- **February 20, 2003.** Meeting with SHPO to review various alternatives.
- **June 3, 2003.** Meeting with SHPO and other agencies to present Preferred Alternative and discuss project impacts.

The letter of eligibility and effects was sent to the SHPO on February 13, 2004. Concurrence was received on February 20, 2004.

3.15 Hazardous Waste

This section provides information about hazardous waste sites identified within the study area. The term hazardous waste as used in this EA is inclusive of all waste materials that require specific handling, worker health and safety, and disposal because of their contaminated waste nature. It covers materials regulated as solid waste, toxic substances, hazardous materials, hazardous waste, radioactive materials, petroleum fuels, and others as defined and regulated by various state and federal laws.

Hazardous waste can be generated in a number of ways and is considered any waste product that is flammable, corrosive, reactive or toxic. These wastes are found in various forms and can originate from a variety of industrial, mining, and municipal land uses. Hazardous wastes can be toxic to plants, animals and humans. Examples of specific sites that may contain hazardous wastes include landfills, service stations, industrial facilities, known spill locations, railroad corridors, and mine sites. The waste products generated by these sites may include pesticides, radioactive wastes, toxic chemicals, organic compounds, petroleum, contamination, mine waste (heavy metals), used motor oil, and many other types of waste materials.

Numerous laws and regulations exist regarding the management, handling and disposal of hazardous wastes. Two federal acts that can directly affect transportation projects are the Resource Conservation Recovery Act (RCRA) and the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), or Superfund. RCRA, often called a "cradle-to-grave" regulation, was designed to regulate materials that can be defined as solid waste and as a hazardous waste. RCRA focuses on managing current operations and activities involving hazardous waste to prevent future contamination. Activities subject to RCRA regulation include the generation, transportation, storage, treatment and disposal of hazardous waste. CERCLA was designed to identify sites that are contaminated from a past, uncontrolled release of a hazardous substance into the environment. Those sites deemed seriously contaminated are placed on a list referred to as the National Priorities List (NPL) and are slated for cleanup or EPA enforcement action.

The discovery of hazardous waste during project development can lead to substantial project delays, increased costs, and risks to public health and safety, particularly if the contamination is not discovered prior to construction. Because hazardous wastes may be encountered at any point during project development, CDOT has developed a process that is followed prior to construction. The primary goal of this process is to identify and avoid contaminated sites as far in advance of construction as possible and requires formal documentation for administrative, technical and liability reasons. The process is divided into two general stages: 1) Modified Environmental Site Assessment (MESA) and, 2) Site Investigation (SI).

A MESA provides information regarding land uses and often includes an on-the-ground reconnaissance of a transportation corridor. A record search of properties to determine present and past land uses is also conducted. In addition, records are checked regarding the locations of underground storage tanks, RCRA sites, CERCLA sites, past spill locations and other similar information. If suspect properties are identified, a SI may be conducted to identify and characterize the extent of any contamination. The SI typically includes a subsurface investigation and analytical testing to identify the type, potential sources and extent of contamination that may be present. The primary objective of this process is to avoid or minimize contact with known hazardous waste sites whenever possible.

3.15.1 Methodology

In accordance with American Society for Testing and Materials (ASTM) procedures and CDOT requirements, a MESA was conducted for the US 285 corridor between Foxton Road and Fairplay (Goodbee & Associates, Inc., 2002). The MESA included searching environmental databases, reviewing records at public agencies, examining historical aerial photographs and conducting a site reconnaissance. During the site reconnaissance performed on March 8 and November 2, 2001, the study area was examined and sites identified by the records review were checked. The MESA is available for review at the CDOT, Region 1 office.

3.15.2 Affected Environment

The MESA identified five sites of potential concern located within the study area. These sites are shown on **Figure 3-22** and are briefly described below. Soil and/or groundwater contamination associated with dewatering and excavation activities in the vicinity of these sites may be encountered.

Bailey Propane (formerly Bell Oil/Amoco) at 60786 US Highway 285 in Bailey

This property is no longer an active service station. Hydrocarbon-contamination on the site was identified in 1997 when the underground storage tanks (USTs) were removed. At that time, contaminated soil was removed and groundwater monitoring has been ongoing since then. Groundwater flows are to the southeast in this area and, therefore, away from the highway. Site closure is anticipated in the near future. The Colorado Department of Labor and Employment, Division of Oil and Public Safety (OPS) has regulatory authority and will determine when contaminant levels in soil and groundwater are at acceptable levels.

Platte River Automotive, 60750 US 285 in Bailey

This property is a business located on the east side of the highway in Bailey between US 285 and the North Fork of South Platte River. No known data exist for this site. Groundwater flows would be in an easterly direction, toward the river, away from the highway.

Conoco Gas Station and Convenience Store, 60597 South US 285 in Bailey

This property is an active service station in Bailey and contains four USTs. The station is up to current EPA standards.

Pine Junction Country Store, 34375 South US 285 in Pine Junction

This property is an active service station. Remediation measures began in 1997 when the USTs were being upgraded and contamination was encountered. A soil vapor extraction system is in operation. Most recent water sampling data indicate no detection of contamination in the groundwater wells. Groundwater flows are to the north in this area and, therefore, away from the highway. A request for site closure for the current land use is currently under consideration by OPS.

Long Brothers Garage, 12425 South US 285 in Conifer

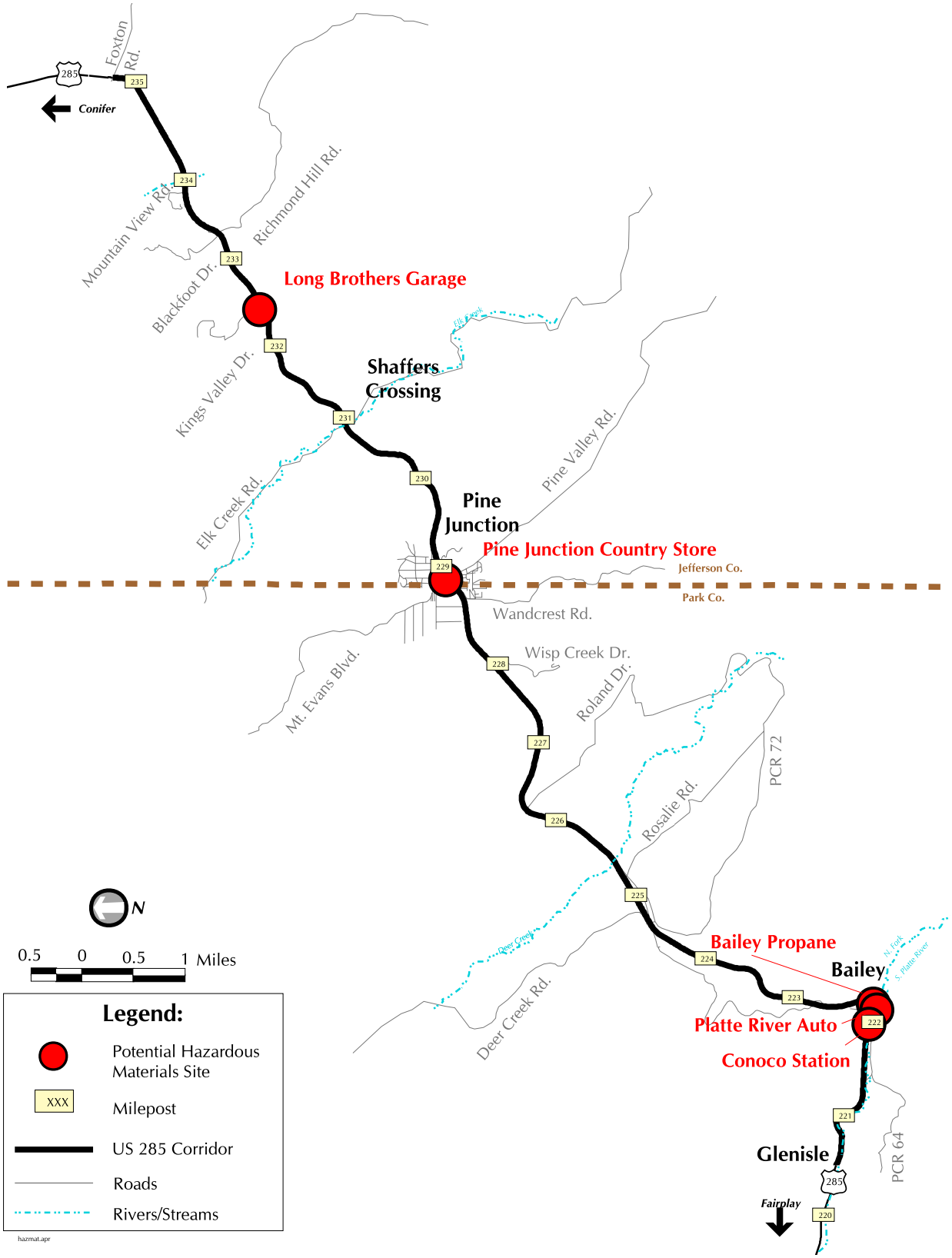
This property is an active service station and salvage yard. The service station contains three existing USTs. In 1997, damaged vent lines associated with two USTs were found to be causing soil and groundwater contamination and a monitoring program was implemented. Contamination extends across the current highway right-of-way. In 1999, a remediation program involving trenches in CDOT right-of-way downgradient of the property was initiated.

Contaminated groundwater has been found beyond the trenches, indicating that the trenches are not entirely preventing contamination from leaving the site. The station has been ordered to stop pumping gasoline until the site has been remediated. The site is being evaluated by OPS and the property owner has applied for state funds to assist with cleanup. A schedule for cleanup activities has not yet been determined.

The Long Brothers Garage also includes an adjacent auto salvage yard, located just to the south. No known data exist regarding soil or groundwater contamination originating from the salvage yard. The appropriate regulatory authority will be contacted to determine the type and extent of any remediation deemed necessary. No remediation plan has been developed at this time.

Any sites being remediated can contain residual soil and/or groundwater contamination after remediation is complete. Because of the unknown length of time before construction may begin in the study area, it is recommended that the MESA be updated and a determination be made regarding the need and specific locations for future site investigations as projects are further developed.

Figure 3-22: Hazardous Materials



3.15.3 Environmental Consequences

No-Action Alternative

No impacts to or from any identified hazardous waste sites are anticipated as a result of the No-Action Alternative since there would be no property acquisitions or excavations.

Preferred Alternative

The Preferred Alternative would provide a positive benefit along the study area since any contamination identified at the time of construction would be identified and potentially addressed, as deemed appropriate. The effects on the Preferred Alternative from the sites listed previously are described below:

Bailey Propane

Bailey Propane is located on the east side and in close proximity to US 285, in Bailey. A review of the existing records indicates that this site will be fully remediated in the near future. Groundwater flows are away from the highway. The Preferred Alternative does not indicate this property would need to be acquired, or would likely be affected by the current conditions at this site.

Platte River Automotive

The Preferred Alternative would not likely be affected by this property. Should acquisition become necessary, mitigation requirements would be obtained from the appropriate regulatory agency at that time.

Conoco Gas Station and Convenience Store

The Preferred Alternative would not likely be affected by this property.

Pine Junction Country Store

The Preferred Alternative shifts the highway closer to this property. Therefore, right-of-way acquisition is possible at this location. Groundwater flows are away from the highway corridor. It is anticipated that this property would be fully remediated in the near future. In accordance with current regulations, the site must be in compliance with existing UST requirements. If contamination is identified at that time, the appropriate regulatory agency would provide CDOT with any mitigation requirements necessary to remediate the property.

Long Brothers Garage

The Preferred Alternative indicates the potential for right-of-way acquisition of this property in the future. Remediation of the site has yet to occur. Current data indicate that contamination of the property extends off site, across US 285. The pumps have been shut down to prevent further contamination from occurring. Depending on the status of the site at the time of any right-of-way acquisition or construction activities, the conditions of the site would need to be assessed and the appropriate course of action determined at that time. Further testing of soils and groundwater, both on the property, and off site may be necessary. If contamination is identified at the time of construction and/or acquisition, mitigation requirements would be provided by the appropriate regulatory agency.

Along with the garage, the salvage yard would be acquired with the Preferred Alternative. Remediation measures for the salvage yard have not been determined, but will need to be specified by the appropriate regulatory agency at the time of acquisition.

3.15.4 Mitigation Measures

During construction, CDOT utilizes its Environmental Health and Safety Management Specification (250 Specification) on projects to address issues related to the transportation, handling, monitoring, and disposal of any hazardous or solid waste materials encountered during construction including contaminated soils, lead-based paint, and other toxic substances. Any dewatering permits needed during construction are also obtained at that time. If deemed necessary, a materials management plan would be prepared regarding the removal and disposal of contaminated soils. A Health and Safety Plan would also be developed to protect workers during construction. It is anticipated that cleanup of the sites listed above would likely be completed by the time transportation improvements would begin.

CDOT will conduct any necessary testing of the soils and/or groundwater at any suspect sites in the study area. The Preferred Alternative comes into

close proximity of all five properties identified in the MESA. During final design when right-of-way and access requirements are further developed, CDOT will obtain the status of these properties and will take the necessary precautions during future construction activities.

When contaminated properties are encountered, either during or prior to construction, CDOT coordinates with the affected property owners through the right-of-way process, as well as with the appropriate state, local and federal authorities. Prior to a construction project, CDOT ascertains the status of adjacent properties and updates all available information at that time for the MESA and SI. Construction contractors are required to comply with Section 250, Environmental Health and Safety Management (CDOT Standard Specifications), when applicable, during construction.

Specific project mitigation is unknown at this time, but will be incorporated into project plans when more detailed design information becomes available. At the Long Brothers Garage, further testing of soils and groundwater on-site and off-site may be necessary. At the time of final design, the necessary right-of-way acquisition and relocation processes would be initiated in accordance with the CDOT right-of-way manual, FHWA, and other federal guidance procedures involving acquisition and relocation. CDOT procedures concerning hazardous waste issues would also be followed to determine necessary project mitigation requirements.

3.16 Utilities

3.16.1 Existing Conditions

There are overhead and buried utilities in the study area. The following is a summary by utility type.

Electric

Intermountain Rural Electric Association (IREA) provides electric power to residential and business customers. Electric lines are primarily overhead. There are transmission and distribution lines in the study area. Poles are in public right-of-way and private easement. Electric lines cross US 285 the length of the study area.

Gas

Colorado Natural Gas, Inc. (CNG) distributes natural gas to residential and business customers in the US 285 study area between Bailey and Wandcrest. CNG's gas lines are primarily 4-inch steel lines located in private easement. Gas lines cross US 285 at Wandcrest, Wisp Creek Drive, between Rim Rock and Roland Drive, Rosalie Road, and on the east side of Bailey.

Xcel Energy distributes natural gas to residential and business customers from South Foxton Road to the north end of Old US 285, where it extends down Old US 285 to service the Douglass Ranch development. Xcel's gas lines are 4 and 6 inches in diameter. High pressure gas lines are steel, while low pressure gas lines are plastic. The gas lines are usually four feet deep. An exception is at the entrance to the Mountain View park-n-Ride where the line is two feet deep. The gas lines are primarily in public right-of-way.

Water and Sanitation

Bailey Water & Sanitation District owns and operates water and sanitary sewer facilities within the town of Bailey. The town's water comes from the South Platte River, which is pumped to and stored in a reservoir west of Bailey (north of US 285). In the study area, there are water lines along Main Street and River Drive, crossing at PCR 64 and 68. The water lines are primarily 6-inch corrugated iron pipe six feet deep; some newer minor additions are PVC.

The Bailey system's sanitary lines are 8-inch PVC extending from Granny's Attic west of Bailey to the wastewater treatment plant on the north side of the South Platte River. They follow the same general alignment through town as the water lines. The sanitary lines are 3 to 12 feet deep on Main Street and typically 6 feet deep at road crossings. The sanitary line between the post office and the Conoco station is about 4 feet deep. They are in steel pipe at road crossings.

Mountain Water & Sanitation District (MWSD) provides water and sanitary sewer service to the Kings Valley subdivision. Long Brothers and the adjacent storage place are on their own well water and septic

systems. There are sanitary lines in Kings Valley Drive and Rand Road (one in each street) that meet where the two roads meet. It then zigzags across the lot (with the hot dog stand) towards the MWSD plant to the east. It is 8-inch PVC and ranges from 4 to 7 feet deep. There are 6-inch ductile iron pipe (DIP) water lines in Kings Valley Drive and Rand Road (one in each street). They do not extend past the Y-intersection of the two streets. The sanitary and water lines are in public right-of-way except where the sewer line goes through the lot.

Will O' Wisp Metropolitan District oversees the water and sanitary sewer service to the Will O' Wisp subdivision. The district's facilities closest to US 285 are water and sanitary sewer lines in Wisp Creek Drive and Buttermilk Lane, the first side street off US 285.

Cable TV

US Cable is a cable TV service provider with overhead cable mostly on IREA's poles along US 285 between South Foxton Road and Springs Road, from Wandcrest Drive to Wisp Creek Road, Crow Hill and Bailey. The poles are in public right-of-way and private easement.

Telephone/Fiber Optic

Qwest Communications has buried fiber optic and overhead fiber optic and telephone cables throughout the study area. The buried fiber optic line is in a shared trench with Xcel's gas line between South Foxton Road and Parker Road. The overhead lines are mostly on IREA's poles. The poles are in public right-of-way and private easement. Qwest also has a buried fiber optic line along the east right-of-way near Bailey and between Rosalie Road and Richmond Hill Road.

3.16.2 Environmental Consequences

The following charts provide information about the effect of the Preferred Alternative on utilities. The effects of utility relocations required for the Preferred Alternative have not yet been defined.

Table 3-27: Utilities

Location	Buried utilities in cut area	Buried utilities in fill area	Buried utilities in proposed roadway	Buried utilities at proposed wall	Overhead utilities in cut area	Overhead utilities in fill area	Overhead utilities in proposed roadway	Overhead utilities at proposed wall	Comments
Bailey				X					UGF in east right-of-way
Crow Hill						X			OHE, pole in west right-of-way north of Mable Lane
Truck Ramp							X		Transmission line w/cable TV crosses and along proposed ramp, poles in ramp
Deer Creek/PCR 72/PCR 43			X	X		X	X		OHE poles in PCR 43A on ramp OHE/OHT poles in Dellwood UGT/gas in Arcadia Road UGF/gas crossing at Rosalie/Bulldogger OHE pole in new PCR 43 UGT at PCR 72 OHE poles at new Arcadia Road Gas under wall south of Deer Creek east of right-of-way
Roland Drive			X				X		OHE, poles in new US 285 UGF, UGT, gas at Roland Drive

Table 3-27: Utilities (Continued)

Location	Buried utilities in cut area	Buried utilities in fill area	Buried utilities in proposed roadway	Buried utilities at proposed wall	Overhead utilities in cut area	Overhead utilities in fill area	Overhead utilities in proposed roadway	Overhead utilities at proposed wall	Comments
Roland East	X					X			Gas crossing in cut area north of Roland Drive OHE, poles in fill area east of right-of-way
Rim Rock West					X		X		UGF in east right-of-way under wall OHE, poles in fill area east of right-of-way
Rim Rock/Wisp Creek							X	X	OHE/CATV east of right-of-way near wall, new Rim Rock/Wisp Creek connector
Wisp Creek	X		X				X		Buried sanitary & water in Wisp Creek and Buttermilk Lane OHE/CATV at new Wisp Creek Intersection Gas in cut west of right-of-way
Sunset/Wandcrest (No-Action/ Preferred Alternatives)			X				X		Gas west of right-of-way near Sunset Parkway Gas crossing UGF in east right-of-way OHE/OHT/CATV across new roadway
Pine Junction	X			X			X		UGF in cut in east right-of-way OHE east of right-of-way in property roadway UGF in JCR 126 at wall
Pine Junction East				X	X	X	X	X	OHE, pole in cut area in west right-of-way OHE in fill east of right-of-way at South Glen OHE crossing at South Glen OHE/OHT in cut west of right-of-way OHE pole in fill east of right-of-way OHE over wall in west right-of-way UGF in east right-of-way at wall
Shaffers Crossing West	X		X				X	X	OHE pole east of right-of-way at wall Buried gas in Old US 285 Gas/fiber in cut in west right-of-way Gas in Parker Avenue
Shaffers Crossing	X		X	X		X	X		Gas/UGF in cut area in west right-of-way OHE poles in fill east of right-of-way UGT in east right-of-way at wall north of Elk Creek Road Gas/UGF crossings at Elk Creek Road OHE, poles at proposed reconstruction bridge

Table 3-27: Utilities (Continued)

Location	Buried utilities in cut area	Buried utilities in fill area	Buried utilities in proposed roadway	Buried utilities at proposed wall	Overhead utilities in cut area	Overhead utilities in fill area	Overhead utilities in proposed roadway	Overhead utilities at proposed wall	Comments
Shaffers Crossing East	X			X		X		X	Gas/UGF in cut in west right-of-way north and south of Caffee Gulch Road OHE in fill area east of right-of-way OHE crossing over wall south of Caffee Gulch Rd Gas crossing north of Caffee Gulch under property Wall in east right-of-way
Kings Valley West			X		X	X	X		OHE, pole in west frontage road Gas/UGF in west frontage road OHE/OHT, pole in cut east of right-of-way OHE crossings
Kings Valley	X		X				X		OHE/OHT crossing over north frontage road Gas/UGF on north side Kings Valley Sanitary sewer in cut, north frontage road west of right-of-way
Richmond Hill west	X	X			X	X			OHE,OHT, poles in fill east of right-of-way OHE,OHT, poles in fill in east right-of-way OHE pole in cut in west right-of-way Gas/UGF in cut in west right-of-way Gas/UGF in fill in east right-of-way
Richmond Hill			X			X	X		Gas/UGF in west right-of-way at Blackfoot Road OHE/CATV in west right-of-way at Blackfoot Rd. OHE/CATV poles close to roadway, in fill east of right-of-way
Richmond Hill east		X	X	X		X	X		OHE/OHT, buried gas in fill and in Doe Valley Drive and Springs Road Gas crossing under property wall in west ROW
Green Valley	X		X			X	X		OHE/CATV in fill east of right-of-way south of Log Trail Gas/UGF in service road OHE/OHT west of right-of-way at new entrance to park-n-Ride Gas/UGF in west right-of-way at new entrance to park-n-Ride OHE pole at new Wagon Trail entrance Gas/UGF in west right-of-way in cut north of park-n-Ride

OHE - overhead electric
OHT - overhead transmission
CATV - cable TV
Right-of-way - CDOT right-of-way
UGF - underground fiber
UGT - underground telephone

3.16.3 Mitigation

Before construction begins, all utility locations will be identified and field verified. It is expected that numerous utilities will be relocated. Exposed utilities will be protected during construction. If service is interrupted during construction, temporary service will be provided as needed.

3.17 Parks and Recreation

Parks and recreational resources, which include parks, recreational facilities, and open space areas, are a primary attraction for both residents and visitors to this area of Jefferson and Park Counties. US 285 is the main route serving these resources. Common recreational activities include hiking, biking, camping, fishing, backpacking, horseback riding and picnicking. There are numerous trailheads and camping areas that are accessed from roads that connect to US 285. The main recreational issue related to road improvements is the ability to maintain access to the recreational facilities located in the mountains that US 285 traverses.

3.17.1 Parks and Recreation Within the Study Area

Field reconnaissance surveys and the public involvement program identified six primary recreational areas located along the study area. The locations described below are marked on **Figure 3-23**.

Bailey Historic Park. Located off PCR 63 in Bailey, this park was created to preserve historic buildings from the local area. About 0.5 acre of land was donated specifically for the relocation and enjoyment of these historic resources.

Fish Pond at Shaffers Crossing. A privately owned fishing pond is close to the north side of US 285 on the west side of Elk Creek Road. This small pond is frequently stocked and is used by the public for fishing.

Staunton State Park. The Colorado State Parks Division has purchased approximately 3,500 acres of land about 2.5 miles north of the intersection of US 285 and Elk Creek Road to be developed into Staunton State Park. The Division is planning major improvements to the area that may include picnic sites, overnight camping sites, hiking trails, and cross-country skiing. The intersection of Elk Creek Road and US 285 provides access to the area.

Beaver Ranch Open Space. This recently acquired Jefferson County Open Space area is located south of Foxton Road and east of US 285 near Conifer. Access is from Foxton Road. The open space area is currently operated by the Beaver Ranch Community Organization and is being developed into a park. It is not open to the general public yet; however, there are lodges and cabins for rent and a wedding chapel. There are a few trails and some sports fields on the property. By summer 2004, it is planned that the park have more amenities and it will be open to the general public.

Newton Park. This is a facility of Denver Mountain Parks and is situated directly alongside the eastern edge of US 285 and north of Foxton Road just south of Conifer. Access is from Foxton Road. The park contains three large sites that can hold 200 to 300 people. Each site has a shelter, picnic tables, a grill, a fire pit, ball fields, a sand volleyball court, a horseshoe pit, out houses and hiking trails. This is one of the most used parks in the Denver Mountain Parks system.

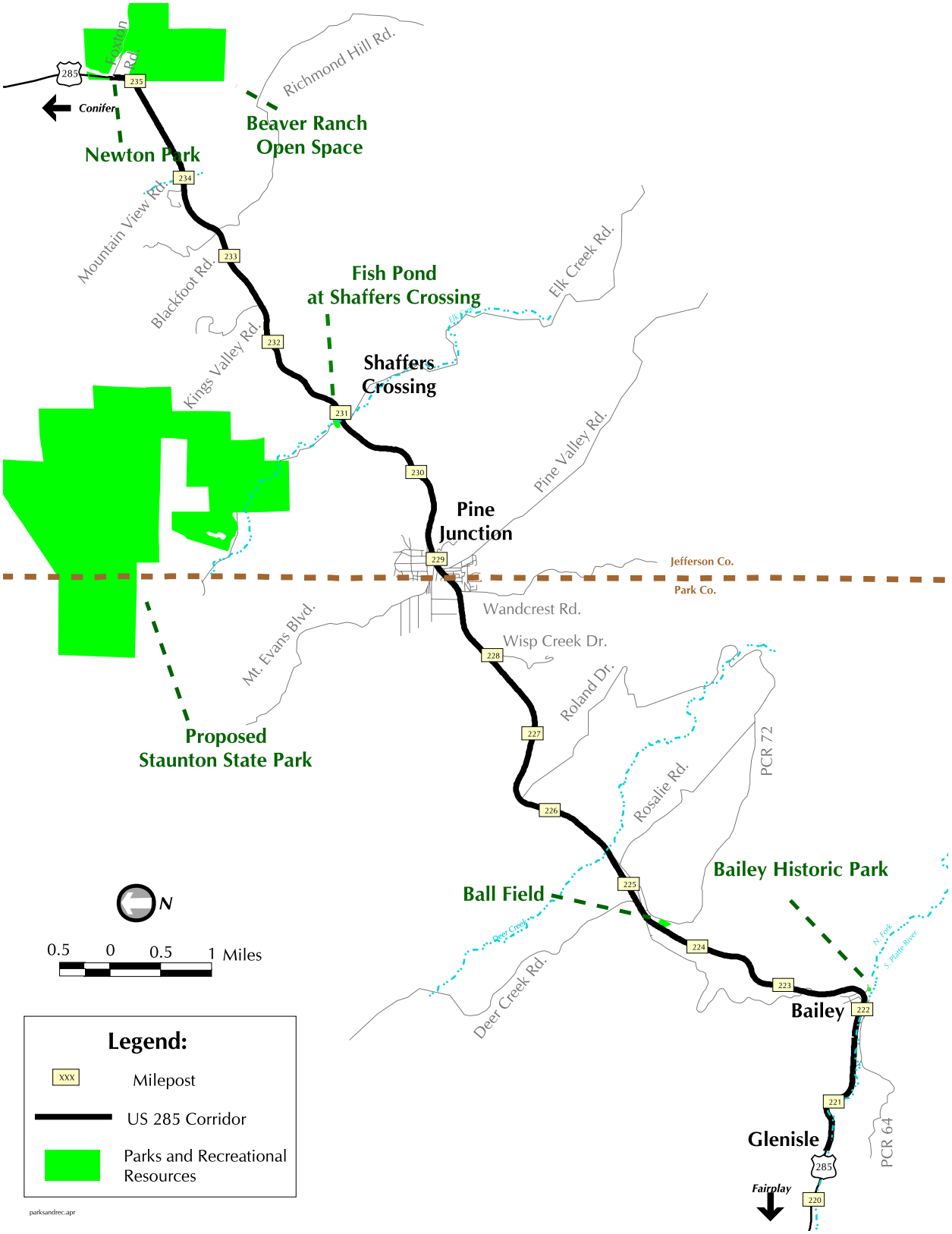
Ball Field. A privately owned ball field is located at the top of Crow Hill on the southeast side of US 285. The field is owned by Berlin Rancheta and is not considered a public recreation site.

There are no properties in the study area that were purchased with Land and Water Conservation Funds.

3.17.2 Environmental Consequences

Park and recreational facilities within the study area are and will be heavily dependent on the existing and future transportation network. As the Denver metropolitan area continues to expand over the next 20 years, park and recreation sites located within the study area should attract a growing number of visitors.

Figure 3-23: Parks and Recreation Resources



No-Action Alternative

The No-Action Alternative would have an indirect impact on all park and recreational facilities within the study area. As traffic increases over time, congestion would result in diminished accessibility to the parks and recreational facilities along US 285. There would be no direct impacts to parks and recreational facilities under the No-Action Alternative.

Preferred Alternative

The Preferred Alternative would have beneficial indirect impacts on all parks and recreational facilities within the study area by alleviating congestion along US 285, thereby improving accessibility. There would be short-term increases in emissions from vehicles due to construction and both long-term and short-term increases in noise that may impact users' experience. Direct impacts to each individual property are described below.

Fishing Pond at Shaffers Crossing. There would be minor direct impacts to the fishing pond at Shaffers Crossing as a result of one of the Preferred Alternative options (Variation II) for the access road. Some fill would be required along the eastern edge of the pond. The construction of a new grade-separated interchange at Elk Creek Road would improve access to this fishing pond by increasing the safety at this intersection.

Proposed Staunton State Park. There would be no direct impacts to the proposed park; however, the construction of a new grade-separated interchange at Elk Creek Road would improve the access to the proposed park by increasing the safety and capacity at this intersection.

Beaver Ranch Open Space. There would be no direct impacts to the Beaver Ranch Open Space.

Newton Park. There would be no direct impacts to Newton Park.

Ball Field. The Preferred Alternative would encroach on the edge of the vegetation northwest of the ball fields. There would be no direct impacts to the fields themselves.

Bailey Historic Park. There would be no direct impacts to Bailey Historic Park.

3.17.3 Mitigation Measures

No mitigation measures are necessary for any of the parks or recreation facilities, except the vegetation on the northwest edge of the ball fields. The following BMPs will mitigate the Preferred Alternative's impacts:

- Minimize the amount of disturbance and limiting the amount of time that disturbed locations are allowed to be non-vegetated.
- Develop and implement a noxious weed management plan.
- Avoid, to the maximum amount possible, wetlands and riparian plant communities.
- Salvage suitable topsoil for use in revegetation.
- Implement temporary and permanent erosion control measures to limit erosion and soil loss.
- Reseed all disturbed locations except rock cuts with native plant seed mixtures.
- Replace trees and shrubs as recommended by the CDOT Landscape Architect and as required by the Senate Bill 40 permit.

3.18 Farmland

US Congressional Public Law 95-87 (Federal Register January 31, 1978: Part 657) requires the US Department of Agriculture, Natural Resources Conservation Service (NRCS) to identify and locate soils that are considered prime and unique farmland. These farmlands are protected in accordance with the Farmland Protection Act of 1981. Prime farmlands are considered to be of national importance and have been defined as being land with the best combination of physical and chemical characteristics for producing feed, forage, fiber, and oilseed crops, and are available for these uses. Unique farmland is land other than prime farmland that is used for the production of specific high-value crops. In addition, the Important Farmland Program has encouraged the NRCS or other appropriate local or state agencies to identify soils that can be considered farmland of statewide or local importance.

3.18.1 Existing Conditions

Coordination with a NRCS District Conservationist determined that no soils that are considered prime or unique farmland exist within the US 285 study area. Additionally, the NRCS identified no soils considered to be of statewide or local importance within the study area. A copy of the letter from the NRCS is located in Appendix B.

3.18.2 Environmental Consequences

No Prime or Unique Farmlands or Farmlands of State Importance are located within the study area. Therefore, there are no direct or indirect impacts involving these resources due to the No-Action Alternative or the Preferred Alternative.

3.18.3 Mitigation Measures

No mitigation measures are necessary for farmland.

3.19 Construction Impacts

3.19.1 Environmental Consequences

The No-Action Alternative involves no additional construction over what is currently programmed, approved and funded. Construction impacts with the No-Action Alternative would consist of routine roadway maintenance such as resurfacing and possible spot safety improvements.

Construction of the Preferred Alternative would be expected to create short-term construction impacts throughout the construction period. Descriptions of construction methods and related impacts follow.

3.19.1.1 Highway Construction Methods

Construction methods would be addressed during development of the final construction plans. In general, highway construction could likely involve the following types of impacts: bridge reconstruction/ widening/demolition, excavation and grading, utility adjustments, retaining walls, storm sewer, and pavement. Sequencing of construction packages and the overall timeframe of construction have not been finalized and would be dependent on coordination with local communities and efforts to minimize the inconveniences and overall costs.

3.19.1.2 General Construction Impacts

Reconstruction and widening of US 285 presents decreased mobility during construction, dust, noise, runoff, traffic congestion, temporary restricted access to residences and businesses, and visual intrusions to motorists and residents. Additionally, the construction presents exposure to, or accidental spill of, hazardous materials.

The period of construction would most likely be stretched over several years. Due to weather constraints, the construction season in this area generally runs from May to October. Availability of funds could result in construction occurring in stages.

Construction of the Preferred Alternative would provide employment for construction workers. Also, there would be increased retail sales within the study area from construction workers, which would partially offset any lost revenue from increased congestion during construction.

The project would require use of gravel which would deplete local gravel resources. Some waste material would be placed in area landfills. Every effort will be made to balance earthwork needed for construction.

Air Quality

Without mitigation, excavation, grading, and fill activities could increase local fugitive dust emissions. Fugitive dust is airborne particulate matter, generally of a relatively large particulate size (greater than 10 microns in diameter). Because of the large size, these particles typically settle within 30 feet of their source. Smaller particles could travel as much as several hundred feet depending on wind speed. Through the use of mitigation measures described elsewhere in the EA, fugitive dust emissions could be effectively controlled. Vehicle emissions from construction vehicles and from delayed traffic also could impact air quality along US 285 during construction activities.

Noise

Construction noise would present short-term impacts to those receptors located along the study area and along designated construction access routes. The primary source of construction noise

would be diesel-powered equipment such as trucks and earthmoving equipment. Pile driving would be the loudest single construction operation. The majority of noise receptors is located further than 50 feet from areas where pile driving or other high-noise activities, are expected.

Noise impacts would occur only in isolated locations in the study area. Coordination with local jurisdictions would occur in an attempt to minimize impacts to special events, such as concerts or festivals, that may be impacted by construction noise.

Vibration

Vibration caused by construction activities would present short-term impacts in areas where pile driving and compaction equipment are being used. Building damage from pile driving vibration is estimated to exist only within about 50 feet. Vibration from compaction equipment is less severe. No vibration impacts are anticipated.

Water Quality

Construction practices associated with development cause sediment erosion beyond natural conditions. Stormwater runoff from a construction site can cause violations of water quality standards in adjacent waterways and groundwater. Without mitigation measures, stormwater runoff could cause erosion and sedimentation, and transport of spilled fuels or other hazardous materials. The deposition of sediments in receiving waters has been identified as a source of water quality degradation.

Traffic Impacts

Construction delays are expected to create short-term impacts to local and regional traffic circulation and congestion. There would be delays for the traveling public and emergency service vehicles, and study area residents would be inconvenienced. Reduced speed limits, short-term travel on unpaved surfaces, and temporary lane and roadway closures on US 285 are to be expected during construction activities. Temporary lane and roadway closures, and delays would place additional traffic pressure on alternate routes, impact business access at a number of locations, and result in short-term economic impacts. Temporary lane or roadway closures may occur at various times throughout the day during construction. However, during peak travel times, CDOT would attempt to keep one lane in each direction open throughout the project area whenever possible. To accomplish this, lanes may be temporarily shifted within the existing framework of the roadway. Nighttime closures of US 285 are a possibility, in which case detour routes would be necessary.

Visual

Short-term, construction-related visual impacts are likely to occur. These impacts include the presence of construction equipment and materials, temporary barriers, guardrail, detour pavement and signs, temporary shoring and retaining walls, lighting for night construction and removal of vegetative cover.

3.19.2 Mitigation Measures

Air Quality

The following measures could be used to mitigate construction impacts on air quality:

- Suppress dust through watering or the application of dust palliatives.
- Cover trucks hauling soil and other materials when practical.
- Stabilize and cover stockpile areas.
- Revegetate exposed areas.
- Encourage contractors to use cleaner burning fuels in construction equipment and to reduce idling time.
- Minimize off-site tracking of mud and debris by stabilizing temporary access points and other practical measures.

Noise

The following measures could be used to mitigate noise and vibration due to construction:

- Use noise blankets on equipment.
- Use quiet-use generators.
- Minimize construction duration in residential areas, as much as possible.

- Avoid nighttime activities in residential areas, as much as possible.
- Combine noisy operations to occur in the same time period.
- Use alternative construction methods, such as sonic or vibratory pile driving in sensitive areas, when possible.
- Conduct pile driving and other high-noise activities during daytime construction, where possible.

Water Quality

The following steps could be taken to minimize possible exceedances of water quality standards in waterways crossed by, and adjacent to the project:

- Implement temporary and permanent Best Management Practices (BMPs) for erosion control as required by local and state permitting requirements. These may include surface roughening, mulching, revegetation, and interim ground stabilization.
- Implement temporary and permanent BMPs for sediment control as required by local and state permitting requirements. These may include implementation of planned drainages such as detention basins to capture sand runoff, slope-length and runoff considerations, slope diversions and dikes, swales, sediment barriers, straw bales, and silt fences.
- Implement temporary and permanent BMPs for drainageway protection as required by local and state permitting requirements. These may include waterway crossing practices, temporary crossings and diversions, stability practices, conveyance controls, and outlet and inlet protection measures.
- Treat contaminated trench dewatering.
- Adhere to the limits established in the 402 Permit.
- Avoid impact to wetlands or other areas of important habitat value that may not be directly impacted by the Preferred Alternative.
- Control and prevent concrete washout and construction wastewater. As projects are designed, adhere to the proper specifications and review them to ensure adequacy in the prevention of water pollution by concrete washout.
- Install permanent stormwater quality BMPs as required for CDOT's NPDES permit and Municipal Separate Storm Sewer (MS4) program requirements.

Traffic Control

The following steps could be taken to minimize impacts to traffic circulation during construction:

- Develop traffic management plans.
- Maintain traffic flow during peak travel times by minimizing lane or roadway closures, if possible.
- Coordinate detour routes to avoid overloading local streets with detour traffic, where possible.
- Maintain an access to local businesses/residences.
- Coordinate with emergency service providers to minimize delays and ensure access to properties.
- Begin implementation of Transportation Demand Management (TDM) programs.
- Use signage to announce/advertise timing of road closures.
- Use Web sites to announce/advertise timing of road closures.

Visual

Mitigation for construction-related visual impacts could include:

- Store equipment and materials in designated areas only.
- Remove any unused detour pavement or signs.

Re-use of Materials

Contractors will be encouraged to recycle and reuse project-generated materials to the extent practicable. This could include reuse of construction and demolition debris in the project as aggregate, roadbase or landscaping, including the use of compost instead of or as amendments to topsoil, riprap and on-site rock for pavement aggregrate and other uses. In addition,

contractors will be encouraged to use locally-available materials which meet construction specifications which may not be native virgin materials, including traction sand, masonry, waste from other projects, and other suitable reusable materials.

Contractors also will be encouraged to find water conserving and retaining measures, air pollution prevention measures such as reducing truck idling time and use of low sulfur diesel fuel, shorter driving distances using carpooling and materials staging, and other practices. Emphasis will be on finding ways, to the extent practicable and economical, to reduce waste volumes and use of native materials, purchase of recycled materials including aggregate and metal but also other materials and items, promote energy conservation, prevent air pollution, and conserve and protect water resources.

3.20 Relationship Between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity

Local short-term uses of the environment that can be expected to occur are:

- Some loss of soils through erosion.
- Short-term disruptions in traffic and economic conditions.
- Some short-term increases in turbidity during construction.
- Vegetation loss due to construction clearing.
- Filled wetlands for construction.
- Displacement and/or death of some wildlife during construction.
- Temporary damage to some fish or aquatic resource habitat.
- Temporary changes to visual quality.

Long-term productivity that will be maintained or enhanced include:

- Long-term improved safety.
- Long-term improved use of energy for vehicular fuel consumption.
- Long-term enhancement of traffic capacity.
- Long-term improvements to drainage.
- Long-term improvements to economic conditions.
- Long-term replacement of wetland values lost.
- Long-term improvements of permeability of highway for wildlife.
- Long-term acquisition of property for open space.

3.21 Irreversible and Irretrievable Commitments of Resources

Implementation of any construction project involve a commitment of a range of natural, physical, human and fiscal resources. Land that would be used in the construction of the Preferred Alternative would be considered an irreversible commitment during the time period that the land is used for a highway facility. However, if a greater need for use of the land were to arise, or if the highway facility were no longer needed, the land would be converted to another use. At present, there is no reason to believe such a conversion would ever be necessary or desirable.

Considerable amounts of fossil fuels, labor and highway construction materials such as cement, aggregate and bituminous material would be expended in the construction of the Preferred Alternative. Additionally, large amounts of labor and natural resources would be used in the fabrication and preparation of construction materials. These materials are generally not retrievable. However, they are not in short supply and their use would not have an adverse effect on continued availability of these resources.

Any construction also would require a substantial expenditure of both state and federal funds. These funds are not retrievable and would require allocation of funds which could be use used by other projects.

3.22 Cumulative Impacts

3.22.1 Introduction

A cumulative impact is "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions" (40 CFR 1508.7). The cumulative impacts analysis takes into account the past, present and future actions, regardless of the responsible party, along with the Preferred Alternative, to determine the impacts to the environment as a result of the combined actions. A baseline is established that includes the development from a specified period of time for past actions, added to present and reasonably foreseeable future actions. This baseline establishes the impacts, which have or would occur without the Preferred Alternative. The direct and indirect impacts associated with the Preferred Alternative are the "incremental impacts." The effects of the addition of the incremental impacts to the baseline are used to assess cumulative impacts.

The environmental resources addressed under cumulative impacts are those that have been identified as resources of particular concern in the study area and that would be impacted by the Preferred Alternative. The cumulative analysis addresses the "incremental impacts" of the Preferred Alternative related to those resources. To determine the impacts to the specific resources on a cumulative basis, the impacts of the Preferred Alternative are added to the baseline and analyzed as the incremental impacts.

The methodology used for the US 285 cumulative impact assessment is as follows.

Scoping for Critical Environmental Resources. The following state and federal agencies were contacted requesting their presence at a formal scoping input meeting to identify cumulative impacts issues of concern:

- US Environmental Protection Agency
- US Fish and Wildlife Service
- Colorado Division of Wildlife
- US Army Corps of Engineers: Tri-Lakes Project Office
- US Forest Service
- Colorado Department of Public Health and Environment
- State Historic Preservation Office

Written and/or verbal responses were received from the following agencies. Copies of the response letters and verbal scoping input are located in Appendix B.

- US Environmental Protection Agency
- US Fish and Wildlife Service
- US Army Corps of Engineers: Tri-Lakes Project Office
- US Forest Service

The following resources were identified as critical environmental resources to be considered in the cumulative impacts analysis. These were derived from the scoping letters, meetings, and input from the project team. The identified resources of particular concern are:

- Land Use/Growth
- Water Quality
- Wildlife Habitat
- Wetlands

Geographic Boundary. An additional part of the scoping process was to establish the appropriate scale of study and to determine the geographic boundaries and time period for cumulative assessment. The geographic resource boundary (aka, cumulative study area) to be used for the cumulative impacts analysis is based on the resources of concern and the impacts to these resources under the Preferred Alternative. The boundary used for data collection and analysis of environmental resources in the EA has been defined as:

- Water Quality/Wetlands/Wildlife: South Platte Watershed Boundary
- Land Use/Growth: Jurisdictional Boundary

Time Period. Based on traffic and growth projections for the area, the timeframe used for cumulative impacts analysis included historical actions prior to the construction of US 285 and extended into the future to the year 2025.

Resource Data. Data were collected for the resources of concern from readily available data sources for the cumulative study area. These data sources included: The interim *Conifer/285 Corridor Area Community Plan, Jefferson County Mountain Groundwater Resource Study, Jefferson County-wide Transportation Plan, Jefferson County Open Space Master Plan, Park County Land Use Regulations*, 2002 *Park County Profile* (PPACOG), *State of Colorado Wildfire Hazard Mitigation Plan* (2001), *Colorado State Transportation Improvement Program* 2003-2008 (STIP), as well as direct contact with county planners and staff.

Direct and Indirect Impacts. As part of the analysis for cumulative impacts, the direct and indirect impacts of the Preferred Alternative become a part of the incremental impacts of the project. The direct impacts are those that are a direct result of the alternative or its operation, such as pavement increase. Indirect impacts are those impacts caused by the alternative which occur later in time and/or are further removed in distance from the study area, but still reasonably foreseeable. Indirect impacts could include a change in surface water runoff which indirectly affects wetlands. The increased corridor capacity could induce development, most likely along US 285 or within the interchange areas. Direct and indirect impacts (and mitigation) are outlined in Chapter 3 by each resource.

Identification of Past Actions Affecting Resources of Concern. Past actions that have affected the resources of concern include the construction of US 285 itself, and residential and commercial development. Past actions were identified using historic aerial photography from the Forest Service, dated 1975 and 1977. Comparison between historic and current aerial photographs delineated the changes in the study area. This comparison revealed that much new residential development has occurred, especially at the following locations:

- Parkview subdivision, east of US 285, along Crow Hill.
- Horseshoe Park subdivision, west of US 285, along Crow Hill.
- Rim Rock subdivision, both sides of US 285, west of Pine Junction.
- Mt. Evans Boulevard, north of US 285 and Pine Junction.
- Kings Valley, north of US 285.
- Elk Creek, north of US 285.

The comparison also revealed areas of new commercial development:

- Deer Creek, both north and south of US 285.
- Pine Junction, south of US 285, between Mt. Evans Boulevard, and Wandcrest Drive.
- Pine Junction, north of US 285, along Mt. Evans Boulevard.
- Kings Valley, north of US 285.

In addition to the sites listed above, there has been an infill of homes on individual parcels located throughout the study area.

Identification of Other Actions Affecting Resources of Concern. Present and reasonably foreseeable future actions within the study area include development, transportation, and infrastructure projects that are expected to occur regardless of proposed improvements to the US 285 study area. These projects include those that are under construction or have been approved, as well as proposed developments that are known by planners or developers to be reasonably certain but which may not have been approved or permitted as of April 2003. **Table 3-28 and Table 3-29** list the land use, transportation and infrastructure projects, which are "reasonably foreseeable" within the US 285 study area.

Table 3-28: Table of Reasonably Foreseeable Development Projects

Project Name	Jurisdiction	Description	Use
Staunton State Park	State Parks Department	Proposed state park, access at Elk Creek Road. (On hold indefinitely)	Recreation
Sunset Villages Development	Private Development (Park County)	At Wandcrest Road, within the Pine Junction Rural Center, 375 acres, 480 residential units, 10 acres of commercial.	Residential/ Commercial
Deer Creek Corners	Private Development (Park County)	Commercial development at Crow Hill consisting of 50,000 sf grocery store, 2 retail spaces totaling 5,000 sf, 4 restaurants.	Commercial/Retail
Lone Rock Ranch	Awaiting approval from Park County	North of US 285, from the Deer Creek Ranch through Roland Valley Road. 2,000 acres, 300 to 400 single family residences.	Residential
Green Valley Ranch	Jefferson County	Rolling, 25+ acre development property with option for 20 additional acres. Potential commercial, recreational, and residential uses.	Mixed-use
Aspen Park/Conifer Village Center	Jefferson County	Retail/Office component of Aspen Park/Conifer Village Center. 29.2 acres/179,150 sf GLA*	Retail/Office
Aspen Park/Conifer Village Center	Jefferson County	Office/Restaurant adjacent to Aspen Park/Conifer Village Center. 2.16 acres/27,750 sf.	Office/Restaurant
Aspen Park/Conifer Village Center	Jefferson County	Office adjacent to Aspen Park/Conifer Village Center. 8 acres/50,000 sf GLA*	Office
Aspen Park/Conifer Village Center	Jefferson County	Office adjacent to Aspen Park/Conifer Village Center. 0.717 acres/1,700 sf GLA*	Office
Aspen Park/Conifer Village Center	Jefferson County	Office adjacent to Aspen Park/Conifer Village Center. 6.8 acres/30,000 sf GLA*	Office
Center at Conifer Junction	Jefferson County	Retail/Office/Light Industrial. 9.74 acres/62,000 sf GLA*	Retail/Office/Light Industrial
Aspen Park/Conifer Village Center	Jefferson County	Retail/Office/Light Industrial. 2.03 acres/17,000 sf GLA*	Retail/Office/Light Industrial
Mountain Resource Center	Jefferson County	Office development. 0.81 acres/8,449 sf GLA*	Office
Aspen Park/Conifer Village Center	Jefferson County	Office/Retail. 1.03 acres/24,000 sf GLA*	Office/Retail
26542 Main Street (Conifer)	Jefferson County	Office/Residential between Conifer and Aspen Park.1.72 acres/5,096 sf. GLA*	Office/Residential
11299 Foxton Road (south of Conifer)	Jefferson County	Retail/Office.5 acres/30,000 sf GLA*	Retail/Office
10995 US 285 (south of Conifer)	Jefferson County	Rezoning from A-2 to PD to allow commercial use. 3.4 acres/36,000 sf. GLA*	Mixed-Use (mostly commercial)
Elk Crossing	Jefferson County	Retail/Office development. 39.13 acres/235,225 sf GLA*	Retail/Office

Table 3-28: Table of Reasonably Foreseeable Development Projects (Continued)

Project Name	Jurisdiction	Description	Use
	Private developer	Proposed Commercial development at Kings Valley Drive	Commercial
Krough Ranch, Deer Creek Ranch, Shaffers Crossing Parcel, parcel south of Pine Valley Road	Various agencies, CDOT, both counties, local land trust	Potential Open Space joint-acquisition areas for project mitigation, wildlife crossing, wetland revegetation, etc.	Open Space and Mitigation
Open Space Acquisition throughout Jefferson County	Jefferson County	Various areas within the county have been identified as priority open space acquisitions (see Jefferson County Open Space Master Plan).	Open Space
Open Space parcel	Jefferson County	It is recommended that meadows and drainage areas be maintained in natural condition as open space and visual corridors, according to the Conifer Plan.	Recommended for Open Space

** GLA = Gross Leasable Area*
SOURCE: Jefferson County Planning Dept., Park County Planning Dept., Colorado Department of Transportation, April 2003

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Table 3-29: Table of Reasonably Foreseeable Transportation Projects

Project Name	Jurisdiction	Description
US 285	CDOT	Bailey to Fairplay (safety-related geometrics identified on 2003 STIP, and *US 285 Foxton Road to Fairplay Feasibility Study*)
US 285	CDOT	Normally scheduled highway maintenance such as: ditch cleaning and sand removal.
US 285	CDOT	Normally scheduled winter maintenance such as: snowplowing, sand and salt application, and the use of appropriate maintenance programs and techniques to avoid excess materials from entering waterways.
Park-n-Ride Expansion	Jefferson County/RTD	Pine Junction park-n-Ride
Park-n-Ride Expansion	Jefferson County/RTD	Green Valley and US 285 park-n-Ride

SOURCE: Jefferson County Planning Department, Park County Planning Department, Colorado Department of Transportation

Additional Roadway Projects

Proposed transportation improvements within the *I-70 Mountain Corridor PEIS* and the *State Highway 9: Frisco to Breckenridge FEIS* are not included in the cumulative discussion because the projects are located well beyond this US 285 study area and beyond the cumulative boundary of this EA. Cumulative impacts for these projects are discussed in the *I-70 Mountain Corridor PEIS* and the *State Highway 9: Frisco to Breckenridge FEIS*.

3.22.1.1 Historical Setting

US 285 Roadway

When the US Highway plan was implemented in 1927, US 185 was changed to US 285. The original route of US 285 traveled north from Denver through Broomfield, Longmont and Fort Collins to

Laramie, Wyoming. In 1935, US 285 was extended south from Denver through Morrison, Fairplay, Buena Vista, Saguache, Monte Vista and Alamosa to New Mexico, replacing US 650. US 285 was then eliminated north of Denver in 1936 and became US 287.

US 285 follows the original stagecoach road of the 1860s that connected Morrison with Bailey and South Park. In 1950 several miles of US 285 through South Turkey Creek underwent a major relocation to higher ground.

As the Denver metropolitan area grew, US 285 became a route to suburban southern Jefferson County. Congestion increased and in November 1991, the first US 285 widening project began. The first phase of construction was completed in 1993 as US 285 between Parmalee Gulch Road and Tiny Town was widened to four lanes, and the Parmalee Gulch flyover was constructed. The next phases of construction began in June 1994 between Tiny Town and Goddard Ranch Court. In this section, US 285 was widened to four lanes and a new intersection was built at North Turkey Creek Road. An EIS was prepared for this.

In November 1998, CDOT continued to phase the widening of US 285 to four lanes. Expressways southwest of Parmalee Gulch opened in stages beginning in 1998. Parmalee Gulch to North Turkey Creek Road was designated as the initial expressway, followed by two separate sections: North Turkey Creek Road to Settlers Road, and Brandenberger Road to Eagle Cliff Road. Eagle Cliff Road to Kennedy Gulch/Foxton Road (through Aspen Park and Conifer) opened in November 2002. Improvements included four new bridges at the following intersections: Foxton Road/Kennedy Gulch, County Highway JCR73/Pleasant Park Road, Wolff Avenue/Barkley Road and Meyer Road/Conifer Road. The transportation improvements also included concrete paving, drainage improvements, retaining walls, light installation, wetland mitigation and landscaping.

Presently, US 285 is mainly a four-lane divided expressway from the Kennedy Gulch/ Foxton Road area west of Conifer to Parmalee Gulch Road southwest of Morrison. US 285 includes small grade-separated intersections at Kennedy Gulch/Foxton Road, Conifer, Aspen Park, South Turkey Creek Road, North Turkey Creek Road and Parmalee Gulch Road.

Historical Changes in Land Use Along the US 285 Corridor

The Pikes Peak Gold Rush of the late 1850s brought the first settlers to Jefferson County. Reports of gold in the streams along the Front Range enticed prospectors to the area, and soon after coal was discovered near Coal Creek. Shortly thereafter, gold was discovered in Tarryall Creek and hoards of gold-seekers traveled further into an area called South Park in Park County. Mining camps were established along what is known today as US 285, and the foothills were dotted with mining-based towns such as Tarryall, Buckskin Joe, Eureka, Horseshoe and Mudsill.

In the late 1880s, nearly 20 years after the first gold rush brought settlers into Jefferson County, the Denver, South Park & Pacific Railroad arrived. The railroad ushered in what was considered the "boom" days for Jefferson and Park Counties. When the era ended, most of the camps were abandoned except for those with the strength of more diversified economies such as Fairplay, Alma and Como. Later, hydraulic and dredge mining, along with improved milling methods, were introduced and these communities prospered again. Through the years, other minerals such as silver, lead, and zinc were discovered; however, today, only a few working mines are in existence.

As the mining uses decreased at the beginning of the twentieth century, recreational uses began to increase. Private and commercial lodges and camps began to appear in the area, such as Glen Isle Resort just west of Bailey. Denver Mountain Parks, Colorado state parks, and the surrounding national forests provided recreational opportunities for tourists and people living on the Front Range. The area also became a place for residents of the urban settlements of Colorado to own second, vacation homes. These uses continue through the present.

Along with these recreational uses, a trend to more suburban uses has been developing in the study area. Currently, a mixture of land uses exists in the study area. There is a dense urban area closer to Denver, a rural component, consisting primarily of small-scale agriculture and ranching further from Denver, and recreational component, consisting of outdoor uses and vacation homes.

As the Denver metropolitan area grows, more of the land use along US 285 is transformed into a residential, bedroom community consisting of increased residential neighborhoods with associated commercial facilities that tie into US 285 as a main route to Denver and employment.

3.22.1.2 Highway Maintenance Activities and Effects

The study area is located within CDOT Maintenance Section 5. Maintenance is responsible for ongoing snow and ice control, roadway and roadside maintenance, and keeping highways safe for the traveling public. Road standards and design have a major effect on scheduled and unscheduled maintenance needs. Normally scheduled maintenance activities, such as ditch cleaning and sanding, and anticipated but unscheduled maintenance activities (to accommodate for unforeseen events) will continue on US 285.

Practices such as filling depressions, and widening the roadway shoulders can adversely affect wetlands, riparian areas and streams. Any activities that result in impacts to these resources have traditionally been avoided or minimized to the maximum extent practicable. Where impacts have occurred, permitting and environmental clearances have been obtained and mitigation efforts have been implemented.

Ongoing CDOT plans for normal and emergency maintenance will continue to be disclosed, including plans to prevent and manage noxious or undesirable vegetation, as well as any plans to use herbicides.

Winter Maintenance Activities and Effects

Removal of snow and ice from the roadway and the general application of abrasives or deicing products are considered urgent operations to keep state highways open to the extent feasible during inclement weather conditions. Because the high winds and higher altitude of the study area, winter weather conditions can be severe.

The primary means of controlling snow and ice within the study area is a salt/sand mixture used for deicing. The content of salt (sodium chloride, or NaCl) in the mixture generally is approximately 5%. Currently, liquid deicers (i.e., magnesium chloride, $MgCl_2$) are being used on certain segments within the study area. Water quality impacts from winter maintenance operations have not been documented in the study area; however, steps should be taken to avoid and minimize any long-term, indirect and cumulative environmental effects associated with chemical deicers.

Ongoing activities, such as snow plowing, snowmelt, sidecasting with a snowblower and stormwater runoff, move sand and salt into adjacent ditches, fill slopes, and even beyond the right-of-way. Ultimately sand and chemical components migrate into streams, riparian lands, and wetlands and alter the natural biochemical make-up as well as their functions and values. Maintenance implements BMPs such as sand sweeping; maintenance of culverts, slopes and other roadside features; stream-bank repair; litter control; seeding; weed control; proper maintenance of stockpiled materials; implementing the chain law when necessary; and other related maintenance activities.

3.22.2 Environmental Consequences

This section attempts to identify cumulative impacts generated from the individual, incremental and collective land use actions of the past, present and the reasonably foreseeable future.

3.22.2.1 Land Use (Growth) Impacts

Past actions in the study area have generated much of the land use impacts to date. The change in use from recreational and small-scale agriculture to primary residential was brought by new subdivisions and past improvements of US 285. These changes brought about the commercial development neces-

sary to support the new residential and recreational users.

In addition to the table of Reasonably Foreseeable Development Projects (**Table 3-28 on page 3-141**), this section analyzes land use actions that may have effects on the future land use along and beyond the study area. The table identifies developments that are slated to occur near the study area. The impacts resulting from these developments are increases in impervious surfaces (roads, driveways, parking lots, rooftops, etc.), loss of rural open lands, loss of agricultural lands, loss of wildlife habitat, fragmentation of wildlife habitat, degradation of water quality, loss of wetlands and stress on aquatic resources, and stress on the area's water availability and supply.

The US 285 study area traverses portions of both Park and Jefferson Counties. Both counties are among the fastest growing counties in Colorado in terms of population and economic growth. Although both counties have grown steadily since the 1930s, the highest rate of growth has occurred since 1990. This growth has placed an increased demand on US 285, in large part creating the need to improve the highway. Growth trends are expected to continue whether or not improvements are made to US 285. This anticipated growth is evident from population projections and from information gathered from county plans.

The cumulative land use impacts for the baseline condition would be largely a result of growth that is already projected to occur along the US 285 corridor and the surrounding areas. US 285 in its existing condition will, however, likely dampen growth because of unacceptable congestion. Jefferson County's total population has grown consistently between the years of 1990 and 2000. A high rate of population growth has occurred in the US 285 study area as residents in the growing Denver metropolitan area seek a more rural lifestyle. The majority of growth relocated along US 285 within Jefferson County has resulted in the development of many new residential units supported by commercial and retail development. Employment opportunities along the US 285 study area are few, and this causes residents to commute along US 285 to the Denver metropolitan area for jobs. However, small urban cores are starting to thrive along US 285, making the community centers of Pine Junction and Conifer attractive to local residents. As these community centers continue to develop economically, traffic in the US 285 study area will continue to increase as residents in smaller, neighboring communities travel to these areas for services.

The additional projected development that would occur as a result of the Preferred Alternative could impact other resources of concern as identified in the scoping process for cumulative impacts. As far as impacts to land use, the proposed improvements are anticipated to bring new growth into the study area. The anticipated growth would likely occur in areas where the transportation improvements are scheduled. The projected land use changes associated with this forecasted population growth would correlate with existing zoning regulations, land use regulations, and local comprehensive plans. Other factors, which have greater influence over the rate, type, and amount of growth, are zoning policies, the national and state economy, and local politics.

The improvements associated with the Preferred Alternative may result in development occurring sooner in certain areas, and this growth shift might cause development to distribute more densely near the transportation improvements. In addition, the planned transportation improvements coincide with many of the already planned areas of future growth, including the concentrated village and rural centers. These areas that are already planned, platted and approved will benefit from the US 285 transportation improvements with increased safety, improved access, and decreased travel times, though it should be noted that transportation improvements are made in response to existing or projected demand for capacity, resulting from forecasted growth and approved local area plans.

The hypothesis of “induced demand” as a result of road improvements is anticipated to occur. Under the No-Action Alternative, growth and development along US 285 would occur haphazardly and would not be supported by transportation and safety improvements. Under the Preferred Alternative, new development and anticipated growth would have better access, improved safety, and may

encourage infill within the designated rural centers and village centers.

The concept of induced demand and its effect on traffic volumes throughout the US 285 study area was analyzed in the *US 285 Foxton Road to Bailey EIS, Land Use Technical Report* (April 2003). (All references in this section are cited in the technical report.) This report looked at longer-term development increases that would result from transportation improvements to the study area, as well as how short-term induced demand would result in additional trips made in the study area that would not otherwise be taken if the roadway were not improved. Early in the planning process, a Land Use Committee was formed to provide local information and feedback on the types of development along US 285 and how the area is likely to develop in the next 20 years. The committee agreed that growth along US 285 and on side streets accessing US 285 has mostly occurred over the past 10 to 20 years and is likely to continue. The committee's sentiment was that past, present, and future developments have and would continue to occur, converting acres of land from a natural or rural state to a developed one, regardless of the roadway improvements proposed in the EA. The technical traffic analysis found, however, that future growth may be constrained by a two-lane US 285. The US 285 Preferred Alternative would result in land use changes that would not occur with the No-Action Alternative or the baseline cumulative impacts. These impacts are not anticipated to be significant, however, because local land use plans and agencies have incorporated this growth into their planning process and have proposed effective policies to mitigate the impacts of this growth.

3.22.2.2 Water

Diminishing quality and quantities of water that recharge underground water supplies, and increases in the amount of pollution in receiving streams and lakes are both possible cumulative impacts that can have even further impact on the environment. Impacts to water resources can result in adverse effects on wildlife from diminished water quality, and adverse effects on human water consumption due to both limits of water availability and impacts to water quality.

Water Availability

With a history rich in mining and ranching, it is not surprising that water was essential to the early development of both Park and Jefferson Counties. Park County contains the headwaters of the South Platte River, diversions from which historically provided water for mineral processing and irrigation of hay meadows. Dams and reservoirs constructed to provide water storage for Front Range municipalities also serve as fishing and recreation sites for residents and visitors. Denver Water operates Antero Reservoir and 11-Mile Reservoir along the South Platte, while Aurora stores municipal supplies in Jefferson Lake and Spinney Mountain Reservoir. Water Conservancy Districts are responsible for managing the water resources of the study area. These districts use a small portion of the property tax revenues to purchase water and storage rights as a sustainable resource. The districts provide legal defense against unwise and harmful appropriation attempts on water rights and manage the purchasing of augmentation water for commercial development.

Past actions in the study area have reduced the availability of water. The increase in development has increased the amount of impervious surfaces, resulting in the loss of groundwater infiltration. There has been an increase in the amount of groundwater drawn from wells to support the increased number of individual residential users, leaving less available groundwater as time has gone by.

Water constraints will likely play a role in restricting development within the US 285 study area. The local water districts have been active in acquiring water rights to be used in blanket augmentation plans and are now seeking storage sites around the county. These actions might provide opportunities to furnish unincorporated areas of the counties with adequate water for future commercial and residential development. Limitations of adequate well water in many parts of the study area will make development there less attractive, regardless of transportation improvements.

There are six large areas adjacent to the US 285 study area that currently are zoned for agricultural uses. Under the current drought conditions, and as growth and tempting development prospects present themselves, much of this land will be sold to private development and the opportunities to purchase and subdivide large blocks of this agricultural land will exist. Normally, water rights are sold separately from the agricultural land and frequently sought after by the Front Range water entities to be converted to Front Range municipal supply. Once the land is no longer irrigated, the water table will drop, wetlands will recede, and shallow irrigation wells that were once effective will no longer provide much water on that land. The cost to develop such land will increase due to the cost of buying augmentation water for deeper tributary domestic wells.

The cumulative impacts of this type of land conversion result in a strain on the water supply by placing a large demand in order to meet the needs of the new land uses, which are generally residential and commercial developments. In meeting the needs of new development with more domestic wells, groundwater below the surface is depleted and other water cleansing resources, such as wetlands and natural springs, could diminish and disappear.

Water Quality

Both short-term and collectively over time, cumulative impacts may generate from construction activities, changes in land use, increased growth, and the conversion of agricultural lands to developed lands.

Past actions in the study area have reduced water quality. The increase in residential development has increased the amount of impervious surfaces and, therefore, runoff that can carry pollutants into the nearby waterways. The increased residential use has created more septic systems in the study area, creating concern about the quality of groundwater.

Development, such as those proposed in the reasonably foreseeable development **Table 3-28 on page 3-141**, rapidly consumes and converts natural landscapes to landscapes with impervious surfaces such as parking lots, roads, and rooftops, which results in a loss of groundwater infiltration. With more impervious surface area, water running off of rooftops, parking lots and roadways can carry pollutants into nearby waterways, instead of allowing the natural filtration and cleansing process to occur through the soil, on its way to recharging groundwater sources. As growth and development increase, detrimental cumulative effects on the quality of local water resources can result from individually minor, but collectively more increases in impervious surface area over a period of time. With increased development comes more domestic well usage, more septic systems, and a greater demand on water source and threat to water quality.

Cumulative impacts to water resources in the study area could stem from the various construction activities (both road and non-road) occurring simultaneously. Increased and multiple developments and land conversion can result in cumulative impacts to surface water resources and aquatic habitat due to erosion and the resulting effect of stream sedimentation. Erosion of the highway slopes and stream banks is a problem today along US 285 between Bailey and the Roberts Tunnel, and south of the highway at Shaffers Crossing. Between Grant and Bailey, this segment of US 285 runs adjacent to the North Fork of the South Platte River. The streambed in this location has been channeled and lined with riprap. Construction and realignment of the roadbed in this portion of the study area could have secondary and cumulative impacts downstream from Bailey where the North Fork of the South Platte River is proposed to be classified as Wild and Scenic (USDA 2000).

Cumulative impacts to water resources could result from highway maintenance and winter maintenance activities. Normally scheduled maintenance activities, such as ditch cleaning and sanding, snow and ice control, and roadside maintenance will continue on US 285, and the cumulative effects associated with an increase in roadway surface area will result in further impacts to water resources as the amount of sand/salt applied and the amount of maintenance required will be increased correspondingly. Winter maintenance practices, such as snow plowing, sanding, and runoff, can move sand, salt and debris into adjacent ditches and fill slopes,

ultimately migrating into streams, riparian lands, and wetlands and altering the natural biochemical make-up as well as their functions and values. Cumulative effects from these impacts can be minimized and impacts to water quality can be avoided or reduced if maintenance program requirements are met, and if BMPs are implemented in both construction and design. (Please see **Section 3.7.5 beginning on page 3-62**.) Any activities that result in cumulative impacts to water resources should be avoided or minimized to the maximum extent practicable. Where impacts are planned to occur, permitting and environmental clearances will be obtained and mitigation efforts will be implemented.

Land conversion also contributes to cumulative impacts on water quality by changing drainage patterns, destroying wetlands, and impacting natural and historical location of groundwater recharge. When the land is altered in an area that traditionally served as a groundwater recharge area, the recharge rate is altered and, in many cases, diminished. Wetlands serve a protective function by filtering pollutants out of water before is trickles into the groundwater source. Domestic wells that depend upon water from this groundwater sources will receive water that is either higher in pollutants (because less water is less diluted, and therefore has a higher concentration of pollutants), or they will receive no water at all.

The EPA has reported that nonpoint source pollution is the leading cause of water quality problems, with one of the top causes of waterbody impairments being sediments. Road sanding and runoff from construction sites are major nonpoint source pollutants, in addition to sedimentation from land development and associated construction activities. If not controlled properly, sand and sediment can contribute to the total instream sediment load of a river, causing a decrease in water quality and impacting aquatic habitat. Sediment runoff from improperly managed construction sites has a similar effect, as siltation could threaten and impair nearby water bodies. In addition, stormwater runoff across impervious surfaces can provide another method of sediment loading that increases with the amount of developed land. Streams within the US 285 study area are susceptible to sedimentation because of the dynamics of the stream locations and highway runoff constituents. In addition to impacts to nearby streams, sediment from construction activities and increased development could end up in reservoirs well outside of the study area. The cumulative impacts could result in a "filling" of downstream reservoirs, thereby resulting in impacts to water quality and limit the capacity of water storage facilities that are being used for public water supply.

The Outlook on Water Resources

Year 2025 US Census Bureau estimates predict a growing population in the US 285 study area. Improvements to the roadway could result in an increase in real estate development as more land with better regional roadway access is acquired and converted to higher density uses. This induced growth and the trend for development to gravitate towards areas with better roadway improvements and access will either be limited by, or have cumulative effects upon, the water supply. These impacts could be dramatically affected by the area's proximity to the Continental Divide and the return of average or above average snowpack that yield normal amounts of precipitation. A prolonged period of sluggish growth or an extended recession could substantially alter the picture as well. The cumulative impacts associated with current growth predictions and trends that frequently occur as a result of induced growth, assume that the national economy will slowly improve over the next few years, then grow at sustainable levels. The predicted growth for the area will result in significant impacts to water quality over the baseline conditions; however, if stormwater and erosion control regulations are enforced at both the local and state levels, the described impacts would be greatly reduced. In addition, implementation of Federal Phase II Stormwater Regulations (see *US 285 Foxton Road to Bailey Water Resources Technical Report*) for construction activities and growing municipalities should curb significant impacts to water quality. Local and state regulations should also minimize impacts.

3.22.2.3 Wildlife

As roads and highways are reconstructed and upgraded, impacts on wildlife will increase as traffic increases. Impacts include direct habitat loss, mortality, and displacement through avoidance of areas affected by increased traffic and human presence. Because of past and current actions, all of these impacts exist under the No-Action Alternative.

Cumulative impacts to wildlife, as a result of the reasonably foreseeable projects, occur primarily as a loss of habitat and habitat fragmentation. Fragmentation of wildlife habitat along the Front Range is a critical issue that disrupts wildlife movement patterns and predator-prey relationships. Past and future regional population growth, recreational activity, commercial and residential development, and the potential construction of a large water project near the study area would continue to impact wildlife habitat, dispersal, productivity, and mortality regardless of whether or not the Preferred or No-Action Alternative is instituted. Large residential developments in the US 285 study area are currently planned and zoned, and will impact wildlife habitat. As a result of more development and land conversion, an increase of impervious surface area will occur, increasing runoff into local waters and stream, therefore degrading aquatic habitat.

In addition to existing and future land development, the proposed transportation improvements and the No-Action Alternative would continue to increase the barrier for north/south wildlife movement across US 285, and may increase the potential for direct mortality from animal/vehicle collisions. While not quantifiable, these incremental and cumulative effects could result in a loss of regional biodiversity; however, significant impacts to wildlife and biodiversity are not expected to occur.

3.22.2.4 Wetlands

Cumulative impacts to wetlands and riparian areas have occurred, and are occurring in the US 285 study area due to human activities such as construction, land conversion and agricultural practices. The original construction of US 285 occurred at a time when wetland regulations were few or nonexistent. The past actions in the study area have had an adverse impact on wetlands. Some wetlands were filled in, and others were reduced in size or cut off from water sources. Impervious surfaces have been created, increasing runoff that can carry sediment. This sediment has added to the siltation of some wetlands. Future disturbances as a result of anticipated growth and development in the region are likely to occur and will impact wetlands both directly and indirectly. These disturbances are highly regulated by the Corps of Engineers.

Major widening within the study area does not occur parallel to any major stream or wetland. Impacts to wetlands and waterways are primarily at single crossings. All these crossings are on drainage tributaries to the North Fork of the South Platte River; the average distance from the crossing to the Platte River is about five miles. Cumulative impact to the individual drainages and the North Fork is minimal. The Preferred Alternative is for the most part located on the existing alignment, therefore, impacts would occur only to those wetlands adjacent to the existing roadway. Widening would result generally in narrow strips of impact. The only exception is Roland Gulch where the alignment would be moved approximately 400 feet to the southeast. The move would improve a dangerous curve and would replace a culvert with a bridge. Overall the changes would result in improving roadway safety, allowing wildlife to pass freely under the road rather than over, and restoring up to an acre of wetlands and adjacent riparian vegetation that was lost under the footprint of the old roadway. The Preferred Alternative would actually restore a historically fragmented wetland and riparian habitat at this location. CDOT is planning on improving the Deer Creek crossing to allow large animals to pass under the roadway. This will also improve flows on Deer Creek. The action would result in the overall improvement of the stream environment and again restore a fragmented wetland and stream corridor. Efforts by CDOT to restore areas previously impacted will help to compensate for the loss of wetlands resulting from the widening of US 285.

Cumulative impacts that would result from the reasonably foreseeable projects may stem from increases in impervious surface area. This may

increase runoff while also increasing surface flows in adjacent streams, erosion, and/or the creation of channels in wetlands that previously were channel free. This flow may contain pollutants associated with roadway runoff. Sediment from winter sanding operations on US 285 may also enter wetlands. Sedimentation may increase with lane additions, resulting in the gradual filling in of adjacent wetlands. Chemicals such as magnesium chloride and road salts may impact water quality, impacting wetland plants and wildlife. Additional sediment and erosion can be expected from future development and other construction activities that are predicted to occur within the cumulative study area. Loss of wetland habitat from the associated direct and indirect impacts, as well as from growth-related impacts, could compound and result in cumulative impacts.

3.22.3 Mitigation of Cumulative Impacts

To avoid additional impacts to the identified resources of concern, local authorities and planning entities must continue to review and scrutinize development proposals to ensure that new development is consistent with local area planning goals. In addition, local authorities and planning entities should require appropriate avoidance or mitigation as part of any new development project.

3.22.3.1 Land Use

Although state, county, and local planning decisions are outside the authority of both FHWA and CDOT, an analysis of smart growth initiatives should be explored in order to reduce impacts to the environment. Implementing smart growth initiatives could result in positive cumulative effects such as economic, social, and environmental benefits. The US 285 study area has the opportunity to grow with foresight and the option to examine cumulative impacts that might occur over the next 20 to 30 years. Preparing for, and addressing the sources of impacts today, will result in cumulative benefits in the future.

Growth and development patterns resulting from land use and infrastructure decisions can result in future impacts to environmental resources. The types and densities of land uses, strategic placement of community facilities, alternative transportation options, travel conditions, access, and improved roadway facilities have the potential to present positive impacts on the future of the community and less of a negative impact on environmental resources. As part of the EA, project team members met with local and state representatives to discuss future land use plans, development patterns, and opportunities to accommodate future growth while looking beyond the near future. Higher density developments can result in more room for open space and wildlife habitat. Designated growth centers and defined urban areas can reduce sprawling developments that encourage more driving and cause more congestion and traffic. Higher density development creates an opportunity for infrastructure improvements, which decreases the need for individual systems that can have harmful impacts on the environment. In the US 285 study area, more dense development could result in less of a demand on underground water supplies, and could lessen the potential to pollute these water resources.

Implementing smart growth initiatives, managing development patterns, and examining long-term goals could minimize future and cumulative impacts to the environment. Conventional developments that disperse growth into low-density areas foster the need to drive great distances, creating more congestion, increasing the need for impervious surfaces, and increasing pollutant runoff into the environment. Designing communities that lessen the reliance on the automobiles by creating easier access points and opportunities for mass transportation will have less of a cumulative impact on area resources.

3.22.3.2 Water Resources

Impacts can be greatly diminished or avoided by following local erosion control criteria and CDOT's *Erosion and Sediment Control Manual*. Proper drainage design combined with the implementation of BMPs will keep sedimentation at historic levels over the long term and are expected to reduce contaminant transport and sediment loading in nearby water resources. These BMPs also have hydrologi-

cal benefits by reducing runoff peaks, especially off of impervious surface areas.

Typical BMPs used in the study area in conjunction with maintenance activities are listed in the *US 285 Foxton Road to Bailey Water Resources Technical Report* and consist primarily of sweeping, routine maintenance of culverts, slopes and other roadside features, stream-bank repair, litter control, seeding, weed control, proper maintenance of stockpiled materials, implementing the chain law when necessary, and other related maintenance activities.

As new BMPs are implemented within the study area, CDOT Maintenance will maintain any permanent structures and remove any temporary BMPs used during construction. Maintenance work in wetlands, streams, or near sensitive stream corridors will require the appropriate coordination with CDOT Environmental staff. The necessary permits and environmental clearances for maintenance activities will be obtained, and CDOT Environmental staff will provide guidance regarding these environmental issues. In addition, plans for normal and emergency maintenance will continue to be disclosed, including plans to prevent and manage noxious or undesirable vegetation, as well as any plans to use herbicides along the study area.

Additional BMPs and techniques to avoid cumulative impacts to water quality should be explored as well. These include the following:

- Where feasible, sediment catch basins should be implemented into the Preferred Alternative design to minimize the impact of sediment to adjacent water resources both during and after highway reconstruction. A sediment catch basin would filter and reduce the amount of sediment and pollutants that enter water resources, thus reducing the amount of sedimentation carried into streams and tributaries within the watershed.

- In some areas of the state, CDOT's Roadway Weather Information System has been used by CDOT Maintenance as a tool to accurately predict storm events, storm locations and to provide information as to whether or not freezing temperatures would be reached. This information proved to be useful by providing an accurate estimate of when to apply sand/salt mixtures and what types of similar maintenance activities would be needed to secure travel safety. Installations of weather system monitoring stations along the US 285 study area would prove to be an effective way to reduce the amount of sand/salt that is applied to the roadway. In addition, salt/sand storage sheds have been effective at minimizing flyaway particulate matter during high wind events. Placing salt/sand storage areas in appropriate places would lessen the amount of particulate matter finding its way into water resources.

- Other sections of the US 285 corridor experience very high winds where blowing snow can become a danger to motorists. In these areas, snow fences have been constructed to trap snow before it reaches the roadway, thus eliminating the amount of snow and subsequent runoff quantities from the surface of the highway. This could double as a solution to reducing the amount of snow to be plowed from the roadway.

- Location of remnant right-of-way parcels to be used for road sand storage would help alleviate the problem of sand building up and filling in wetlands and drainages.

In addition to mitigation provided by CDOT during transportation improvements, it is also essential for Park and Jefferson Counties and local interest groups to utilize and enforce their water protection policies and regulations to control erosion and stormwater runoff from new development that occurs.

Focusing improvements within the designated rural centers and rural villages, and other areas where higher density development is planned and encouraged can lessen the impacts associated with haphazard development. The *Conifer/US 285 Corridor Area Community Plan* suggests that public water and sanitation districts should be formed to serve

the activity centers. Where wells are used, it is suggested that the minimum lot size should be at least 5 acres to provide an adequate groundwater recharge area. The plan also calls for a balance between the availability of water and its uses to insure that water resources are not depleted. Water quantity, quality and sanitation are critical elements that should be considered when development is proposed for the area. It is understood that water is essential for almost all development and must be obtained by drilling wells on individual parcels or from a centralized water system.

The interim *Conifer/285 Corridor Area Community Plan* also suggests that a study of the area's water quantity and quality be conducted to further understand the existing water situation and to help make better land use decisions.

3.22.3.3 Wetlands

Wetland mitigation for the Preferred Alternative will be subject to EO 11990 and 404 permitting standards. Wetland impacts caused by the Preferred Alternative would be mitigated at a 1:1 ratio. All impacts to jurisdictional and non-jurisdictional wetlands associated with the US 285 improvements will be mitigated by CDOT.

The Corps of Engineers regulates impacts to jurisdictional wetlands and generally requires mitigation at a minimum ratio of 1:1. It is up to local jurisdictions, landowners and developers to mitigate for wetland impacts associated with their respective projects and future developments.

3.22.3.4 Wildlife

The construction of wildlife crossings will reduce impacts to wildlife movement caused by road improvements.

3.22.3.5 Conclusion

In summary, the direct and indirect effects of the Preferred Alternative do not incrementally result in a significant cumulative impact to the resources analyzed. This is based upon the following information:

- Jefferson County, Park County, CDOT, and local area land trust agencies are partnering to explore the possibility of purchasing open space for wildlife and wetland habitat.
- To maintain an acceptable level of water quality, surrounding land uses and transportation improvements will implement BMPs that are stringent enough to avoid all impacts to water resources to the maximum extent practicable. Local governments will be encouraged to implement effective BMPs in their land use decisions while encouraging smart growth policies that will lessen the cumulative effects of development-related impacts to water quality.
- To address issues of water quantity, both counties have recognized that water availability will continue to be a factor in determining the level of future development in the study area. County planning staff should continue to consider changing the zoning code and land use regulations to reduce allowable development densities in order to minimize water depletion. For example, while current zoning in certain areas allows one dwelling unit per 5 to 35 acres in agricultural zones, a less dense strategy of one unit per 10 to 35 acres should be implemented. In addition, local planning authorities should continue to encourage and redirect growth to its designated rural villages and rural centers in order to provide services on more of a centralized municipal infrastructure system rather than scattered domestic well and septic.
- The addition of wildlife crossings with the Preferred Alternative will substantially improve the permeability of the highway to wildlife.

3.23 Permits Required

The following permits and coordination activities may be required to support the construction of the Preferred Alternative:

- **National Pollutant Discharge Elimination System (NPDES).** An NPDES Permit will be obtained prior to construction by CDOT from the Colorado Department of Public Health and

Environment (CDPHE), in accordance with Section 402 of the Clean Water Act. This stormwater discharge permit is required to ensure the quality of stormwater runoff.

An NPDES stormwater permit (CWA, Section 402) is required for all CDOT construction projects that impact one acre of land, or are part of a larger plan. Therefore, all proposed future projects along the US 285 study area will be issued permits through the Colorado Department of Public Health and Environment (CDPHE) prior to the onset of highway construction activities. Under the NPDES permit stipulations, CDOT will prepare a site-specific Stormwater Management Plan (SWMP) that outlines in detail the specific BMPs in the project plans for implementation in the field. Included in the SWMP are such aspects as BMP locations, turbidity and monitoring requirements, seed mix, concrete washout containment provisions, and other relevant information that is provided to the CDOT contractor(s).

This project is located outside of the Phase I and Phase II areas under CDOT's new Municipal Separate Storm Sewer System (MS4) permit (a subset of the NPDES regulations). Thus, requirements for capturing 100% WQCV (water quality control volume, or the first ½-inch of precipitation in a storm) or 80% TSS (total suspended solids) do not apply. However, in order to meet water quality standards, and to reduce impacts from sediments, permanent BMP's will be implemented, as noted in **Section 3.7.5.2 beginning on page 3-63** and **Section 3.7.5.4 beginning on page 3-64**.

- **Section 404 Permit.** A Section 404 Permit, issued by the Corps of Engineers (COE) is required whenever construction projects or maintenance activities requiring filling occur below the ordinary high-water line in any body of water considered a water of the United States (navigable waters of the United States and adjacent wetlands; all tributaries to navigable waters and adjacent wetlands; interstate waters and their tributaries and adjacent wetlands).

- **Section 402 Permit.** A Section 402 Permit, issued by CDPHE, is required for dewatering of construction areas, if necessary. The following activities would require the acquisition of a 402 Permit:

  - Construction dewatering operations associated with activities such as utility excavation, bridge pier installation, foundation or trench digging, or other subsurface activities.

  - If discharge is expected to occur from a point source discharge from mechanical wastewater treatment plants, vehicle washing, or industrial discharges.

- **Section 401 Water Quality Certification.** A Section 401 Water Quality Certification is required in conjunction with an Individual 404 Permit (dredge and fill permit) for any transportation construction project or maintenance activity where work occurs below ordinary high-water line or adjacent to wetlands. As part of its 401 Certification, CDOT notifies downstream water users when impacts to nearby receiving waters may occur during construction, e.g., when blasting occurs near receiving streams. As part of construction, CDOT (or its contractors) will monitor turbidity in any of the affected streams. The 401 Certification must be obtained from the Water Quality Control Division of the Colorado Department of Public Health and Environment. If a 404 Nationwide or General permit has been issued, a 401 Certification is not required.

- **Senate Bill 40 Certification.** An SB 40 Certification will be required by the Colorado Division of Wildlife for stream crossings or adjacent streambanks to avoid adverse effects to waterways and adjacent riparian vegetation.

- **FHWA Access Approval.** This approval is issued by the FHWA for new or modified access connections to US 285.

- **Nest Take Permit.** A Nest Take Permit issued by the US Fish and Wildlife Service (USFWS)

will be required if migratory bird nests will be taken as a result of construction activities.

- **Fugitive Dust Permit.** A Fugitive Dust Permit will be required if more than 25 acres of land will be impacted and/or project construction will last longer than six months.
- **State Access Permit.** A State Access Permit is required for all requests for new or modified access to US 285. Any existing accesses adversely affected by the Preferred Alternative will be notified of the proposed changes.
- **Construction Access Permits.** Construction Access Permits will be required for temporary access needs outside the construction project limits.
- **Access Permits.** Access permits and authorizations will be required by FHWA and CDOT for new or modified grade separations, as necessary.
- **Floodplain Permits.** Floodplain permits, including a Floodplain Development Permit, Conditional Letter of Map Revision, and Letter of Map Revision will be required for floodplain encroachment.
- **Other Local Permits.** Additional permits, such as building, utility or survey permits may be required to support project construction requirements.

3.24 Summary of Direct Impacts

This table summarizes the direct impacts for the US 285 No-Action and the Preferred Alternatives under consideration. For more information on indirect impacts see each individual section in Chapter 3. For more information on cumulative impacts see **Section 3.22 on page 3-139**. The No-Action Alternative impacts listed in **Table 3-30** are a result of no improvements to US 285, as identified in this EA. For more information regarding impacts as a result of other projects in the study area that will occur under the No-Action Alternative, see **Section 3.22.1 beginning on page 3-139**.

Table 3-30: Direct Impacts

Category	No-Action Alternative	Preferred Alternative
Land Use and Zoning	The No-Action Alternative is likely to foster the continuation of growth and development based on forecasted trends in both Jefferson and Park Counties. Commercial development is likely to occur near or adjacent to US 285. As traffic volumes on US 285 increase and reach the capacity of the two-lane road, some shifts in land use may occur. These shifts could include a slowing down of development in the study area, a slowing down of development outside the study area, or a shift in jobs-to-housing balance so fewer commuters are driving to the Denver metropolitan area.	The Preferred Alternative is likely to foster continued growth and development according to forecasted trends in the same way as the No-Action Alternative. This alternative would likely increase demand for housing and commercial development, particularly in the vicinity of the new grade-separated intersections. An indirect effect of providing access improvements and grade separations at major intersections may result in concentrating commercial and industrial development in areas where easy access from the roadway is provided. This alternative would meet the existing and projected traffic demand based upon local land use plans and current travel demand forecasts.
Environmental Justice	As a result of the No-Action Alternative, there would not be any disproportionate impacts to minority and low-income populations.	It is not anticipated that the Preferred Alternative would have direct, negative impacts on any low-income or minority communities.

Table 3-30: Direct Impacts (Continued)

Category	No-Action Alternative	Preferred Alternative
Social	The No-Action Alternative would not change population growth trends or development patterns within the study area. Demand for community facilities, services and housing would increase in response to the projected population growth (see **Section 3.1 on page 3-1**). The location of these resources would generally follow development and land use plans identified by the counties and cities. Since the No-Action Alternative does not address safety and operating deficiencies at existing US 285 intersections, access points and crossings, the problems would likely worsen, creating greater congestion and safety/accident issues as the population grows in the study area.	Implementation of this alternative would not substantially alter the area population growth or other demographic characteristics or trends. Under this alternative there would be no direct impacts to social interaction and community cohesion in the study area. However, the highway improvements would substantially reduce congestion, thus improving access for emergency vehicles; to and from community facilities, such as libraries; and to and from retail areas. The proposed improvements would not disrupt or separate any neighborhoods in the study area. Generally, impacts would be minimal, as most improvements would occur within highway or roadway right-of-way, preventing the division of existing communities. The widened highway may seem like a barrier in some locations, however. Three residences and one business would be acquired and relocated as part of this alternative. This alternative would improve safe connectivity between residential areas and existing as well as future community facilities. This alternative would provide a safer, more efficient and convenient travel for groups and individuals traveling to schools, recreation areas, churches, businesses, police, fire protection and social activities. It would relieve congestion, reduce safety and accident issues, and improve emergency response time. This alternative would have short-term impacts to access near the proposed construction locations.
Economic	The No-Action Alternative would not change population growth trends or development patterns within the study area. Demand for commercial facilities, services and construction would increase in response to the projected population growth. Under the No-Action Alternative, movement across and onto US 285 outside of The Villages at Sunset would not be improved. The increases in future traffic volumes would make it extremely difficult to get access on and off the highway (for both delivery, commuter and tourist traffic). The increased traffic congestion in the study area could be especially severe during the summer months, when there is increased tourist traffic.	The Preferred Alternative could temporarily boost the economy of the study area through the construction period by providing employment of construction workers and purchase of construction material. Under this alternative there would be no direct impacts to economic conditions in the study area. Indirectly, however, the Preferred Alternative could cause a localized shift in the development patterns of expected future growth, thereby causing a shift in where future business activities may occur. The Preferred Alternative may induce future commercial enterprises to locate on property near the grade-separated crossings in the study area instead of other locations along US 285. This alternative would improve connectivity to designated development centers, thereby improving access to these businesses. One business and three residences would need to be acquired and relocated as part of this alternative.

Table 3-30: Direct Impacts (Continued)

Category	No-Action Alternative	Preferred Alternative
Right-of-Way	The No-Action Alternative would require no additional right-of-way, nor would it require any residential or business acquisitions.	Sixty parcels in Park County may require partial land acquisitions. In Jefferson County, 76 parcels may require partial or full land acquisition, including the residential and business acquisitions. One business and three residences will need to be acquired and relocated as part of this alternative.
Air Quality	Neither the No-Action or the Preferred Alternative results in an exceedance of the CO NAAQS. Carbon monoxide concentrations are higher for the No-Action Alternative due to increasing traffic congestion and delay as traffic volumes on US 285 continue to increase in the future.	Neither the No-Action or the Preferred Alternative results in an exceedance of the CO NAAQS. Stopping and idling at the existing signalized intersections also contribute to higher CO concentrations. The Preferred Alternative would eliminate all signalized intersections in the study area and create generally free-flow traffic conditions throughout the day, including the peak travel periods. Reduced traffic congestion would result in lower carbon monoxide emissions. Since PM_{10} emissions are directly proportional to traffic volumes, total daily PM_{10} emissions would be higher for the Preferred Alternative than the No-Action Alternative because traffic volumes are higher for the Preferred Alternative.
Noise	Noise levels would likely increase by approximately 1 dB, due to traffic volume increases.	A total of 52 residential receivers and three commercial receivers were found to be impacted by noise under the Preferred Alternative, and are shown in **Figure 3-11.** Note that all of these receptors are considered impacted because the future noise levels are predicted to be above the 66 dBA residential or 71 dBA commercial approach criteria. Overall, noise levels would increase for most receptors because of a combination of traffic volume increases, realignment of roadway segments closer to homes and businesses, and alteration of existing terrain.
Water Resources and Quality	The No-Action Alternative would result in no new direct impacts to water resources. However, with the No-Action Alternative, the implementation of BMPs or other improvements to water resources to address unchecked sediment loading or highway runoff would not occur.	Impacts to water resources from the Preferred Alternative can occur from bridge construction, culvert extensions, encroachment on existing floodplains, and overall increases in highway runoff. Direct impacts are most likely to occur where shifts in the alignment encroach into existing floodplains, as well as during construction activities. These impacts will be reduced by implementation of temporary and permanent best management practices (BMPs) in the study area.
Wetlands	The No-Action Alternative would result in no new direct impacts to wetlands.	Initial estimates indicate that this project would result in the permanent loss of approximately 0.727 acre of wetlands (if Variation I at Shaffers Crossing is chosen) and approximately 0.739 acre (if Variation II at Shaffers Crossing is chosen). There would be temporary loss of approximately 1.130 acre with either Variation.
Floodplains	The No-Action Alternative is not expected to have any impacts to floodplains.	There would be no significant adverse impacts on natural and beneficial floodplain values, and there would be no significant change in flood risk. Therefore, it has been determined that these encroachments are not significant.

Table 3-30: Direct Impacts (Continued)

Category	No-Action Alternative	Preferred Alternative
Wild and Scenic River	There would be no impacts to Wild and Scenic Rivers with the No-Action Alternative.	CDOT does not anticipate any direct or indirect impacts to the proposed Wild and Scenic designations, due to the distance from the highway to sub-segment H1.
Vegetation	The No-Action Alternative would not involve land disturbing activities likely to directly impact vegetation along US 285. The continued use of anti-icing agents could indirectly impact vegetation along US 285.	Direct impacts to vegetation would occur from clearing, excavation, and grading for highway improvements. New road cuts, fills, and interchanges and frontage roads would result in the removal and loss of existing vegetation. There would be some loss of wetland vegetation and change in wetland species where the new bridge would shade the existing wetland and riparian plants.
Wildlife	No new direct impacts are associated with the No-Action Alternative.	The Preferred Alternative generally falls within the existing highway's template. Currently there are no barriers in the median of the highway to reduce head-on automobile collisions. Under the Preferred Alternative this would not change; there would be a depressed median separating the eastbound and westbound lanes. This is much better for wildlife since no barriers would exist between the lanes of traffic. Loss of wildlife habitat under the Preferred Alternative would occur as a result of a wider median, interchanges, and frontage roads. The loss of wildlife habitat along the highway would only slightly decrease the overall value of wildlife habitat in the study area, as the value of habitat directly adjacent to US 285 is marginal in most locations. Direct impacts to wildlife associated with the Preferred Alternative include the barrier effect that blocks movement routes and subdivides species into smaller subpopulations, avoidance of roadside habitats because of traffic noise, roadkill, and avoidance of nearby habitat by forest and grassland birds The Preferred Alternative would increase the width of the highway and the road-effect zone, but does allow for greater permeability of the highway to wildlife in some areas over what currently exists.
Aquatic Resources	No additional direct impacts are anticipated with the No-Action Alternative.	Direct impacts to aquatic resources would include direct removal of fish and aquatic insect habitat as a result of bridge structure placement at Roland Gulch. This bridge would have three piers for support that may be placed in the stream. The direct impacts are expected to be minor. Other stream crossings involve the replacement or preservation of culverts that have historically impacted the streams. As such, direct impacts associated with the Preferred Alternative are also expected to be minor.
Threatened, Endangered or Sensitive Species	The No-Action Alternative would have 'no effect' on listed or proposed species.	The Preferred Alternative would have ‘no effect’ on listed or proposed species.

Table 3-30: Direct Impacts (Continued)

Category	No-Action Alternative	Preferred Alternative
Visual	The No-Action Alternative would result in the least change to the existing visual character.	Visual impacts associated with the Preferred Alternative would be both short term and long term. Short-term visual impacts associated with the Preferred Alternative include: construction equipment, signing, and excavated material associated with construction in the staging areas; dust and debris associated with construction activity; traffic congestion associated with construction activity and detours and unvegetated slopes. Long-term visual impacts associated with the Preferred Alternative include: expansion of paved surface width; expansion of clear zone width; grade-separated intersections; frontage roads; cut and fill slopes; rock cuts; retaining walls; alignment changes, including bridge construction; lighting; runaway truck escape ramp north of Bailey; and additional features, such as guardrails.
Historic Properties	There would be no direct impacts to any of the historic, archaeological, or paleontological properties with the No-Action Alternative.	No National Register eligible archaeological localities would be impacted by the Preferred Alternative. The Preferred Alternative would not have any impacts on historic properties.
Hazardous Wastes	No impacts to or from any identified hazardous waste sites are anticipated as a result of the No-Action Alternative since there would be no property acquisitions or excavations.	The Preferred Alternative would provide a positive benefit along the study area since any contamination identified at the time of construction would be potentially addressed, as deemed appropriate. Of the five sites listed in Section 3.15.3, only the two sites that were identified for possible right-of-way acquisition are included in this table. **Pine Junction Country Store.** The Preferred Alternative shifts the highway closer to this property. Therefore, right-of-way acquisition is possible at this location. Groundwater flows are away from the highway corridor. **Long Brothers Garage.** The Preferred Alternative indicates the likelihood for right-of-way acquisition of this property in the future. Remediation of the site has yet to occur. Depending on the status of the site at the time of any right-of-way acquisition or construction activities, the conditions of the site would need to be assessed and the appropriate course of action determined at that time. Further testing of soils and groundwater, both on the property, and off site may be necessary. If contamination is identified at the time of construction and/or acquisition, mitigation requirements would be provided by the appropriate regulatory agency. With the Preferred Alternative, both the garage and the salvage yard would be acquired. Remediation measures for the salvage yard have not been determined, but will need to be specified by the appropriate regulatory agency at the time of acquisition.
Utilities	There would be no impacts to utilities with the No-Action Alternative.	The effects of utility relocations required for the Preferred Alternative have not yet been defined.

Table 3-30: Direct Impacts (Continued)

Category	No-Action Alternative	Preferred Alternative
Parks & Recreation	There would be no direct impacts to parks and recreational facilities due to the No-Action Alternative.	Direct impacts to each individual property are described below. **Fishing Pond at Shaffers Crossing.** There would be minor direct impacts to the fishing pond at Shaffers Crossing as a result of one of the options (Variation II) for the access road. Some fill would be required along the eastern edge of the pond. The construction of a new grade-separated interchange at Elk Creek Road would improve the access to this fishing pond by increasing the safety at this intersection. **Ball Field.** The Preferred Alternative would encroach on the edge of the vegetation northwest of the ball fields. There would be no direct impact to the fields themselves.
Farmland	No Prime or Unique Farmlands or Farmlands of State Importance are located within the study area.	No Prime or Unique Farmlands or Farmlands of State Importance are located within the study area.
Construction	The No-Action Alternative involves no additional construction over what is currently programmed, approved and funded. Construction impacts with the No-Action Alternative would consist of routine roadway maintenance such as resurfacing and possible spot safety improvements.	Construction of the Preferred Alternative would be expected to create short-term construction impacts throughout the construction period. Descriptions of construction methods and related impacts are provided below. Sequencing of construction packages and the overall timeframe of construction have not been finalized and would be dependent on coordination with local communities and efforts to minimize the inconveniences and overall costs. The period of construction will most likely be stretched over several years. Because of weather constraints, the construction season in this area generally runs from May to October. Availability of funds could result in the project being constructed in stages. Construction noise would present for short-term impacts to those receptors located along the study area and along designated construction access routes. The primary source of construction noise is expected to be diesel-powered equipment such as trucks and earthmoving equipment. Pile driving is expected to be the loudest single construction operation. Noise impacts are expected to occur only in isolated locations in the study area. Vibration caused by construction activities presents short-term impacts in areas where pile driving and compaction equipment would be used. Building damage from pile driving vibration is estimated to exist only within about 50 feet. Vibration from compaction equipment would be less severe. No vibration impacts are anticipated.

Table 3-30: Direct Impacts (Continued)

Category	No-Action Alternative	Preferred Alternative
Construction (continued)		Construction practices associated with development have the potential to cause sediment erosion beyond natural conditions. Stormwater runoff from a construction site presents the potential for violations of water quality standards in adjacent waterways and groundwater. Construction delays are expected to create short-term impacts to local and regional traffic circulation and congestion. The traveling public and emergency service vehicles would experience delays, and study area residents would be inconvenienced. Short-term, construction-related visual impacts are likely to occur. These impacts include the presence of construction equipment and materials, temporary barriers, guardrail, detour pavement and signs, temporary shoring and retaining walls, lighting for night construction and removal of vegetative cover.
Relationship Between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity	There is no impact with the No-Action Alternative.	Local short-term uses of the environment that can be expected to occur are: some loss of soils through erosion, short-term disruptions in traffic and economic conditions, some short-term increases in turbidity during construction, loss of vegetation due to construction clearing, filled wetlands for construction, displacement and/or death of some wildlife during construction, temporary damage to some fish or aquatic resource habitat, and temporary changes to visual quality. Long-term productivity that will be maintained or enhanced include: long-term improved safety,.long-term improved use of energy for vehicular fuel consumption, long-term enhancement of traffic capacity, long-term improvements to drainage, long-term improvements to economic conditions, long-term replacement of wetland values lost, long-term improvements of permeability of highway for wildlife, and long-term acquisition of property for open space.
Irreversible and Irretrievable Commitment of Resources	There would be no commitment of resources with the No-Action Alternative.	Implementation of any build alternative would involve a commitment of a range of natural, physical, human and fiscal resources. Land used in the construction of the Preferred Alternative would be considered an irreversible commitment during the time period that the land is used for a highway facility. Considerable amounts of fossil fuels, labor and highway construction materials such as cement, aggregate and bituminous material would be expended in the construction of the Preferred Alternative. Additionally, large amounts of labor and natural resources would be used in the fabrication and preparation of construction materials. These materials are generally not retrievable.
4(f)	There would be no impact to 4(f) properties.	There would be no impact to any 4(f) properties in the study area.

Table 3-30: Direct Impacts (Continued)

Category	No-Action Alternative	Preferred Alternative
Cumulative Impacts	There would be no cumulative project impacts with the No-Action Alternative.	The cumulative land use impacts for the baseline condition would be largely a result of growth that is already projected to occur along the US 285 corridor and the surrounding areas. US 285 in its existing condition will, however, likely dampen growth because of unacceptable congestion. Diminishing quality and quantities of water that recharge underground water supplies, and increases in the amount of pollution in receiving streams and lakes are both possible cumulative impacts that can have even further impact on the environment. In meeting the needs of new development with more domestic wells, groundwater below the surface is depleted and other water cleansing resources, such as wetlands and natural springs, could diminish and disappear Land conversion also contributes to cumulative impacts on water quality by changing drainage patterns, destroying wetlands, and impacting natural and historical location of groundwater recharge. As roads and highways are reconstructed and upgraded, impacts on wildlife will increase as traffic increases. Impacts include direct habitat loss, mortality, displacement through avoidance of areas affected by increased traffic and human presence. Cumulative impacts to wildlife, as a result of the reasonably foreseeable projects, occur primarily as a loss of habitat and habitat fragmentation. In addition to existing and future land development, the proposed transportation improvements, and the No-Action Alternative would continue to increase the barrier for north/south wildlife movement across US 285, and may increase the potential for direct mortality from animal/vehicle collisions. Cumulative impacts to wetlands and riparian areas have occurred, and are occurring in the US 285 study area due to human activities such as construction, land conversion and agricultural practices. Cumulative impacts that would result from the reasonably foreseeable projects may stem from increases in impervious surface area. This may increase runoff potential while also increasing surface flows in adjacent streams, potential for erosion, and/or the creation of channels in wetlands that previously were channel free. The incremental effect of the Preferred Alternative on wetland resources is not anticipated to cause a cumulative significant effect on wetlands because so few wetland impacts will actually occur.

3.24.1 Summary of Mitigation Measures

Table 3-31 summarizes the mitigation that could be considered. Each mitigation measure should involve public input to ensure suitability for the community. For more detail see appropriate resource sections in Chapter 3.0.

Table 3-31: Summary of Mitigation Measures

Category	Mitigation Measures
Land Use and Zoning	CDOT has met several times with representatives from Jefferson and Park County and with open space acquisition agencies to spearhead efforts to acquire open space along US 285. The Preferred Alternative is consistent with current Jefferson and Park County land use and zoning policies and supports any future land use policies by either county to limit rezoning only to the uses designated within their proposed Village and Rural Centers. Although implementing the Preferred Alternative would not directly affect the land use decisions made at the local level, development would likely cluster in areas where access is more easily available.
Environmental Justice	Even though there are no anticipated disproportionate impacts to minority or low-income populations with the Preferred Alternative, outreach to these populations within the US 285 study area will continue through the course of the EA process. The project team will continue to widely disseminate information at areas of common use before key project milestones to supply additional information and seek input to the project. This dissemination will include special efforts to contact employees of the auto repair garage that is likely to be relocated. In addition, the project team is attentive and responsive to any needs, issues, or concerns that may arise.
Social	Good communication with the communities and residents with regard to road delays, access, and special construction activities is recommended during the construction phase. This may be accomplished by radio and public announcements, newspaper notices and on-site signage.
Economic	No mitigation measures are necessary.
Right-of-Way	Acquisition of land for right-of-way will begin when the project is funded and moves toward construction. Right-of-way acquisition for US 285 will comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646), as amended and the Uniform Relocation Act Amendments of 1987 (Public Law 100-17), which contains specific requirements that govern the manner in which a government entity acquires property for public use. The purpose of this Act is to provide a uniform policy for fair and equitable treatment of persons displaced from their homes, businesses, or farms as a result of federal and federally assisted programs. The law is designed to ensure just compensation for all acquired properties and minimal impact on the current owners. All relocatees are given a minimum of 90 days in which to find replacement housing or business locations. All qualified relocatees receive monetary payments, which may include payments for moving expenses, business in lieu of payments, rent supplements, down payments and increased interest payments. CDOT will implement and advise persons of the relocation process in the event that acquisition of housing or businesses occurs. No person should be displaced by a federal aid project unless and until adequate replacement housing has been offered to all affected persons regardless of race, color, religion, sex, national origin, age, or disability. As part of full compliance with the Uniform Relocation Assistance Act of 1970, as amended, CDOT will provide assistance to any eligible owner or tenant in relocating their business or residence at the time of displacement. Benefits under the Act, to which each eligible owner or tenant might be entitled, will be determined on an individual basis and explained to them in detail, along with information regarding their financial options.

Table 3-31: Summary of Mitigation Measures (Continued)

Category	Mitigation Measures
Right-of-Way (continued)	The Uniform Act requires that a property owner be notified of CDOT's intent in acquiring their property before a real property appraisal is completed. Each property owner will be given the opportunity to accompany the appraiser during the inspection of the property. CDOT must then establish just compensation based on a current appraisal. The owner of real property acquired for right-of-way will be compensated at fair market value, in accordance with the Uniform Act, federal CFRs, state statutes, and CDOT policies and procedures. No owner will be required to surrender possession of the real property until paid the agreed purchase price or the amount deemed to be just compensation has been deposited with the court for the benefit of the owner. Mitigation will be provided for the Horn Cemetery gravesites located within the right-of-way. Prior to construction, the CDOT staff archaeologist will investigate to determine if there are human remains located within the right-of-way. If human remains are discovered, a permit will be obtained from the Colorado Department of Public Health and Environment (CDPHE). The CDOT staff archaeologist will conduct coordination with the Park County Coroner's office, Horn Cemetery officials, and the CDPHE.
Air Quality	Since motor vehicle emissions in the study area would not result in any exceedance of NAAQS, no direct project air quality mitigation is necessary. However, dust emissions during construction should be minimized by implementing techniques to control dust, such as regular watering of construction areas, and practical measures to control construction dust. The measures to control construction dust will be incorporated into the plans and specifications for individual construction projects in the study area. Although it would not eliminate the need to increase highway capacity, expanding bus transit to accommodate the increasing population in the study area would help reduce vehicle miles traveled and motor vehicle emissions. As indicated in **Section 2.4.2.8 on page 2-28**, this is supported as an element of the Preferred Alternative. The Regional Transportation District currently provides weekday morning and evening express bus service between Pine Junction and the south Denver metropolitan area.
Noise	All receptors that are shown to be impacted by noise in conjunction with a major highway project must be considered for mitigation and undergo an analysis for feasibility and reasonableness of noise abatement. As a result of the analysis, any noise mitigation that is found to be feasible and reasonable must be incorporated into the highway project. For the 55 impacted receptors under the Preferred Alternative, noise mitigation in the form of noise barriers (walls or earth berms) were considered and evaluated in accordance with the CDOT noise analysis guidelines. Measures such as traffic controls and lane restrictions would not effectively reduce noise levels over the long term, and additional alterations of the highway alignment within the available study area footprint to reduce overall noise levels would be marginal. Speed reductions also would not be effective, because it takes a 20 mph reduction in speed to result in a noticeable overall decrease in noise levels. For a noise barrier to be feasible, it must be able to be constructed in a continuous manner so that a minimum noise reduction of 5 dBA is achieved for the first row of receivers without any potential safety or maintenance issues. A noise barrier is usually not effective if it needs to be constructed with gaps across access points (streets or driveways) or large drainage ditches. If a noise barrier appears to be feasible, reasonableness issues that need to be addressed are cost versus benefit, existing and future noise levels, increase in noise levels over existing, and development type. Any mitigation that is considered is designed to protect outdoor, ground floor areas of frequent human use. This is typically in the front or back yard of a residence, a common gathering area in a park, or an outside use area of a business, such as an eating or picnic area.

Table 3-31: Summary of Mitigation Measures (Continued)

Category	Mitigation Measures
Noise (continued)	In general, it is neither feasible nor reasonable to provide mitigation for isolated or groups of very dispersed receivers or receivers on the hillside over-looking the highway. To properly mitigate these properties, a noise barrier would need to be constructed surrounding each home, or a sufficient length of barrier would need to be constructed along the highway edge so that noise does not wrap around or flank the ends of the barrier. In many cases, access points prevent the barrier from being constructed in a continuous manner. Barriers such as these also are very unlikely to meet the cost-benefit criteria for reasonableness, as the wall is providing noise reduction to a very small number of homes or has to be constructed to excessive heights to properly mitigate hillside homes. This is the case for many of the impacted properties that are mostly located adjacent to the southbound lanes overlooking the highway. To determine the benefit of the noise barrier, all receivers, whether they are considered impacted or not, are included in the analysis if the proposed noise barrier provides them at least a 3 dBA noise reduction. Thus, the number of benefited receivers for a proposed barrier may differ from the number of receivers that met the noise impact criteria. As is common prudent practice, barriers were analyzed for groups of homes and neighborhoods, where applicable. It is not considered feasible or reasonable to build a barrier to protect only one or two impacted home(s) in a neighborhood setting without considering the adjacent properties or the discrete neighborhood itself. For noise barriers analyzed, the STAMINA computer noise model was used to determine noise reductions based the length, height, and location of the barrier. Of these analyzed barriers, Barrier 21 meets the CDOT criteria for both feasibility and reasonableness (see **Figure 3-12**). Barrier 21, for the Will O' Wisp subdivision, is located south of US 285 at approximately MP 228.0 and consists of a western and eastern segment on either side of the subdivision access at Wisp Creek Road. This barrier is recommended as part of the Preferred Alternative and will be reanalyzed during final design to determine its ultimate feasibility and reasonableness factors, final location and impacts to other environmental resources, particularly wildlife movement. While most of the other barriers did show at least a 5 dBA reduction to at least one receiver, thus meeting the feasibility requirements, they far exceed the criteria for cost-reasonableness. For the most part, these barriers attempt to mitigate noise for isolated or dispersed groups of homes, which is very difficult to achieve given the acceptance criteria. It is also difficult to mitigate noise for the many homes along US 285 that are elevated relative to the highway. **Other Impacted Receivers** Three receivers, Horn Cemetery west of Deer Creek (R185A), a residence just west of Foxton Road (R2A), and a multi-family residence (R233) on US 285 in Bailey, also will experience future noise levels above the 66-dBA impact level. Barriers for any of these properties, however, were not recommended. The cemetery has only sporadic use and a barrier at this location would constitute little recognizable benefit. Because the segments of the US 285 study area at R2A and R233 do not involve any capacity widening or major highway realignment, these residences do not qualify for mitigation evaluation at this time. If at some future time major improvements are proposed for the areas of US 285, these receivers, as well as others in the adjacent area, will need to be re-evaluated in accordance with the CDOT noise guidelines. **Proposed Villages at Sunset Development** The proposed Villages at Sunset development, as it has been platted and recorded with Park County, meets the requirements for "Planned, Designed, and Programmed" development as defined in the FHWA noise regulation and was analyzed for noise impact in conjunction with this EA (analyzed as receiver R118P). The analysis did show the potential for future noise levels to reach 66 dBA along the

Table 3-31: Summary of Mitigation Measures (Continued)

Category	Mitigation Measures
Noise (continued)	southern edge of the development, just north of the proposed Sunset Parkway. At this point in time, however, it is difficult to determine exactly where the proposed homes are going to be, and how many will be in existence in the future. For this reason, because of the uncertainty of the development at this time, mitigation determination for the Sunset area will be deferred until the construction of the Preferred Alternative in this area. A noise analysis will be required concurrently with the design to determine impacts and, if necessary, mitigation strategies. **Other Considerations** A major concern for residents is the use by truck operators of engine compression brakes (commonly referred to as "Jake Brakes") on steep downhill grades throughout the study area. These devices emit, when applied, a very distinct rattling sound which can be heard over long distances. In response to this, the Colorado State Legislature amended section 42-4-225 of the Colorado Revised Statutes by passing House Bill 00-1142, which states that all commercial vehicles equipped with engine compression brake devices are mandated to have mufflers installed on those devices. Non-compliance with this requirement results in a fine of $500. Enforcement of this requirement, as is the case with other traffic laws, is the responsibility of the local law enforcement agencies. To assist in this effort, "ENGINE BRAKE MUFFLERS REQUIRED" signs will be installed in various locations throughout the study area, preferably just before long and/or steep downgrade sections. Possible locations for these signs are near Richmond Hill, Shaffers Crossing, Pine Junction, Roland Valley, Deer Creek, and Crow Hill. Additionally, in locations where guardrails are needed for safety purposes, it is recommended that the use of Type 7 concrete barriers (approximately 24-36 inches in height) be evaluated in place of the typical type 3 steel and wood post guardrail if there are homes on the other side of the guardrail. Depending on the topography of a given area, the presence of this barrier has the potential to deflect and "soften" tire-generated traffic noise to some extent. This evaluation must take into account the associated drawbacks of providing this type of barrier, particularly the ability for wildlife to get across the barrier.
Water Quality	**Erosion, Sediment and Stormwater Control Measures** Best Management practices (BMPs) are required under Section 402 of the Clean Water Act (see **Section 3.7.3.1 on page 3-58**) and address short-term (construction-related) and long-term impacts. BMPs are "schedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce the pollution of waters of the United States" (40 CFR 122.2). BMPs include, but are not limited to, "treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage" (40 CFR 122.2). Comprehensive descriptions of BMPs and CDOT policies related to stormwater management and erosion control are contained in CDOT's *Stormwater Management Plan* (SWMP) for each project and in the CDOT manual entitled *Erosion Control and Storm Water Quality Guide* (CDOT, 2003). This information is available on the Web at http//www.dot.state.co.us/environmental/envWaterQual/wqms4.asp (scroll down to the guide). CDOT has developed construction specifications to minimize the potential for water contamination. These specifications, described in CDOT's *Standard Specifications for Road and Bridge Construction*, including Section 107.25 (Water Quality Control Specification) and Section 208 (Erosion Control Specification), provide contractors with guidelines pertaining to discharges, sedimentation and the implementation of BMPs. CDOT also has a Disincentive Specification that provides project engineers with the ability to fine contractors for noncompliance with these specifications. In addition, CDOT staff on a Regional Erosion Control

Table 3-31: Summary of Mitigation Measures (Continued)

Category	Mitigation Measures
Water Quality (continued)	Advisory Team (RECAT) review projects during construction to ensure that appropriate and sufficient BMPs are used. These documents and policies provide a coordinated effort to mitigate for short- and long-term impacts to receiving streams. **Construction of BMPs** BMPs are divided into two categories: short-term and long-term. Short-term, or temporary BMPs control stormwater and erosion during construction activities. Typical temporary BMPs implemented by CDOT include the following: Erosion and Sediment Control ◆ Use of erosion control blankets, erosion bales and silt fences; ◆ Use of phased seeding and mulching; ◆ Use of mulching and tackifier; ◆ Construction of temporary sediment traps and basins, berms diversions and check dams; ◆ Construction of concrete washout and saw water containment basins; ◆ Provision of inlet and outlet protection. ◆ When working in or near water, sediment will be controlled by use of silt fence erosion logs, as needed, or by diverting the water. Stormwater Quantity and Quality Control ◆ Construction of extended dry ponds and wet detention ponds; ◆ Construction of infiltration basins. ◆ Notification of potentially affected drinking water and wastewater treatment plants prior to the start of construction activities, and coordination with these facilities throughout construction in order to minimize potential impacts. Typical long-term, or permanent BMPs implemented by CDOT include the following: Erosion and Sediment Control ◆ Phased seeding and mulching throughout the study area; ◆ Use of erosion control blankets on steep slopes; ◆ Construction of permanent sediment traps and basins, berms, diversions and check dams; ◆ Provision for inlet and outlet protection; ◆ Construction of slope drains, v-ditches and culverts. Stormwater Quantity and Quality Control ◆ Construction of grass swales and buffer strips; ◆ Building extended dry ponds and wet detention ponds. **Maintenance BMPs** Maintenance BMPs are long-term, nonstructural activities to mitigate potential impacts by chemicals or sediments that can come from transportation corridors (e.g., vehicle wear, hazardous spills, litter). These BMPs include the following: consistent road sweeping operations; proper management of storage materials so they are not eroded away or do not leak into streams; and other good housekeeping practices, such as routine removal of sediment from stormwater drains and catchment basins. **Mitigation Measures for the Preferred Alternative** Mitigation measures for the Preferred Alternative will follow the detailed design, BMP selection, and policies cited in references in **Section 3.7.5.1 beginning on page 3-62** in order to assure implementation of appropriate mitigation. Streambank rehabilitation, using bioengineering techniques or similar

Table 3-31: Summary of Mitigation Measures (Continued)

Category	Mitigation Measures
Water Quality (continued)	stream enhancements, will be considered along the stream reach of the North Fork of the South Platte River in the Bailey area as part of the mitigation plan, and will be implemented where feasible. Appropriate, temporary BMPs will be designed to minimize potential impacts from construction activities. The Preferred Alternative would bring the highway in closer proximity to the stream through this area, requiring the installation of two retaining walls to reduce encroachment. The stream will be returned to its pre-construction condition to the extent feasible. The runaway truck escape ramp would significantly reduce the potential for trucks overturning and spilling hazardous materials into the North Fork of the South Platte River. However, measures will be taken at the proposed runaway truck escape ramp to minimize the possibility of additional sediment and spills reaching Crow Gulch. To meet water quality stream standards (**Table 3-17**), a stormwater retention pond sized for an 80th percentile storm, will be constructed to minimize copper concentrations in the stream (Harelson, 2003). On the south side of US 285 at the West Deer Creek tributary, retaining walls would be constructed on the culvert ends of the three roadway crossings (Rosalie Road, PCR 43A and Arcadia Drive) both upstream and downstream to minimize highway fill-slopes in the area of the stream crossing. The culvert size for Deer Creek is being increased to allow for wildlife passage. This will also allow for greater movement of surface water. A new bridge is planned on a new alignment over Roland Gulch. Fill from the current highway would be removed, and the existing wetland complex will be restored as mitigation for wetland impacts in the study area. To meet water quality stream standards (**Table 3-17**), a pond will be sized for an 80th percentile storm in order to minimize copper concentrations entering the stream (Harelson, 2003). The configuration of this water quality pond will be determined during final design, but it will be separate from the existing pond/proposed wetland complex, and an upland location will be sought for the water quality treatment pond. The new bridge would allow the free flow of seasonal high water flows and wildlife passage. Under the Preferred Alternative, Wisp Creek would continue to flow through a pipe under the highway. During construction, BMPs will be implemented to reduce the potential for sediment entering the stream system. After construction, stream bank restoration will be assessed for this site. Elk Creek flows are conveyed through a culvert under US 285; this conveyance would be preserved in the Preferred Alternative. Temporary and permanent sediment ponds are recommended for both the east and west sides of the highway near the stream channel. In addition, stream restoration measures will be considered for this stream crossing. Where Gooseberry Gulch flows under US 285 northeast of Elk Creek, a wall will be constructed to protect the stream from the road slope. Casto Creek may not be directly affected by the new roadway template because it parallels both the recently completed CDOT Phase-V improvements and the beginning of the Preferred Alternative. However, measures will be implemented to protect the stream channel from roadway runoff. The Preferred Alternative will incorporate appropriate BMPs in the construction plans and provisions that ensure that water quality standards are being met. Where appropriate and feasible, water resource mitigation measures for construction projects will include the following aspects:

Table 3-31: Summary of Mitigation Measures (Continued)

Category	Mitigation Measures
Water Quality (continued)	◆ Notification of the Bailey drinking water plant and of wastewater treatment plants prior to any construction activity that might impact their operations; ◆ Use of temporary erosion and stormwater control measures during construction; ◆ Implementation of permanent BMPs for erosion, stormwater, and sedimentation controls; ◆ Installation and maintenance of culverts and other drainage systems that prevent direct stormwater discharges into nearby receiving waters; ◆ Purchase of CDOT ROW as needed to permit construction of permanent BMPs; ◆ Reduction of erodible sediment sources; ◆ Development of a water quality monitoring program before, during and after any construction projects in Bailey, or as required in other areas, and addition of BMPs if the program demonstrates a need; ◆ Use of maintenance BMPs (sweeping, maintaining culverts, etc.); ◆ Evaluation of v-ditches, rundowns and other permanent BMPs to direct runoff along the highway corridor, especially near lateral stream channels. ◆ Stream bank restoration of the North Fork of the South Platte River in Bailey and evaluation of restoration potential in smaller streams that are noted above. ◆ Purchase of additional right-of-way where needed along cut and fill slopes to adequately support vegetation. Potential impacts to receiving waters will be reduced by the implementation of temporary and permanent BMPs along the study area and adherence to the CDOT specifications by construction contractors. CDOT maintenance will remove any temporary BMPs used during construction and maintain any permanent structures, including constructed BMPs. Maintenance work in wetlands, streams, or near sensitive stream corridors requires advance coordination with CDOT environmental staff who obtain the necessary permits, provide guidance regarding environmental issues, and complete environmental clearances for maintenance activities. **Water Quality and Hydrologic Monitoring** Monitoring of conditions before, during, and after construction constitutes a critical component for objective evaluation of possible short-term, adverse impacts and for measuring the effectiveness and sustainability of implemented structural and non-structural BMPs. Annual monitoring reports providing results of the program and presentations at local stakeholder entities, such as the Coalition of the Upper South Platte (CUSP) and the Chatfield Watershed Authority, are envisioned to be included in the monitoring program efforts supported by CDOT for the Preferred Alternative. To the extent possible, other relevant data and information collected by others (e.g., United States Geological Survey [USGS], City of Aurora, and State Engineer's Office [SEO]) will be incorporated into the documentation of hydrologic and water quality conditions in the study area. Details of the monitoring program for highway improvements along US 285 will be developed during final design. Additional information regarding stream monitoring can be found in the *US 285 Foxton Road to Bailey Water Resources Technical Report*.
Wetlands	After avoidance and minimization of wetland impacts, compensation is the next step in wetland mitigation sequencing. CDOT replaces all wetlands, whether Section 404 jurisdictional or non-jurisdictional. CDOT plans to replace all directly impacted wetlands on a 1:1 basis. Five potential mitigation sites have been identified within the US 285 study area (see **Table 3-19** and **Figure 3-15).** Most of the selected sites are restoration sites and therefore have a high probability of success. These sites will be evaluated to assure that they represent the type of wetlands impacted and that they replace functional values similar to those of the impacted wetlands. All site selection will be coordinated with the Corps of Engineers and the EPA, as well as other interested resource agencies.

Table 3-31: Summary of Mitigation Measures (Continued)

Category	Mitigation Measures
Wetlands (continued)	**Table 3-19: Potential Wetland Mitigation Sites**

Mitigation Site	Description	Possible Area (Acres)
1	Restoration of a filled portion of Wetland #3.	0.34
2	West Deer Creek Tributary (Station 170-205)	1.5
3	Westward expansion of Wetland #7b, so. side of US 285, possible restoration	0.28
4	Restoration of Wetland 9 Roland Gulch. Removal of existing roadway fill.	0.75
5	Removal of dirt road adjacent to Wetland 12a.	0.09
	Total	2.96

Approximately 1.130 acres of temporary impacts may occur as a result of the construction of the Preferred Alternative. Temporary impacts are those impacts associated with the construction activities required to build the proposed highway improvements. These impacts are considered temporary because they will only result in the short-term loss of a wetland and its functions. They include temporary access roads, temporary work areas, such as excavation for the construction of wall foundations, and placement of berms to prevent surface water inundation of excavated areas. During design and construction, every effort will be made to minimize these impacts.

It is recommended that all these areas be restored as closely as possible to their original condition. At designated temporary work areas or access roads, it is recommended that wetland shrubs be trimmed to ground line, but not completely removed, then covered with a geotextile fabric and then an additional layer of straw. This would define existing topographical elevations and protect wetland rootstocks and seed banks. These areas could then be covered with a minimum of two feet of clean fill. After work has been completed, all temporary fill could be removed offsite as quickly as possible to give the wetland plant communities a chance to regenerate. Ideally, this work should occur when the plants are dormant or at the end of the growing season. If necessary, any site temporarily disturbed may be revegetated with either transplants or locally grown nursery native species.

Both short- and long-term water quality issues affect adjacent wetlands. Water quality concerns are discussed in **Section 3.7.3 beginning on page 3-58**. Stormwater basins would be required at many locations. No direct runoff would be allowed to enter any existing wetland without some type of treatment, preferably runoff would be directed into stormwater basins. Slopes would be revegetated as soon as possible to stabilize fill slopes and cuts. Where possible, vegetative buffers would be established between the roadway and wetlands or adjacent water bodies to aid in water quality protection. CDOT is required to develop a construction-related stormwater management plan. Permanent stormwater/sediment control for affected wetlands will be addressed during design. These plans will be included in the 404 Public Notice for public review. CDOT has standard BMPs that are routinely included in all highway plans. These BMPs will be observed.

There were concerns expressed over the effects of the numerous walls used to minimize impacts to wetlands and streams. CDOT is researching the possibility of placing these walls on footers that would allow subsurface water to pass freely. The effects of these walls, with or without these footers, cannot be estimated at this time. CDOT commits to long-term monitoring of these sites both before and after construction. This would include groundwater monitoring and vegetative surveys to determine any impacts that may occur to wetlands due to changes in hydrology as a result of the construction of walls. After construction and a reasonable monitoring period, if it appears that wetlands have been impacted, CDOT commits to working with the Corps of Engineers and EPA to mitigate for these impacts.

Table 3-31: Summary of Mitigation Measures (Continued)

Category	Mitigation Measures
Floodplains	Minimal change to historic drainage patterns is expected within, or down-gradient from, the Area of Potential Effect (APE). Impacts to floodplains are minimized by following standard stream crossing design criteria, avoiding direct encroachments on stream channels and adjusting the alignment where possible. Bridge and roadway designs seek to minimize impacts to floodplains in compliance with FHWA requirements, including efforts to span 100-year floodplains. Retaining walls are proposed to minimize encroachments into floodplains and wetlands. Final design will adhere to CDOT drainage criteria for both major and minor hydraulic structures, and will follow all FEMA requirements. The Preferred Alternative will avoid significant encroachment in floodplains. All practical measures to minimize impacts to floodplains are incorporated in the Preferred Alternative. Stormwater Best Management Practices (BMPs) will be implemented during construction to minimize erosion and downstream sedimentation caused by mainline widening. Temporary impacts caused by construction to aesthetics, wildlife habitat, and water quality maintenance functions of floodplains are also minimized by the use of appropriate stormwater BMPs. The hydrologic and hydraulic analysis of floodplains and drainage features is included in Appendix H. Under the direction of CDOT, the implementation of BMPs identified in the *Erosion Control and Stormwater Quality Guide,* 2002, will minimize water quality impacts to floodplains. Specific measures include: Temporary (construction) BMPs ◆ Developing and implementing a Stormwater Management Plan (SWMP) for each project phase that will contain measures to prevent the inadvertent transport of noxious weeds into the construction site by heavy equipment and fill dirt. ◆ Excluding construction vehicles from entering wetland areas by installing temporary fencing. ◆ Diverting clean water runoff during construction. ◆ Identifying and using appropriate concrete washout areas well away from floodplains to ensure polluted water does not leave the site. ◆ Using soil stabilization practices (such as erosion control blankets and mulching in impacted areas) to reduce erosion. ◆ Installing structural BMPs (such as silt fences and erosion bales down-gradient from impacted areas) to reduce off-site siltation. ◆ Developing an emergency spill response program and implementing spill prevention practices (such as locating staging areas, and fuel and hazardous construction material sites well away from floodplains) to reduce risks from accidental spillage and leaching. ◆ Fencing existing shrubs and trees to avoid damage, and replacing trees and shrubs where maintenance and water requirements can be met. ◆ Constructing, grading, and seeding incrementally to reduce soil loss during construction and use of native grasses in seed mixes. Native shrub seeds should be included in the seed mix where conflicts with maintenance will not occur. ◆ Providing ditch and slope rounding to prevent erosion. Permanent (post-construction) BMPs ◆ Installing detention basins, infiltration beds, or other structural controls to reduce and minimize the effects of increased runoff due to increases in impervious surfaces. In addition to the above measures, Park and Jefferson counties and local governments will be contacted and issues related to floodplain encroachment will be discussed and addressed.

Table 3-31: Summary of Mitigation Measures (Continued)

Category	Mitigation Measures
Wild and Scenic Rivers	Mitigation measures include the use of BMPs during construction and the implementation of permanent BMPs at all major tributaries of the North Fork that traverse the study area. **Section 3.7.5 beginning on page 3-62** has further details regarding the types and uses of BMPs that will be considered during design and construction. Additionally, after a construction project is funded, CDOT will implement a water monitoring program in the basin to collect baseline data prior to any on-site construction activities. Aside from the studies noted in the *US 285 Foxton Road to Bailey Water Resources Technical Report,* no data are available. However, CDOT will design and implement monitoring before and during construction in order to assess BMP effectiveness and to ensure that water quality standards will be maintained.
Vegetation	The following BMPs will mitigate some of the Preferred Alternative's impacts on vegetation: ◆ Minimize the amount of disturbance and limiting the amount of time that disturbed locations are allowed to be non-vegetated. ◆ Develop and implement a noxious weed management plan. ◆ Avoid, to the maximum amount possible, wetlands and riparian plant communities. ◆ Salvage suitable topsoil for use in revegetation. ◆ Implement temporary and permanent erosion control measures to limit erosion and soil loss. ◆ Reseed all disturbed locations except rock cuts with native plant seed mixtures. ◆ Replace trees and shrubs as recommended by the CDOT Landscape Architect and as required by the Senate Bill 40 permit. ◆ The site shall be monitored for three years post construction to determine the success of the revegetation. During this time control of noxious weeds shall be required. Noxious weeds must be less than 5% of the foliar cover after three years shall be the determination of successful weed control. After three years of monitoring if 70% or greater of plantings have survived and 70% or greater of the disturbed area is re-vegetated with favorable species and as determined by foliar cover, then the site shall be declared successfully reclaimed.
Noxious Weeds	An Integrated Weed Management Plan shall be developed for each construction phase of the project. The plan will include: identification and mapping of existing noxious weeds; potential impacts from invasive species spread into adjacent properties, wetland, riparian or other sensitive habitats; and preventative control measures. Specific mitigation measures shall include: ◆ Prohibit the use of weed-infected topsoil. ◆ Identify the species of weed and then treat before, during and after construction with an appropriate herbicide. ◆ Limit disturbance areas to minimum necessary. ◆ Identify sensitive areas such as threatened and endangered habitat and coordinate with specialists to assure no or minimal impact. ◆ Revegetate with native species as soon as possible. This will be done in phases as different portions of the improvements are completed. ◆ No importation of topsoil onto the project site. ◆ All construction vehicles must be cleaned prior to entering the construction site. ◆ Only certified weed forage will be used on the project.
Wildlife	Throughout the study area, there are 72 locations where culverts are necessary for water conveyance. Any location where a culvert needs to be upsized for water conveyance, the location will be evaluated during design to determine if the culvert needs to be modified or a second culvert needs to be added for animal passage. This will greatly increase the number of locations where wildlife can safely cross the highway. One culvert will be specifically intended for the purpose of water conveyance in the

Table 3-31: Summary of Mitigation Measures (Continued)

Category	Mitigation Measures
Wildlife (continued)	main flow channel. The other culvert will be located slightly higher, which will allow for a dry passage for wildlife movement. In storm events the higher culvert would allow for conveyance of excess water. These culverts range in size from 24 to 126 inches. The average distance between these culverts is 1,116 feet, the longest distance is 3,400 feet, and the shortest is 200 feet. At larger wildlife crossing structures signage stating no loitering or trespassing is necessary to reduce use by humans. Signage should also identify the structure as a wildlife crossing. Once construction is completed, the study area would be reviewed. If wildlife mortality is occurring in locations where it was not possible to install structures, or new locations become problematic, then CDOT would investigate other methods of informing motorists of wildlife on the road. Active signage would be one of the methods considered. To alleviate impacts on wildlife, the following mitigation measures are identified: ◆ Install wildlife underpass structures ◆ Plant cover around the wildlife underpass structures to 'funnel' wildlife to the structures. ◆ Develop and implement a Noxious Weed Management Plan. ◆ Clearing and grubbing needs to occur between August 16 and March 31 to protect nesting birds per the Migratory Bird Treaty Act. Clearing and grubbing outside of this time will only be allowed once surveys have determined no active (eggs or young) nests.
Aquatic Resources	Impacts to aquatic resources of the North Fork of the South Platte River and its major tributaries resulting from the Preferred Alternative can be avoided or minimized by design and incorporation of appropriate BMPs. Specifically, designing Roland Gulch Bridge to place piers outside the stream channel would avoid direct impacts to aquatic resources of Roland Gulch. BMPs can also reduce construction and operation impacts when properly deployed. The use of silt retention structures, such as straw or hay bales or silt fences, in areas where construction will disturb soils can avoid or minimize downstream sedimentation. Construction during periods of low flow can minimize impacts related to scouring and the transport of sediment downstream. Construction activities will be scheduled to avoid or minimize impacts to spring and fall spawning areas. Other BMPs utilized to contain contaminants from construction, operation and maintenance operations are described in **Section 3.7.5 beginning on page 3-62**.
Threatened and Endangered Species	No mitigation measures are necessary for threatened or endangered species.
Visual Quality	To minimize air quality impacts, dust suppression techniques would be practiced to keep construction associated dust to a minimum and controlled. **Revegetation** The revegetation plant species would be native trees, shrubs, and grasses of the Colorado foothills. Species would be placed in appropriate sun exposure, soil, and moisture conditions. Riparian vegetation would be planted at creek and wetland edges. Trees and shrubs would be grouped in patterns similar to those of existing vegetation. To help stabilized soils disturbed by construction, native seed mixes would be spread using broadcast methods appropriate to site conditions. Topsoil would be salvaged prior to construction, stockpiled and placed on slopes to be seeded. Noxious weed control would be used before salvaging on-site topsoil and during plant establishment. Mulch tackifier products would be used to reduce seed loss from wind or water erosion. Where necessary for erosion protection, slopes would be covered with erosion control blankets.

Table 3-31: Summary of Mitigation Measures (Continued)

Category	Mitigation Measures
Visual Quality (continued)	**Clear Zones** CDOT would identify trees in the clear zone to be removed to accommodate the proposed cross section. To establish a natural appearing edge, trees would be randomly removed beyond the clearing line, and new tree and shrub plantings would vary in size and height. **Grade-Separated Intersections** Public input will be solicited on aesthetic issues such as bridge design treatments at grade-separated intersections. These would include facing materials, colors, textures, and aesthetic elements. The *US 285 Aesthetics Study and Design Guidelines* drafted in June 2004 provides general visual treatments of selected structural elements within the study area (see the *US 285 Aesthetics Study and Design Guidelines* Technical Report). **Cut and Fill Slopes** Cut slopes would be completed to provide naturally appearing foreground views. Techniques would include undulating finish grades, creating pockets for native shrubs and trees, studding with boulders, and establishing large areas of native grass. Where feasible, rock outcroppings would remain exposed, and native rock placement would be used to smooth abrupt transitions to adjacent landforms and to accentuate ridges and drainages. Tops and bottoms of cut slopes would be rounded. Drainages would be reestablished and planted with appropriate, native species. Channel edges would be rolled back, rounded and reseeded. Erosion control measures would include rock rip-rap, erosion control blankets, and other techniques as necessary. Fill slopes in riparian areas would be constructed with minimum disturbance to wetland and creek edges. Native riparian trees and shrubs would be planted at the toe of slope, and native rock placement would be used to prevent erosion and encroachment into riparian areas. **Rock Cuts** It is recommended that rock cut locations be analyzed by a geotechnical engineer or engineering geologist during final design. Rock removal methods which allow a natural appearing cut face would be identified. As much as practicable, the final cut faces would be formed to a shape and texture consistent with adjacent areas. Where possible, blasting or ripping would be tailored to terminate at natural rock joints. Prior to construction, natural drainage locations would be noted, and, where practicable, replacement drainages courses would be similar in appearance and location. To blend shotcrete areas with adjacent slopes, shotcrete could be tinted and/or sculpted to match the color and texture of adjacent natural surfaces. Coatings of rockfall mesh would also match adjacent soil or rock colors. Rockfall mesh would be pinned to conform with the slope at excavated surfaces to reduce the "spider-web" appearance for a more natural look. Revegetation would be performed as practicable to establish a natural appearance with varying shrub and tree species and sizes. **Retaining Walls** To provide a more natural appearance, retaining walls at the roadside edge would undulate horizontally and vertically where feasible and be colored to match adjacent dry soil. Proposed wall types include concrete, precast units and mechanically stabilized earth (MSE), ground nail walls and boulder walls. Retaining walls may be terraced with planting areas. The *US 285 Aesthetics Study and Design Guidelines* drafted in June 2004 provides general visual treatments of selected structural elements within the study area (see *US 285 Aesthetics Study and Design Guidelines* Technical Report). A design charette was held June 10, 2004 to provide coordination with Jefferson and Park Counties on preferred color schemes, custom fixtures and general study area appearance. The *US 285 Aesthetics Study and Guidelines* will be used during continued coordination with unincorporated towns and county agencies during final design of each breakout project to establish final color schemes and aesthetic treatments for features within that portion of the study area.

Table 3-31: Summary of Mitigation Measures (Continued)

Category	Mitigation Measures
Visual Quality (continued)	**Lighting** To control light dispersion outside of the roadway area, installation of cut-off lenses would be considered. Cut-off lenses may require placement of one or more additional lights to ensure adequate night visibility. Elimination of fixed-source roadway lighting for light pollution reasons alone is discouraged since lighting facilitates accurate and comfortable vision at night.
Historic Preservation	There is no mitigation needed for historic properties.
Hazardous Waste	During construction, CDOT utilizes its Environmental Health and Safety Management Specification (250 Specification) on projects to address issues related to the transportation, handling, monitoring, and disposal of any hazardous or solid waste materials encountered during construction including contaminated soils, lead-based paint, and other toxic substances. Any dewatering permits needed during construction are also obtained at that time. If deemed necessary, a materials management plan would be prepared regarding the removal and disposal of contaminated soils. A Health and Safety Plan would also be developed to protect workers during construction. It is anticipated that cleanup of the sites listed above would likely be completed by the time transportation improvements would begin in the future. CDOT will conduct any necessary testing of the soils and/or groundwater at any suspect sites in the study area. The Preferred Alternative comes into close proximity of all five properties identified in the MESA. During final design when right-of-way and access requirements are further developed, CDOT will obtain the status of these properties and will take the necessary precautions during future construction activities. When contaminated properties are encountered, either during or prior to construction, CDOT coordinates with the affected property owners through the right-of-way process, as well as with the appropriate state, local and federal authorities. Prior to a construction project, CDOT ascertains the status of adjacent properties and updates all available information at that time for the MESA and SI. Construction contractors are required to comply with Section 250, Environmental Health and Safety Management (CDOT Standard Specifications), when applicable, during construction. Specific project mitigation is unknown at this time, but will be incorporated into project plans when more detailed design information becomes available. At the Long Brothers Garage, further testing of soils and groundwater on-site and off-site may be necessary. At the time of final design, the necessary right-of-way acquisition and relocation processes would be initiated in accordance with the CDOT right-of-way manual, FHWA, and other federal guidance procedures involving acquisition and relocation. CDOT procedures concerning hazardous waste issues would also be followed to determine necessary project mitigation requirements.
Utilities	Before construction begins, all utility locations will be identified and field verified. It is expected that numerous utilities will be relocated. Exposed utilities will be protected during construction. If service is interrupted during construction, temporary service will be provided as needed.
Parks and Recreation	No mitigation measures are necessary for any of the parks or recreation facilities, except the vegetation on the northwest edge of the ball fields. The following BMPs will mitigate the Preferred Alternative's impacts: ◆ Minimize the amount of disturbance and limiting the amount of time that disturbed locations are allowed to be non-vegetated. ◆ Develop and implement a noxious weed management plan. ◆ Avoid, to the maximum amount possible, wetlands and riparian plant communities. ◆ Salvage suitable topsoil for use in revegetation.

Table 3-31: Summary of Mitigation Measures (Continued)

Category	Mitigation Measures
Parks and Recreation (continued)	◆ Implement temporary and permanent erosion control measures to limit erosion and soil loss. ◆ Reseed all disturbed locations except rock cuts with native plant seed mixtures. ◆ Replace trees and shrubs as recommended by the CDOT Landscape Architect and as required by the Senate Bill 40 permit.
Farmland	No mitigation measures are necessary for farmland.
Construction	**Air Quality** The following measures could be used to mitigate construction impacts on air quality: ◆ Suppress dust through watering or the application of dust palliatives. ◆ Cover trucks hauling soil and other materials when practical. ◆ Stabilize and cover stockpile areas. ◆ Revegetate exposed areas. ◆ Encourage contractors to use cleaner burning fuels in construction equipment and to reduce idling time. ◆ Minimize off-site tracking of mud and debris by stabilizing temporary access points and other practical measures. **Noise** The following measures could be used to mitigate noise and vibration due to construction: ◆ Use noise blankets on equipment. ◆ Use quiet-use generators ◆ Minimize construction duration in residential areas, as much as possible. ◆ Avoid nighttime activities in residential areas, as much as possible. ◆ Combine noisy operations to occur in the same time period. ◆ Use alternative construction methods, such as sonic or vibratory pile driving in sensitive areas, when possible. ◆ Conduct pile driving and other high-noise activities during daytime construction, where possible. **Water Quality** The following steps could be taken to minimize possible exceedances of water quality standards in waterways crossed by, and adjacent to the project: ◆ Implement temporary and permanent Best Management Practices (BMPs) for erosion control as required by local and state permitting requirements. These may include surface roughening, mulching, revegetation, and interim ground stabilization. ◆ Implement temporary and permanent BMPs for sediment control as required by local and state permitting requirements. These may include implementation of planned drainages such as detention basins to capture sand runoff, slope-length and runoff considerations, slope diversions and dikes, swales, sediment barriers, straw bales, and silt fences. ◆ Implement temporary and permanent BMPs for drainageway protection as required by local and state permitting requirements. These may include waterway crossing practices, temporary crossings and diversions, stability practices, conveyance controls, and outlet and inlet protection measures. ◆ Treat contaminated trench dewatering. ◆ Adhere to the limits established in the 402 Permit. ◆ Avoid impact to wetlands or other areas of important habitat value that may not be directly impacted by the Preferred Alternative

Table 3-31: Summary of Mitigation Measures (Continued)

Category	Mitigation Measures
Construction (continued)	◆ Control and prevent concrete washout and construction wastewater. As projects are designed, adhere to the proper specifications and review them to ensure adequacy in the prevention of water pollution by concrete washout. ◆ Install permanent stormwater quality BMPs as required for CDOT's NPDES permit and Municipal Separate Storm Sewer (MS4) program requirements. **Traffic Control** The following steps could be taken to minimize impacts to traffic circulation during construction: ◆ Develop traffic management plans. ◆ Maintain traffic flow during peak travel times by minimizing lane or roadway closures, if possible. ◆ Coordinate detour routes to avoid overloading local streets with detour traffic, where possible. ◆ Maintain an access to local businesses/residences. ◆ Coordinate with emergency service providers to minimize delays and ensure access to properties. ◆ Begin implementation of Transportation Demand Management (TDM) programs. ◆ Use signage to announce/advertise timing of road closures. ◆ Use Web sites to announce/advertise timing of road closures. **Visual** Mitigation for construction-related visual impacts could include: ◆ Store equipment and materials in designated areas only. ◆ Remove any unused detour pavement or signs. **Re-use of Materials** Contractors will be encouraged to recycle and reuse project-generated materials to the extent practicable. This could include reuse of construction and demolition debris in the project as aggregate, roadbase or landscaping, including the use of compost instead of or as amendments to topsoil, riprap and on-site rock for pavement aggregrate and other uses. In addition, contractors will be encouraged to use locally-available materials which meet construction specifications which may not be native virgin materials, including traction sand, masonry, waste from other projects, and other suitable reusable materials. Contractors also will be encouraged to find water conserving and retaining measures, air pollution prevention measures such as reducing truck idling time and use of low sulfur diesel fuel, shorter driving distances using carpooling and materials staging, and other practices. Emphasis will be on finding ways, to the extent practicable and economical, to reduce waste volumes and use of native materials, purchase of recycled materials including aggregate and metal but also other materials and items, promote energy conservation, prevent air pollution, and conserve and protect water resources.
Cumulative Impacts	To avoid additional impacts to the identified resources of concern, local authorities and planning entities must continue to review and scrutinize development proposals to ensure that new development is consistent with local area planning goals. In addition, local authorities and planning entities should require appropriate avoidance or mitigation as part of any new development project **Land Use** Although state, county, and local planning decisions are outside the authority of both FHWA and CDOT, an analysis of smart growth initiatives should be explored in order to reduce impacts to the environment. Implementing smart growth initiatives could result in positive cumulative effects such as economic, social, and environmental benefits. The US 285 study area has the opportunity to grow

Table 3-31: Summary of Mitigation Measures (Continued)

Category	Mitigation Measures
Cumulative Impacts (continued)	with foresight and the option to examine cumulative impacts that might occur over the next 20 to 30 years. Preparing for, and addressing the sources of impacts today, will result in cumulative benefits in the future. Growth and development patterns resulting from land use and infrastructure decisions can result in future impacts to environmental resources. The types and densities of land uses, strategic placement of community facilities, alternative transportation options, travel conditions, access, and improved roadway facilities have the potential to present positive impacts on the future of the community and less of a negative impact on environmental resources. As part of the US 285 EA, project team members met with local and state representatives to discuss future land use plans, development patterns, and opportunities to accommodate future growth while looking beyond the near future. Higher density developments can result in more room for open space and wildlife habitat. Designated growth centers and defined urban areas can reduce sprawling developments that encourage more driving and cause more congestion and traffic. Higher density development creates an opportunity for infrastructure improvements, which decreases the need for individual systems that can hold harmful impacts on the environment. In the US 285 study area, more dense development could result in less of a demand on underground water supplies, and could lessen the potential to pollute these water resources. Implementing smart growth initiatives, managing development patterns, and examining long-term goals could minimize future and cumulative impacts to the environment. Conventional developments that disperse growth into low-density areas foster the need to drive great distances, creating more congestion, increasing the need for impervious surfaces, and increasing pollutant runoff into the environment. Designing communities that lessen the reliance on the automobiles by creating easier access points and opportunities for mass transportation will have less of a cumulative impact on area resources. **Water Resources** Impacts can be greatly diminished or avoided by following local erosion control criteria and CDOT's *Erosion and Sediment Control Manual*. Proper drainage design combined with the implementation of BMPs will keep sedimentation at historic levels over the long term and are expected to reduce contaminant transport and sediment loading in nearby water resources. These BMPs also have hydrological benefits by reducing runoff peaks, especially off of impervious surface areas. Typical BMPs used in the study area in conjunction with maintenance activities are listed in the *US 285 Foxton Road to Bailey Water Resources Technical Report* and consist primarily of sweeping, routine maintenance of culverts, slopes and other roadside features, stream-bank repair, litter control, seeding, weed control, proper maintenance of stockpiled materials, implementing the chain law when necessary, and other related maintenance activities. As new BMPs are implemented within the study area, CDOT Maintenance will maintain any permanent structures and remove any temporary BMPs used during construction. Maintenance work in wetlands, streams, or near sensitive stream corridors will require the appropriate coordination with CDOT Environmental staff. The necessary permits and environmental clearances for maintenance activities will be obtained, and CDOT Environmental staff will provide guidance regarding these environmental issues. In addition, plans for normal and emergency maintenance will continue to be disclosed, including plans to prevent and manage noxious or undesirable vegetation, as well as any plans to use herbicides along the study area. Additional BMPs and techniques to avoid cumulative impacts to water quality should be explored as well. These include the following:

Table 3-31: Summary of Mitigation Measures (Continued)

Category	Mitigation Measures
Cumulative Impacts (continued)	◆ Where feasible, sediment catch basins should be implemented into the Preferred Alternative design to minimize the impact of sediment to adjacent water resources both during and after highway reconstruction. A sediment catch basin would filter and reduce the amount of sediment and pollutants that enter water resources, thus reducing the amount of sedimentation carried into streams and tributaries within the watershed. ◆ In some areas of the state, CDOT's Roadway Weather Information System has been used by CDOT Maintenance as a tool to accurately predict storm events, storm locations and to provide information as to whether or not freezing temperatures would be reached. This information proved to be useful by providing an accurate estimation of when to apply sand/salt mixtures and what types of similar maintenance activities would be needed to secure travel safety. Installations of weather system monitoring stations along the US 285 study area would prove to be an effective way to reduce the amount of sand/salt that is applied to the roadway. In addition, salt/sand storage sheds have been effective at minimizing flyaway particulate matter during high wind events. Placing salt/sand storage areas in appropriate places would lessen the amount of particulate matter finding its way into water resources. ◆ Other sections of the US 285 corridor experience very high winds where blowing snow can become a danger to motorists. In these areas, snow fences have been constructed to trap snow before it reaches the roadway, thus eliminating the amount of snow and subsequent runoff quantities from the surface of the highway. This could double as a solution to reducing the amount of snow to be plowed from the roadway. ◆ Location of remnant right-of-way parcels to be used for road sand storage would help alleviate the problem of sand building up and filling in wetlands and drainages. In addition to mitigation provided by CDOT during transportation improvements, it is also essential for Park and Jefferson Counties and local interest groups to utilize and enforce their water protection policies and regulations to control erosion and stormwater runoff from new development that occurs. Focusing improvements within the designated rural centers and rural villages, and other areas where higher density development is planned and encouraged can lessen the impacts associated with haphazard development. The *Conifer/US 285 Corridor Area Community Plan* suggests that public water and sanitation districts should be formed to serve the activity centers. Where wells are used, it is suggested that the minimum lot size should be at least 5 acres to provide an adequate groundwater recharge area. The plan also calls for a balance between the availability of water and its uses to insure that water resources are not depleted. Water quantity, quality and sanitation are critical elements that should be considered when development is proposed for the area. It is understood that water is essential for almost all development and must be obtained by drilling wells on individual parcels or from a centralized water system. The interim *Conifer/285 Corridor Area Community Plan* also suggests that a study of the area's water quantity and quality be conducted to further understand the existing water situation and to help make better land use decisions. **Wetlands** Wetland mitigation for the Preferred Alternative will be subject to EO 11990 and 404 permitting standards. Wetland impacts caused by the Preferred Alternative would be mitigated at a 1:1 ratio. All impacts to jurisdictional and non-jurisdictional wetlands associated with the US 285 improvements will be mitigated by CDOT. The Corps of Engineers regulates impacts to jurisdictional wetlands and generally requires mitigation at a minimum ratio of 1:1. It is up to local jurisdictions, landowners and developers to mitigate for wetland impacts associated with their respective projects and future developments.

Table 3-31: Summary of Mitigation Measures (Continued)

Category	Mitigation Measures
Cumulative Impacts (continued)	**Wildlife** The construction of wildlife crossings will reduce impacts to wildlife movement caused by road improvements.
Permits Required	The following permits and coordination activities may be required to support the construction of the preferred alternative: ◆ **National Pollutant Discharge Elimination System (NPDES).** An NPDES Permit will be obtained prior to construction by CDOT from the Colorado Department of Public Health and Environment (CDPHE), in accordance with Section 402 of the Clean Water Act. This stormwater discharge permit is required to ensure the quality of stormwater runoff. An NPDES stormwater permit (CWA, Section 402) is required for all CDOT construction projects that impact one acre of land, or are part of a larger plan. Therefore, all proposed future projects along the US 285 study area will be issued permits through the Colorado Department of Public Health and Environment (CDPHE) prior to the onset of highway construction activities. Under the NPDES permit stipulations, CDOT will prepare a site-specific Stormwater Management Plan (SWMP) that outlines in detail the specific BMPs in the project plans for implementation in the field. Included in the SWMP are such aspects as BMP locations, turbidity and monitoring requirements, seed mix, concrete washout containment provisions, and other relevant information that is provided to the CDOT contractor(s). This project is located outside of the Phase I and Phase II areas under CDOT's new Municipal Separate Storm Sewer System (MS4) permit (a subset of the NPDES regulations). Thus, requirements for capturing 100% WQCV (water quality control volume, or the first ½-inch of precipitation in a storm) or 80% TSS (total suspended solids) do not apply. However, in order to meet water quality standards, and to reduce impacts from sediments, permanent BMP's will be implemented, as noted in **Section 3.7.5.2 beginning on page 3-63** and **Section 3.7.5.4 beginning on page 3-64**. ◆ Section **404 Permit.** A Section 404 Permit, issued by the Corps of Engineers (COE) is required whenever construction projects or maintenance activities requiring filling occur below the ordinary high-water line in any body of water considered a water of the United States (navigable waters of the United States and adjacent wetlands; all tributaries to navigable waters and adjacent wetlands; interstate waters and their tributaries and adjacent wetlands). ◆ **Section 402 Permit.** A Section 402 Permit, issued by CDPHE, is required for dewatering of construction areas, if necessary. The following activities would require the acquisition of a 402 Permit: • Construction dewatering operations associated with activities such as utility excavation, bridge pier installation, foundation or trench digging, or other subsurface activities. • If discharge is expected to occur from a point source discharge from mechanical wastewater treatment plants, vehicle washing, or industrial discharges. ◆ **Section 401 Water Quality Certification.** A Section 401 Water Quality Certification is required in conjunction with an Individual 404 Permit (dredge and fill permit) for any transportation construction project or maintenance activity where work occurs below ordinary high-water line or adjacent to wetlands. As part of its 401 Certification, CDOT notifies downstream water users when impacts to nearby receiving waters may occur during construction, e.g., when blasting occurs near receiving streams. As part of construction, CDOT (or its contractors) will monitor turbidity in any of the affected streams. The 401 Certification must be obtained from the Water Quality Control Division of the Colorado Department of Public Health and Environment. If a 404 Nationwide or General permit has been issued, a 401 Certification is not required.

Table 3-31: Summary of Mitigation Measures (Continued)

Category	Mitigation Measures
Permits Required (continued)	◆ **Senate Bill 40 Certification.** An SB 40 Certification will be required by the Colorado Division of Wildlife for stream crossings or adjacent streambanks to avoid adverse effects to waterways and adjacent riparian vegetation. ◆ **FHWA Access Approval.** This approval is issued by the FHWA for new or modified access connections to US 285. ◆ **Nest Take Permit.** A Nest Take Permit issued by the US Fish and Wildlife Service (USFWS) will be required if migratory bird nests will be taken as a result of construction activities. ◆ **Fugitive Dust Permit.** A Fugitive Dust Permit will be required if more than 25 acres of land will be impacted and/or project construction will last longer than six months. ◆ **State Access Permit.** A State Access Permit is required for all requests for new or modified access to US 285. Any existing accesses adversely affected by the Preferred Alternative will be notified of the proposed changes. ◆ **Construction Access Permits.** Construction Access Permits will be required for temporary access needs outside the construction limits. ◆ **Access Permits. A**ccess permits and authorizations will be required by FHWA and CDOT for new or modified grade separations, as necessary. ◆ **Floodplain Permits.** Floodplain Permits, including a Floodplain Development Permit, Conditional Letter of Map Revision, and Letter of Map Revision will be required for floodplain encroachment. ◆ **Other Local Permits.** Additional permits, such as building, utility or survey permits may be required to support project construction requirements.

Chapter 4: Comments and Coordination

4.1 Objectives

A critical element of the US 285 EA process is an extensive public and agency involvement program. The goal of the public involvement process for the US 285 EA is to provide opportunities for interested parties to participate in and provide information, ideas and opinions to the EA process. To accomplish this purpose, the public is given opportunities for participation, contribution and education.

4.2 Elements of Program

4.2.1 Notice of Intent

The US 285 EIS Notice of Intent was published in the Federal Register on June 13, 2002. An amendment to the Notice of Intent stating that it is now an Environmental Assessment was published on December 24, 2003.

4.2.2 Mailing List

A mailing list of over 800 individuals was compiled. The mailing list was initiated during the US 285 Foxton Road to Fairplay Feasibility Study. Persons were added to the mailing list from the information gathered through the public workshops and the US 285 Web site and comments that were received by Carter & Burgess. The mailing list was used for the distribution of newsletters, dissemination of project information and notification of public workshops.

4.2.3 Public Workshops

The purpose of a public workshop is to give interested participants the opportunity to interact with planners, engineers, FHWA, CDOT and other project team members. It allows all individuals interested in the US 285 project equal time to express concerns and have questions addressed. The public workshops are designed to provide information to the general public and to give an opportunity for their input. Public workshops were held three times prior to publication of this EA:

- July 30, 2002, at Elk Creek Fire Station, Conifer, Colorado.

  175 people signed in at the meeting.

  This meeting was held to obtain scoping input and to introduce the project team. Other information provided included the study process, information about the purpose and need for the project, environmental issues, alternatives to consider and access control. Verbal comments were summarized during the workshop and displayed in the comments section. Written comments were placed in the Comment Box or mailed in at a later date.

- February 12, 2003, Platte Canyon Fire Station, Bailey, Colorado.

  176 people signed in at the meeting.

  This meeting presented background information, environmental issues, and alternatives development. A survey was given to obtain input on the various aesthetic treatments of retaining walls. Verbal comments were summarized during the workshop and displayed in the comments section. Written comments were placed in the Comment Box or mailed in at a later date.

- August 13, 2003, Platte Canyon Fire Station, Bailey, Colorado.

  118 people signed in at the meeting.

  This meeting presented some background information, the Preferred Alternative for the study area and intersections, preliminary information on environmental impacts, and upcoming steps. Verbal comments from the public were summarized during the workshop and displayed. Written comments were placed in the Comment Box or mailed in.

4.2.4 Neighborhood and Individual Meetings

Project team members met with residential and commercial property owners to discuss concerns and issues about the possible alternatives and the EIS process. Twenty-six meetings were held with individuals, businesses, organizations, and with the fire department and sheriff's office to discuss possi-

ble changes in access. Local organizations that attended meetings to discuss access control, land use and open space issues included: 285 Task Force, Burland Civic Association, Colorado Open Lands, Conifer Chamber of Commerce, Conifer Mountain HOA, Deer Valley Park Association, Elk Run Plaza Development, Preserve our Mountain Community, Conifer Community Plan, MEG - Sierra Group, Park County COC, Mountain Area Land Trust, Mule Deer Foundation, Platte Canyon COC, Rim Rock neighborhood group, United Mountain Communities, and Will O' Wisp neighborhood group. There were also telephone conversations, letters and e-mail responses to comments and questions from concerned individuals.

A design charette was held June 10, 2004 to provide coordination with Jefferson and Park Counties on preferred color schemes, custom fixtures and general study area appearance. The *US 285 Aesthetics Study and Guidelines* drafted in June 2004 will be used during continued coordination with unincorporated towns and county agencies during final design of each breakout project to establish final color schemes and aesthetic treatments for features within that portion of the study area. (See the *US 285 Aesthetics Study and Guidelines* Technical Report.)

4.2.5 Newsletters

A project newsletter was used to provide project information to the public, as well as a means of reaching those people who could not attend a public workshop or local meeting. The following newsletters were sent to people on the project mailing list:

- **Issue # 1, January 2003.**The first newsletter gave a general project update, discussed alternatives development and alternatives screening, listed ways to become involved in the project, showed a schedule for the project and announced the date and time for the Second Public Workshop.
- **Issue #2, July 2003.** The second newsletter gave a project update and described the Preferred Alternative. It also announced the date and time for the Third Public Workshop.
- **Issue #3, March 2004.** The third newsletter explained the change from an EIS to an EA, the progress made since the last public workshop, the next steps to be made, and the schedule. The proposed interim improvements were explained in more detail and opportunities for input were given.

  Issue #4. Will provide a summary of the EA and an announcement of the public hearing.

4.2.6 Project Contacts

Project team members were available to answer questions from the public. They were responsive and available to the public via phone, fax, e-mail and in person. The two main contacts are:

Kim Patel
Project Manager
CDOT Region 1
18500 East Colfax Ave.
Aurora, CO 80011
Phone: 303/365-7373
Fax: 303/757-9746
E-mail: kamalesh.patel@dot.state.co.us

Gina McAfee
Project Manager
Carter & Burgess, Inc.
707 17th Street, Suite 2300
Denver, CO 80202
Tel: 303/820-5232
Fax: 303/820-2401
E-mail: mcafeevl@c-b.com

4.2.7 Public Information and Press Releases

Press releases and public service announcements were sent to print media serving the study area prior to public open houses and for clarification during other times in the process.

4.2.8 Project Web site

The US 285 Web site was created during the US 285 Foxton Road to Bailey Feasibility Study. This comprehensive Web site provides project information throughout the NEPA processes, such as: Purpose and Need, existing conditions, the No-Action

Alternative and the Preferred Alternative, public involvement, project schedule and project contact information. This site is updated with current project information and meeting announcements as necessary. The site allows anyone to submit comments via the Internet. Information is given on how to request a meeting with the project team. A feedback form is offered that allows visitors to the site to be added to the mailing list, give comments and request further information. The Web site is located at: www.US285.com. As of June 30, 2004, there were over 6,400 visitors to the US 285 EA Web site.

4.2.9 Special Outreach to Low-Income and Minority Populations

To ensure that everyone residing in the US 285 study area receives project information and is afforded the opportunity to provide input, the project team made a special effort to reach low-income and minority populations within the study area and/or those who use US 285. Low-income and minority communities in the study area were identified using 2000 US Census Bureau data and through local community representatives and resources. The following is a list of contacts that were made:

- State of Colorado Minority Business Office (MBO)
- Local planning agencies (Jefferson and Park Counties)
- Chambers of Commerce
- Park County Crisis Center
- Gateway Youth and Family Services
- Mountain Resources Center
- English as a Second Language (ESL) programs from area schools
- Our Lady of the Pines Catholic Church
- Timberline Health Clinic

Conversations with the contacts listed above, as well as others within the study area, yielded no additional information regarding the location of potential minority and/or low-income populations.

In addition, meetings were held with all property and business owners that are likely to be relocated by the Preferred Alternative. There were no indications during these discussions that these property and business owners should be classified as minority or low-income. Despite these extensive efforts, no concentrations of minority or low-income populations could be found. The minority and low-income populations in the study area are not clustered into neighborhoods, but scattered through the study area with rest of the population.

Despite the difficulty in locating populations of minority and low-income populations, an effort to reach these populations was made by the project team. Supplementary copies of the US 285 Newsletter #1 explaining the basic concepts of an EIS as well as the intent of the project were redistributed to areas of potential use by minority and low-income populations in June 2003, along with a letter about opportunities for comment, project contact information, and where to access project information. Additional copies of the project newsletter were distributed at frequently visited locations in the study area, including grocery stores, post offices, and other businesses that have a high use in the community.

Outreach to low-income and minority populations within the US 285 study area will continue through the course of the EA process. The project team will continue to call the community contacts listed above as well as widely disseminate information at areas of common use before key project milestones to supply additional information and seek input to the project. In addition, the project team is attentive and responsive to any needs, issues, or concerns that may arise.

4.2.10 Letters and Comments

Written communication in the form of letters, comment sheets, and electronic feedback forms was received throughout the study. As of March 25, 2004, 23 electronic feedback forms, 21 e-mails and 14 phone messages were received; and 114 comments were received via letter, comment sheet or other means of written communication.

4.3 Public Input Obtained

General public comments included:

- Supported use of grade-separated intersections, not intersections with traffic signals.
- Expressed concerns over current traffic volumes and bottlenecks.
- Supported use of wide depressed medians.
- Expressed concern over growth that could result from improvements to US 285.
- Supported four lanes from Conifer to Bailey, and supported four lanes to top of Crow Hill only.
- Supported use of overpass/underpass locations for wildlife to cross highway.
- Expressed support for a Bailey bypass, and expressed support against a Bailey bypass.
- Expressed concerns over noise, lights and view sheds.
- Supported use of runaway truck escape ramp before Bailey.
- Supported emergency phones along highway.
- Expressed concerns over impacts to property.
- Expressed concerns over wetlands and wildlife.
- Expressed safety concerns over curve at Bailey and Roland Valley Drive and access to/from Mable Lane.
- Wanted to know when the project would start and if funding were available.

4.4 Agency Input Obtained

4.4.1 Coordination with State and Federal Agencies

State and federal agencies were contacted by phone, letter and e-mail at various points in the process. Meetings were held to provide information about the project, the proposed alternatives and to solicit technical direction regarding issues such as wetlands, wildlife, historic structures and national forest system land. Resource agencies met with project staff either individually or collectively to address issues of concern, assist in data collection or provide general guidance.

4.4.1.1 Cooperating Agencies

Letters were sent to request Cooperating Agencies on the EIS in accordance with FHWA regulations, 23 CRF 771.111(d). One agency formally responded (see Appendix B).

- August 5, 2002. Letter of request confirmed. US Army Corps of Engineers accepts the invitation to become a Cooperating Agency. (See Appendix B.)

4.4.1.2 Resource Agency Team

The following state and federal agencies were contacted requesting they attend a formal scoping input meeting in June 2002 to identify cumulative impacts issues of concern:

- Colorado Division of Wildlife
- Colorado Department of Public Health and Environment
- State Historic Preservation Officer
- US Army Corps of Engineers
- US Environmental Protection Agency
- US Fish and Wildlife Service
- US Forest Service

A second meeting was held in June 2003 to update the agencies on the alternatives being considered and the impacts of those alternatives and to present a preliminary recommendation for a Preferred Alternative and mitigation needs.

4.4.2 Land Use Committee

The Land Use Committee met twice to discuss current conditions, potential growth in the study area and land use issues. The dates and the organizations that were represented follow:

September 3, 2002. Park County Roads and Bridges, Platte Canyon Chamber of Commerce, CDOT, Conifer Community Plan, RTD, United Mountain Communities

February 3, 2003. Park County Roads and Bridges and Commissioner, Platte Canyon Chamber of Commerce, Conifer Community Plan, RTD, United Mountain Communities, DRCOG, EPA, CDOT

4.4.3 Transit Feasibility Working Group

The Transit Feasibility Working Group met twice to discuss traffic volumes, the existing transit facilities and the feasibility of adding or improving transit facilities in the study area. Meeting dates and organizations that were represented at the meetings, follows:

November 11, 2002. RTD, EPA, DRCOG, CDOT, Jefferson County, Park County, 285 Task Force, and MEG - Sierra Club

January 8, 2003. RTD, Jefferson County, CDOT, and DRCOG

4.4.4 Value Engineering Meetings

A weeklong Value Engineering meeting (January 27 through January 31, 2003) was held to identify less expensive or value-added alternative designs that could be incorporated as part of the Preferred Alternative into the final design drawings and specifications. The team consisted of members from CDOT, RTD, Preserve our Mountain Community, a representative from Park County, and representatives from planning/engineering firms (URS and Figg Engineers Inc.) that were not working on this EA. Solutions Engineering and Facilitation, Inc., facilitated the meeting.

4.4.5 Coordination with Agencies

More than 50 meetings were held with the local, state and federal entities, in addition to the meetings described separately. They are listed in**.Table 4-1.**

Table 4-1: Agency Meetings

Date	Meeting Purpose
6/25/02	Local Agency Scoping Meeting with Jefferson County Open Space and Highway, Jefferson County Transportation Dept., FHWA, RTD, DRCOG
7/11/02	Wildlife coordination meeting with USFWS, USDA Forest Service, Colorado Division of Wildlife (DOW)
7/16/02	Induced travel demand with FHWA, other consulting engineering firms
7/22/02	Project Steering Group meeting with FHWA
9/11/02	Public workshop on Bailey alternatives, etc. - approximately 24 area residents
9/17/02	Project Steering Group meeting with Park County and Jefferson County
9/19/02	Transit improvements with RTD
10/1/02	Access plan meeting with business owners at Green Valley Center
11/5/02	Merge 106/NEPA Process meeting with FHWA, ACHP
11/14/02	Air quality interagency consultation with FHWA, EPA, APCD
11/21/02	Project Steering Group meeting with Jefferson County
11/22/02	Scoping comments with EPA and FHWA
12/18/02	Design/Environmental Specialty Area meeting with FHWA
1/15/03	Project Steering Group meeting with Jefferson County
1/16/03	106/NEPA Process meeting with Colorado Historical Society, FHWA
1/20/03	Access plan meeting with Park County Chamber of Commerce
1/22/03	Access plan meeting with business owners at Green Valley Center

Table 4-1: Agency Meetings (Continued)

Date	Meeting Purpose
1/23/03	Access plan meeting with Platte Canyon Fire Chief and Park County Sheriff
1/24/03	Wildlife meeting with FHWA, Jefferson County, MEG - Sierra Club
2/3/03	Access plan meeting with Preserve Our Mountain Community
2/20/03	Presentation of alternatives with SHPO
2/21/03	Project Steering Group meeting with FHWA, RTD, Jefferson County and Park County
2/25/03	Access plan meeting with Deer Valley Park Association
2/25/03	Access plan meeting with Green Valley Ranch and Conifer Chamber of Commerce
2/27/03	Open space meeting with Jefferson County Open Space, Mountain Area Land Trust
2/27/03	Access plan meeting with Long Brothers Garage
2/27/03	Access plan meeting with Old Glory Antiques
3/7/03	Design issues meeting with Regency Center, property owners, Jefferson and Park County
4/8/03	Access plan meeting with Platte Canyon Chamber of Commerce
4/10/03	Access plan meeting with Green Valley Ranch
4/10/03	Access plan meeting with Rim Rock neighborhood
4/14/03	Discuss USFS issues, USFS
4/24/03	Project Steering Group meeting with Jefferson County and Park County
4/30/03	Open space meeting with Park County, MALT, Jefferson County Open Space, Mule Deer Fountain, DOW, MEG - Sierra Club, PCORC, UMC, Colorado Open Lands
5/12/03	Field trip with Corps of Engineers
5/15/03	Access plan meeting with Rim Rock and Will O' Wisp neighborhoods and Park County
5/17/03	Access plan meeting with Conifer Mountain HOA
5/30/03	Field trip with Environmental Protection Agency
6/20/03	Project Steering Group meeting with Jefferson County
6/21/03	Access plan meeting with Burland Civic Association - approximately 25 people attended
6/23/03	EIS Schedule meeting with FHWA
7/15/03	Field trip with Army Corps of Engineers and Environmental Protection Agency
7/23/03	Access meeting with developers of property north of Roland Drive
8/28/03	Project Steering Group meeting with Jefferson County and Park County
9/3/03	Access plan meeting with Lone Rock development and Park County
9/26/03	Access plan meeting with Kings Valley development
10/10/03	Meeting with Conifer Area Chamber of Commerce
10/23/03	Project Steering Group meeting
11/14/03	Meeting with FHWA to discuss treatment of alternatives
1/9/04	Meeting with Conifer Chamber of Commerce to present interim improvements, funding, etc. - approximately 45 people attended

Table 4-1: Agency Meetings (Continued)

Date	Meeting Purpose
2/10/04	Two access plan meeting with property owner (Auslander)
2/10/04	Access plan meeting with property owner (Montgomery)
2/26/04	Access plan meeting with property owner (O'Shea)
3/16/04	Project Steering Group meeting
3/25/04	Access plan meeting with property owner (Robinson)
3/25/04	Access plan meeting with property owner (Curan)
3/29/04	Access plan meeting with property owner (Robinson)
329/04	404 Pre-application meeting with FHWA and Corps of Engineers
4/22/04	Access plan meeting with property owner (Johnson)
4/29/04	Access plan meeting with Shaffers Crossing property owners
6/1/04	Access plan meeting with property owner (Robinson)

4.5 Coordination Subsequent to the Release of the EA

The date for the Public Hearing will be announced in the *Denver Post*, *Rocky Mountain News*, *Canyon Courier, Park County Republican and Fairplay Flume,* and the *High Timber Times* at least 15 days in advance of the Hearing.

At the Public Hearing, the general public will be given the opportunity to provide official comment on the project and the EA.

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Chapter ES: Executive Summary

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Appendix A

Public Involvement Information

Correspondence
E-mails, Letters, Telephone Summaries

Carter::Burgess

COMMUNICATION CONFIRMATION

Project: US 285 EIS

Purpose of Call: To get input from Dr. Braun.

Date: 12 June 2002

By: Troy Halouska

Contact: Dr. Peter Braun – President, Platte Canyon Area Chamber of Commerce

Copies: Gina McAfee, Project File (070306.404)

Summary of Discussion:

I called to get input on the project from Dr. Braun after he left a message that he would not be able to attend the agency meeting. He basically wanted to let us know that he and the 100-member Chamber give their approval of the project to Bailey.

Specifically, he thought there needs to be an overpass at Schaffer's Crossing along with climbing and exit lanes added. Also, there should be no stop light at Pine Junction. He feels that access points should be consolidated and is concerned about a bottleneck in the area just south of Foxton Road. He said there is a 30-foot cliff area there that could be blown out and the slow-down lane for the park-n-Ride could be extended to ease a bottleneck situation.

Dr. Braun wanted us to know that he applauds the efforts of Janet Todd and that the Chamber is generally interested in anything that promotes business commerce to the top of Crow Hill. This includes any improvement to US 285.

I thanked him for his input and let him know that if he had any further comments that he can visit the US 285 website.

Halouska, Troy K.

From: Solutions Solutions [DenverGW.DenverPO.Solutions]
Sent: Monday, July 08, 2002 12:45 PM
To: Troy Halouska
Subject: us285 Comments

First Name: deborah
Last Name: nansel
Address: 89 elk trail
City: bailey
State: co
Zip Code: 80433
Phone: 303-838-9398
Fax: 303-838-4674
E-mail: deborah_n_@msn.com
Mailing List:
Interest: Property Owner-Primary Residence
Business Name: Interior Elements, 25797 Conifer Rd. #B211, Conifer, CO
Recreation:
Areas of Concern: Safety, Traffic Congestion
Specific Comments:
Safety Opinion: Many segments of the highway are unsafe.
Specific Safety Comments: left turn on Wandcrest is very dangerous for southbound traffic because existing traffic sign says to merge left just before Wandcrest. If people are turning left on Wandcrest they are at a stop and traffic behind will not see that vehicle until they come around the corner.

Additional Comments:

Halouska, Troy K.

From: Solutions Solutions [DenverGW.DenverPO.Solutions]
Sent: Thursday, July 11, 2002 2:09 PM
To: Troy Halouska
Subject: us285 Comments

First Name: Jim
Last Name: Kuhns
Address: 41 Habu Ln.
City: Bailey
State: Co.
Zip Code: 80421
Phone: 303-838-5129
Fax:
E-mail: jim.kuhns2@gte.net
Mailing List: Add me to the Mailing List
Interest: Property Owner-Primary Residence
Business Name:
Recreation:
Areas of Concern: Safety, Traffic Congestion
Specific Comments:
Safety Opinion: Many segments of the highway are unsafe.
Specific Safety Comments: 1.) Intersection at Pine Junction
2.) Intersection at Roland Valley
3.) Intersection at the new Park County road 43
4.) Merging at the end of passing lanes
Additional Comments:

Halouska, Troy K.

From: Solutions Solutions [DenverGW.DenverPO.Solutions]
Sent: Monday, July 15, 2002 11:55 AM
To: Troy Halouska
Subject: us285 Comments

First Name: John
Last Name: Woodward
Address: PO Box 151
City: Bailey
State: Colorado
Zip Code: 80421
Phone: 303-838-4196
Fax: 303-816-2328
E-mail: woodwardcattle@juno.com
Mailing List: Add me to the Mailing List
Interest: Property Owner-Primary Residence
Business Name: The Deer Valley Park Association ranches
Recreation:
Areas of Concern: Driveway Access and Steepness, Safety, Traffic Congestion
Specific Comments: With over one mile of highway frontage we would like to discuss with CDOT any expansion. When 285 was originally built, we donated land for the highway. Access to the ranch if extremely important if we are to stay in business.

Safety Opinion: A few segments of the highway are unsafe
Specific Safety Comments:
Additional Comments: Horn Cemetary

Halouska, Troy K.

From: Solutions Solutions [DenverGW.DenverPO.Solutions]
Sent: Tuesday, July 16, 2002 6:57 PM
To: Troy Halouska
Subject: us285 Comments

First Name: Dawn
Last Name: Zdrubecky
Address: PO BOX 14
City: CONIFER
State: CO
Zip Code: 804433
Phone: 303-816-1762
Fax:
E-mail:
Mailing List: Add me to the Mailing List
Interest: Property Owner-Primary Residence
Business Name:
Recreation:
Areas of Concern: Noise Issues, Driveway Access and Steepness, Impacts to Wildlife, Safety, Traffic Congestion
Specific Comments: I LIVE AT THE CORNER OF FOXTON AND 285 AND AM CONCERNED ABOUT ENTERING AND EXITING MY DRIVEWAY ON 285 IT IS EXTREMELY DANGEROUS ESPECIALLY AT NIIGHT. AND JUST RECENTLY THEY TOOK AWAY OUR MERGING LANE WHICH MEANS I HAVE TO JUMP INTO 50MPH TRAFFFIC WHICH IS TO SAY THE LEAST FRIGHTENING.

Safety Opinion: Many segments of the highway are unsafe.
Specific Safety Comments: I DO NOT BELIEVE THEY SHOULD TAKE DOWN THE TRAFFIC LIGHTS AT THIS POINT IN THE GAME.
Additional Comments:

Halouska, Troy K.

From: Solutions Solutions [DenverGW.DenverPO.Solutions]
Sent: Friday, July 19, 2002 8:26 AM
To: Troy Halouska
Subject: us285 Comments

First Name: NATHAN
Last Name: LEE
Address: POBOX 14
City: CONIFER
State: CO
Zip Code: 80433
Phone: 3038161762
Fax:
E-mail: NTLDSZ@WMCONNECT.COM
Mailing List: Add me to the Mailing List
Interest: Property Owner-Primary Residence
Business Name:
Recreation:
Areas of Concern: Driveway Access and Steepness, Safety, Traffic Congestion
Specific Comments:
Safety Opinion: Many segments of the highway are unsafe.
Specific Safety Comments: I LIVE AT THE CORNER OF 285 AND FOXTON, 300 YARDS UP FROM THE BIG RED BARN. I WOULD LIKE TO KNOW WHOS BRILLIANT IDEA IT WAS TO PULL ALL OF THE STOPLIGHTS AT THISS PHASE OF CONSTRUCTION. WHOEVERS IT WAS APPARENTLY HAS THEIR HEAD UP THEIR OVERPAID ASS. WITH ALL OF THE IDIOTS FROM THE CITY UP HERE ON THE WEEKENDS, UNFAMILIAR WITH THE ROADS AND DRIVING TO FAST FOR THEM ANYWAY, WAS THIS REALLY A WISE DECISION? I THINK NOT. BESIDES THIS, WE HAVE NO MERGE LANE NOR A TURNING LANE TO ACCESS NOR LEAVE THE HIGHWAY. I WOULD LIKE TO INVITE THIS GENIUS BEHIND THE BLUEPRINTS TO COME UP HERE AND ACTUALLY USE THIS POOR EXCUSE OF A DESIGN AT 6:30 IN THE MORNING WHEN THERE IS A 2 MILE LONG TRAFFIC JAM AND NOBODY WILLING TO LET YOU IN, OR AT 11:00 AT NIGHT WHEN THE DRUNKS CANT TELL IF YOU ARE DRIVING OR TURNING INTO YOUR HOME. I HAVE SEEN THIS HAPPEN, LAST SUMMER A MAN WAITING TO TURN INTO FOXTON WAS HIT AT 70MPH FROM BEHIND BY A DRUNK DRIVER, HIS WAS CAR CAREENED 200 YARDS OFF THE HIGHWAY, INTO A BARN. HE WAS COVERED IN BLOOD AND BARELY CONCIOUS WHEN I ARRIVED. HE DIED TWO HOURS LATER AT THE HOSPITAL. WOULD THIS GENIUS WANT THIS TO BE THEIR WIFE/HUSBAND OR CHILDREN? I THINK NOT. NOR DO I WANT THIS TO BE ME OR MY WIFE. MERGING INTO 60MPH TRAFFIC IS DANGEROUS, LET ALONE STOPPING IN IT TO TURN DOWN OUR DRIVEWAY. PLEASE FEEL FREE TO RESPOND, I WOULD LOVE TO HEAR YOURE DIVINE LOGIC, IF I LIVE LONG ENOUGH TO READ IT.

Additional Comments:

Halouska, Troy K.

From: Solutions Solutions [DenverGW.DenverPO.Solutions]
Sent: Friday, July 19, 2002 6:07 PM
To: Troy Halouska
Subject: us285 Comments

First Name: NATHAN
Last Name: LEE
Address: POBOX 14
City: CONIFER
State: CO
Zip Code: 80433
Phone: 3038161762
Fax:
E-mail: NTLDSZ@WMCONNECT.COM
Mailing List: Add me to the Mailing List
Interest: Property Owner-Primary Residence
Business Name:
Recreation:
Areas of Concern: Driveway Access and Steepness, Safety, Traffic Congestion
Specific Comments:
Safety Opinion: Many segments of the highway are unsafe.
Specific Safety Comments: I WOULD LIKE TO APOLGISE TO TROY HALOUSKA OR TO WHOMEVER RECIEVED MY SOMEWHAT NASTY E-MAIL. I WAS MIS-INFORMED ABOUT WHO TO CONTACT IN REGARDS TO THIS DILEMA, AND AM SORRY THAT YOU HAD TO RECIEVE THE BLUNT END OF THE STICK. FOR THE MOST PART EVERYTHING HAS BEEN GOING SMOOTH, BUT I THINK THE BIG-SHOTS AT THE OFFICES FORGET THAT THERE ARE PEOPLE STILL LIVING HERE. ONCE AGAIN I APOLIGISE, THERES NOTHING LIKE GETTING CHEWED OUT FOR SOMETHING THAT YOU HAVE NOTHING TO DO WITH. THANK YOU, NATHAN LEE

Additional Comments:

Halouska, Troy K.

From: Solutions
Sent: Sunday, July 28, 2002 6:44 AM
To: Halouska, Troy K.
Subject: us285 Comments

Follow Up Flag: Follow up
Flag Status: Flagged

First Name: Barbara

Last Name: Bowers

Address: 175 Mount Bailey Dr

City: Bailey

State: CO

Zip Code: 80421

Phone: 303-838-0934

Fax: 303-816-0245

E-mail: bjbowers@att.net

Mailing List: Add me to the Mailing List

Interest: Property Owner-Primary Residence

Business Name:

Additional Comments: I keep hearing that US285 is going to bypass Crow Hill. Is this being considered?

Halouska, Troy K.

From: Solutions
Sent: Sunday, July 28, 2002 6:30 PM
To: Halouska, Troy K.
Subject: us285 Comments

Follow Up Flag: Follow up
Flag Status: Flagged

First Name: Doris

Last Name: Laughton-Smith

Address: 293 Crow Valley Road

City: Bailey

State: CO

Zip Code: 80421

Phone: 3038383672

Fax: 3038384299

E-mail: art@dorislaughton.com

Mailing List: Add me to the Mailing List

Interest: Property Owner-Primary Residence

Business Name:

Additional Comments: Your project map does not show what from Foxton to Bailey but from Bailey to Fairplay. Since our property goes adjoins the west side of 285 as you drive down 285 from Crow Hill, naturally, we are most interested in how we will be effected by the new construction on the hwy.

I have a Mac which might explain why your map is incomplete.

Doris Laughton-Smith

Halouska, Troy K.

From: Larselkfalls@aol.com
Sent: Tuesday, July 30, 2002 10:56 AM
To: Halouska, Troy K.
Subject: Hwy 285

My husband & I live in Elk Falls Ranch, north of Shaffer's Crossing. We are not able to attend the meeting tonight due to unforseen complications but we are most interested in where & when the 285 corrider goes from here. We take our lives in our hands every time we turn SE from our access onto 285. Most drivers, & especially truckers, don't pay any attention to the 45 MPH sign nor the fact that there's a road at the foot of the hill. There are a good number of people who live up here & it's only a matter of time until we have deaths at that intersection. Please consider this matter & do something to make that intersection safer for all of us.

David & Bobbie Larson
34940 Lower Aspen Ln.
Pine, Co. 80470
303-816-5385

Halouska, Troy K.

From: Solutions
Sent: Monday, August 05, 2002 9:33 AM
To: Halouska, Troy K.
Subject: us285 Comments

First Name: John M.

Last Name: Pawlik

Address: 515 Ridge Rd.

City: Pine, CO USA

State: Colorado

Zip Code: 80470

Phone: 303 838-1964

Fax: 303 816-9760

E-mail: jpawlik@itilink.com

Mailing List: Add me to the Mailing List

Interest: Property Owner-Primary Residence

Business Name: An officer in Platte Canyon FPD

Additional Comments: I believe that the original proposal of 2-3 years ago should stil be valid. That is, all lights should be eliminated.

Also, while it was very useful to see the various proposals in map form on the walls, it was very difficult to evaluate them in such a short time. The map of the entire project is here on the internet, so all of the interchange proposal maps should be here also. That is, each place where an entrance or exit is proposed. That would give interested parties more time to evaluate these proposals, and thus give better responses.

Halouska, Troy K.

From: Emmans Jr, Harry B [harry.b.emmans.jr@lmco.com]
Sent: Tuesday, August 13, 2002 6:29 AM
To: Halouska, Troy K.
Subject: 285

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning Troy. Please 4 lane 285 from Conifer to Buena Vista. This will save lives, time, peace of mind as well as bring some ease of use to the people in Park County
that use 285 on a regular basis. It seems to me, that according to the news articles, the only the people that don't use 285 and want to preserve the environment that they are destroying are the only ones heard. People that use 285 on a regular basis during peak times and week ends want the thing four laned! Pave Guanella Pass road too. Neither you, nor I, or the flaming so called environmentalists will ever stop Colorado from being Californicated. We just need to make the best choice possible now with expansion in mind because it will happen. The forest fires are a classic example of environmentalists in action. "Don't clear the forests of old and dead material, save it for the fires." Harry Emmans, P.O.Box 1748, Fairplay, CO 80440

Halouska, Troy K.

From: Solutions
Sent: Tuesday, August 13, 2002 6:32 AM
To: Halouska, Troy K.
Subject: us285 Comments

First Name: Harry

Last Name: Emmans

Address: PO Box 1748

City: Fairplay

State: Colorado

Zip Code: 80440

Phone: 303.971.5857

Fax: 303.971.3063

E-mail: emmans@Starband.net

Mailing List: Add me to the Mailing List

Interest: Commuter

Business Name:

Additional Comments: Please four lane it soon, all the way to Buena Vista.

Halouska, Troy K.

From: Solutions
Sent: Wednesday, August 14, 2002 10:23 AM
To: Halouska, Troy K.
Subject: us285 Comments

Follow Up Flag: Follow up
Flag Status: Flagged

First Name: Jack

Last Name: Cope

Address: 11669 S. Upper Ranch Dr.

City: Pine

State: CO

Zip Code: 80470

Phone: 303-676-7954

Fax:

E-mail: copej@den.disa.mil

Mailing List: Add me to the Mailing List

Interest: Property Owner-Primary Residence

Business Name:

Additional Comments: My recommendation for the Elk Creek Road /US285 intersection is Grade Separation Option E. The Option of a traffic signal should not be considered since the opening of Staunton State Park would make this a very dangerous intersection resulting in numerous traffic accidents.

Box 212
Bailey, CO 80421
September 9, 2002

Mr. Troy Halouska
Carter & Burgess, Inc.
216 16th Street Mall, Suite 1700
Denver, CO 80202

Dear Mr. Halouska,

" The corridor improvements will be responsive to community values such as maintaining or enhancing rural character, minimizing noise increases, maintaining or enhancing visual quality and minimizing impacts to wildlife habitat." (Statement of Purpose and Need 6-28-02 –US 285 Foxton to Bailey EIS)

The proposals you have for the top of Crow Hill and the town of Bailey will do none of the above. " Maintaining and enhancing rural character", you will destroy the rural character of the town of Bailey with any of the proposals you presented on July 31, 2002. " Minimizing noise increases", with your underpasses and use of River Road and County Road 64 you will be creating more noise for the town of Bailey." " Maintaining or enhancing visual quality…", you will totally destroy the visual quality of Bailey by cutting through National Forest Land and private land. You will make one big scar on the side of the mountain (like Crow Hill) not to mention the wildlife habitat you will impact, and what will you have gained!

Fifty years ago there was a proposed bypass that would have gone from the top of Crow Hill to Shawnee. The bypasses you proposed and disbanded created another Crow Hill. However, the north bypass makes more sense than any of the five proposals you made for Bailey but none of the three bypasses were well thought out either. Obviously, no one bothered to come to Bailey to really look at the town of Bailey or you couldn't have made the above statement and come up with the proposals you have made. Also, each of the five proposals with their access roads on River Road, County Road 64, County Road 68, and Forest Service Property would be cost prohibitive for Park County's Road and Bridge Budget.

If you make Crow Hill four lanes all the way down you will just increase the opportunity for speed and more big trucks going out of control. Making four lanes after Bailey makes no sense, because 285 curves and turns just before Glen Isle and it is beautiful there. So what will you have gained by making it four lanes out of Bailey? You will have just destroyed more " visual quality" and " rural character" which you say you want to preserve.

Any of the five proposals will gravely affect the businesses and private property owners. None of these proposals are responsive to community values and all of them will destroy the lives and hard work of each of the affected owners. If you try to widen River Road and County Road 64 you will just destroy property, people will loose their homes, and you will increase the noise for the town of Bailey at a tremendous cost and what will you have gained! Your proposed overpass and underpass will completely destroy the north east end of Bailey, as well as destroy the existing businesses that lie to the east and west of the intersection of 285 and County Road 68. Not to mention the icy conditions you will create at the bottom of Crow Hill, because " overpasses freeze first"!

Any of the five proposals will gravely affect the Bailey Water and Sanitation District because all of the water and sewer lines would be affected by the extra traffic on the roads. No base was put down before the water and sewer pipes were laid. On the main street of Bailey, River Road, and County Road 64 lines are all at different depths. Some sewer lines on main street are very close to the surface. The proposal you show for going across the river (new bridge) below Bailey will also affect the Bailey Water and Sanitation District plant and the McGraw Historical Park. The road going up the mountain will go across the McGraw Historical footpaths, through forest service and private property and, thus, is totally contradictory to your statement " to maintain rural character, etc.".

I am enclosing another proposal, which if implemented, would significantly cost less than any of the five proposals and have less impact on the people and businesses of the town of Bailey. My proposal envisions use of existing shoulders, medians, and creation of right and left turn lanes to minimize possibility of traffic accidents and traffic slow downs. I would ask that this proposal be included in the Economic Impact Statement for the Foxton to Bailey 285 project so it can be evaluated for cost and impact.

The town of Bailey is in a narrow valley, unlike the open area of Aspen Park and Conifer. CDOT has created a super four lane highway which will bring many more people to the mountains of Colorado but, in doing so, they have just destroyed the rural character of Aspen Park and Conifer. So, how are we to believe that any of your proposals would " be responsive to community values" and preserve the rural character of a narrow, beautiful valley known as the town of Bailey and Platte Canyon?

1 enclosure (5 pages)

Sincerely yours,

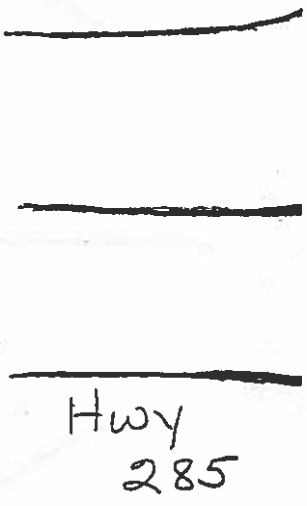
Esther J.M. Steverson

Esther J.M. Steverson
Phone: 303-838-5480

Town of Bailey

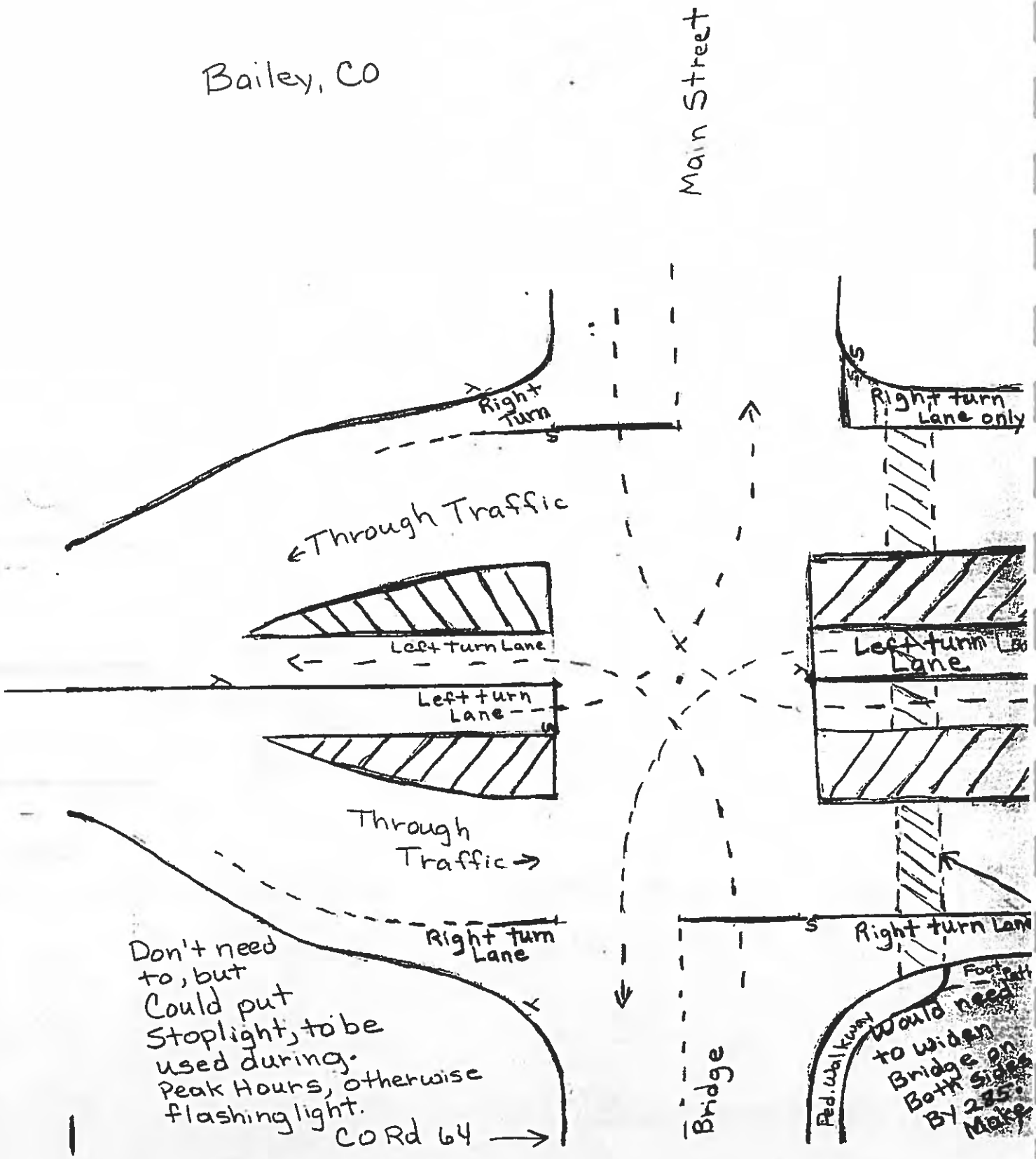
Drawing not to Scale

Proposal for Hwy 285

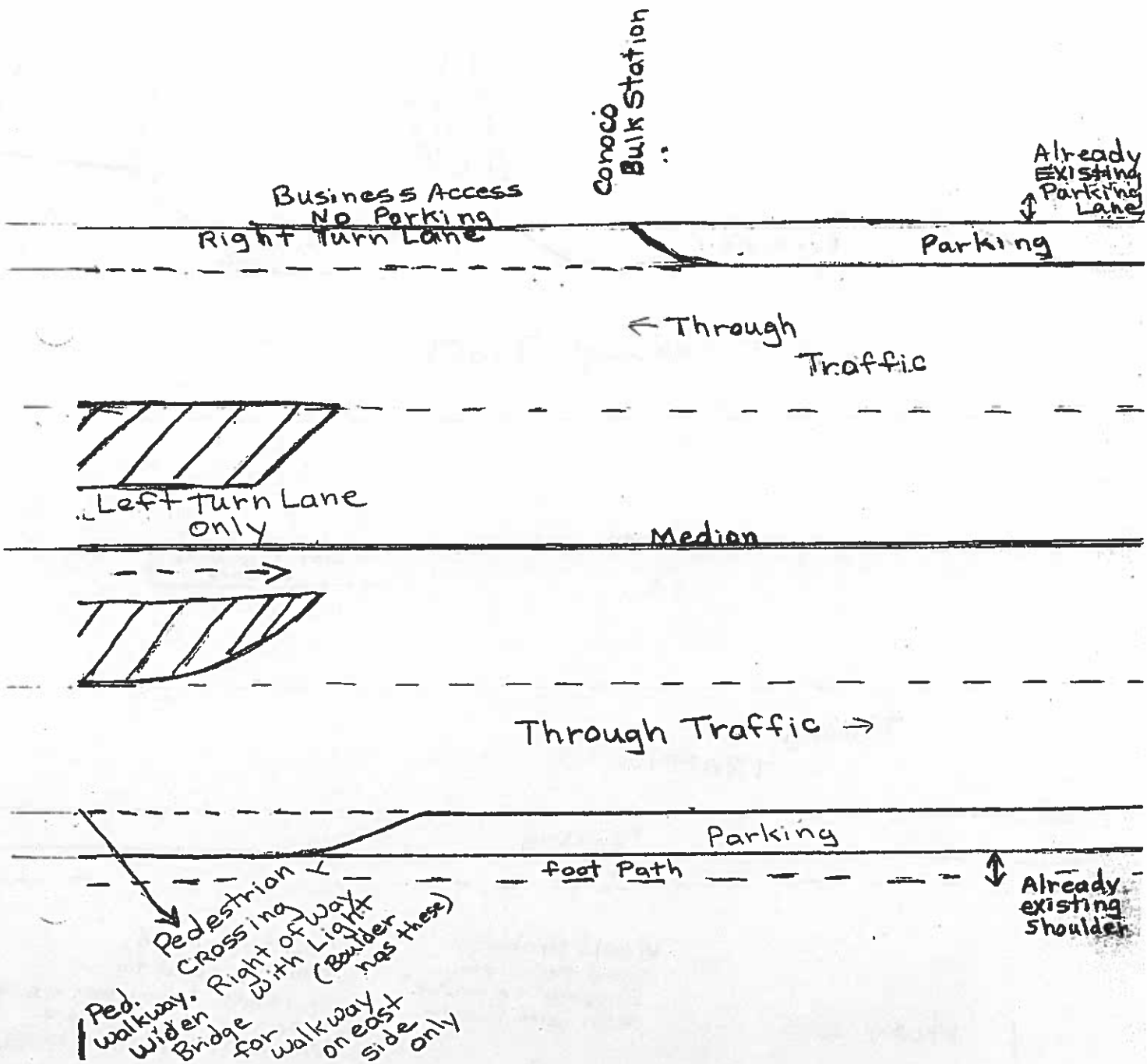


E. Steverson (July 2002)

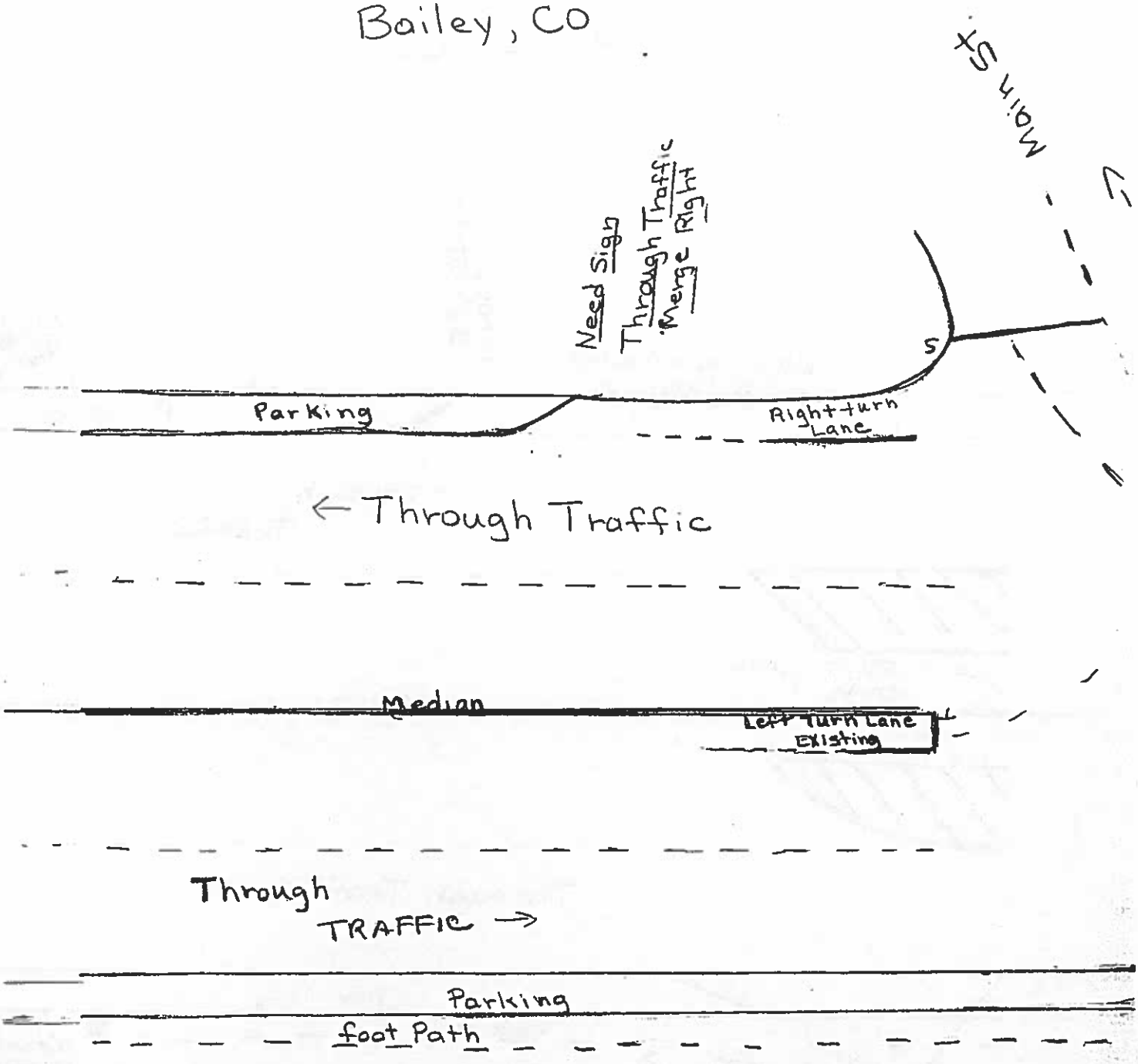
Bailey, CO


Main Street
Right Turn
Right turn Lane only
←Through Traffic
Left turn Lane
Left turn Lane
Left turn Lane
Through Traffic →
Right turn Lane
Right turn Lane
Don't need to, but Could put Stoplight, to be used during Peak Hours, otherwise flashing light.
CO Rd 64 →
Bridge
Ped. walkway
Footpath
Would need to widen Bridge on Both sides By 2.5. Make

Bailey, CO


Conoco Bulk Station
Already Existing Parking Lane
Business Access
No Parking
Right Turn Lane
Parking
← Through Traffic
Left Turn Lane only
Median
Through Traffic →
Parking
foot Path
Already existing Shoulder
Pedestrian Crossing
Right of way with Light
(Boulder has these)
Ped. walkway. Widen Bridge for walkway on east side only

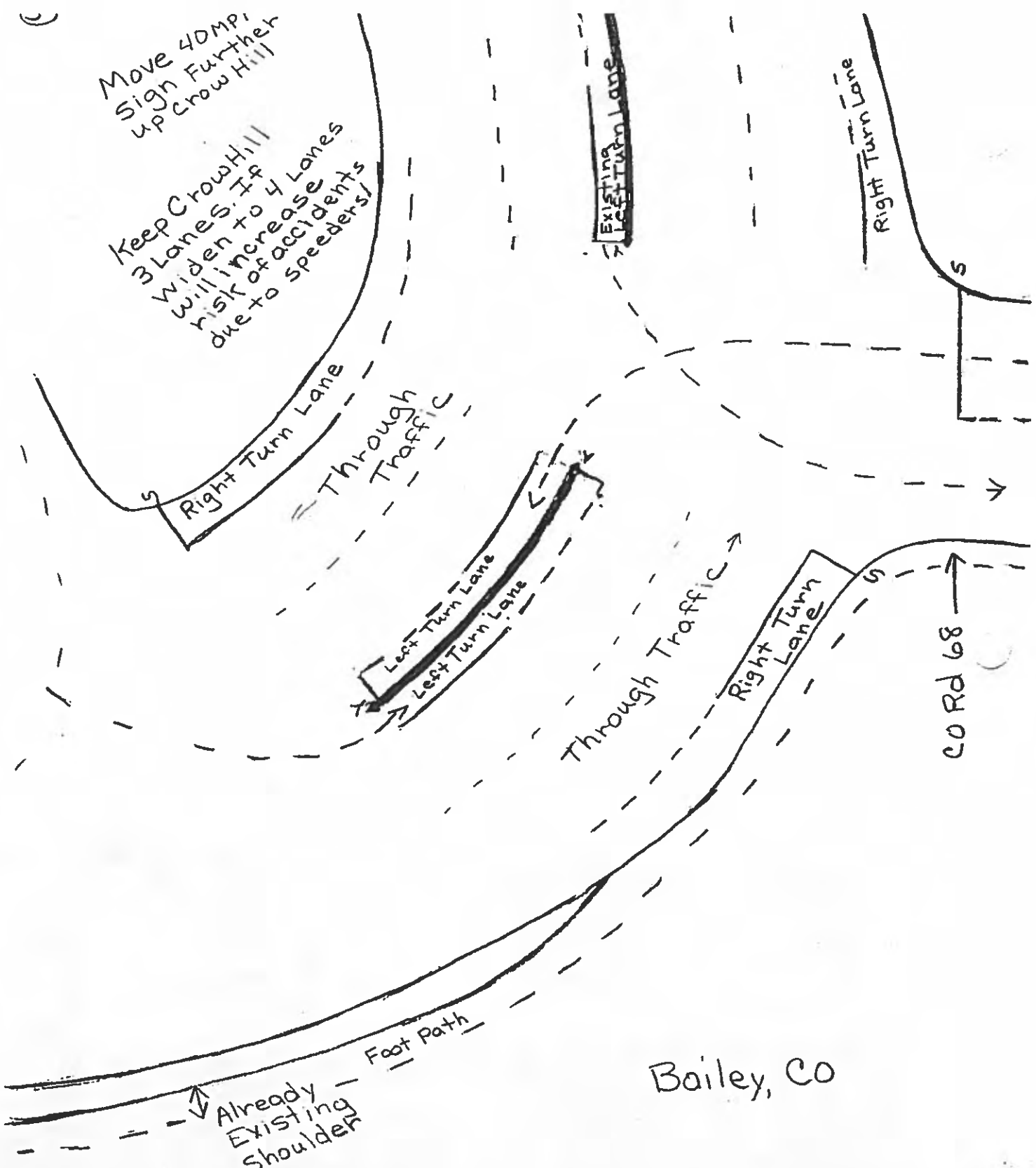
Bailey, CO



Would probably need to widen Shoulder to make foot path larger.

Median would probably need to be made smaller in some — to keep hwy the same + be able to add turn lanes,

Hwy 285



Places

Hwy 285

Carter=Burgess

716 16th Street, Suite 1700
Denver, Colorado 80202
Phone 303 820 5240
Fax 303 820 2402
www.c-b.com

October 14, 2002

Ms. Esther Steverson
Box 212
Bailey, CO 80421

Dear Ms. Steverson:

Thank you very much for your letter dated September 9, 2002. Input such as this really helps us to understand the issues in Bailey and the concerns and desires of residents like you.

We recently sent out three drawings showing possible new alternatives in the Bailey area. You will notice that one of these in particular is very similar to the drawing you sent us, showing minimal improvements in Bailey itself. We will be looking at adding auxiliary lanes like you suggested and their impacts on these alternatives. These auxiliary lanes will require additional right-of-way from adjacent properties and may result in rock cutting along 285.

We have concerns about adding parking on the US 285 shoulder near the businesses on the north side. This raises safety concerns with vehicles slowing and at times stopping on 285 to maneuver into available parking spaces. Shoulders will also need to be widened to accommodate parking vehicles, which would require additional right-of-way from adjacent properties.

We also have concerns about leaving the access to Main Street open and adding left turn lanes and right turn lanes on 285. There are safety concerns with leaving this access open due to limited sight distance for both Main Street and for US 285 traffic.

We will be looking at your other suggestions and incorporating these as appropriate into the preliminary design of our third alternative in Bailey (labeled Bailey-C in the drawings sent to you). We feel that this alternative in particular is more responsive to your concerns of maintaining and enhancing rural character, maintaining or enhancing visual quality and minimizing noise increases.

Again, thanks so much for your input and please stay involved in our process. If you have any additional comments, please feel free to contact us again.

Sincerely yours,

Gina McAfee
Project Manager

cc: Kim Patel

J:_Transportation\us285 EIS\manage\corr\14112_E SteversonReply.doc

Carter::Burgess

707 17th Street, Suite 2300
Denver, Colorado 80202-3404
Phone 303 820 5240
Fax 303 820 2402
www.c-b.com

October 7, 2002

Dear:

We appreciate your attending the meeting that was held on September 11 about the US 285 Environmental Impact Statement project that is just beginning. We also appreciate the comments you gave us, and with that input, have developed some more options in the Bailey area.

The graphics for these three possible options are attached to this letter. They vary in the amount of change proposed in the immediate Bailey area. We are also drawing up a possible Bailey bypass and will have that available at our next public meeting for people to review.

Again, we appreciate your input and encourage you to stay in touch with us through our Web site (www.us285.com), by telephone to Kim Patel at 303-365-7373 or by letter to Kim Patel:

Mr. Kim Patel
Colorado Department of Transportation
Region 1
18500 E. Colfax Avenue #214
Aurora, CO 80011

Thanks again and we hope to see you at our next public meeting.

Sincerely Yours,

Gina McAfee, AICP
Project Manager

cc: Kim Patel
Troy Halouska
Craig Gaskill
Troy Sieglitz

Julie and Lewis Hemion
Bailey Country Store
149 Main Street
Bailey, CO 80421

Leonard Querciolo
The Log Broker
289 Main Street
Bailey, CO 80421

Mike and Cheryl Quaintance
Bailey Liquors
P.O. Box 1760
Bailey, CO 80421

Nicki Shields
Bailey Garden Center
P.O. Box 1209
Bailey, CO 80421

Kristi Miller
Deer Creek Realty
P.O. Box 291
Bailey, CO 80421

Mike and Barbara Pilcher
Knotty Pine Sports
Box 36
Bailey, CO 80421

Allene Sutton
Box 1684
Bailey, CO 80421

Tom Karnowka
P.O. Box 262
Bailey, CO 80421

Don Bertsch
166 River Rd.
Bailey, CO 80421

Walter Mueller
144 River Rd.
Bailey, CO 80421

Donna Malpiede
175 Main St.
Bailey, CO 80421

Jim and Ester Steverson
4820 County Road 64
Bailey, CO 80421

Jane Evig
4887 County Road 64
Bailey, CO 80421

Maxine Solberg
5091 County Road 64
Bailey, CO 80421

Carl Bisgaard
5105 Park County Rd. 64
Bailey, CO 80421

Clyde M. Johnson, Sr.
5150 Park County Rd. 64
Bailey, CO 80421

Randy Dose
70 River Rd.
Bailey, CO 80421

Mondo Bacca
284 Lower Crow Hill
Bailey, CO 80421

Georgina Eck
5034 County Road 64
Bailey, CO 80421

TS Working\Bailey-B.dgn 09/23/2002 01:45:25 PM

...\TS Working\Bailey-A.dgn 09/23/2002 01:44:23 PM

...\TS Working\Bailey-C.dgn 09/23/2002 01:46:06 PM

Halouska, Troy K.

From: Colleen [vance_colleen@sprynet.com]
Sent: Saturday, February 08, 2003 8:33 AM
To: Halouska, Troy K.
Subject: Hwy 285 lane reduction south of Kennedy Gulch and Foxton Road

We live on Resort Drive (off Richmond Hill Road) in the Conifer area. We are writing to request that you monitor the driving patterns where 285 goes back to 2 lanes just south of Foxton Road and Kennedy Gulch. Signage there shows lane reduction, and farther south there is a "right lane ends" sign. Drivers are TOTALLY ignoring the merge signals, and continuing in the right hand lane as though they have the right of way. I have seen several "near misses". Perhaps "Right lane merge" insturction signs a little farther north and on the west (right lane side) of the Hwy would help. This is a dangerous situation, especially at peak drive time. Thank you, and also, thanks for all the wonderful improvements--can't wait for RIchmond Hill intersection improvements-it's also so dangerous!

Colleen Andrus
13205 Resort Drive
Conifer, CO 80433

SIERRA CLUB
FOUNDED 1892

Mount Evans Group
of the
Sierra Club
P.O. Box 2288
Evergreen, Colorado 80437-2288

Feb. 12, 2003

Gina McAfee
Carter Burgess
707 17th Street,
Denver, CO 80202

RE: CDOT Project No. NH 2854-093
Code No. 14112

Dear Gina,

Thank you for organizing the US 285 Wildlife Meeting on January 24, 2003. We received the Meeting Minutes and want to stress several points in addition to adding a few points that may have been overlooked.

1) Fragmentation of wildlife habitat along the Front Range is a critical issue that must addressed by the US 285 DEIS. The DEIS must address the issues of wildlife movement patterns and appropriate mitigation. It is important that every drainage, crossing the highway, have open span structures or open bottomed culverts large enough to address wildlife needs. It is not enough to address the needs of large mammals (deer and elk). The needs of their predators (lions and bears) must be addressed as well. Smaller predators such as coyotes, fox, raccoon and bobcats also need the ability to cross US 285. Large animals need large open span bridges or large open bottomed culverts while smaller animals and their predators need open bottom and/or dual culverts in as many locations as possible. The needs of aquatic life must also be addressed by providing open span or open bottomed culverts to allow their movement across US 285. Such spans or culverts must be wide enough to provide banks for the movement of smaller species as well (beaver, or wolverine [extirpated]).

2) It is very important that the DEIS show the location and type of all planned wildlife crossings for all species, so that the public can evaluate the adequacy of the DEIS.

3) We strongly support large wildlife crossings at both Deer Creek and Shaffer's Crossing as discussed at the meeting. Riparian and wetlands currently exist at these locations and make them critical habitat. Additionally, the fishing ponds at Shaffer's Crossing are for sale in a parcel of either 19 or 56 acres, which makes a crossing in this location feasible. Philip Johnson is the owner of the Rainbow Trout Ranch at Shaffers Crossing. The Shaffer's crossing area also offers the opportunity for the reintroduction of Boreal Toad and we strongly support such an action.

4) Wildlife underpasses need to be protected from development by designated open space; CDOT purchases of land adjacent to the crossings, zoning agreements with the counties, and/or other suitable means, such as purchases by local land trusts, or conservation easements.

5) We strongly support bridges with clear spans as the primary option for wetland preservation and/or restoration in such areas.

6) Regarding issues of safety. Areas of documented auto/mammal conflicts, such as Green Valley and Deer Creek need frequent openings through the highway to allow for wildlife movement in order to reduce such conflicts. Road shoulders need to be designed to encourage wildlife to use wildlife passages. Short fence sections, appropriate ground cover, and trees can be used to channel wildlife in the right direction.

7) Lynx consultation with the US Fish and Wildlife Service should be instituted immediately, if not already in progress, so that the biological opinion can be incorporated early into the NEPA process, and into the planning for US 285. Crossings for lynx, if appropriate for this section, must be implemented.

8) Noise: It is extremely important that the DEIS address the effects of noise on wildlife, and the steps that will be taken to mitigate these effects. The literature on songbirds suggests they avoid noisy areas as it is difficult for them to hear each others calls through the noise from traffic. Likewise black bears also avoid noisy environments which therefore has negative effects on biodiversity, and increases the effects of habitat fragmentation caused by highways.

To ensure that wildlife exist and thrive along the US 285 corridor in the future, it's important to take action now, with this project. We appreciate the opportunity to comment on the DEIS as it is developed and look forward to participating in future discussions.

Sincerely,

Tod Bacigalupi */s/*
Tod Bacigalupi
Chair, US 285 Study Group
Mount Evans Group of the Sierra Club

Jamie Bittle */s/*
Jamie Bittle
US 285 Study Group
Mount Evans Group of the Sierra Club

cc: Troy Halouska
Kim Patel

MEMORANDUM

DEPARTMENT OF TRANSPORTATION
Region 1 - Aurora
18500 East Colfax Avenue
Aurora, Colorado 80011
(303) 365-7373
Fax # (303) 757-9746

DEPARTMENT OF TRANSPORTATION

Project #: NH 2854 – 093
Location: Foxton Rd to Bailey EIS.
Sub-account #: 14112

March 21, 2003

Tod Bacigalupi
Chair, US 285 Study Group
Mount Evans Group of the Sierra Club
12126 Powhatan Trail
Conifer, CO 80433

Jamie Bittle
US 285 Study Group
Mount Evans Group of the Sierra Club

Dear Tod and Jamie:

We really appreciated your attendance at our meeting on January 24. We were pleased with the general direction received at that meeting. We have subsequently met with representatives from Mountain Area Land Trust and the Jefferson County Open Space Department and have discussed possible partnerships for open space preservation purposes. We are planning a meeting later in April with a broader group of possible partners in this effort. If you would like to attend, the meeting will be held on April 30 from 9:00 to 11:00 a.m. at the CDOT Lakewood Residency office (9858 W. Girton Drive, Lakewood, CO).

We would like to provide the following response to the issues you raised in your **February 12** letter:

1. Fragmentation of wildlife habitat will be discussed in the US 285 DEIS, including issues associated with predators, large mammals, small mammals and aquatic resources.

2. The DEIS will show the general location and type of all planned wildlife crossings.

3. The DEIS will disclose the intent to provide large wildlife crossings at Deer Creek and Shaffers Crossing, as well as (potentially) other locations. CDOT is currently considering the purchase of land at the Rainbow Trout Ranch property. The status of this will be discussed in the DEIS

4. The DEIS will provide a status update on the land adjacent to wildlife crossings, including those that are being considered for open space preservation either through conservation easements or outright acquisition.

5. Bridges with long spans are being recommended at key wildlife crossing locations.

6. We have located the wildlife crossings at areas of high vehicle conflict points and will also plan for short fence sections with appropriate vegetation to direct wildlife to these crossings. Road shoulders will be lessened to the maximum amount possible to discourage wildlife from congregating along the road.

7. Lynx consultation with the US Fish and Wildlife Service. The project area does exist within the Mount Evans Lynx Analysis Unit (LAU). However, the project corridor has not been mapped as having any lynx habitat within its boundaries. Development and human and pet prevalence do not allow for the use of this area by lynx.

8. The DEIS will disclose the effects of any additional highway noise on wildlife.

Please continue to stay involved in our process. The process and the outcome are clearly more responsive to your concerns if you stay involved. Feel free to call Kim Patel at 303-365-7373, Deb Angulski at 303-757-9111 or Gina McAfee at 303-820-5232 if you have any questions.

Sincerely yours,

Kim Patel
Project Manager

Halouska, Troy K.

From: William Dooley [wtd3@msn.com]
Sent: Thursday, February 13, 2003 10:22 AM
To: Halouska, Troy K.
Subject: US285 Elk Creek Road, Parker Avenue Intersections.

Dear Mr. Halouska,

I was unable to attend the meeting last evening, but have looked at the alternatives today on the website. Of the ones presented for the Parker/Elk Creek intersections, I would think that only alternatives "B" and "G" would really work for the residents of the Mountain View Lakes and eastern Woodside subdivisions who access US285 at Parker Avenue, as I do. Both alternatives seem somewhat convoluted, but so is the interchange at the Safeway in Conifer, and that seems to be working OK.

I don't know actual numbers, but it would be my guess that there is as much left turn traffic coming out of Parker Avenue (toward Denver) as there is coming out of upper Elk Creek Road. (While I live off Parker, I occasionally jog on upper Elk Creek, so I have an idea about traffic there.) I do know that most of the traffic coming out of Parker (and upper Elk Creek) is headed toward Conifer/Denver for jobs, shopping, schools (beyond elementary), etc. The left turn out of Parker is not difficult most of the time, but can be in the early evening when there's a lot of outbound traffic from Denver. Fridays are particularly bad.

It looks like the various alternatives with a 3/4 intersection at Parker Avenue provide only for a turn into Parker from the Denver bound lane, not a turn toward Denver from Parker. Perhaps I am reading this wrong. That would not be acceptable as it would require a detour to Pine Junction for the majority of traffic coming out of Parker.

An intersection like the current one at Parker Avenue *could* be acceptable, if it is acceptable to CDOT to have the left turns across 285 at that point. The area served by Parker Avenue will not see much additional growth, so a large increase in traffic coming out of Parker Avenue should not be anticipated. That said, the difficulty of turning out of Parker toward Denver between 4 and 7:30 pm will become greater with the additional development planned in Park County. The "B" and "G" alternatives are definitely better.

The one thing that really seems to set the "G" alternative above the rest is the tie-in to the road serving Elk Creek Elementary School. The left turns by school busses there are a tragedy waiting to happen. Safe access to the school needs to be incorporated into any final plan.

In that vein, perhaps it would be possible to treat Parker and Elk Creek Elementary as a separate issue from the intersection at Elk Creek Rd.

Finally, a traffic signal at Elk Creek Road would be incredibly dangerous. There would be rear end collisions there with every snowfall, and I'd be scared to death of some truck coming down the hill from Kings Valley every time I would have to stop there headed towards home. Besides, I thought that much of the idea here was to eliminate the traffic signals. That makes great sense. Everyone here knows the incredible impact on traffic flow that accompanied the end of the signals at Safeway and Foxton Road.

Sincerely yours,

Bill Dooley

33336 Diana Road
Pine CO 80470
wtd3@msn.com

Halouska, Troy K.

From: Rbrdunn@aol.com
Sent: Monday, February 17, 2003 2:48 PM
To: Halouska, Troy K.
Subject: Mt. Evans Boulevard and 126 intersection

Dear Mr. Halouska,
I am a concerned home owner with my property backing 285 just south of the junction but before the business log buildings and Wandcrest. Ours is one of two homes that are literally on the highway fence and will be affected dramatically. It looks as if most the widening may be taking place on the south side rather than using or taking the abandoned road to the North just south of the junction. My concerns are these; there is a very steep grade directly behind my house up to the highway with a drainage directly behind my home not allowing any further ability to change its drainage without encroaching on my property unless eliminated. This drainage is a huge concern. Also wondering if anyone has actually walked the set backs to see how close our two homes are to the line and are there possible buy outs of property being discussed? This will effect my family and our property values profoundly. The embankment and its growth is our homes only sound and privacy barrier. My daughters bedroom is closest to the highway, which has protected us once already from a vehicle actually colliding into our home where by the trees acted as a barrier. Regretfully I was unable to attend the most recent work shop February 12, and some of this may have been addressed, but the representative I talked to in the July workshop at Elk Creek fire station actually was under the idea that there were no residence between the junction and south to the commercial log buildings before Wandcrest.
Thank you for your time and consideration in this matter.

Sincerely,
Rick and Beth Dunn (303) 838-5188
34473 Ella Ave rbrdunn@aol.com
Pine CO 80470

Halouska, Troy K.

From: Solutions
Sent: Monday, February 17, 2003 2:11 PM
To: Halouska, Troy K.
Subject: us285 Comments

First Name: Rick

Last Name: Dunn

Address: 34473 Ella Ave

City: PINE

State: Co

Zip Code: 80470

Phone: 303-838-5188

Fax:

E-mail: rbrdunn@aol.com

Mailing List: Add me to the Mailing List

Interest: Property Owner-Primary Residence

Business Name:

Additional Comments: My home is right on 285 at the junction of Mt. Evans and 126,and would like to know if properties are being bought out for this intersction and widening. It looks to be encroaching on the south side rather than taking the abandened road on north, just south of intersection.

Feb-24-2003

US 285 Environmental Impact Statement

COMMENT SHEET

I have the following comments or questions about the US 285 (Foxton Road to Bailey) EIS project:

To Troy Halouska

I was at the meeting held in the fire house at the top of Crow Hill. It was a good meeting but I didn't have much to say at that time. Now I would like to say I have a cabin at the top of Crow Hill about sixty feet from the highway fence line this is also the property lines of unit #2 Double C. Acres. Highway 285 is four lane from the top of Crow Hill for about 1 mile down to almost the start of Mable Line. If you are trying to turn right at Mable Lane 285 narrows to three lanes making it hard to turn right. This should be corrected. Also a left turn lane coming up from Bailey would help a lot. If you have to widen the highway at the top, I would hope this could be done on the east side of 285. 285 is in good shape and could be left as is. I am enclosing a survey of unit 2 double C. Acres. I own 1+2 and a small triangle to the north of Unit #2. I would be glad to talk with you at anytime. I have owned this property for about 5 years. Also I built this cabin.

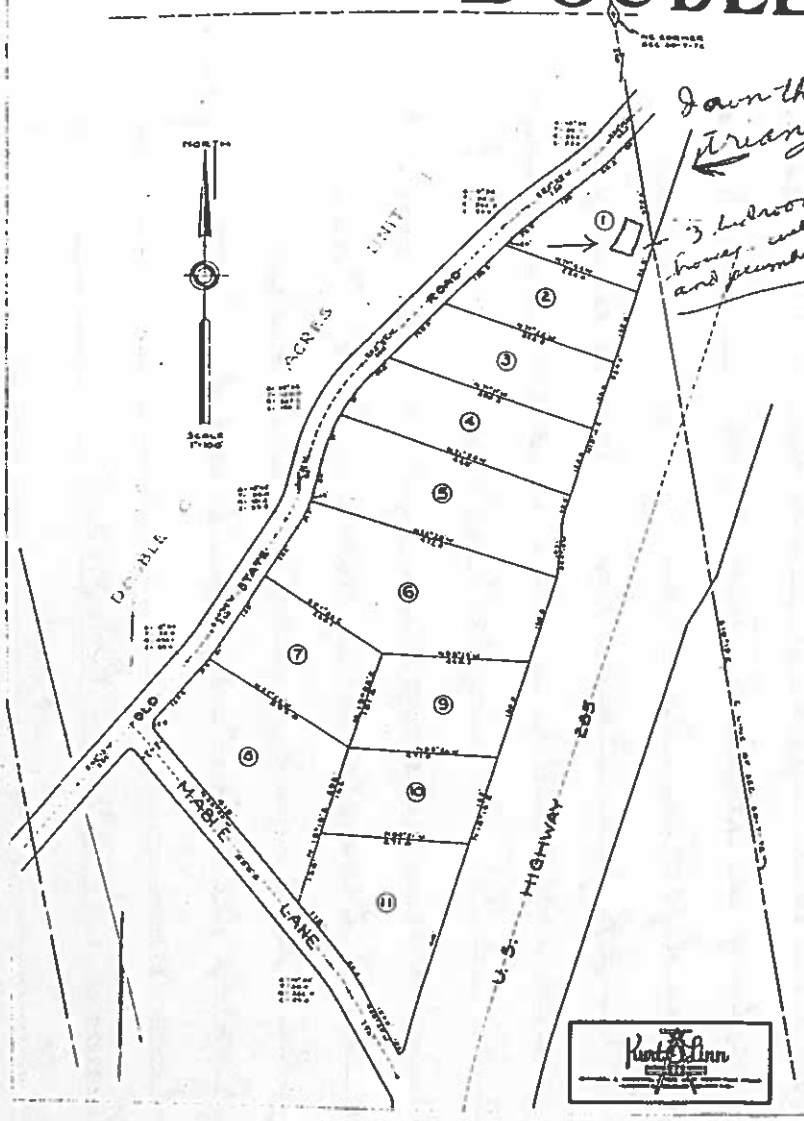
Name:	Oscar L Summers
Address:	790 So Canosa Ct Denver Colo. 80219
Phone: 303	934-4453 e-mail:

(above information is optional)

thank you very much

DOUBLE C ACRES

UNIT 2



DEDICATION

KNOW ALL MEN BY THESE PRESENTS: That the undersigned, being the owners of that portion of the East ½ of the North-East ¼ of Section 20, Township 7 South, Range 72 West of the 6th P.M., Park County, Colorado, shown as platted in the accompanying map, have laid out, subdivided, and platted the same into lots, and Mabie Lane, under the name and style of Double C Acres — Unit 2, and do hereby dedicate and convey to Park County, in fee simple, for public use, the aforesaid Mabie Lane.

_____ Carl L. Hetteler

_____ Mable C. Hetteler

ACKNOWLEDGEMENT

State of Colorado }
County of Jefferson } ss

The foregoing Plat and Dedication of Double C Acres - Unit 2, were acknowledged before me this _____ day of May A.D. 1960, by Carl L. Hetteler and Mable C. Hetteler.

My Commission Expires August 28, 1962.

Witness my Hand and Official Seal.

_____ Notary Public.

SURVEYOR'S CERTIFICATE

I, Kurt O. Linn, do hereby certify that I am a Licensed Land Surveyor in the State of Colorado, and that the survey and Plat of Double C Acres - Unit 2, were made by me and under my supervision and instruction, and that both are accurate, and true to the best of my knowledge and belief.

Dated this 5th day of May, 1960

APPROVALS

The foregoing Plat is accepted for filing, and conformance of the roads therein is approved by the Board of County Commissioners of Park County this _____ day of May, 1960; subject to the provision that the County shall not undertake the maintenance of said roads until satisfactory construction thereof on the subdivision.

_____, Chairman

_____, Clerk.

Accepted for filing in the Office of the Park County Clerk & Recorder this ___ day of ___ 1960 at ___ M.

_____, Clerk & Recorder

Reception No. _____

28 February 2003

Mr. Oscar L. Summers
790 South Canosa Court
Denver, CO 80219

Dear Mr. Summers:

Thank you very much for your comments about the US 285 EIS project. Your comments were forwarded to the appropriate project staff for their review.

I am returning the drawing that you sent. We made a copy and have it on file.

If you have any further comments or questions, please do not hesitate to contact me.

Sincerely,

Troy Halouska
Environmental Planner
Carter & Burgess, Inc.

Carter:Burgess

707 17th Street, Suite 2300
Denver, Colorado 80202-3404
Phone 303 820 5240
Fax 303 820 2402
www.c-b.com

February 25, 2003

Russ Hummel
P.O. Box 23
Grant CO 80448

Dear Mr. Hummel:

Thank you for your comments regarding the potential US 285 improvements at the public open house on February 12th. I would like to take this opportunity to address your concerns.

You noted that there have been surveys for the road to bypass Bailey and to build a dam, and that this wasn't identified at the meeting. We did contact the Denver Water Board regarding the previously proposed dam. The Esterbrook Dam was one of several considered during a Feasibility Study of dam locations. This dam would have flooded Bailey and required US 285 to be relocated. This particular dam was screened out early in the process from further consideration in favor of the Two Forks Dam. The Two Forks Dam was subsequently rejected by the Environmental Protection Agency. Based on our discussions with the Denver Water Board, there has been no further consideration of any of the dams.

The traffic forecasts for US 285 show that by Year 2025, four through lanes will be required between Foxton Road and Park County Road 43 (Deer Creek Road). Without these improvements, travel times in the corridor are expected to increase by as much as 100% with a much higher likelihood of increased accidents.

Thank you again for providing us input into the US 285 EIS process. We are in the process of developing and evaluating an improvement plan for US 285 and will provide additional opportunity for input in the future. Please do not hesitate to contact me if you have any further comments or concerns.

Sincerely,

Troy Halouska
Environmental Planner

J:_Transportation\us285 EIS\manage\corr\14112_Public Comment Ltr.doc

Halouska, Troy K.

From: Solutions
Sent: Thursday, April 03, 2003 9:04 PM
To: Halouska, Troy K.
Subject: us285 Comments

First Name: Dr. Lori

Last Name: Johnson

Address: 66529 U.S. Highway 285

City: Bailey

State: CO

Zip Code: 80421

Phone: 303-838-7494

Fax: 303-816-0992

E-mail: lonerockvet@msn.com

Mailing List: Add me to the Mailing List

Interest: Business Owner

Business Name: Lone Rock Veterinary Hospital, 66529 U.S. Highway 285 bailey CO 80421

Additional Comments: I have concerns regarding the Rim Rock Rd./Wisp Creek Road Conceptual Alternatives graphic that was presented at the Second Public Workshop on February 12, 2003. I was not able to attend this workshop, but visited the website and reviewed the materials.
I currently have direct access from Highway 285 to my Business. This graphic depicts an overpass originating from the Will o the Wisp development, crossing 285, onto a frontage road. This would completely block direct access to my driveway from either direction of travel on 285. Customers would be forced to make a loop in order to arrive at my driveway, regardless of the direction from which they are coming. This situation is not acceptable to me.
I currently own the largest veterinary facility in Park County and provide a revenue base and service to the county. I am planning to start construction of a new Hospital on my current site later this year. I have site plans showing the location of the new building in relation to the current driveway and frontage road.
I would like to discuss this matter as soon as possible with someone representing the consultants performing this study, Carter & Burgess. I am assuming these comments are being forwarded to Mr. Troy Halouska in Denver. Please feel free to call me at your earliest convenience.

Halouska, Troy K.

From: Solutions
Sent: Tuesday, April 08, 2003 11:32 AM
To: Halouska, Troy K.
Subject: us285 Comments

First Name: Willian

Last Name:

Address:

City:

State:

Zip Code:

Phone:

Fax:

E-mail:

Mailing List: Add me to the Mailing List

Interest: Property Owner-Primary Residence

Business Name: Usher Appraisal Service,, P. O. Box 246, Pine, CO 80470

Additional Comments: In the future planning it would be nice if the median in downtown Bailey could be replaced with something more attractive thatn what it is there now.

April 17/3

Dear Troy Halouska and Carter Burgess

Thankyou for your support of frequent wildlife crossings for both large and small animals on the new 285 highway plans.

I feel it is extremely important to preserve wildlife habitat as we expand the highway corridor.

Sincerely,

Ellen Macfarlane

-RE- 285 - Foxton to Bailey

Sir: 4-12-03

I Belive you have over Looked, at the WildLife Crossings --- There is more then just - TWO -

1 - the Elk Creek Fire house" 285
2 - the Shaffers Hill, into Shaffers - cro and Shaffers - crossing -
3 - Just past, Mt Evans Road, into Park County - Pine Jct.
4 - the Cemetary past, O-Malleys -
5 - the TOP of Bailey Hill or Crow Hill -!

- quite frequently cross here at these POINTS ---

at # 5 - last week, 3 deer were - Killed - in one week alone!

Elk, cross at, # 4, - all the time!

at # -1- several Elk crossed Last Year - 5 - were Killed in Jan 02 please - Explore more closely, Before Starting The Improvements of 285

Thanks J E Harfeist [redacted] 11299

(4-22-03)

...ember of the
...ierra Club

Conifer CO

Carter::Burgess

Communication Confirmation

CDOT Project No. NH 2854-093
Code No. 14112

Project: U.S. 285 (Foxton Road to Bailey) EIS

Purpose: Homeowner contact

Date: May 8, 2003

Contact: Kathleen Kozell, 241 Rangeview Dr. Bailey

Copies: Kim Patel, Bob Mero, Gina McAfee, Jeff Wilson, Troy Halouska, C&B Project File #070306405

Summary of Discussion:

1. Kathleen had missed the neighborhood meeting for the Rim Rock area as she had not received a notice until after the meeting was held. I explained this was a locally organized meeting that we had been invited to. She is aware of the next meeting on May 15th.

2. Kathleen lives on the end of Rangeview Dr and has three concerns with the project:

    a. Location for snowplows to dump snow – County plows currently dump snow at the end of the road which is being removed per our plans.

    b. Ability to back out of her driveway – She currently backs out of her driveway into the stub end of Rangeview Dr. which is being removed per our plans. Other cars who drive to the end of Rangeview also use this stub end and her driveway.

    c. Noise – Noise is already very loud and removing trees and rock outcrops will make it worse. I explained that a noise study is being done as part of the DEIS.

CRG Suggested action items:

1) Consider turnaround and snow storage for Rangeview Dr. and revise plans if appropriate.

2) Check that this house is considered in the noise analysis.

Note: this shows on map 12 of concept design set (last house on Rangeview Dr.)

Carter Burgess

CDOT Project No. NH 2854-093
Code No. 14112

Communication Confirmation

Project: U.S. 285 (Foxton Road to Bailey) EIS

Purpose: Homeowner contact

Date: June 17, 2003

Contact: Bill Ellington for Kathleen Koch, P.O. Box 508, Pine, CO 80470

By: Craig Gaskill

Copies: Kim Patel, Gina McAfee, Troy Halouska, Amy Wiedeman, C&B Project File #070306405

Summary of Discussion:

Kathleen has the house located on the southwest corner of US 285 and JCR 126. I returned her call that resulted in a discussion with Bill (he lives in the house). Their concern is whether the US 285 project would affect their plans to construct improvements to the house.

Bill noted that the house is on Ella Street and the Western Jefferson County Plan shows Pine Junction as an activity center. The Plan shows this quadrant of land being scheduled for commercial.

I explained that the plans result in a take of the house and the associated garage. I also agreed to send him the plans.

He had a question about timing and I explained that the project is currently not funded and construction will depend largely on the economy, future funding, and transportation priorities. I gave him a potential range of between 5 and 20 years.

I left him my number so either one of them could call me back with additional questions.

J:_Transportation\us285 EIS\manage\pubinv\14112_phone contact BillEllington061703.doc

Halouska, Troy K.

From: Solutions
Sent: Tuesday, June 17, 2003 1:48 PM
To: Halouska, Troy K.
Subject: us285 Comments

First Name: Jason

Last Name: Gregory

Address: 2985 County Road 72

City: Bailey

State: CO

Zip Code: 80421

Phone: 303 850 0930

Fax:

E-mail: JGREGORY@GREYSTONE.US

Mailing List:

Interest: Property Owner-Primary Residence

Business Name:

Additional Comments: Please, no more grooved pavement.

Bentley, Elizabeth J.

From: Halouska, Troy K.
Sent: Wednesday, July 30, 2003 3:47 PM
To: Bentley, Elizabeth J.
Subject: FW: US 285
Follow Up Flag: Follow up
Flag Status: Flagged

Here's one more for 285...

-----Original Message-----
From: Curtis.Lout@ch2m.com [mailto:Curtis.Lout@ch2m.com]
Sent: Wednesday, July 23, 2003 8:36 AM
To: Halouska, Troy K.
Subject: US 285

I would like to be added to your mailing list. THANKS!!

Curt Lout
28 Royal Dr.
Bailey, CO
80421

Curt Lout
Web/Multimedia Developer

CH2M HILL
BDS - CREATIVE SERVICES
Direct Line - 720.286.2562
Fax - 303.846.2562
clout@ch2m.com

Bentley, Elizabeth J.

From: Halouska, Troy K.
Sent: Monday, August 18, 2003 9:42 AM
To: Bentley, Elizabeth J.
Subject: FW: us285 Comments

Please add to the 285 mail list...

-----Original Message-----
From: Solutions
Sent: Friday, August 15, 2003 12:57 PM
To: Halouska, Troy K.
Subject: us285 Comments

First Name: Kevin

Last Name: Maddoux

Address: 7951 E. Maplewood Ave. Ste. 200

City: Greenwood Village

State: CO

Zip Code: 80111

Phone: 303-721-1440

Fax:

E-mail: kevin.maddoux@fhueng.com

Mailing List: Add me to the Mailing List

Interest: Recreational Use

Business Name:

Additional Comments:

Bentley, Elizabeth J.

From: Halouska, Troy K.
Sent: Friday, August 22, 2003 8:15 AM
To: Bentley, Elizabeth J.
Subject: FW: mailing list

-----Original Message-----
From: F Dwain Raulerson [mailto:KB0QBF2@msn.com]
Sent: Thursday, August 21, 2003 7:54 PM
To: Halouska, Troy K.
Subject: mailing list

Hi please put me on your mailing list for US 285 project Thank you
KB0QBF2@msn.com
F. Dwain Raulerson
P.O. BOX 276
PINE COLORADO 80470-0276

Carter::Burgess

707 17th Street, Suite 2300
Denver, Colorado 80202-3404
Phone 303 820 5240
Fax 303 820 2402
www.c-b.com

August 18, 2003

Jean Capps
12464 Highway 285
Conifer, CO 80433

RE: US 285 Environmental Impact Statement

Dear Ms. Capps:

Per your request at the public meeting, two copies of the graphics showing the alternatives for the Kings Valley grade-separated intersection are enclosed.

If you have any further questions, feel free to call me.

Sincerely,

Gina McAfee
Project Manager

GM:ejb

Enclosures

cc: File

J:_Transportation\us285 EIS\manage\corr\14112_Capps_081803L.doc

Mr. Troy Halouska
Carter & Burgess
707 17th St., Suite 2300
Denver, CO 80202

August 24, 2003

Re: US285 Foxton Rd. to Bailey EIS/Comments from August 13, 2003 Public Workshop

Mr. Troy Halouska:

At the workshop, I was informed that the expansion near the top of Crow Hill would entail a retaining wall along my property line which runs adjacent to the highway. No one at the meeting seemed to know how tall it would be, but Kirk Webb from your office was kind enough to take make name and phone number and I was surprised to get a response from him the very next day. He informed me that the retaining wall would be 30 feet tall! He also informed me that there no plans to give the wall an aesthetic appearance; it would just be a gray concrete wall, 30 feet tall. To this end I have the following comments and concerns:

1. This wall is certain to have an economic impact on my property value. Currently the rock and dirt used as backfill for the existing highway, at least gives an appearance of a mountain scene. Numerous pine and aspen trees have grown up on the slope which are pleasing to the eye as well as providing some kind of sound barrier from the traffic noise.
2. The leaching field which is part of my septic system, runs along this boundary and I have concerns that it may incur damage from the heavy equipment that will be used for the expansion. The weight of the wall may also cause the ground to shift over time, which could also impact the system.
3. The expansion will move the highway closer to my house. Are there any plans for a sound barrier? Could the trees that are there now be replanted?
4. Every year CDOT spreads sand on the highway when it snows; I currently have a problem with the sand from the top of Crow Hill washing through a culvert onto my property during heavy rains. What considerations have been given to drainage for this project?
5. If the highway is closer to the edge of this retaining wall, what will keep the snow from falling onto my property when it is plowed?
6. If there is no sound barrier, what kind of guardrail is being planned for this section?
7. Structurally, will the wall design be capable of withstanding an earthquake of a severe magnitude, say a 6.0 or 7.0 on the Richter scale.
8. How will CDOT deal with some of these issues? Will they be contacting those of us who live next to the highway?

I also noticed from the map at the meeting that just down from my property, the median strip would disappear and that the southbound highway would not be expanded to two lanes. I was told that this was due to the fact that the volume of traffic didn't warrant the extra lane. If this is the case, I question the need to expand the highway with a median on the section along my property as well. I do however see the need for the shoulders for vehicles to pull off in an emergency. Eliminating the median along this section might however reduce the overall height of the retaining wall making it less of an eyesore for those of us living here. I realize that there is a substantial volume of rock to be removed from the rock falls at the top of the hill. Does the 30-foot wall represent the actual cubic yards of material which need to be displaced, or is the wall a result of just widening the highway for the two shoulders and median strip?

I appreciate the opportunity to express my views regarding the highway expansion along my property as well as the fact that your people are so responsive to all of our questions.

Gregory J. Nuebel
705 Old State Rd.
Bailey, CO 80421-1850
(303)838-2374 nmusic@bewellnet.com

Carter:Burgess

707 17th Street Suite 2300
Denver, Colorado 80202-3404
Phone 303 820 5240
Fax 303 820 2402
www.c-b.com

September 9, 2003

Gregory J. Nuebel
705 Old State Rd.
Bailey, CO 80421-1850

Dear Mr. Nuebel,

Troy Halouska forwarded your letter of August 24, 2003 regarding US 285 Foxton Road to Bailey EIS to me. Thank you again for attending the August 13, 2003 Public Workshop and providing both verbal and written comments on the US 285 EIS. Our intent is to provide the best overall plan for future improvements to the US 285 corridor. We can only do this by listening to the affected homeowners, highway users, affected agencies, and other interested parties. We appreciate your concerns as expressed in your letter. Our following comments should help address some of your questions given the current stage of planning.

Concept Roadway Plans

The current concept plans do show the full four-lane section with median being narrowed down to the existing section without median and full shoulders south of your house. The full section was continued south of PCR 43 over the top of Crow Hill to avoid a change of section in the limited sight distance area at the top. This is a conservative approach, typical at this level of planning. During preliminary or final design, it may be found that it is more appropriate to reduce the full four-lane section closer to the top of Crow Hill given a more detailed analysis of sight-distance, accidents, and design standards.

Retaining Walls

The plans also include 10-foot shoulders and a 3:1 fill slope. In the area of your house, the 3:1 fill slope is shown ending at a retaining wall to minimize impacts to property. During preliminary or final design, it may be found that it is more appropriate to build the retaining wall closer to the edge of highway. This would affect the wall's location and height. Further examination of the concept design plans show that the currently proposed retaining wall in this area varies in height from 3 to 40 feet. All walls would be built to withstand design forces and include factors of safety. Seismic forces are considered a design force and vary by location.

Drainage

We are aware of the existing culvert that drains close to your house. Existing drainage patterns would be maintained but a full hydraulic study would be completed during final design to address any existing deficiencies or anticipated problems.

Noise

A noise study is currently being conducted for the corridor. It will be looking at all potentially affected receivers along US 285. The upcoming Draft EIS will provide more information on this. This draft is expected in early 2004.

Aesthetics

The Draft EIS will be proposing that during the design process a citizens advisory committee should be formed to provide advice on bridge and wall treatments. This may result in aesthetic treatments but it will probably be a case-by-case basis. The planting of trees is also on a case-by-case basis. You may want to review the aesthetic treatments provided during the construction of US 285 north of Foxton Road for an example of what might occur on future phases.

Snow and Ice

The current concept design plans show widening closer to your house by approximately 20 feet. From this we could probably expect that snow from plowing operations will be approximately 20 feet closer to your house. This does not appear to be an existing problem but if you think it will be in the future, further study could potentially affect the final location of the wall or slope treatment.

Construction Impacts

During final design, any facilities that may be affected by construction operations will be addressed, either by mitigation, construction techniques, easements, or acquisitions. For example, if a leaching field is directly impacted, it may be reconstructed.

Thank you again for you input and I hope our comments above answered most, if not all, of you questions. As the EIS progresses and eventually moves into preliminary and final design, these issues will be studied in more detail resulting in more clarity and resolution. Given the current state of funding, we do not expect much design or construction to take place in this segment for many years. If you have any further questions or comments please do not hesitate to contact either Troy or myself.

Sincerely,

Craig Gaskill
Design Manager

cc: Kim Patel, CDOT
Gina McAfee
Troy Halouska
File

J:_Transportation\us285 EIS\manage\corr\14112_US 285EIS_Nuebel_090903ltr.doc

Carter::Burgess

Communication Confirmation

CDOT Project No. NH 2854-093
Code No. 14112

Project: U.S. 285 (Foxton Road to Bailey) EIS

Purpose: Homeowner contact

Date: September 3, 2003

Contact: Beth Dunn, 34473 Ella Ave. (Pine Junction), Pine, CO 80470 - 303-838-5188

By: Craig Gaskill

Copies: Kim Patel, Gina McAfee, Troy Halouska, C&B Project File #070306405

Summary of Discussion:

1. Beth's husband, Rick had attended the open house in August and was concerned about noise and impacts to their house. Beth had previously talked to Troy Halouska but had additional design questions for me.

2. They have a 50' deep cistern well on their property and are concerned that construction could damage it. They are also concerned that their house, built in the 1930's) will be damaged during construction activities. I said that before construction takes place, consideration will be given to any well, septic systems or other facilities that could be impacted.

3. From Beth's description of their property, I identified their house and separate studio at Station 390+30 right. Based on this I provided the following information from the concept design plans:

    a. The offset from the NW corner of their house is approximately 65 feet to the roadway retaining wall. The offset from the separate studio is approximately 35 feet to the roadway retaining wall
    b. The retaining wall height from existing ground in this location varies from 17 feet on the east to 23 feet on the east.
    c. A separate noise study is being conducted for the study and will consider their house. This noise study has not been completed.
    d. The frontage road that is supported by the retaining wall will be two-way and will connect businesses on the southeast side of US 285 with CR 126 and Wandcrest Dr./Sunset Boulevard.
    e. During the design process, a citizens advisory committee would be formed to provide advice on wall treatments.

Action items:

1) Send Beth and Rick the current concept design plan sheet with wall heights indicated and an aerial view with the concept design overlaid. (This has been done)

2) Beth requested that at some point, we meet with them to review the proposed improvements on the ground. She suggested that next time we have a meeting in the area, let them know.

J:_Transportation\us285 EIS\manage\pubinv\14112_phone contact Beth Dunn090303.doc

Bentley, Elizabeth J.

From: Halouska, Troy K.
Sent: Wednesday, September 10, 2003 9:28 AM
To: Bentley, Elizabeth J.
Subject: FW: US285

-----Original Message-----
From: Jamie Bittle [mailto:jamiebittle@earthlink.net]
Sent: Tuesday, September 09, 2003 9:56 PM
To: Halouska, Troy K.
Subject: US285

Please add my name to the 285 mailing list. Thank you.

Jamie Bittle
jamiebittle@earthlink.net
PO Box 5037
Buffalo Creek, CO 80425

Bentley, Elizabeth J.

From: Webb, Kirk S.
Sent: Thursday, September 25, 2003 10:45 AM
To: Bentley, Elizabeth J.
Subject: US 285 mailing list

Liz,
Can you make sure that the following persons get put on the US 285 mailing list? I just talked to them, and are interested in the project because they own property up there, but do not live there.

Dale and Nancy Johnson
10154 W. Hawaii Pl.
Lakewood, CO 80232
303-980-5950

Thank, Kirk

Kirk Webb
Environmental Planner
Carter & Burgess, Inc.
303-223-5852
webbks@c-b.com

Bentley, Elizabeth J.

From: Halouska, Troy K.
Sent: Monday, November 03, 2003 7:50 AM
To: Bentley, Elizabeth J.
Subject: FW: US 285 Foxton Road to Bailey

-----Original Message-----
From: Ronald Rosson [mailto:rrosson@worldlinkisp.com]
Sent: Sunday, November 02, 2003 5:46 PM
To: Halouska, Troy K.
Subject: US 285 Foxton Road to Bailey

Please add us to your mailing list for the 285 project.

Ron & Linda Rosson
614 Spring Valley Road
Bailey, CO 80421

Bentley, Elizabeth J.

From: Halouska, Troy K.
Sent: Monday, November 03, 2003 8:48 AM
To: Bentley, Elizabeth J.
Subject: FW: US285 foxton Road to Bailey

-----Original Message-----
From: Mike Welch [mailto:MWelch@jfsato.com]
Sent: Monday, November 03, 2003 8:50 AM
To: Halouska, Troy K.
Subject: US285 foxton Road to Bailey

Please add me to your mailing list. Thanks.

Mike Welch
30494 Kings Valley Drive
Conifer CO 80433

mjwelch7@earthlink.net

Bentley, Elizabeth J.

From: Gaskill, Craig R.
Sent: Tuesday, November 04, 2003 5:06 PM
To: 'jlang'
Cc: Halouska, Troy K.; Bentley, Elizabeth J.
Subject: RE: US 285 Foxton Road to Bailey Project

Mrs. J. D. Lang,
I will send you copies of the concept design on aerial photos for the area you requested. I checked with our web person and although the August 13, 2003 meeting graphics are on the web site, the full corridor map was not included due to it's size and format. The area at Station 396 (just west of Mt. Evans Blvd./JC. 126) is shown on the website. The link to the meeting graphics is in the lower left, and the specific exhibit is on page 2 of the meeting graphics under Pine Junction. The current plan is Configuration #3.

-----Original Message-----
From: jlang [mailto:jlang@qadas.com]
Sent: Sunday, November 02, 2003 6:10 PM
To: Gaskill, Craig R.
Subject: US 285 Foxton Road to Bailey Project

Mr. Craig Gaskill;
I spoke with you during the August 13, 2003 Public Workshop for the US 285 Foxton Road to Bailey Project held at the Platte Canyon Fire Station. I have checked the www.us285.com website a number of times and have not found a current map with the proposed route for the 285 highway project in the Pine Junction area, from Mt. Evans Boulevard past Wandcrest and south of proposed Sunset intersection, including Station 396.

I am requesting that you send me a legible map of the proposed route and any alternatives that are still being considered as viable for the US 285 project in the Pine Junction Area (Segment 5) in particular from Mt. Evans Boulevard, past Wandcrest, to south of the proposed Sunset intersection,including specifically the area of Station 396.

Please provide/send this map in a timely manner (e.g. within 14 days) to the following address:
Mrs. J. D. Lang
43 Mt. Evans Boulevard
Pine Junction, CO 80470

If this map is not available to the public, provide reason why and provide CDOT contact name where the public can obtain this map.

Thank you for your assistance,
J. D. Lang

Bentley, Elizabeth J.

From: Halouska, Troy K.
Sent: Thursday, November 06, 2003 2:01 PM
To: Bentley, Elizabeth J.
Subject: FW: us285 Comments

Hi Liz,

Can you please make sure she is on the mailing list. I think she is already. Thanks.

-----Original Message-----
From: Solutions
Sent: Monday, November 03, 2003 3:30 AM
To: Halouska, Troy K.
Subject: us285 Comments

First Name: Juliet

Last Name: carlson

Address: 12997 South Elk Creek Road

City: Pine

State: Colorado

Zip Code: 80470

Phone: 303 816-4047

Fax:

E-mail: juliet@virtuallydirt.com

Mailing List: Add me to the Mailing List

Interest: Business Owner

Business Name: Elk Creek Sand & Gravel LLC

Additional Comments: Commercial aggregate hauling and concrete hauling trucks accessing 285 from Shaffers Crossing.
Can we get the surplus rock and crush it and process it at our site to save money.
Our rock passes an ASTM spec on the 200 mesh size for concrete rock. Can we supply the concrete?

Bentley, Elizabeth J.

From: Halouska, Troy K.
Sent: Friday, February 27, 2004 8:45 AM
To: Bentley, Elizabeth J.
Subject: FW: 285 Mailing List

Hi Liz,

Please add this person to the 285 mailing list...

-----Original Message-----
From: Dana K. Johnson [mailto:djohnson@netway.net]
Sent: Thursday, February 26, 2004 5:24 PM
To: Halouska, Troy K.
Subject: Re: 285 Mailing List

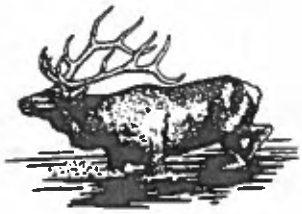
Oops - thought it was an "e-mail" newsletter. I'm at 13661 E. Marina Dr. #112, Aurora, CO 80014. THANKS!

> From: "Halouska, Troy K." <HalouskaTK@c-b.com>
> Date: Thu, 26 Feb 2004 10:51:17 -0700
> To: "Dana K. Johnson" <djohnson@netway.net>
> Subject: RE: 285 Mailing List
>
> Dear Ms. Johnson,
> I certainly can accommodate your request. Please email me your mailing
> address whenever you get a chance.
>
> Thanks,
>
> Troy K. Halouska
> Senior Environmental Planner
>
> Carter & Burgess, Inc.
> 707 17th Street, Suite 2300
> Denver, CO 80202
> Phone: 303.820.4898
> Fax: 303.820.2401
> halouskatk@c-b.com
>
>
> -----Original Message-----
> From: Dana K. Johnson [mailto:djohnson@netway.net]
> Sent: Wednesday, February 25, 2004 6:34 PM
> To: Halouska, Troy K.
> Subject: 285 Mailing List
>
>
> As a retired CDOT employee and one who drives the 285 corridor at least once
> a month, I'd like to be added to your mailing list.
>
>
>
>
>
> This message contains confidential information and is intended only for the
> individual named. If you are not the named addressee you should not
> disseminate, distribute or copy this e-mail. Please notify the sender
> immediately by e-mail if you have received this e-mail by mistake and delete
> this e-mail from your system. E-mail transmission cannot be guaranteed to be
> secured or error-free as information could be intercepted, corrupted, lost,
> destroyed, received late or incomplete, or could contain viruses. The sender

> therefore does not accept liability for any error or omission in the contents
> of this message, which arises as a result of e-mail transmission. If
> verification is required, please request a hard-copy version from the sender.
>

SIERRA CLUB
FOUNDED 1892

Mount Evans Group
of the
Sierra Club
P.O. Box 2288
Evergreen, Colorado 80437-2288



February 16, 2004

Gina McAfee, Carter Burgess
Craig Gaskill, Carter Burgess
Kim Patel, CDOT
Jerry Powell, CDOT
Edrie Vinson, Federal Hwy Administration
Dennis Durbin, Federal Hwy Administration
Scott Sands, Federal Hwy Administration
Kerri Fiedler, EPA
Deborah Lebow, EPA
Janet Bell, Jefferson County

RE: US 285 – Foxton Road to Richmond Hill
CDOT Project No. NH 2854-093
Code No. 14112

Dear All Parties:

We are extremely concerned that CDOT is not addressing an imminent safety concern, despite the recently approved safety budget of $10.5 million to widen Hwy 285 between Richmond Hill and Foxton Road, along with construction of a bridge at Richmond Hill. The fact is that wildlife will continue to cross Hwy 285. If wildlife crossings are not incorporated in the new plans, collisions between motorists and wildlife will continue along this stretch of Hwy 285.

Carter Burgess was originally expected to have a draft EIS Study completed this month, February 2004. Based on prior meetings and maps distributed at those meetings, a significant number of accidents involving wildlife have been documented along Hwy 285 between Foxton Road and Richmond Hill Road. If wildlife crossings are not incorporated in the current safety widening and bridge project that has reportedly been approved, the safety of motorists along this stretch of highway has not been adequately addressed. Wildlife crossings are an important safety issue for all motorists traveling Hwy 285. Additionally, in our discussions with CDOT, we have been assured that wildlife crossings would be an integral part of Hwy 285 improvements. If partial improvements are made using a series of EAs from Foxton Road to Bailey, and these spot improvements do not include the wildlife crossings that were an essential part of the EIS, then the NEPA process will have been subverted and the public misled.

Large mammals crossing the highway can result in disastrous impacts with motorists, while motorists swerving to avoid animals can result in rollover accidents and/or head on collisions with vehicles traveling in the opposite direction.

We, along with CDOT's Staff Biologist, previously identified and agreed upon many ways of incorporating wildlife crossings into the US 285 expansion. These include provisions that:

1) All major drainage areas must have open span structures or open bottomed culverts large enough to address wildlife needs.
2) Smaller animals and their predators need open bottom and/or dual culverts in as many locations as possible.
3) Large animals need large open span bridges or large open bottomed culverts.
4) Road shoulders need to be designed to encourage wildlife to use wildlife passages.
5) Short fence sections and appropriate ground cover can be used to steer wildlife in the right direction.

The new CDOT representative for this region stated at a recent Conifer Area Council meeting that due to budget concerns, it is unknown whether or not additional widening and access mechanisms to and from Hwy 285 will be undertaken. He referred to the Safety Budget as the only mechanism for current highway widening and bridge construction. This begs the question as to what will happen when Staunton State Park opens and recreational motorists are attempting to turn north, making a left turn from Elk Creek Road onto Hwy 285 to travel back toward Denver. Will we again witness tragic fatal accidents as motorists attempt to turn left, crossing Hwy 285 at Shaffer's Crossing? Will we continue to witness collisions involving motorists and elk at Shaffer's Crossing when the elk migrate through this area? Will another spot fix be built without the benefit of an EIS and the appropriate and agreed upon wildlife crossings?

This piecemeal approach does not address the existing and forecast traffic volumes identified in the 285 Feasibility Study between Foxton Road (MP 235.5) and one mile south of Bailey (MP 220.5). Wildlife, thankfully but undeniably, remain a fact of life along Hwy 285. Until a comprehensive approach to widening Hwy 285 that includes a variety of wildlife crossings is implemented, we will, unfortunately, see a burgeoning number of wildlife/motorist accidents. The EIS process was implemented in order to deal with all issues regarding the expansion of US 285. An EA and spot fixes ignore some issues and undermine public participation and the entire NEPA process.

Thank you for your time and immediate attention to this matter. We would welcome a meeting to discuss this in more detail.

Sincerely,

Jamie Bittle */s/*
Jamie Bittle
Chair, 285 Study Committee
Mount Evans Group of the Sierra Club

STATE OF COLORADO

DEPARTMENT OF TRANSPORTATION
Region One
West Engineering Program
18500 East Colfax Avenue
Aurora, Colorado 80011-8017
Phone: 303-757-9651
Fax: 303-757-9746

NH 2854 – 093, Code **14112**
US 285 EA, Conifer to Bailey

April 5, 2004

Ms. Jamie Bittle
Chair, 285 Study Committee
Mount Evans Group
Sierra Club
PO Box 2288
Evergreen, CO 80437-2288

Dear Ms. Bittle:

Thank you for your letter of February 16 about the US 285 project. We have had a very good working relationship with Todd Bacigalupi from the Sierra Club and appreciate your ongoing concern and involvement.

I will start by assuring you that ALL of the wildlife crossings we have committed to previously are still in the project and are documented in the Environmental Assessment, which is being prepared for the entire project from Conifer to Bailey. There is no "piecemealing" of the project, although the project will be constructed in phases. This includes a wildlife crossing at Green Valley, which is in the area covered by the interim safety improvement project. This wildlife crossing is planned to be a 12-foot tall arched pipe. The locations for these wildlife crossings (wildlife underpasses or span structures) are:

- Deer Creek
- Roland Gulch
- Wisp Creek
- Elk Creek
- Near the Green Valley Grill

The proposed improvements for the US 285/Elk Creek Road intersection (Shaffers Crossing) recognize the existing and future safety concerns and increased traffic including that from the Staunton State Park. The five-year accident history in the Shaffers Crossing area shows that the rate and severity of accidents is greater than the statewide average. Common accident types are rear end, sideswipe and animal collisions. The Preferred Alternative improvements include a grade-separated intersection to address the rear end and sideswipe collisions and a wildlife underpass to address the animal collisions. No left-turns will be allowed at this

intersection. These improvements were developed, screened and enhanced through numerous meetings with stakeholders comprising of resource agencies and local agencies, business groups and the general public.

The schedule for release of the EA has been delayed somewhat, as we pull together different sections of the document. We now anticipate release of the document in the summer of 2004. We will schedule a public hearing after the EA is finished.

We hope that the Sierra Club will continue to be involved in this process.

Thank you for your interest.

Sincerely,

Kim Patel
CDOT Project Manager

cc: Gina McAfee
Scott Sands
Kerri Fiedler
Deb Lebow
Janet Bell
Tod Bacigalupi

Bentley, Elizabeth J.

From: Halouska, Troy K.
Sent: Tuesday, March 16, 2004 8:19 AM
To: Bentley, Elizabeth J.
Subject: FW: mailing list

Liz,

Can you add this person to the project mailing list and send them a copy of the last newsletter.

-----Original Message-----
From: WILLIAM SCHOEN [mailto:flybillusa@msn.com]
Sent: Monday, March 15, 2004 6:58 PM
To: Halouska, Troy K.
Subject: mailing list

Please add my name to your mailing list. I own an adjoining piece of property at the intersection of 285 and pine road.
Thank you
Bill Schoen
22970 Pheasant Drive
CAnyon Lake, Ca. 92587
flybilllua@msn.com

Bentley, Elizabeth J.

From: Halouska, Troy K.
Sent: Monday, March 22, 2004 8:07 AM
To: Bentley, Elizabeth J.
Subject: FW: Please add to mailing list for US 285 project

Hi Liz,

Can you please add this person to the mailing list and send them a newsletter.

Thanks,

Troy

-----Original Message-----
From: Timothy Mower [mailto:timmower@msn.com]
Sent: Sunday, March 21, 2004 4:45 PM
To: Halouska, Troy K.
Subject: Please add to mailing list for US 285 project

Please add me to your mailing list for project information.

Thanks
Tim Mower

timmower@msn.com
6335 W. 46th Ave.
Wheat Ridge, CO 80033
303-421-6694

Bentley, Elizabeth J.

From: Halouska, Troy K.
Sent: Friday, March 26, 2004 11:32 AM
To: Bentley, Elizabeth J.
Subject: FW: Request for Newsletter

Liz,

Please add her to the mailing list and send her a copy of the last newsletter.

Thanks,

Troy
-----Original Message-----
From: Artist, Lacee (Allard) [mailto:Lacee_Artist@Allard.senate.gov]
Sent: Friday, March 26, 2004 11:09 AM
To: Halouska, Troy K.
Subject: RE: Request for Newsletter

Sorry about that! I am reffering to the 285 project which is where I got your email. I can be reached at:

7340 East Caley Road Suite 215
Englewood, CO. 80111

Thanks so much.

> -----Original Message-----
> **From:** Halouska, Troy K. [mailto:HalouskaTK@c-b.com]
> **Sent:** Friday, March 26, 2004 10:41 AM
> **To:** Artist, Lacee (Allard)
> **Subject:** RE: Request for Newsletter
>
> I would be happy to, but first I need to know what project newsletter you are referring to. I am involved in several projects with newsletters. Second, I need a mailing address.
>
> Thanks.
>
> **Troy K. Halouska**
> **Senior Environmental Planner**
>
> **Carter & Burgess, Inc.**
> **707 17th Street, Suite 2300**
> **Denver, CO 80202**
> **Phone: 303.820.4898**
> **Fax: 303.820.2401**
> **halouskatk@c-b.com**
>
> > -----Original Message-----
> > **From:** Artist, Lacee (Allard) [mailto:Lacee_Artist@Allard.senate.gov]
> > **Sent:** Thursday, March 25, 2004 3:21 PM

To: Halouska, Troy K.
Subject: Request for Newsletter

Could I please be put on your mailing list for your newsletter. I am handling transportation for the Senator throughout Colorado and I think this would be very informative. If you need any information from our office feel free to contact me. Thanks so much.

Lacee Artist
Area Representative
Office of Senator Wayne Allard
303-220-7414
(fax) 303-220-8126

Carter::Burgess

Communication Confirmation

Project:	**US 285 EA**
Purpose of Call:	Property Owner Access Control Coordination
Date:	4/1/04
With:	Wesley Moore, 12581 US 285, 303-838-8434
C&B Contact:	Craig Gaskill
Copies:	Kim Patel, G. McAfee, Troy Halouska, file

Summary of Conversation:

Wesley has a residence west of Kings Valley (approximately 559+00 left on Preferred Alternative Plans). He wanted to understand the proposed access to his property after construction. I explained that the current plans show he would have access to the Kings Valley frontage road and grade-separated intersection and he would have a right-in/right-out access at approximately 556+20.

According to Wesley, these accesses are part of the old Highway 8 alignment. Wesley also said he is thinking about rezoning his property to commercial for use as a "cottage industry" in the future.

J:_Transportation\us285 EIS\manage\corr\Telcon_WesleyMoore_040104.doc

Bentley, Elizabeth J.

From: Halouska, Troy K.
Sent: Monday, April 05, 2004 3:59 PM
To: Bentley, Elizabeth J.
Subject: FW: list

Please add this gentleman to the mailing list and send him a newsletter.
-----Original Message-----
From: RALPH MILLER [mailto:RALPHR4316@peoplepc.com]
Sent: Sunday, April 04, 2004 6:40 PM
To: Halouska, Troy K.
Subject: list

I would like to be added to you 285 project mailing list. I likve at: Ralph E. Miller, Twisted Pine Ranch, 28583 Columbine Dr. Conifer 80433 Thanks for you help with this matter. Ralph

Bentley, Elizabeth J.

From: Halouska, Troy K.
Sent: Tuesday, April 06, 2004 8:20 AM
To: Bentley, Elizabeth J.
Subject: FW: US Hwy 285 Info

-----Original Message-----
From: Timothy Chase [mailto:GLIMIGRIM@peoplepc.com]
Sent: Monday, April 05, 2004 6:11 PM
To: Halouska, Troy K.
Subject: Re: US Hwy 285 Info

Hello Mr Halouska,

My address is: 33508 Berg Lane, Pine, CO, 80470. Please add me to your mailing list for future newsletters and send out the latest one.

Thank you,

Tim Chase

> ---- Original Message ----
> **From:** Halouska, Troy K.
> **To:** Timothy Chase
> **Sent:** Monday, April 05, 2004 4:01 PM
> **Subject:** RE: US Hwy 285 Info
>
> Dear Mr. Chase,
>
> Unfortunately for this project, we do not have an electronic mailing list. If I can get your physical mailing address, I can send you the latest project newsletter.
>
> Thanks,
>
> **Troy K. Halouska**
> **Senior Environmental Planner**
>
> **Carter & Burgess, Inc.**
> **707 17th Street, Suite 2300**
> **Denver, CO 80202**
> **Phone: 303.820.4898**
> **Fax: 303.820.2401**
> **halouskatk@c-b.com**
>
> > -----Original Message-----
> > **From:** Timothy Chase [mailto:GLIMIGRIM@peoplepc.com]
> > **Sent:** Monday, April 05, 2004 3:49 PM
> > **To:** Halouska, Troy K.
> > **Subject:** US Hwy 285 Info

Hello---

Please add my name to your mailing list to send information about the Hwy 285 project from Foxton Rd to Bailey.
My email address is: glimigrim@peoplepc.com

Thanks,

Tim Chase

Public Workshops
Minutes, Handouts

US 285
Foxton Road to Bailey EIS

US 285 Foxton Road to Bailey EIS Public Scoping Meeting July 30, 2002

A Public Scoping Meeting was held on Tuesday, July 30, 2002 from 4:00 p.m. to 7:00 p.m. at the Elk Creek Fire Protection District Office (11993 Blackfoot Road in Conifer). One hundred seventy-five people attended the Public Meeting, which was an open-house format with no formal presentation given. All project personnel responsible for the project were available throughout the evening to answer questions, receive comments and talk with the public about any concerns they had regarding the project.

Project personnel present:

Kim Patel, CDOT
Brian Pinkerton, CDOT
Rob Hirschfeld, CDOT
Deb Angulski, CDOT
Jerry Powell, CDOT
Jill Schlaefer, CDOT
Kevin Radel, CDOT
Andrea Sever, CDOT
Scott Weeks, RTD
Scott Sands, FHWA
Gina McAfee, Carter & Burgess
Craig Gaskill, Carter & Burgess
Kim Gambrill, Carter & Burgess
Steve Gomez, Carter & Burgess
Jessie Slaton, Carter & Burgess
Troy Halouska, Carter & Burgess
Kirk Webb, Carter & Burgess
Amy Wiedeman, Carter & Burgess
Elizabeth Bentley, Carter & Burgess
R. A. Plummer, PBS&J
Troy Sieglitz, PBS&J

The handout material and presentation maps and graphics for this meeting follow:

Sign-In Table
An agenda sheet, comment sheet and statement of purpose and need sheet were handed out at the sign-in table.

Graphics

- Findings of the *US 285 Feasibility Study* Completed March 2002 – This graphic shows major findings of the *US 285 Feasibility Study*.
- Traffic Volumes and Accidents – This graphic shows the existing and future conditions if no action is taken.

Study Process

- Environmental Impact Statement (EIS) Process – This graphic shows the necessary steps in the EIS process.
- Preliminary EIS Schedule – This graphic shows the schedule for the EIS tasks.

Environmental Issues

- Contents of an EIS – This series of cards shows the aspects considered in the EIS, i.e., land use, definition of build and no-build alternatives, visual resources, economic considerations, wetlands, threatened and endangered species, etc.
- Water Resources – This map shows the water resources, i.e., possible wetlands, possible floodplains, wild and scenic river, potentially impaired river/streams in the project area.
- Sites of Potential Hazardous Materials Concern – This map shows the potential hazardous material sites in the project area.
- Recreational Resources – This map shows the recreational sites in the project area.
- Wildlife Resources – This map shows potential lynx habitat, and potential sites for elk and deer crossings.
- Historic Resources – This map shows the historical sites in the project area.
- Deer Fencing – Two graphics show the pros and cons, and ask if deer fencing should be considered in the EIS.

Alternatives

Options for Laneage

- Typical Section – This graphic shows an improved two-lane alternative, super two alternative, four-lane with paved median and four-lane with depressed median.
- Feasibility Study Findings – These graphics show that due to congestion issues, only the four-lane alternatives should be considered and ask meeting participants if they concur with this finding.

Bailey Bypass Alternatives

- Bailey Bypass Alternatives - This graphic shows three options suggested during the public involvement process of the feasibility study.
- Feasibility Study Findings - These two graphics show that the three Bailey bypass options were dismissed because of cost and impacts, and ask meeting participants if they concur with this finding.

Alternatives at Major Intersections

- Richmond Hill – This graphic shows a signalized and a grade separation alternative.
- Kings Valley Drive – This graphic shows one signalized and two grade separation alternatives.
- Elk Creek Road Intersection (Shaffers Crossing) – These graphics show one signalized and eight grade separation alternatives.
- Mt. Evans Boulevard Intersection – This graphic shows one signalized and two grade separation alternatives.
- Deer Creek Road Intersection (Crow Hill) – These graphics show one signalized and four grade separation alternatives.
- Grade Separated vs. Signalized Intersections – This graphic shows the advantages and disadvantages of grade-separated intersections.
- Feasibility Study Findings – These graphics illustrate the results of a constructing a signalized intersection when a grade separated intersection was recommended, and ask the meeting participants if they concur with this finding.

Transit Related Alternatives

- US 285 Corridor park-n-Ride Locations – This map shows the park-n-Ride locations and the bus routes in the project area.
- Possible Alternatives – These graphics show possible transit alternatives, i.e. part time Bus/HOV lanes, extended RTD service to Bailey, etc., and ask the meeting participants first if these alternatives should be considered and second which alternatives should be considered.

Alternatives for Non-motorized Travel

- Potential Bike/Pedestrian Facilities – This map shows potential bike/equestrian trails and optimum widths to accommodate pedestrian, bike and equestrian travel.
- Transportation Systems Alternatives – These cards show alternatives such as weigh-in-motion, incident management, travel information systems and call boxes.
- Feasibility Study Findings – These graphics show findings that bike/pedestrian facilities should only be considered between Pine Junction and Conifer, and ask meeting participants if additional pedestrian facility options should be considered and if the facility should be located on the shoulder or have a separate path

No-Action Alternatives: Already Committed Projects

- No Action Alternative – this graphic shows currently committed projects, i.e., minor safety improvements, resurfacing and bridge repair, grade-separated intersection at Wandcrest, and safety projects under design.

Access Control

- Conceptual Access Plan – Segment 4-5 – This map shows the location of potential grade-separated/traffic signals intersections, full-turn, unsignalized intersections and potential restricted-turn intersections/driveways.
- Roadway Categories – These graphics show the functional characteristics and access characteristics of Category E-X and Category R-A roads, and the current designations along US 285.

Access at Minor Intersections

- Bailey Intersection Improvements and Access Consolidation – This graphic shows the localized improvement that was recommended in the Feasibility Study to address safety issues.

Comments

- Comments received during the meeting were either (1) written comments which were dropped in a comment box or (2) verbal comments which were given to project personnel who recorded same on 5 x 8 cards. The comments given to project personnel were displayed in the comments section area for the public to view.

- Meeting participants were also informed that they could mail the comment sheets to Carter & Burgess or give comments on the project Web site at www. us285.com.

Verbal Comments Given to CDOT and Carter & Burgess Personnel:

Safety

- Stone Chimney Road is very dangerous. Need to design through or next to the quarry to provide safer access.
- Four-lane option with physical barrier is very dangerous.
- Increase safety to elementary school by providing access to grade separated intersection.
- Southbound US 285 at Richmond Hill Road converges quickly causing safety concerns.
- Merge point south of Richmond Hill is a safety problem.
- Wandcrest is a very dangerous area. Need to do something with that intersection.
- Shaffers Crossing very accident prone, especially trucks.
- Improvements needed at Roland Drive (O'Malleys curve) tight – causing accidents.
- Concern over timing of improvements in relation to deaths on corridor.
- Spend funds for improvements where most traffic is and address safety issues first.
- Need a weigh station to keep overloaded trucks from going out of control.

Miscellaneous

- When will construction start?
- Has money been earmarked for construction?
- The Mountain Club has meetings all day. Entrance to Calfee Gulch Road (MP 242), particularly evenings.
- Fifteen families on Calfee Gulch – Clover Heights.
- What is the status of the state park at Shaffers Crossing?
- Label CR 72 on future exhibits at Deer Creek.
- Show information on Web site.
- Should take advantage of different elevations for different directions when we can – it will cut down on headlight glare.
- Travel information systems need to be updated more often (i.e., accident information).
- More travel information systems south of Conifer are needed (both directions).
- Need warning signs with updated information, like the road conditions.
- Should consider an alternate route for Conifer Mountain.
- 2025 traffic counts seem too low.
- Will there be a graffiti problem on the recently painted underpass?

- Paint directional arrows on road to guide motorists in merge areas.
- US 285 is a major artery from Denver for tourism and commercial traffic = state money.
- Construction company doing current work has really kept traffic moving.
- Concerns over clear cutting trees in front of homes with steep grades. (Depreciation of property values.)
- How is property value being handled? If I want to sell now, no one wants to buy property along 285 with the potential of being bulldozed in 6-10 years. HELP!
- What will be the effect to the frontage road just past where the construction (at Foxton Road) ends now?
- Deer Creek (CR 43 should be labeled same side of the road, west of US 285.)
- CDOT needs to make this project a high priority for funding and implementation.
- Can the process be accelerated to address rate of growth and increased fire issues?
- Should present the numbers for road kills/traffic accidents.
- Improve directions to meeting on mailing.
- Need to make drawings available to take home.
- Radius should allow turning for large vehicles at grade-separated intersections.
- Need emergency phone at Shaffers Crossing.
- Consider independent alignments for eastbound and westbound.

Growth Issues

- Larger highway will create more growth, and more traffic.
- This project is just a step to get traffic off of I-70. More semis on US 285 now.
- If you 4-lane the road to Bailey, it will just make the population move further south down the corridor.
- This project will induce the growth in the area.

Transit/Pedestrian/Bike

- Look at pedestrian/bike facilities from Pine Junction to Bailey.
- Bring light rail up here.
- Need better bus service – needs to be more hours of the day – not just peak hours – also better service to DIA.
- Keep option open to run train down median in future.
- Use park-n-Rides for local car-pooling as well as to Denver.
- New Pine Junction park-n-Ride in 2003.
- RTD extension to Bailey very difficult. Complex process to extend district and obtain RTD approval. Petition process and voter approval.

Noise/Light

- McKinney subdivision (across from Wil' O' the Wisp) noise issues. How to abate? Use grooves in pavement?
- Concern about noise mitigation at subdivisions throughout corridor.
- Noise at Wil' O' the Wisp is loud now – will it be louder with these improvements?
- Keep speed limit to 55 mph at Shaffers Crossing due to noise.
- How is traffic "noise" being handled?
- Lights are detracting from night-time visual impacts.
- Concern for light pollution. Lights only at intersections and only downward.
- Tine pavement when paved for noise mitigation in lieu of noise walls/landscaping.
- When will they study the noise at my house (near Shaffers Crossing)?
- Concerned about noise impacts along highway.

Signal Lights/Grade Separation/Access

- No traffic lights.
- No signal at Shaffers Crossing due to hill/grade on approach.
- Eliminate signal at Pine Junction intersection.
- Sure has helped with current improvements and no stop lights.
- Traffic lights would be inconsistent with the Expressway designation – not in favor of traffic lights.
- No stop lights especially at King's Valley Drive.
- No traffic signals.
- Prefer no traffic signal at Crow Hill.
- No traffic lights!
- Overpasses or underpasses OK.
- Signals should not be used. Grade separated intersections are preferred.
- No traffic signals!
- No signals anywhere! Do it right first time. More money but cheaper in long run.
- Prefer Alternative C for Shaffers Crossing. No signals.
- Richmond Hill intersection grade separation alternative is needed most.
- Pine Junction: Option A – provide northbound right-in/right-out closer to underpass to prevent traffic feeding into one access at Mount Evans - Highland Pines subdivison between Southglen Drive and Mount Evans to determine traffic numbers. Look more at numbers of residential areas outside mapping.
- Shaffer's Crossing Option G and signal option are no good/horrible – grade and blind corner.

- Shaffers Crossing Option G with added connection from private right-in/right-out to South Parker Road works well for north and south of 285. (Work on northbound access in Option G.)
- Road and bridge access at Shaffers Crossing (north of 285) at South Parker Road? How will you address design/connections at Mt. View Lakes and Woodside subdivision access?
- Consider school access at Elk Creek Elementary and day care for all options from Elk Fall Ranch.
- Keep underpass at current location and add on ramp and off ramp at CR 68. Add another signal to the south. Eliminate frontage road.
- Keep right turn at Glen's Drive.
- Do take Elk Creek under 285 then provide short access back.
- Need over/underpass at Richmond Hill for fire station.
- Need for business access south of Foxton Road on the north side of the highway.
- Green Valley Center – access to US 285 is a concern for business owners. Can this location be considered for grade separated intersection treatment? If not, what type of acceptable access will be provided?
- Keep emergency services in mind for quick northbound and southbound access to 285. (Especially Mt. Evans Blvd. north of 285).
- If Staunton Park happens, access must be provided/built.
- Fire Department has difficulty entering highway, needs to have better access.
- Mt. Evans Blvd. northbound access is very limited from the fire department perspective
- Deer Creek Road interchange. I like C or D alternative to facilitate access to library.
- Based on 285 corridor plan, activity centers at Aspen Park/Conifer and Pine Junction. Only two on 285 in Jeffco – need to simplify access to provide adequate access.
- Park County at Midway intersection – use existing layout of main access and provide access based off prior decisions. Sub roads not to be used as collectors. Use CR 72 and Rosalie south and PC 43 north – take to safe location to access 285.
- Look at potential grade separation near Mountain View park-n-Ride to the south.
- Flatten the curve at Bulldoger area. Access control in this area.
- Incorporate Park County plans at Deer Creek into options – Bulldogger Road.
- Conceptual Access Plan chart – why same sign for intersection/grade separated and signalized? Should be different. Huge difference between grade separated and signalized. Prefer grade separated – signals kill people.
- No lights and flyovers (grade crossings) are great.
- Don't just signalize major intersections.

- No traffic signals.
- No traffic light at Shaffers Crossing.

Bailey

- Need to finish paving Main Street in Bailey.
- Continue improvements to the end of Bailey.
- For Bailey – use barrier section and keep business access.
- Concern about alignment at Bailey because of future dams that are planned.
- Concern with gas trucks coming down Crow Hill into Bailey.
- Prefer Bailey bypass option 2 over Bailey intersection. Improve.
- A lot of Bailey residents still want to see a Bailey bypass.
- Town of Bailey has an economic draw; a bypass won't hurt the town.
- Bailey bypass will kill town.
- Improve vertical curves at Bailey.
- Yes on Bailey bypass options (tunnel option).
- Commercial viability of Town needs to be considered when looking at access.
- Safety concern with trucks coming around Bailey curve at high speeds.
- Think CDOT should consider Bailey bypass option.
- Can a barrier be provided at Bailey curve?
- Need to look at entire Bailey network when looking at access.
- Business owners will not like the Bailey improvements. They will want access from 285.
- We prefer the Bailey grade separation option B. It seems to be the safest.
- Need to be aware of numerous accidents from runaway vehicles in Bailey.
- Frontage road in Bailey is a bad idea.
- Move overpass at Bailey to the south of Bailey instead.
- Development north of US 285 in Bailey is not shown on the west end of town. Is it being considered when looking at providing access?
- Access proposals for Bailey will create business impacts. Feasibility Study bypass alternatives doesn't appear to consider them when the bypass alternatives were dismissed.
- Bailey bypass – still should have Bailey bypass. Denver bought the land for Two Forks Dam and Denver was trying to relocate US 285. Denver may own the land.
- For Bailey – on the surface proposed access changes appear to create a greater negative impact than the status quo.

Median/Lane Choices

- The 30' depressed median is good because it gives more room in case of an accident.
- Four-lane is needed because the traffic is so bad already.
- From Foxton Road to just north of Richmond Hill Road, 2-lanes southbound should have been continued in previous phases.
- Is 4-lane US 285 enough or too much for the future?
- Should consider the possibility of 6-lanes in the future.
- Should consider expanding the current 3-lane areas as an interim improvement. Could even make it change directions for morning and afternoon. Especially if it doesn't get funded.
- Yes on 4-lane wide median.
- Four-lane.
- We do not want concrete barrier in the median. Prefer the depressed median on 285.
- Four-lanes needed ASAP. Twenty-two year resident.
- Opposed to 4-lane, although improvements do need to be made.
- Should consider the possibility of 6-lanes in the future.
- Four-lanes to Fairplay from Foxton Road.

Wildlife/Wetlands

- In favor of deer fencing.
- Make sure deer fencing is effective. Or consider other options like speed limits.
- Should consider expanding existing culverts for wildlife crossings – should definitely put these in.
- Should consider deer fencing with wildlife crossings.
- Richmond Hill intersection has a high volume of animal crossings.
- Deer fencing is good idea.
- High wildlife (deer) kills north of Shaffers Crossing.
- Concerned with preserving wetlands that were constructed by highway. Provide great elk habitat.
- Look at elk improvements done on Hwy 73 near Evergreen for better elk crossing options.
- Need a wildlife overpass at Shaffers Crossing. Lots of elk.
- Add deer fencing and wildlife crossings.
- Beaver Ranch on Foxton Road – possible wetland bank. Deer Creek possible location (wetland bank). Platte Canyon school off Rosaline Road (wetland bank).

Traffic Volumes/Bottlenecks

- Traffic on the weekends is bad (how to deal with).
- Weekend traffic is very bad, especially Sunday night. The traffic volume data should reflect the increase in volumes during the summer and on weekends.
- Extend southbound lanes from Foxton Road (approximately 1.2 miles) to Green Valley Shopping Center to eliminate bottleneck.
- Traffic volumes between Foxton Road and Pine Junction are greater than the segment between Pine Junction and Bailey. Improvement should be focused on northern segment where traffic volumes are higher.
- Elk Creek Road could be bottleneck for Staunton State Park.
- Really look to provide quickest/shortest route from all directions to both northbound and southbound 285.
- Foxton Road to RTD lot bottleneck. What will be done about tie-in to 4-lane?

Written Comments from Meeting:

Bypass Bailey to the north (at Delwood Corner, go west to the most feasible locations to return to the Canyon, if that is necessary.
The reason for the above –

1. Runaway trucks – fuel tankers haul up to 9,000 gallons and they tail-gate; if the rear truck loses his brakes and hits the one in front of him there could be 18,000 gallons explode and wipe Bailey off of the map.
2. If you go through Bailey with a four lane it would necessitate the purchase of homes to get the property necessary and really "kill" the community.
3. The cost of re-routing the river.

Do not go through Bailey. (Bob Wonder, 57 West Shawnee Road, Shawnee, CO 80475)

I need more information about the Pine Junction access between Mt. Evans and Glen Drive – overpass – underpass, frontage road, etc. – the effect this will have on land on west side of hwy. (Robert Hutchison, 186 Mt. Evans, Pine, CO 80470)

Please do something about an overpass at the Elk Creek Fire Station and Richmond Hill Road. This should be a priority. We thank the State for what has been done so far. (Virgil Horton, 11669 Apache Trail, Conifer, CO 80433)

- Beaver Ranch and Newton Park not on Rec. Map
- Yes on deer fencing
- Yes, 4-lane options with wide clear zones
- Bailey bypass: North option with a tunnel
- No signalized intersections, use of grade separations – use of right-in/right-out only options
- No HOV lanes
- Use of transit ITS technologies
- No need for bike and pedestrian facilities between Pine Junction and Conifer (multiple parks near by!)
- Green Valley Center Businesses need strong access (Jesse Young, 27574 Mountain Brook Drive, Conifer)

- Fencing would separate animals grazing and water in many places. Use underpasses for animal crossings.
- Four-lane with depressed median to top of Crow Hill only. Don't need traffic backing up on 7% down grade due to 4 to 2 lane west of Bailey.
- By pass 2 or any bypass – will kill businesses for Bailey (north/tunnel) should not be re-evaluated. Don't improve River Rd. in Bailey – make Co Rd 64 the Frontage Road and use. Don't use any more lights – use only grade-separated intersections. Use option B on Deer Creek.
- Use transit all the way to Bailey.
- Pedestrian paths separated from hwy and go from Foxton to Bailey. (Lynda James, P.O. Box 628, Bailey, CO 80421)

There is a definite danger during the winter months from on-coming headlights; especially now with the tall SUVs. We need:

1. Road separation or an environmental screen to protect west bound cars from oncoming lights.
2. Don't let environmentalists BS you when they say environmental screens make too high a wall for deer and elk to get over. I have a 5" fence around my yard and they don't have any trouble clearing it.
3. You could save lots of money by leaving a natural grade separation alone instead of moving all that dirt. Most emergency vehicles are 4-wheel drive so grade separations should be no problem for them to cross over.

RTD. I'm in favor of extending it to Bailey, but also we need service during the day even if limited. By making it convenient for potential riders you can keep them from driving and cluttering up the road.

Call boxes are a great idea especially for winter emergencies since cell phone don't work beyond Conifer Junction. (Rudolph Jacobson, 606 Clark Road, Bailey, CO)

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1. Call boxes would be good. Cell phone service cuts out a lot. Call boxes could be used for accidents and animal hits.
2. Bailey bypass would be bad for the town.
3. Elk Creek Road, Shaffers Crossing – Option B or G (best options)
   Mt Evans Blvd, Pine Junction - Option B (best option)
   Crow Hill – Option D (best option)
4. Transit carpool parking lots. RTD to Bailey.
5. Bike – pedestrian facilities – separate path. Separate pathways off of highway. Cars drive too fast for bicyclers and pedestrians to be on road.
6. Wandcrest turn – right now. Why does the thru traffic lane not be the right hand lane going south. Because 8 times out of 10 the first car in line in the left lane ends up turning into Woodside Inn or onto Wandcrest. (Vanessa Byer, 3159 PCR 72, Bailey, CO 80421)

- Do not use signalized intersections on 4 lane highway. Definitely need 4 lanes to Bailey.
- Bike path from Conifer should go all the way to Bailey.
- How would this RTD tax district be affected if bus service is extended to Bailey?
- Prefer Option B for Pine Jct. intersection.
- Also option B for Deer Creek
- Undecided about HOV lane
- Depressed medians would be safer than paved medians if space allows. (Joyce Lang, 43 Mt. Evans Blvd, Pine, CO 80470)

- Bailey bypass alternatives should not be considered.
- Transportation system alternatives
  1. Travel information systems yes
  2. Call boxes yes
  3. Weight N Motion yes
  4. Incident management yes
- Blackfoot Rd to Richmond Hill Rd right turn only intersection
- Kings Valley Rd intersection A or B okay
- Elk Creek Rd. intersection G okay
- Mt Evans Boulevard intersection B okay
- Deer Creek Rd intersection D okay
- Park-n-Ride - add one in Bailey to real time information services.
- Car pool parking lots or increase size of park-n-Ride to accommodate car pools

- No horse trails near 285, maybe bike lane on side on 285.
- Bailey intersection – move west to 285 and 64 near El Rio Café. Improve 64 through Bailey to allow flow. Do not go east as the proposals now show.

Thank you for allowing my comments. (W.C. Mayes, 1499 CR 72, Bailey, CO 80421)

- Laneage options – Four lanes with paved median takes less room and seems preferable to depressed median.
- Richmond Hill Road – right turn only faster and cheaper than grade separation.
- Kings Valley Drive – signal at bottom of hill would cause accidents in winter as pavement is often slick and icy. Prefer grade separation.
- Elk Creek Road same as Kings Valley Drive, bottom of steep hill on both sides. Slick and icy in winter. Need grade separation.
- Reconsider bike/horse trail between Foxton Road and Pine Junction. Walking or biking along this section is dangerous due to high speed traffic – separate path preferred. (Al Koewing, 30851 Pike View Dr)

Deer fencing? probably not – cost wise – not efficient enough.

Reconsider Crow Hill 7% grade? Bypassing Bailey? Elimination of some businesses will effect Park County tax base – if widening road through town? (Donald Boal, 620 Royal Dr)

- No signals – grade separation.
- Kings Valley Drive intersection – any one of grade separation options A-D. No lights.
- Elk Creek Road intersection – any grade separation options A-H. No lights.
- No Bailey bypass – too much money.
- Laneage option – 4 lane with depressed median.
- No pedestrian/bike facilities needed.
- Remove traffic signal at Pine Junction – under or over pass. (David Kovar)

Access to be gained to businesses to the north of Hwy 285 south of Foxton Rd – north and south bound Sunny Acres area.

Crow Hill area – no signal Opt. A – B – C or D. (Jeff Drake, 11829 Hwy 285, Conifer)

- Support of a 4 lane highway – no improved two lane.
- Support of on/off ramps – NO LIGHTS
- Deer Creek Rd intersection – Support options B or D
- Transit Alternatives – support additional park-n-Rides
- Pedestrian facilities – none
- Bailey Intersection – support option C. Need some method of keeping access to businesses on 285 in Bailey – frontage road or parking lot with walking access to the businesses.
- Please contact us for more information. (Chris or Charity Morris, 277 Rustlers Rd.)

- Need 4 lane with depressed median – really needs to be completed by 2005.
- Bailey bypass – North option (tunnel) will work best for future needs. I do not concur with dismissing this option.
- Eliminate all signal controlled intersections now. They will always be major accident sights. (Mike Nastley, 23989 Harrison Ave, Buffalo Creek, 80425)

I live at Shaffers Crossing and of the 9 different alternatives for that intersection, none of them look very good to me. The best ones, as far as I can see are the two which bring access roads right through my house. Problem solved.

Would you please send me copies of all the 9 concepts so I can study them in more of a relaxed setting? This will (and is) directly affecting me and I'd like to know as soon as possible if I should or should not improve my property. It seems senseless to spend time and money now. Limbo is not a good place to be. (Andrew Nelson, 13024 S. Hwy 285, Pine, CO 80470)

- No signal lights at all!
- Richmond Hill intersection – grade separation best
- Kings Valley – grade separation A or B
- Elk Creek – B
- Mt. Evans – A or B
- Crow Hill – A
- Transit – RTD to Bailey, bus pull-outs
- Bike path – OK – get bicycles off highly traveled roads
- Access control – expressway – sooner the better
- Bailey – A (Cathy Rheinberger, 32674 Meadowridge Lane)

- NO TRAFFIC LIGHTS! Use underpasses, overpasses, tunnels etc.- LIGHTS BACK UP TRAFFIC!
- Make room for BIKE/PED/HORSES! Some people "try" to ride 285 or walk. This is DANGEROUS & INSANE! For everyone.
- YES to ANIMAL FENCING! I think this is OBVIOUS.
- BE KIND To property owners along 285 – This entire project is affecting the value of my property NOW – No one wants to buy if they know an expressway is coming through – Help me out with this one.
- All park-n-Rides need appropriate entrance/exits – pull-outs, merging lanes – MORE public transportation is needed – plus a park-n-Ride in or near Crow Hill/Bailey.
- NOISE FROM TRAFFIC IS A GREAT CONCERN! HOW ARE YOU HANDLING THIS? (Kathleen and Raymond James, 241 Rangeview Drive, Bailey, CO 80421)

I agree with the grade separation at Richmond Hill Rd rather than a traffic light. An overpass would take advantage of the existing topography and ease the flow to and from this road. (Name not given)

- Laneage – Foxton to Bailey
  Super II +) (intersections
) (
  if 4 lane – depressed median
- Pine Junction/Mt. Evans – I like grade separation option A
- Grade separated intersections!
- Bus pullouts.
- Carpool parking lots
- I like the bike/horse idea between Foxton and Pine Junction.
- The area from Pine Valley Rd – Wandcrest and toward Bailey has potential for a real mess. Too many people/cars in one area. (Barbara Smith, 14863 Wandcrest Dr, Pine, CO 80470)

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1. Do NOT like the idea of deer fencing – "Cons" do not outweigh "pros"
2. Like 4 lane with paved median as road preference.
3. Bailey should be bypassed!
4. Transit alternatives are very important.
5. Extended RTD service would be great and adequate bus merging (in/out of traffic) is very important too.
6. Hopefully there will NOT be any traffic lights on 285 – this is what causes all the weekend backups (commuting too – but less do).
7. Bike trails anywhere/everywhere would be nice.

8. The improvements done to date are marvelous. The Windy Point area turned out fantastic! This area – with its inherent FOG – used to be so dangerous and now feels very SAFE to drive. Thank you! (Emily Jacobson, 606 Clark Rd., Bailey, CO)

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1. Have both deer fences on both sides the entire way, and periodic underpasses for animal traffic only. Suggest an underpass between Blackfoot Rd/Richmond Hill intersection and Green Valley Grill. Lots of elk kill there.
2. Thanks for the walking/biking/horse path – yes on having facilities for these folks if maintained and secure.
3. I vote for depressed median – seems to be more room for emergency traffic.
4. At Blackfoot/Richmond Hill & 285 intersection – prefer overpass with no lights. If a stop light has to be there, it should be timed or censored so side traffic doesn't have to wait for long periods. Also – on heavy traffic days (e.g., Sunday evening) getting onto 285 heading towards Denver can be impossible when 285 is stopped dead.
5. Walking trail goes from Foxton to Pine Junction. Please extend it to the Conifer Center area (Safeway).

Very informative public meeting! Thank you. (Nancy Brace, 11658 Apache Trail)

The truck traffic has increased significantly. The environmental impact of trucks is diesel and noise.

Would like to see CDOT or CHP restrict the use of Jake Brakes as trucks pass through communities. Many truckers use them just to make noise. Several other towns on major truck routes (Campo, Kit Karson, etc.) forbid the use of jake brakes. Many states don't allow them at all.

- They disrupt animals
- Make serious noise at all hours of the night

285 expansion will only bring more trucks. Let's keep the noise pollution down! (No name given)

I have existing property depressed along 285 .5 miles north of Pine Junction. I would like to talk to CDOT if sites for dumping rock are being solicited. Ultimate goal would be a buffered rock/dirt berm along highway area. (Curt Gruchow, 13545 US Hwy 285, Pine)

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1. Both Richmond Hill Rd and Kings Valley are high volume intersections and both should have overpasses. Turning left is already a huge problem during heavy traffic periods, and increasing traffic at higher speeds on a new road will make that worse.

2. In Conifer & Aspen Park, overpasses new last (still not completed). Should be given higher priority early in construction to relieve the burden and to reduce confusion. Maybe also improve safety and lower number of flagmen needed. (Darrel Campbell, 26551 Longview Dr, Conifer, CO 80433)

- Need at least four lanes to Bailey
- No Bailey bypass
- Need overpass at Richmond Hill Rd.
- Need underpass at Pine Junction (new homes being built, and at Bulldogger Rd (Deer Creek) for new supermarket
- Please send me information as it becomes available. (G.N. Curtis, 5693 E. Nichols Pl, Centennial, CO 80112)

- I am commenting on the Shaffers Crossing Elk Creek Road intersection. I prefer option – grade separation option C, definitely there needs to be a grade separation so all traffic can avoid crossing 285 at grade.
- I support the non-motorized travel alternative from Foxton to Pine Junction.
- I support reclassification to expressway. (Kent Wiley, 11500 N. Roxborough Park Road, Littleton, CO 80125)

Shaffers Crossing – support grade separation options – oppose do nothing on signalized. Option C looks good v. several others that denoted a ramp of some sort.

Support pedestrian trail on separate path, not on shoulder. Appreciate trail use being considered in design features. (Jim Smith, 11500 N. Roxborough Park Rd., Littleton, CO 80125)

- Four-lane 30 ft. median
- Underpasses and overpasses
- Richmond Hill overpass
- Deer fencing
- Bailey bypass with tunnel
- Separate bike path
- Keep bus service with park-n-Ride (George Holm, 13133 Wamblee Vly. Rd.)

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1. Bailey bypass options – dismiss them all
2. Deer Creek Rd intersection – NO on option A, NO on option D, C looks best. (No name given)

- We agree that all hiway improvements should consider only 4 lane roadways.
- We agree with the decision to not bypass Bailey. To take traffic out of the community would literally kill the town.
- We prefer an overpass at the Richmond Hill intersection.
- Kings Valley Road – no signal. We like Option A.
- Elk Creek Rd. – no signal Option A
- Mt. Evans Blvd. – Option B looks good
- Crow Hill – Option C looks better for fire dept access.
- Grade separation vs. signalized intersections – eliminate signals whenever possible.
- We don't think bus or transit alternatives should be considered. Bus traffic is light and it moves well.
- No need for more options for pedestrian or bike traffic. (Mr. and Mrs. Gerald Burk, 636 Bluebird Drive, Bailey, CO 80421)

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1. I do not agree with the Bailey bypass alternatives being dismissed. We would be better off to bypass Bailey!!! Bypass from Shaffers Crossing to Grant. Go back to the original plan.
2. Intersections – NO TRAFFIC SIGNALS! Do like Parmalee Gulch at all intersections.
3. We should consider light rail to Denver Metro area. Bus service to Bailey at least.
4. Take the bike path through Bailey. (Deborah Jalanivich, P.O. Box 655, Bailey, CO 80421)

- Please, no stop lights
- Kings Valley Rd Option B
- Need bike trail along 285 – Bike traffic seems to have picked up along 285 creating hazardous conditions.
- Yes, please consider extending the bike trail to Bailey. Should be located on separated path. (Bill Farr, 11263 Conifer Mtn. Rd.)

- Noise abatement is an issue for me.
- Please, consider the extra road noise being generated – especially by McKinley subdivision and Wil' O' Wisp subdivision – just south of Pine Junction.
- Consider the best way to limit or apply abatement to road "traffic" noise – be it road surface or "noise fence."

- The additional traffic will cause higher sound travel which needs to be seriously addressed by areas of high population density – i.e. nearby sub divisions. (William Kelly, 717 Rim Rock Road, Bailey, CO 80421)

I own property south of 285 just west of Pine Junction. I would like to see the highway pushed just northwest onto abandoned service road. Any widening would clear cut all our privacy and sound barrier putting our master bedroom into full view of highway. Existing hwy fence is 40' from our house. Grade is steep and full tried. It would 1) depreciate our home considerably, 2) eliminate 100% of our privacy, 3) eliminate the only noise barrier we have. To take the home would be the best in this case.

Please eliminate stop light at Pine Jct. There is at least 1 fatality each summer there. Consider your traffic off 126, its huge during the summer. Your table 1 chart no. 3 increase of traffic all comes off Hwy 126 heading east. Big big sight seeing, kayaking, biking and motorcycle route. If my wife and I could obtain any drawings or preliminary work on Jct. it would be great. P.S. Please look how close we and our neighbor are to existing hwy. Thanks (Rick and Beth Dunn, 34473 Ella Ave., Pine, CO 80470)

- No traffic lights
- More information on Shaffers Crossing and Pine Junction intersection need rt. turn at Glen Dr. with tunnel
- Pedestrian & bike path from Conifer to Bailey (Ken Hutchison, PO Box 1123 Conifer, CO 80433)

On Deer Creek we liked selection D. Want non motorized VERY much. Would prefer separate path but am afraid then it would be left out. Shoulder path is better than nothing but also creates a safety concern. (Jam Adamson, 77 E. Crossout)

The under lying rationale for the project is largely disingenuous. The argument that the project is needed to accommodate growth is spurious since the growth has been taking place only after the initial announcement of the project.

Insufficient consideration was given to the special needs and unique environmental conditions extant in the area. For example – the use of sodium vapor street lights increase dramatically light pollution/light scatter destroying the night sky by obscuring the view of the starts.

Studies (decades old) from the U of A (Phoenix) demonstrate that projects such as this do NOT relieve congestions as claimed but rather, dramatically increase volume – and

generally increase congestion in the long run. (Just look at how C-470 "relieved" congestion between Kipling & I-25!)

Bad Idea! Bad for the existing community, bad for the state, bad for our children. (Caoimhin Connell, P.O. Box 1742, Bailey, Colo 80421)

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1. For Elk Creek Rd. intersection – Plan B or G will provide the most flexibility with both Elk Ck and Parker Rd. access to highway. I'm concerned about keeping in mind the environmental impacts on Elk Creek.
2. The historic buildings at Elk Ck Rd (east of highway) don't appear on your map – Old round school house. Would this be saved?
3. I'm in favor of 4 lane paved or depressed median.
4. Bailey would at least get an underpass – would you construct a frontage road for business & residential access? No turning left on highway.
5. How soon would you know what road intersections will be priority for construction after 2005? Who goes first and then would widening to 4 lanes follow? (Suzanne Nelson, PO Box 609, Conifer, CO 80433)

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1. There should be an alternate route over Conifer Mtn. (via King's Valley Road?) in case of a fire or hazardous waste accident that could close 285 somewhere.
2. Reopen railroad with light-rail from Chatfield area, so as to follow the old rail line to Bailey. Or use same route for cars.
3. Get funding quicker (No name given)

There should be transit alternative

- Car pool lots
- Extend RTD to Bailey with addition RTD park-n-Rides (Judy and Joe Ray, 27734 Fawn Dr.)

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1. Deer fencing – definitely needed. We will work with CDOT, as we have land next to the highway, for an animal underpass near Wagon Trail.
2. We concur with 4 lane options only
3. Richmond Hill Rd. intersection. No traffic signal – we would like a grade separation.
4. The feasibility study on non-motorized travel apparently says facility should only be considered from Foxton to Pine Junction. No explanation as to how this was decided. Could it be done later (will land be set aside)? If it's a now or never situation please consider building a part of this segment all the way to Bailey. (Joe and Judy Ray, 27734 Fawn Drive, Conifer, CO 80433)

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1. I believe it is essential that the entire length of 285 be 4 lane divided highway. I believe center concrete barriers are more dangerous than depressed center median due to the ascending/descending curving roadway. (I favor a depressed median.)
2. Signalized intersections are not appropriate. Anything that impedes the continuous flow of traffic will cause major traffic backups, particularly on Friday evenings and Sunday afternoons. All of the studied interchanges need to be via separated grade (over/under pass type). The right in/right out seem to work well.
3. We do need elk fencing ... tall enough to keep elk from jumping it. Look at what was done on Colorado Hwy 74 in north Evergreen. Consider using fencing with "elk exits" like was done there. The fencing guides elk to an earthen ramp where they can climb over a lower section of fence and jump down the other side. Ask State Fish & Wildlife how these elk ramps have worked. Also, extend fencing back a good distance at intersections as elk will walk around entry ramps and onto the roadway. Way too many elk are being killed and cars damaged not without fences!
4. We need to limit private access to road ... and make sure when we do have private access that drivers cannot make a left turn out ... and drive across depressed median just because its quicker than turning right and doing a U-turn at next grade intersection. That's what happens on new part of 285 now! (George Rasmussen, 31541 Pike View Drive, Conifer, CO 80433)

Written Comments mailed to Carter & Burgess:

Whoever decided some of your options never bothered to go look at what they thought would work!!!

Bailey Option C – No! No! No! A and B also – No! and all the other options for Bailey – No!
What would we do about the Historical Park? Toward the beginning of your exhibit there was a chart regarding "Historical places" and the Entriken Cabin was listed. It is in our Historical Park which also contains the Shawnee Schoolhouse, a cabin from Camp Leslie Deal, the old 'wait station" from Glen Isle, an old caboose. Items from the days of ice cutting by Maddox Ice Co. on lake near Shawnee and (perhaps the crown jewel) the Keystone Bridge leading to a nature trail on the other side of the river. All land donated to Pk Co. Hist Soc. by Helen McGraw Tatum. You want to ruin all of this?? After all our hard work and future plans? (Eldred Rankin, 412 Pinon Rd., Bailey CO 80421)

- Thanks to all of the people who have put so much time and effort into the presentation. We live on South Elk Creek Rd. at Shaffers Crossing so our focus is on this intersection even though we recognize the importance of the rest of the

project. We prefer Alternatives E or F. Grade separation. Being able to access 285 going south without crossing traffic will be a great relief!

- Please – NO SIGNAL lights at this intersection … the traffic coming down the hill in either direction especially on icy days would be a disaster waiting to happen.
- Options for laneage: Four lane with depressed (grass) median.
- We are concerned about Right Turn Only intersections – as is the case now at Foxton Rd/Kennedy Gulch, etc. People are still turning LEFT onto Foxton Road when they are going south, which causes potential rear end collisions.
- Transit Alternatives… Extend the RTD routes to Bailey and also add car pool lots.
- Non-motorized travel – horse, bike, pedestrian would be a great thing to have but we wonder how many would use it and how much a separated path option would cost.
- Our biggest concern remains the section from Foxton Road to Green Valley. We will still have congestion on weekends and during rush hours if this is not addressed. We realize it is an expensive and difficult section to improve but it is the only bottleneck left and is also dangerous. (Janet and Jerry Mallow, P.O. Box 752, Conifer 80433)

This relates to the area east of the Mountain View park-n-Ride.

The (old highway 285) is now the (frontage) service road entering onto 285, about 50-100 yards east of the park-n-Ride. I think there would be a lot of safety reasons to combine the service road entrance into the intersection for the park-n-Ride. This would also eliminate traffic slow down for the exit from 285 to the service road. And the entrance from the service road to 285. Our address for the property on the Frontage Road is 11615 Hwy 285 Frontage Rd. (Don Wolf, 5658 Garrison St., Arvada, CO 80002)

We need four-laning extended to Crow Hill NOW!!!!!

The area is growing rapidly and will continue to grow. 285 is only mountain access for tourists and transport other than I-70.

Even 3 years for EIS and 2 yrs for engineering is TOO LONG!!

The options for Bailey are sadly inadequate. You can't squeeze 4-lanes of high-speed traffic through Bailey in between river and businesses.

The sharp downhill turn at the bottom of Crow Hill will eclipse "deadman curve" at base of I-70. This plan is fatally flawed – literally. (No name given.)

- No lights
- Keep traffic flowing.
- Make it possible for Elk Creek Fire Dept. to drive both north and south whenever necessary. I have seen them stopped in traffic because cars cannot move to let them pass.
- Thank you for all your efforts to improve 285! (Robert & Mary Jane Suding, 27107 Richmond Hill Rd., Conifer, CO 80433)

We are for:
1. 4 lanes with depressed median highway/expressway
2. grade separation, not signals at intersections
3. bike/pedestrian facility using a separate path, not US 285 shoulder.

We are not in favor of part time bus or HOV lanes.

Thank you for your efforts in communicating with us! (Bill and Sharon Giesey, 30570 Rand Road, Conifer)

- Interchange options are interesting – of course preferred ones will be most expensive.
- Shaffers Crossing may need <u>even</u> more work to be adequate to accommodate new State Park.
- Bailey options <u>won't work</u>! 4 lanes of high speed traffic between businesses and river – Don't think so! This won't work for business or homes on River Drive. CURVE AT BOTTOM OF HILL WILL BECOME MORE DEADLY THAN BOTTOM OF I-70!
- 285 HAS TO BE A TOP PRIORITY FOR CDOT REGION 1.
- DRCOG EXCLUDING 285 AS BEING OUTSIDE "URBAN GROWTH BOUNDARY" IS <u>BS</u>.
- OUR AREA IS GROWING RAPIDLY AND WILL CONTINUE TO. 285 IS ONLY MOUNTAIN ROUTE FOR TRANSPORT AND VISITORS OTHER THAN I-70.
- EIS AND ENGINEERING FUNDING NEED TO BE FAST TRACKED!!! (Stephen Millard, 25979 McIver Cr., Conifer 80433)

WRITTEN COMMENTS MAILED TO CARTER & BURGESS AFTER ENTRY ON WEB SITE

I was and continue to be outraged by the way CDOT is wasting tax payers money on certain aspects of the project, namely:

the veneer wall on windy point, the garish painting of false rock at and on the overpasses in Conifer and Aspen Park. What do you people plan to do with overpainting and graffiti that we all expect from vandals.

That money could have been more wisely spent, adding one lane between Foxton road and the top of Richmond hill. Come drive that section if you want to be confused and outraged.

Also! when will CDOT start paying attention to the impossible situation of signage and instructions to motorists, ie: I-70/I-25 interchanges are impossible to follow. (Please call me if you want me to substantiate my comments.)

We need bicycle paths!! Please provide them! (Richard W. Price, 13116 So. Noka Trail, Pine, CO 80470)

I believe that putting a frontage road on River Rd in Bailey would be completely ridiculous. This is the most beautiful part of this stretch of Highway, and it would be detrimental to the towns look and Economy if a frontage road were just thrown there.

I personally, would be very unhappy because I live on River Road, and moved there specifically because it is so gorgeous – just the way it is!

The entire idea is completely ridiculous and not very well thought out! (Leah Schumann, P.O. Box 991; Bailey, CO 80421)

The growing urbanization in the Denver metropolitan area and its mountain-area suburbs along with a growing demand for mountain oriented recreation has resulted in increased demand on US 285.

US 285 is characterized by mountainous terrain and steep grades with numerous access points along the northern stretch. There are only a few areas of adequate shoulders or acceptable clear zones, and there are horizontal and vertical sight distance problems in numerous locations. It serves a critical function for recreational travelers in the Denver metropolitan area to access a rich variety of recreational opportunities in lands to the south and west.

Statement of Need for Transportation Improvements

The underlying need for transportation improvements along US 285 is to:

- Provide a limited access facility
- Improve congested conditions
- Improve motorist safety
- Provide increased capacity

The CDOT Commission recently approved a change in classification for US 285 north of this segment to "Expressway". The new roadway planned for this segment will be planned for Expressway status, which means that intersection spacing is recommended at one mile with no private access.

Traffic volumes along US 285 have been steadily increasing over the years. Volumes increased by 85 percent north of Bailey between 1990 and 1999. Year 2020 average daily traffic (ADT) volumes are shown in Table 1. Summer weekend volumes are approximately 15% to 65% greater than summer weekday volumes, representing the recreational use of the corridor. By the year 2025, future volumes will result in Level of Service (LOS) F throughout most of the corridor, for both weekdays and weekends. (LOS F represents the worst-case traffic operations on a scale from A to F.) Current LOS is D, E or F during peak travel periods. The corridor goal for LOS is C.

Table 1
2000 ADT

Location	Weekday		Weekend	
	Summer	Fall	Summer	Fall
1. Bailey to top of Crow Hill	7,400	7,800	12,100	8,900
2. Crow Hill to Shaffer's Crossing	14,700	10,800	18,700	11,200
3. Shaffer's Crossing to Foxton Road	21,100	17,700	24,200	17,700

Current travel time delays during the weekday and weekend peak periods are generally due to the inability of faster-moving vehicles to pass slow-moving vehicles, or traffic turning from or onto US 285 from intersecting roads or driveways.

Accident rates along this stretch of US 285 range from 58 to 80 percent higher than average statewide accident rates for similar facilities. Approximately 38 percent of accidents occurred at

intersections or access points and 36 percent of accidents occurred because of collisions with fixed objects.

Statement of Purposes to be Attained while Meeting the Underlying Need

The purposes of improvements to the US 285 corridor are to:

- Improve bus transit services
- Provide for non-motorized travel
- Be environmentally sensitive
- Provide an implementable project

RTD provides bus service to about half of the corridor from Pine Junction north. There are two park-n-Rides in the study area: Pine Junction and Mountain View. On a typical weekday, there are spaces available at the Mountain View park-n-Ride but not at Pine Junction. Buses currently experience travel time delay due to congestion on US 285 during peak periods.

Bicycle, pedestrian and equestrian trails to connect key activity centers and more urban areas are missing along the corridor. US 285 has been classified in the top 15 percent of all highways used by bicyclists and top 15 percent of all highways in Colorado needing shoulder improvements. Bicyclists, pedestrians and equestrians currently utilized unpaved shoulders along US 285.

The corridor improvements will be responsive to community values such as maintaining or enhancing rural character, minimizing noise increases, maintaining or enhancing visual quality and minimizing impacts to wildlife habitat.

The corridor improvements must be affordable in terms of capital and operating costs and implementable, considering any institutional issues.

US 285
Foxton Road to Bailey EIS

US 285 EIS Public Scoping Meeting
July 30, 2002

Format:

This meeting is an open house format. No presentation will be held.

Room Arrangement:

The room is arranged around the following four stations. Each station has graphics about the project and people available to answer questions.

Station #1: Study Process

Station #2: Environmental Issues

Station #3: Alternatives to Consider

Station #4: Access Control

Station #5: Comments?

Opportunities to Comment:

You have the following opportunities to comment about the project. We strongly urge you to make your opinions known tonight, by:

1. Speaking to a project team representative, who will write down your comment on a card.
2. Filling out a comment sheet and putting it in the "Comment Box."
3. Filling out a comment sheet and mailing it in later.
4. Writing down a comment card and taping it on the wall.

Also, please visit the project Web site at www.us285.com. There you will find project information and have further opportunity to give us your suggestions and opinions about the project.

Thanks for coming and for participating.

US 285

Foxton Road to
Bailey EA

US 285 Environmental Impact Statement changes to an Environmental Assessment

The Federal Highway Administration (FHWA) along with the Colorado Department of Transportation (CDOT) has made the decision to prepare an **Environmental Assessment (EA)** for improvements to the US 285 corridor from Foxton Road to Bailey instead of the Environmental Impact Statement (EIS) that was going to be prepared.

The decision to produce the National Environmental Policy Act (NEPA) documentation as an **EA** rather than an EIS was made in the public interest to streamline the process. An **EA** is a level of documentation that is prepared to meet requirements of NEPA that is typically written for a project when there are no significant environmental impacts. After evaluating the preferred alternative for the US 285 project, it was discovered that there will be no significant impacts to the social, economic, or physical environment and therefore an EIS is not necessary. Any impacts that occur will be mitigated through accepted practices such as replacing damaged or destroyed wetlands on a one to one ratio, or adding wildlife crossings.

All project impacts and mitigation measures will be described in detail in the **EA** that is due to be released in the spring of 2004. There will be an official public commenting period and a formal public hearing held at that time.

Since the Last Public Workshop...

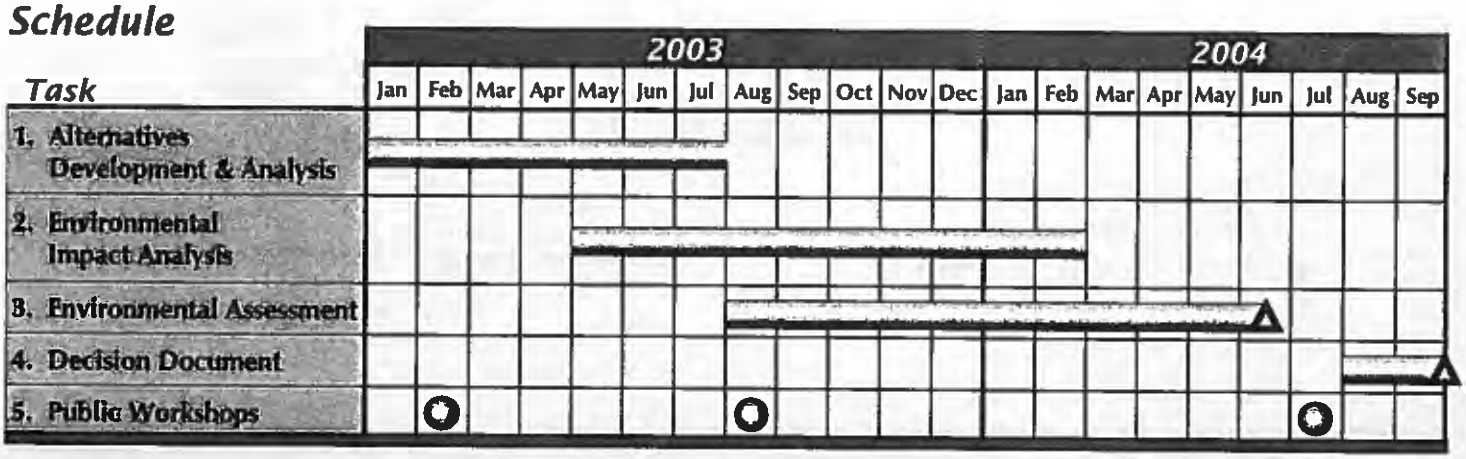
The last public workshop was on August 13, 2003 at the Platte Canyon Fire Station located on top of Crow Hill. Since then,

- *We have completed all data collection and environmental analysis*
- *We have compiled an EA document*
- *We have refined the design of the preferred alternative*
- *We have created a plan for some interim improvements from Foxton Road to Richmond Hill*

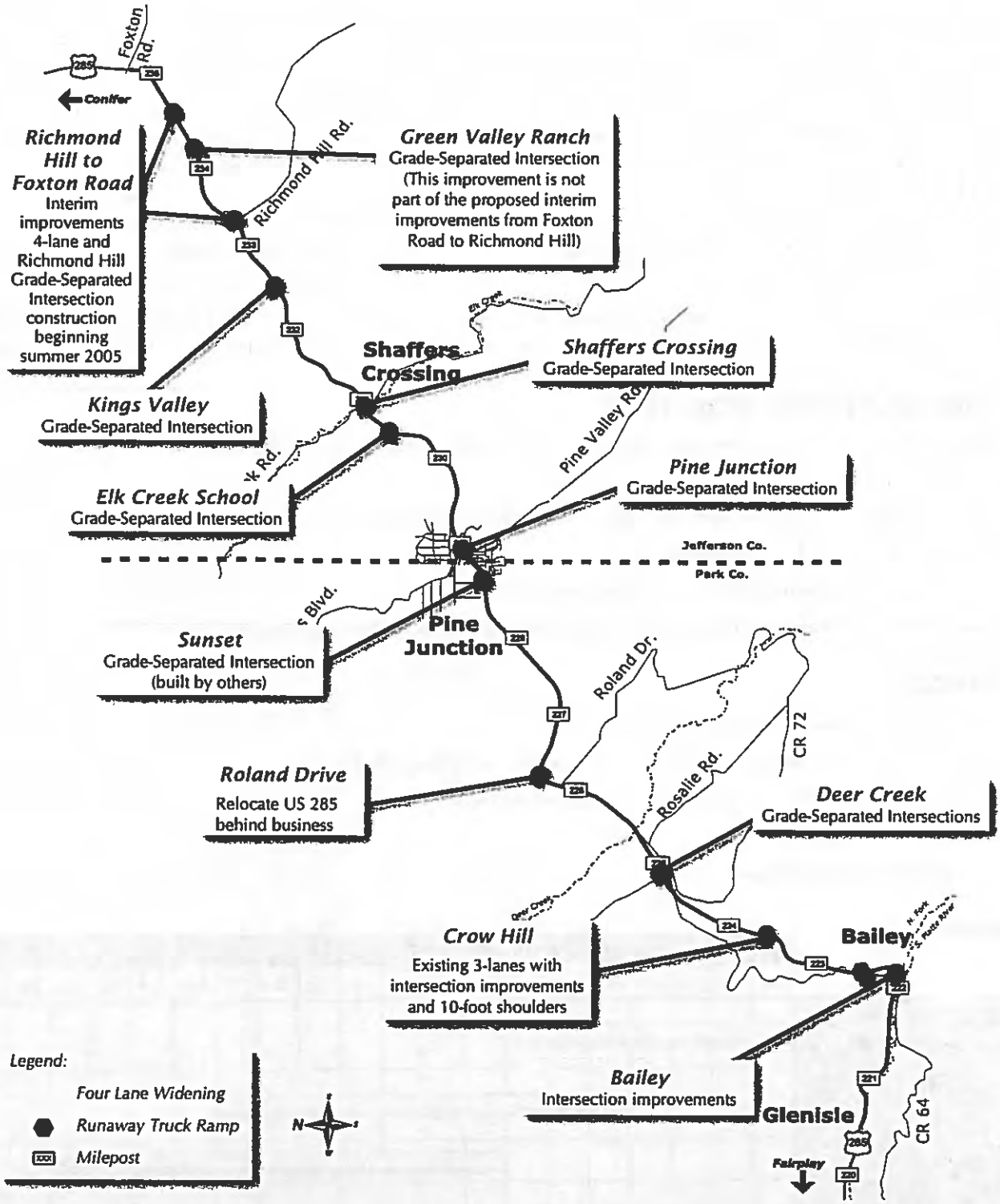
Next Steps

- *Refine the environmental document*
- *Have the document reviewed by CDOT, FHWA and certain agencies*
- *Publish revised document for public review and comment*
- *Hold public hearing*
- *Prepare a decision document*

Schedule



Proposed Improvements on US 285 from Foxton Road to Bailey as Part of the Preferred Alternative in the Environmental Assessment



Interim Improvement on US 285 from Foxton Road to Richmond Hill

Need for Improvements

Interim improvements to this section of US 285 were identified in the US 285 EA process as of being of the highest short-term priority. The reason for this is:

- *This section of the study corridor has the highest existing and forecasted traffic volumes (existing volumes of 21,000 vehicles per day on the weekday and 24,000 weekend; Year 2025 volume range of 39,000 to 47,000 weekday and 53,000 to 64,000 weekend)*
- *Roadway level of service* of E now and F in 2025*
- *Major intersection level of service of F now*
- *Accident rate is 50 to 60 percent higher than statewide average*
- *Recent fatality accidents in section and fatality accident rate over 400% higher than statewide average*

Interim Improvements Schedule

The following schedule for the interim improvements is being followed:

• *Winter 2004*	*Final Design*
• *Summer/Fall 2004*	*Right-of-way (ROW) Acquisition*
• *Spring 2005*	*Construction*

Widening

The four lane section varies within the section:

- *Improvements begin at the existing four lane with median section just southwest of Foxton Road*
- *Four lanes with left-turn bays in paved median from existing four lane section to Mountain View Road area*
- *Four lanes with grassy median from Mountain View Road area to just southwest of Richmond Hill*
- *Transition from four lanes with grassy median to existing three lanes southwest of Richmond Hill*

Richmond Hill Grade-Separated Intersection

A new grade separated intersection (similar to those already built along US 285) would be constructed at Richmond Hill and include the following features:

- *Overpass of US 285 southwest of the Richmond Hill/Blackfoot Road/US 285 intersection*
- *Right-in/right-out intersections at Richmond Hill Road and Blackfoot Road*
- *Improved alignment of Blackfoot Road between the new overpass and the US 285 intersection*
- *Roadways with access to this grade-separated intersection:*
  - *Richmond Hill Road*
  - *Blackfoot Road*
  - *Navaho Trail*

Access Control

All other locations would continue to be full access intersections. Turning lanes would be provided at the following locations:

- *Log Trail - southbound left-turn bay in paved median, northbound deceleration lane and northbound acceleration lane*
- *Wagon Trail - southbound left turn bay in paved median, northbound deceleration lane and northbound acceleration lane*
- *Mountain View park-n-Ride – southbound deceleration lane and southbound acceleration lane*
- *Springs Road - southbound left turn bay in paved median, northbound deceleration lane and northbound acceleration lane*

* *Level of service measures how well traffic flows on a facility. A is the best and F is the worst.*

Project Website has been Updated!
Go to www.us285.com

CDOT wants to hear from you!

Public involvement is an integral part of the EA process. The project team encourages you to attend the Open Houses! This is your opportunity to meet one-on-one with project team members and give your comments or concerns and ask questions. The final open house will be announced in the coming months.

Other Opportunities to Get Involved in the US 285 Project Include:

1. Visit the project website at: **www.us285.com**.
2. Provide input by telephoning the project team member listed.
3. Write a letter with suggestions, comments and concerns on the US 285 corridor and send it to the project team members listed. (Regular mail, electronic mail or fax is appropriate.)

For questions or comments contact:
Kim Patel
CDOT Region 1, 18500 E Colfax Ave.,
Aurora, Colorado 80011
(303) 365-7373, (303) 757-9746 (fax),
kamalesh.patel@dot.state.co.us
or
Troy Halouska
Carter & Burgess, Inc.,707 17th Street, Ste 2300
Denver, Colorado 80202
(303) 820-4898, (303) 820-2401 (fax),
halouskatk@c-b.com

CDOT

US 285
Foxton Road to
Bailey EA

Carter & Burgess, Inc.
707 17th Street, Suite 2300
Denver, Colorado 80202
Attn: Troy Halouska

COMMENT SHEET

US 285
Foxton Road to Bailey EIS

I have the following comments or questions about the US 285 (Foxton Road to Bailey) EIS project:

Name:	
Address:	
Phone:	**e-mail:**

(above information is optional)

Fold here

Return Address:

_____

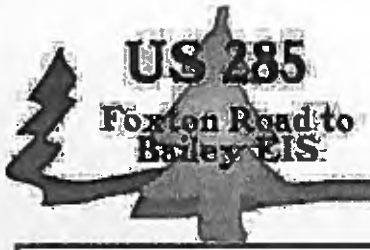
_____

_____

Place stamp here

Troy Halouska
Carter & Burgess, Inc.
216 16th Street Mall, Suite 1700
Denver, Colorado 80202

Fold here



US 285
Foxton Road to
Bailey EIS

US 285 (Foxton Road to Fairplay)
Public Scoping Open House – Elk Creek Fire Station – July 30, 2002

Sign-in Sheet

Name (please print)
Mailing Address
City, State, Zip Phone

Name (please print)
Mailing Address
City, State, Zip Phone

Name (please print)
Mailing Address
City, State, Zip Phone

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Mailing Address
City, State, Zip Phone

US 285 Foxton Road to Bailey EIS Public Scoping Meeting February 12, 2003

A Public Scoping Meeting was held on Wednesday, February 12, 2003 from 4:00 p.m. to 7:00 p.m. at the Platte Canyon Fire Station (153 Dellwood Drive in Bailey). One hundred seventy-seven people signed the attendance roster for the Public Meeting, which was an open-house format. No formal presentation was given. All project personnel responsible for the project were available throughout the evening to answer questions, receive comments and talk with the public about any concerns they had regarding the project.

The following project personnel were present:

- Kim Patel, CDOT
- Brian Pinkerton, CDOT
- Rob Hirschfeld, CDOT
- Kevin Radel, CDOT
- Pam Hutton, CDOT
- Jill Schlaefer, CDOT
- Scott Sands, FHWA
- Steph Millard, RTD
- Troy Sieglitz, PBS&J
- R. A. Plummer, PBS&J
- Melissa Bordewin, PBS&J
- Steve Smith, PBS&J
- Gail Keeley, Hermsen Consultants
- Kent Pease, Haley & Aldrich
- Gina McAfee, Carter & Burgess
- Craig Gaskill, Carter & Burgess
- Kim Gambrill, Carter & Burgess
- Jeff Wilson, Carter & Burgess
- Steve Gomez, Carter & Burgess
- Anna Locke, Carter & Burgess
- Velvet Hangebrauk, Carter & Burgess
- Troy Halouska, Carter & Burgess
- Kirk Webb, Carter & Burgess
- Amy Wiedeman, Carter & Burgess
- Lorena Jones, Carter & Burgess
- Elizabeth Bentley, Carter & Burgess

The handouts and graphic materials displayed at this Public Meeting follow:

Sign-In Table
An agenda sheet, comment sheet and an aesthetic treatments survey were handed out at the sign-in table.

Graphics

Background Information

Purpose of Tonight's Workshop – A series of snowcards showed the reasons for the Public Meeting, i.e., provide updates project information and show all current alternatives, obtain comments, etc.

Purpose and Need Statement – This graphic showed the purpose and need to study US 285 from Foxton Road to Bailey.

Current and Future Traffic Volumes – This graphic showed summer weekday/weekend average daily traffic volumes by location.

Accident History – This graphic showed the number and type of accidents by location.

LOS Definition – This graphic gave the definitions for the six levels of service (LOS) categories.

Level of Service – This graphic showed the existing and future LOS for the project area.

Project Schedule – This graphic showed the schedule dates for the major tasks within the Environmental Impact Statement.

EIS Process – This graphic showed the major tasks and associated activities for the Environmental Impact Statement.

Contents of an EIS – This series of snowcards showed the issues that are considered in the Environmental Impact Statement, i.e., air quality, noise, wetlands, etc.

Value Engineering – There were a series of snowcards throughout the room that described the Value Engineering process, the suggestions being considered from this process, and the potential cost savings.

Other Input – These snowcards showed suggestions from the Land Use Committee.

Aesthetic Treatments

Treatment Photos – This graphic showed various bridge and wall treatments being considered for US 285.

Special Comment/Survey Sheets – Attendees to the Public Meeting were asked to comment on which wall and bridge treatments they preferred.

Environmental Issues

Wetlands/Water Resources/Floodplains – This graphic showed the rivers, streams and floodplain area in the US 285 study area.

Wildlife/T&E – This graphic showed the location of accidents involving wildlife, migration patterns, and areas of high concern.

Land Use/Recreational Resources – This graphic showed land uses in the study area, i.e., parks, agriculture, residential, etc.

Noise Process – These graphics showed noise abatement criteria, sound level comparisons and how a noise barrier works.

Historic Properties/Noise Areas/Haz Mat – This graphic showed the locations for potential historic properties, noise areas and potential hazardous materials sites.

Alternatives Development

Alternatives Development Process – This graphic showed the evaluation screening process to determine a Preferred Alternative.

Roadway Alternatives – This graphic showed the advantages and disadvantages of the four roadway alternatives, i.e., No Action, 4-lane with median, 4-lane with depressed median and 3-lane with safety improvements (Bailey to Crow Hill only) being considered.

Typical Sections –This graphic showed a typical section, i.e. lanes, road width for the potential roadway alternatives.

Slope Treatments – These graphics showed the various slope treatments for downhill and uphill conditions.

Richmond Hill Road Alternatives – These graphics showed the grade separated intersection alternative and the advantages and disadvantages for it.

Green Valley Ranch Alternatives – These graphics showed the grade separated intersection alternative and the advantages and disadvantages for it.

Kings Valley Drive Alternatives – These graphics showed several grade separated intersection options, the options which were advanced and the advantages and disadvantages of each option.

Shaffers Crossing Alternatives - These graphics showed several grade separated intersection options, the options which were advanced and the advantages and disadvantages of each option.

Mt Evans Boulevard Alternatives - These graphics showed two grade separated intersection options (both options were advanced) and the advantages and disadvantages of each option.

Rimrock/Wisp Creek Alternatives - These graphics showed the grade separated intersection alternative and the advantages and disadvantages for it.

Deer Creek/Crow Hill Alternatives - - These graphics showed several grade separated intersection options, the options which were advanced and the advantages and disadvantages of each option.

Bailey Alternatives - - These graphics showed several Bailey options, the options which were advanced and the advantages and disadvantages of each option.

Bailey Bypass Alternative - These graphics showed a Bailey Bypass Alternative and the advantages and disadvantages associated with it.

No-Action Alternative - This graphic showed the corridor without making any changes.

Potential Alternative Mode Elements – These snowcards listed alternative mode elements and programs that could be implemented along the corridor.

Bike/Ped Cross-Section – This graphic showed a cross-section with potential bicycle facilities on-street and off-street.

Bike/Ped - This series of snowcards listed proposed bike path accommodations along US 285 and on the new overpasses and underpasses.

Access Control/Issues - These graphics showed the proposed access control changes and the travel timesavings that would result from a 4-lane facility with grade separated intersections.

Runaway Truck Ramp – These graphics showed potential truck ramp designs and locations near Bailey.

Right-of-Way Acquisition Process – this series of snowcards shows the process from preliminary design review to through relocation and demolition is necessary.

ROW Brochures – were given to those people whose property might be impacted by widening US 285.

Comments

Upcoming Steps – This graphic shows the remaining steps in the Environmental Impact Statement process.

Public and Agency Involvement - These snowcards the various elements that make up public/agency involvement, i.e., the public meetings, project Web site, obtaining public input, small group meetings, etc.

Comment Sheets - were again available in the comment section.

Comment Box - was provided for the comments completed the night of the Public Meeting.

Snowcards with comments given to the project personnel were displayed in the Comments section.

Verbal Comments from the Public

- Is the US 285 widening included in the 2030 Plan?
- How and when will funding become available?
- When will the widening actually get started?
- Turning movements at CR 64, truck traffic to lumber yard and post office – dangerous turns across bridge into town.
- 40-60 End-bump trucks (aggregate) using Shaffers crossing/day with aggregate pit 4.2 million tons reserves.
- Like Option 2 at Shaffers Crossing because it is less out of direction travel for people living up Elk Creek Road.
- Access Road (Frontage Road) on east side from Roland Drive to Rosalie Road.
- Something has to be done to fix Mable Lane (west of Crow Hill). This is a very dangerous intersection.
- Agree with recommendation to not widen down Crow Hill.
- Option 2F for Shaffers Crossing preferred - less impacts and costs less.
- Any bypass at Deer Creek and Grant area given the potential construction of Two Forks?
- Bypass (at Bailey) is the best option here.
- Avoid historic buildings at King's Valley (Clifton House and Deer Valley Ranch).
- Deer Creek Option D
  - Like 2 grade separations
  - North intersection is too close to underpass.
- Build anything now! Get something done, just make a decision and get it built.
- How much of an easement is needed for the runaway truck ramp?
- Should flatten the curves, since we are widening.
- In favor of a left-hand turn into Park View subdivision.
- What is the likelihood of this being done in the near term? Definitely support it.
- Explain reasons for not recommending Bailey Bypass.
  - Including "Narrows" bypass.
- Concept B (Deer Creek) needs to provide better access to Park County 72 for southbound traffic.

- The Mt Evans elk herd migrates across US 285 between Wisp Creek and Rosalie Road.
- Roland Valley curve should be sloped more appropriately, don't need to go behind the businesses to do this.
- Like the temporary three-lanes from Richmond Hill to tie into end of Phase V project. (Merging is hazardous now.)
- Like the Richmond Hill alternative.
- Should ask school district about new school planned at Rosalie. School kids are definitely dropped off and picked-up by school buses on the shoulder.
- At Pine Junction, traffic demands two underpasses and combine two options together.
- Eliminate overpass at Rimrock and add Frontage Road connecting to Wandcrest interchange. Add underpass connecting to Frontage Road at Wisp Creek Drive (New concept).
- Turning off US 285 south onto Roland Valley Drive is dangerous. Need west side (right side) turnoff.
- Add connection from Staunton State Park to access via National Forest Land to Sprucedale/Evergreen and to Aspen Park for evacuation.
- Build the underpasses first (as soon as possible).
- Post meeting notices at Safeway or other public places.
- Agree with dropping the Bailey bypass and no widening through Bailey.
- Keep the Bailey bypass options on the table:
  - Safety
  - Economic opportunities for Bailey
- Runaway truck ramp should be further south (near 40 mph sign).
- Should not have dropped the Bailey bypass – why was it dropped?
- Like the runaway truck ramp.
- In favor of Bailey bypass.
- Four-lane preferred from Bailey to Crow Hill.
- Bailey bypass alleviates ski traffic.
- When will improvements to US 285 begin?
- Prefer depressed median options.

- Kings Valley Option II – Good. Options V and VI – not good, roundabout is a big concern.
- At Green Valley – prefer to move US 285 south to avoid property.
- From Dave Long:
  - Don't like Option 5 at Kings Valley (no roundabouts)
  - Like Option 2
  - Don't like Option 6
- No widening from the top of Crow Hill to Bailey – already too much speeding traffic coming down the hill.
- Does CDOT have funding $ to acquire open space?
- Temporary lanes from end of new pavement to Richmond Hill should be two lanes westbound and one lane eastbound.
- How long before completion? Needs to be done ASAP!
- Access Management: Remove all signals is the best option.
- Runaway truck ramp, Option 1 is preferred.
- NO roundabouts!!!!
- U-turn at West Rimrock Road has bad sight-distance.
- Cattle cross highway at Deer Valley Ranch Assn. Currently close highway.
- Traffic beyond (south of Bailey) split traffic – both sides of North Platte River, northbound use CR 64 and southbound use US 285.
- 13,000 cars/day – to Denver. At Deer Creek traffic from CR 43 and CR 72 too high volumes for one access point. Safety concerns at merge areas.
- On Kings Valley Option II, move north access road south (more into garage to avoid drainage at north side of property). Option II preferred alternative.
- Need access at Main Street into Bailey for traffic coming south from Denver, or provide signage to Bailey businesses.
- "Don't Fence Me In!" Deer, elk, fox, coyote. Ensure healthy percent of budget and planning for project includes plenty of wildlife underpasses and directed, easy access to the other side of the highway: Too many vehicle and animal incidents!
- Comparison of accident rates is not similar to US 285.
- No painting on aesthetic wall treatments.
- Should have a wildlife crossing for elk at Calfee Gulch at station 520+00 at Mountain Club.

- Put emergency phones along corridor.
- Place a concrete median in center at Shaffers Crossing to prevent accidents during icy conditions.
- Best thing is to widen it all the way to Fairplay.
- Opposed to bicycles on the highway.
- Comment: We would like the idea of a bypass from top of Crow Hill and come out at P.C.H.S. It would save the canyon pass Bailey.
- Dave Long: four-lanes at Crow Hill preferred for safety.
  - Don't build just three lanes.
- What about the business in Bailey – no bypass.
- Dangerous intersection at Main Street and access road from US 285.
- Very concerned that creating a limited access roadway creates real safety concerns during a fire evacuation situation.
- Likes concept of grade-separation vs. traffic lights
- Provide access off of US 285 from Stone Chimney Lane to Pine Valley to eliminate direct access. (minor grading involved) (prior to proposed improvements).
- Access management/safety. Safety concern with three-lane option from Bailey to Crow Hill.
- Bailey bypass will increase marketability of Bailey, not decrease.
- What is a riparian area?
- Do not build a Bailey bypass.
  - Personal property impacts.
- Corp of Engineers needs to be involved early in the EIS process (i.e. Alternatives Development).
- Staunton State Park – only entrance is at Elk Creek so the access needs to take this into consideration.
- Combo of jersey and depressed median to keep people from crossing.
- Do <u>not</u> like roundabouts.
- Elk Creek should be shown as a 100 year floodplain.
- There should be a "high concern" area for wildlife (elk and deer) between Wisp Creek Drive and Pine Junction.
- Travel time projections

- Is there a difference between information from October 5, 2001 meeting and exhibits in February 12, 2003 meeting?
- Has the Corps approved the idea of off-site mitigation?
- Build bridges and overpasses first for traffic reduction during construction.
- Extend meeting time until 8 p.m., so people can go home and have dinner first.
- Connect Frontage Road at Deer Creek interchange south side between CR 72 and Rosalie.
- Suggestion for phasing – build grade separations first – this will relieve a lot of congestion from left turning traffic.
- When will improvements get started?
- Provide three accesses to Staunton State Park (end of Elk Creek Road to Brook Forest).
- Option for wetland replacement southeast of Stone Chimney Drive or working with developers along CR 126 "Earle Brock" "Bud Moore" ask Roger Mlodzik 303/839-8840, Water Commissioner State Water Resources.
- Like VMS in both directions.
- Look at Staunton State Park under development. In at: Elk Creek Road, Kings Valley Road, (Mount Evans Road). Traffic impacts in near future – RVs?
- Look at wildlife measures to keep them off road (fencing, underpasses...)
- Don't want four lanes down Crow Hill. Vehicles would go too fast for safety.

Written Comments from the Public

- Please do not put a road through my garage! Do not put more traffic next to my deck. Of all the "Alternatives" I saw I think Option VI will probably impact my property the least, I hope.
  - Steve and Pam O'Shea, 12485 U.S. 285, Conifer CO, Phone: 303/838-7856
- I believe at Pine Junction because of the current traffic volume, there will be a need for 2 underpasses. One at Glen Drive and one at Mt Evans. With a right in at Glen Drive and a right out at (sentence was not completed).

  I believe that Option 1 and Option 2 need to be combined because of the traffic volume.
  - Ken Hutchison, P.O. Box 1123, Conifer, CO, Phone: 303/838-1661, e-mail: cbash@starband.net

- Alternatives Develop: Deer Creek (Crow Hill) *prefer Option III over II. Option III allows for 43 traffic to not have to merge with Rosalie traffic without back tracking to access US 285. * Do not see a real need for bicycle facilities.
  - Morris, 277 Rustlers Road, Bailey, Phone: 303/816-0103
- My biggest concern is that of pavement type. I would much rather see asphalt as opposed to any more grooved pavement on US 285. The "tined" or grooved concrete is horrible to ride a motorcycle on.
  - Jason Gregory, 2485 County Road 72, Bailey, Phone: 303/816-2233, e-mail: jgregory@greystone.us
- Recommend old Option D – now Option II.
  1. Provides equal access for 43, 72 and Rosalie traffic.
  2. Provides best emergency vehicle access.
  3. Provides best access for future commercial development in the valley area.

  Possible problems:
  The southbound US 285 to Highway 72 traffic will cause a significant overload of the intersections that access the underpass to Highway 72. If the right turn off/on for the Deer Valley side (southbound US 285) is moved northward, there will be a larger exit lane from US 285 and a larger waiting lane for the underpass to Highway 72.
  - Richard Eaton, 822 Bluebird Drive, Bailey, Phone: 303/816-5632, e-mail: jaguar66@aol.com
- Prefer the alternate overpass at Richmond Hill Road.
  - Henry T. Falvey, 11624 Blackfoot Road, Phone: 303/838-4920, e-mail: falvey@members.asce.org
- Not in favor of widening from the top of Crow Hill to Bailey – traffic speeds up and down now. In favor or a left hand turn lane into Park View subdivision. Not in favor of by passing Bailey. Why not go from the top of Crow Hill, through Slaughter House and come out at Kenosha.
  - Dean A. Tinder, 21 Pine Hollow, Bailey, CO 80421, Phone: 303/838-7814
- I am right in line for any runaway vehicles at the bottom of Crow Hill. Am very concerned about the potential for trucks making the final curve before entering Bailey. The increase in truck traffic through Bailey has been phenomenal since I moved here in the early 1970's. The improvement in US 285 from Denver will only increase the potential for more accidents. I have seen many. A Bailey bypass makes the most sense for me and my neighbors on the south side of Platte River.
  - Don Bertsch, P.O. Box 293 (166 Riven Drive), Phone 303/838-8604

- For Shaffers Crossing, at all costs keep separated grade. My preference is "C" Option 1.

  - Kent Wiley, State Parks, 11500 North Roxborough Park Road, Littleton, CO 80125, Phone 303/791-7275, e-mail: kent.wiley@state.co.us

- Option J for Elk Creek Road, although it is the most expensive option with two underpasses – it's the only way to get traffic over the Elementary School. And the Frontage Road link to South Parker Road looks least impact on property.

  Bailey Bypass would preserve the highway in case Two Forks is developed in the future.

  - Suzanne Nelson, P.O. Box 609, Conifer, CO 80433, Phone: 303/838-0317, e-mail: imavoice@aol.com

- At Deer Creek, I like Option B best. Overall, I support widening and improving US 285 from Foxton Road to Bailey. The sooner the better.

  - Russ Glover, Phone 303/816-0704, e-mail: reglover@att.net

- Support Option C now Option 1 from Shaffers Crossing intersection.

  - James Smith, 11500 North Roxborough Park Road, Littleton, CO 80125

- Please take out Roland Valley curve. Your design doesn't cut it. You need to cut 100-150 feet deep to adequately take that dangerous curve out and the impact wouldn't be much more than presently suggested.

  You are wasting your time and my tax money by simply widening Crow Hill to Bailey. This is a dangerous two mile steep grade, dumping you into a very sharp curve in Bailey. Your design proposals to take out curve would impact numerous peoples lives and property and not really solve other road problems like the sharp curves past Bailey. I have seen aerial photos of the Bailey area and it seems to make much more sense to go west from the top of Crow Hill and cut straight across joining to US 285 near the high school. This way impacts less people, gets rid of the two mile grade, all nasty curves, and make travel much safer and easier.

  Widening is needed because traffic volume has become so intense, I favor it but I don't favor the widening of an existing poorly designed road as is the case in many areas of US 285, which has made this road one of the most deadliest roads to drive in the USA. Please take **out** the curves.

  - Julia Von Evig, P.O. Box 35, Bailey CO 80421

- Horn Cemetery (between Roland Road and Rosalie Road) has 2 graves on CDOT easement – they will have to be moved into Cemetery.

CDOT will have to:
1-Get a Court Order

2-Exhume Bodies

3-They must have new coffins and vaults (per Colorado law)

4-Cemetery Board will have sites prepared (cost $400.00 each) in Horn Cemetery.

- Carolyn Hartshorn – Chair of the Park County Cemetery Board, 11742 Elk Creek Road, Pine, CO 80470, Phone: 303/838-1117, e-mail:anglhrs@aol.com

I live on County Road 68 and have great concerns for the Crow Hill and hook in Bailey. As I see it the runaway truck ramp is a waste because drivers do not realize they are in trouble until they are at the hook. Secondly the alternatives I see for Bailey are also in great need of being put off. US 285 should run up County Road 43 at the top of Crow Hill and should end somewhere around Shawnee's end. Worried about the old town dying? It already is. Most businesses are for sale or just barely making it. Do the smart thing; avoid Bailey and the future problems down from it (between Bailey and Shawnee). Do us all a favor: Contact Denver or Aurora and flood the valley.

- Paula Hillyard, P.O. Box 2, Bailey, CO 80421, Phone 303/816-9613

I own a second home in Elkhorn Ranch, we travel US 285 to and from the home at least once a week. I am not familiar with access and egress from US 285 in the Foxton-Bailey section. However the smooth flow of traffic is our greatest desire.

Generally, I agree with the proposed alternative plans for the congested areas in the Foxton-Bailey section. Specifically I like the land use committee recommendations. In the congested areas construction of underpasses/ overpasses, although expensive, is the preferred alternative for smooth traffic low. At least these alternatives eliminate traffic lights. The three-lane/four-lane plan allows for slower moving traffic to be passed with greater safety margin than exists now.

Keep me on the mailing list.

- Art Burnham, 3652 Wright Street, Wheatridge, CO 80033, Phone: 303/424-4871

I represent property at the King Valley area that will be impacted according to the separation plant as shown on Option II (Option C), Option V and VI. I would like to get copies of the displays shown at your open house.

- George Hurst, P.O. Box 1125, Conifer, CO 80433, Phone: 303/670-4974, e-mail: ghurst55@msn.com

From Pine Junction towards Bailey approximately ½ to 1 mile southwest – lane ending needs immediate attention near Wandcrest Road (where traffic is turning left or east).

Downtown Bailey – needs attention. County Road 64 intersection across US 285 to Main Street by Conoco is very dangerous. On going traffic coming in to Post Office. Bridge has large trucks going to lumber yard and Post Office daily. Low visibility at intersection. Narrow roads – lots of confusion very dangerous.

- Barbara Behl, P.O. Box 291, 4 River Road, Bailey, CO 80421, Phone: 303/838-5377

Elk Creek grade separation – prefer Option III, should have access (grade separated) to Elk Creek Elementary School. Avoid having IREA trucks passing in front of school!

If roadway lighting added (prefer none!), should be designed to minimize light pollution.

Mt. Evans Boulevard – prefer Option II.

- R.W. McAfee, 13781 Douglass Ranch Drive, Pine, CO 80470, Phone: 303/838-2876, e-mail: badmac2@earthlink.net

Money issues were not addressed. I would like to see a study on the amount of accidents caused by excess speed (from coming down Crow Hill) in downtown Bailey – such as deaths, property damage...

I believe the "Bailey Bypass" should be revisited as an option.

- Kim Arnold, P.O. Box 524, Bailey, CO 80421, Phone: 303/838-8857

Kings Valley – prefer Option II or VI; hate roundabouts.

I'm concerned about the shoulders being used for bicycles. They won't stay on shoulders – they ride in lanes: Need harsh penalties for bicycles in lanes.

However you choose to do it, I prefer right turns only with overpass and underpass access, not roundabouts. I prefer four-lane with depressed, vegetated medians.

- Debra Maxwell, 9822 Corsair Drive, Conifer, CO 80438, Phone 303/816-9535

Concerning Crow Hill – I have two issues. One is widening to four lanes will promote drivers to increase their speed, negating any safety improvements. Then at the bottom there will still be an extremely sharp curve. This will pose an increased danger in Bailey. Secondly the options for right away impede greatly on property under sales contact to Platte Canyon Rescue Service, who plan to build a new station at 90+00± to 100+00± on the south side. An emergency vehicle cross-over at 92+00± would be necessary.

- Marley Hay, P.O. Box 547, Bailey, CO 80421, Phone: 303/838-4499, e-mail: marleyhay@earthlink.net

- Aside from environmental concerns, I am concerned with aesthetics. So far so good, but I live about a mile down Wandcrest. The proposed summit development was a bitter pill. My house is actually in Jeffco but the access to US 285 is in Park County I guess. What coordination is required by CDOT and a private developer with regard to Wandcrest and are aesthetics standardized?

  - Barbara Smith, 14863 Wandcrest Drive, Phone 303/816-2425, e-mail: rorb.smith@asu.edu

- Create Mable Lane and US 285 intersection to where visual entry and exit is better. Create off ramp to Mable Lane for safety. Create ramp onto US 285 west bound from Mable Lane.

  - No name or address

- Safety issues in Bailey need to be addressed further. The full access intersection in use at this time is very dangerous and will be incredibly so by the time this is built.

  - Rick Arnold, P.O. Box 524, Bailey, CO 80421, Phone 303/838-8857, e-mail: rtaconst@aol.com

- Environmental issues – road sand disposal, why not sell to road and bridge for their use?

  Wetlands – avoid disturbance if at all possible replace in sand stream system.

  Wildlife – Use underpasses – a lot of them.

  Noise Barriers – not needed in Park County.

  Medians – depressed grass only.

  Add three-lane B-CH only where now is two-lane combining Mt. Evans and Wandcrest – not good idea.

  Flatten Roland Valley on north side not south –more wetlands on south.

  Wire Mesh on rock slopes – don't cut slopes back anywhere – keep natural (use retaining walls).

  Don't use overpasses in Park County – Interferes with view sheds – use underpasses only. Eliminate GSI at Rim Rock/Wisp – use frontage road back to Wandcrest on north side of Highway.

Deer Creek – support Option 1 but don't re-route Rosalie – keep as right turn in present footprint.

Bailey – leave as is with underpass at CR 68 with right turns only.

Runaway ramp not needed – accident issue is trucks not slowing down for Bailey curve NOT runaway trucks.

- Lynda James, P.O. Box 628, Bailey, CO 80421, Phone: 303/838-2178, e-mail: lyndajames@msn.com

- Comment/Request: I came tonight as a representative of the Jefferson County Historical Commission. We would like the opportunity to comment on the historic structures survey by Hermsen Consultants, and the draft EIS. Please use me or Duncan McCollun at Jefferson County Department of Records and Archives as a contact. Thank you.

  - Lucy Bambrey, 29225 South Sunset Trail, Phone: 303/850-0930, e-mail: lbambrey@msn.com.

- Please consider opening access through Sunrise as an alternative to route from Elk Creek Road and Wamblee Valley Road. It could be a safety alternative with forest fires or major accident closing US 285. Consider new vinyle alternatives for retaining/sound walls. Being used in Arvada, Aurora, and by Jefferson County now in some areas of new construction along US 285. Are there any short-term resolutions to problem of entering US 285 turning south from Richmond Hill Road? Center buffer lane? Traffic north on US 285 from Richmond Hill much improved now – thanks!

  - Karen Katz, 12432 South Wamblee Valley, Conifer, CO 80433, Phone: 303/838-7327, e-mail: KK12432@aol.com

- Pay attention to acceleration problems on the eastbound entrance at Shaffers Crossing. There will be a lot of RV's from Staunton State Park and gravel trucks from the gravel pit. The entrance is right at the bottom of a very steep up grade.

  Suggest not putting a right in east of Kings Valley Drive. It's immediately at bottom of long downhill and curve to right. Suggest putting Kings Valley right in at base of Kings Valley Drive.

  - George Rasmussen, 31541 Pike View Driver, Conifer, CO, Phone: 303/274-5400 X28, e-mail: georgevasm@aol.com

- Level of Service: 60-75% traffic flow is not acceptable; let's plan for the future and our community's health.

Roadway alternatives: prefer four-lane with median; again lets plan for the future and area safety.

Slope treatment – I like the treatment done at Windy Point for Crow Hill, but don't see a replication of the option.

Alternatives Development: Green Valley and park-n-Ride look good; like use of frontage roads,

Crow Hill: Option III – no! Option I – like use of frontage road, Option II – looks best of the three as long as can easily get through by-pass from CR 72 and CR 43.

Bailey – no good option except a bypass.

Truck ramp in Bailey – all options look like they would work.

Alternative modes of transportation: A - Need RTD to Bailey and enhanced park-n-Rides built; carpools don't work well at this distance from the city. B- Off-street bike path/horse path, unpaved, but sand/gravel would be a good option.

Thanks! Let's get working on it!

- Pamela D. Ryken, 1109 Bluebird Lane, Bailey, CO 80421

Deer Creek (Crow Hill): like Option D, Runaway: like Option 1

- Don Burke, 19 Pinon Road, Phone: 303/816-9193

From a maintenance and cost perspective, the CDOT should strongly consider the use of PVC (Vinyl) retaining walls and sound mitigation fence along the Highway 285 corridor. This form of retaining wall and sound barrier has already been approved by Jefferson County Roads and Bridges.

- Daniel P. Richmeier, P.O. Box 239, Pine, CO 80470, Phone:

I did not see any planning/development information for Staunton State Park which is just northwest of US 285 with access to be from Elk Creek Road or Kings Valley Road. If RVs are allowed in the park or just day traffic, the traffic load could be considerably higher in the spring/summer months. Staunton State Park is scheduled to open in the 2005-6 time frame.

- Daniel P. Richmeier, P.O. Box 239, Pine, CO 80470, Phone: 303/838-8660, e-mail: ecdid@starband.net

In reference to Runaway truck ramps on Crow Hill – the truck drivers don't realize they are in trouble, until they are almost down to Bailey and by that time the runaway ramp was way back up the hill! They've been playing with their brakes all

the way down the hill and suddenly they don't have any!

Reference to Park County 72 – the Old Crow Hill Road markings are on your maps. Park County 72 covers only that part of the Old Crow Hill Road until cars reach the top of the hill where 72 takes off to the left!!

- Eldred Rankin, 412 Pinon Road, Bailey, CO, Phone: 303/838-5764

My concern is Deer Creek (Crow Hill) I am very happy with Option B. This intersection (285 and PC 72) has always been a problem and I like the idea of underpasses/overpasses for this option.

Go CDOT

- Mtnmom27@yahoo.com

Mt. Evans Option II preferred, requires less ROW and significant travel from Mt. Evans into Pine Valley Road (and visa versa) not required to detour past business, cross over then back.

Elk Creek, Option I preferred because it does not have traffic entering highway (north bound) at beginning of steep hill. Many cars/trucks accelerate poorly on hill climb, which will cause traffic problems on highway due to slow vehicles trying to accelerate.

Deer Creek – Option III preferred if connection made (as in Option I) for south US 285 to Park 72 via frontage road to overpass. The second underpass not worth cost.

- Ed and Carol Samberg, 411 Spring Driver, Pine, CO 80470, Phone 303/816-6676, e-mail: ed@sambergs.org.

For the Deer Creek (Crow Hill) options I like B for the lower cost option and D for the best option.

For the Bailey options I like the Bailey bypass idea real well.

Truck ramp #2 location.

Do the project to Richmond Hill Road then three-lane from there to Bailey with good shoulders and turn outs – NOW.

Shaffer's Crossing Option III seems to be the best choice with the exception of gaining access to Highway 285 northbound. Option III requires access on an uphill grade.

Option I while not as good as Option III has a superior access to Highway 285 by

going south for a short distance but gaining access to Highway 285 on a downhill grade.

Due to fire situations in the Shaffers Crossing to Richmond Hill Road, the CDOT should consider re-opening SUNRISE Road to local traffic to gain access from Elk Creek Road to Wamblee Valley. This access is currently blocked for no apparent reason.

- Daniel P. Richmerer, P.O. Box 239, Pine, CO 80470, Phone 303/838-8660, e-mail: ecdid@starband.net

- Thanks for accommodating bicycles in the plan – bicycle traffic on existing US 285 is low – for obvious reasons, but I'd love to ride it.

- Leave Crow Hill at three-lanes.

Make Mable Lane turn off wider. Visibility is poor to turn going down and coming up hill.

- I think that from Pine Junction further south should have no plans at this time. I feel I am being lied to because there has been surveys for the road to bypass Bailey and to build a dam and nothing is being said. Get it Right!

- Just four-lane it as no one can stop the growth so we might as well get done.

- Russ Hummel, P.O. Box 23, Grant CO 80448, Phone 303/838-6868, e-mail:ssip2@aol.com

- In 1995-96 I coordinated a traffic study conducted by Leigh, Scott and Clearly and sponsored by Park County, State Land Board, Platte Canyon School District and the owners of the land that the County wanted to locate what now is known as CR 43A.

During the ensuring years, the "Midway" Intersection (at CR-43A) was built with private funds and the cost of CR-43A was shared by Park County and the Dozier Family. Old CR-43 is no longer the primary road — it yields northbound to 43A.

A right-of-way to the County Library and two community Churches from 43A was recently approved.

I would be happy to provide any further information you might need; I act as Advisor to the Deer Creek Metro District which include all of the Commercial Land on either side of 43A.

- Jim Rice, 2616 South Tucson Way, Aurora, CO 80014, Phone 303/474-0737, e-mail: jhrice26mer@attbi.com

- I prefer Option III for the top of Crow Hill.

- Vincent Cummins, 129 Bulldogger Road, Phone: 303/838-7365, e-mail: Yukiyosco@aol.com

Great concerns for leaving Bailey area as three lanes. Safety should be the focus.

Doing away with bypass for Bailey – good idea.

Deer Creek (Crow Hill) – advanced as Option II the best (Option D).

- Larry Fitzsimon, Phone: 303/674-0649

These comments primarily relate to the Rimrock/Wisp Creek concept. I believe it is a mistake to try to create an intersection on the south side of 285 at Wisp Creek Drive (essentially where our mail boxes are not located). There are several homes within close proximity to the proposed intersection/285 access. In addition, Platte Canyon School District picks up children from WOW at this location.

According to your base mapping, there is more R/W on the north side of 285, as well as existing and planned commercial development.

A better option would be to provide a frontage road along the north side of 285 connecting Wisp Creek Drive with Rimrock and extending the frontage road NE to the proposed interchange at Wandcrest.

I would suggest no direct access to 285 form Wisp Creek to minimize the amount of cut through trips in the development.

I would be happy to meet with you to review these suggestions, as well as to take alternatives to our home owners for review.

- Howard Dieter (representing 124 properties in Will-O-Wisp [WOW]), 209 Wisp Creek Drive, Bailey, CO 80421, 303/816-1998, e-mail: howard@burlstone.com

Thank you for giving your time to present informative materials regarding the widening of Highway 285 from Foxton To Bailey. We appreciated the opportunity to have a voice in the decision-making.

- Duells, 11699 Upper Ranch Road, Pine, CO 80470

I live near the top of Crow Hill on CR 72, so I am concerned with the intersections there. I see no access to CR 72 when coming from Denver. Two under- or over-passes in the area might be justified.

I feel by-passing Bailey would be the best alternative. The businesses will still enjoy easy access by traffic, the bottom of the hill would be much safer. Expected businesses at the top of Crow Hill will be more detrimental to Bailey businesses than a road realignment, anyway.

- John Rankin, 475 Pinon Road, Bailey, CO 80421, 303/816-9384

I was disappointed in your decision about getting to Rosalie Road from Denver. We have a lot of traffic on Roaslie Road. It looks as though we have to go so far out of our way to get home. Our road to the library has been closed. Who makes all of these decisions? (Charles Richard)

Your "proposed" plan will make it extremely inconvenient for daily users of Rosalie Road. I hope your planners can re-think the plan – make a more convenient exit. As you can tell we're very unhappy!! (Diane Richard)

- Charles & Diane Richard, P.O. Box 393, Bailey, CO 80421, 303/838-2343

I was at the meeting held in the Fire House at the top of Crow Hill. It was a good meeting but I didn't have much to say at that time. Now I would like to say, I have a cabin at the top of Crow Hill about sixty feet from the highway fence line this is also the property line of unit #2 Double C Acres. Highway 285 is four lane from the top of Crow Hill for about 1 mile down to almost the start of Mable Lane. If you are trying to turn right at Mable Lane, 285 narrows to three lanes making it hard to turn right. This should be corrected. Also a left turn lane coming up from Bailey would help a lot. If you have to widen the highway at the top, I would hope this could be done on the east side of 285. US 285 is in good shape and could be left as is. I am enclosing a survey of unit 2 Double C Acres. I own 1 and 2 and a small triangle to the north of Unit #2. I would be glad to talk with you at anytime. I have owned this property for almost 50 years. Also I built this cabin.

Thank you very much

- Oscar L. Summers, 790 South Canosa Court, Denver, CO 80219, Phone: 303/934-4453

Letters from the Public

Bike Jeffco is concerned that the needs of cyclists be met along this corridor, which is our only route SW out of Denver. Currently, we rate the road between Conifer and Bailey as unsafe for obvious reason.

When improved, we anticipate its usage would be mostly by serious road and long distance touring cyclists. (It is currently the route of the annual Denver-Aspen Classic.) We also anticipate the section south of Bailey will have local traffic, especially to the High School.

Consequently, we would like to see 10 foot wide shoulders provided throughout its length with the exception of the section south of Bailey, where a separate trail

would be more suitable. Where right run lanes are provided from the road, the shoulder should not disappear, endangering the cyclist who must move into the path of turning traffic. Such intersections should be built and signed to AASHTO standards for bike lanes.

Due to the exposure and altitude of the road, the EIS should address the issue of winter gravel on the shoulders. This can often force bicycles to travel either on the edge of or in the traffic lane. This is unacceptable.

Bike Jeffco is the bicycle advocacy group for Jefferson County.

- Dave Evans, Chair Bike Jeffco, 9472 W. Unser Avenue, Littleton, CO 80128, 303/948-2131, e-mail: dge@pcisys.net

We are writing to you in regards to the expansion of US 285 from Foxton Road south to Bailey. Our house and its property abuts the highway property southwest to the intersection of Pine Junction. We are very concerned about the impact of this highway expansion to us directly. These are our concerns:

Safety issues – the highway is already extremely close to our house. More than once there have been vehicles that have slid off the highway onto the embankment behind our house. Moving the highway even closer to our house would greatly concern us regarding accidents on the highway.

Drainage – currently there is a large drainage pipe that comes under the highway and ends on our property. Should that be moved closer, runoff will be very destructive to our house and property.

Noise and privacy – there is extensive growth and mature trees all along the hillside that leads up to the highway behind our house. This vegetation provides what little sound barrier there is from the highway noise, especially the large trucks and their jake brake noise. In addition, the trees provide privacy from the road and filter the headlights that come into our bedroom at night.

Depreciation of property value – like many families, our house is our largest asset and this expansion is going to greatly impair the marketability of our home. We anticipate the expansion of the highway, along with clear cutting of the hillside, to be devastating to the value of our home.

Unfortunately, we were unable to attend the most recent meeting that discussed the EIS of this project. But we did attend the meeting last year. At that meeting, we were shocked to see that two of the proposed plans showed the road paved right over the location of our house. When this was brought to the attention of one of the

representatives there, she responded that she was not aware that there were even any houses in that area.

We are very concerned about the development of this expansion since we will be so very directly affected by it. We are asking you to respond to these concerns and take into consideration the impact this project will have on our environment. The impending inevitability of this highway expansion is very distressing to us and is in our thoughts daily. Each time somebody shows up to survey or mark the highway lines, it stresses us out. We would really appreciate some informed facts about where this project is going, how soon it is going to be starting, what plan most likely will be used, and whether or not you will consider our concerns seriously enough to impact the final plan.

Please call us at (303) 838-5188. Thank you for your time.

- Rick and Beth Dunn

I was unable to attend the meeting last evening, but have looked at the alternatives today on the website. Of the ones presented for the Parker/Elk Creek intersections, I would think that only alternatives "B" and "G" would really work for the residents of the Mountain View Lakes and eastern Woodside subdivisions who access US 285 at Parker Avenue, as I do. Both alternatives seem somewhat convoluted, but so is the interchange at the Safeway in Conifer, and that seems to be working OK.

I don't know actual numbers, but it would be my guess that there is as much left turn traffic coming out of Parker Avenue (toward Denver) as there is coming out of upper Elk Creek Road. (While I live off Parker, I occasionally jog on upper Elk Creek, so I have an idea about traffic there.) I do know that most of the traffic coming out of Parker (and upper Elk Creek) is headed toward Conifer/Denver for jobs, shopping, schools (beyond elementary), etc. The left turn out of Parker is not difficult most of the time, but can be in the early evening when there's a lot of outbound traffic from Denver. Fridays are particularly bad.
It looks like the various alternatives with a 3/4 intersection at Parker Avenue provide only for a turn into Parker from the Denver bound lane, not a turn toward Denver from Parker. Perhaps I am reading this wrong. That would not be acceptable as it would require a detour to Pine Junction for the majority of traffic coming out of Parker.

An intersection like the current one at Parker Avenue *could* be acceptable, if it is acceptable to CDOT to have the left turns across 285 at that point. The area served by Parker Avenue will not see much additional growth, so a large increase in traffic coming out of Parker Avenue should not be anticipated. That said, the difficulty of turning out of Parker toward Denver between 4 and 7:30 pm will become greater

with the additional development planned in Park County. The "B" and "G" alternatives are definitely better.

The one thing that really seems to set the "G" alternative above the rest is the tie-in to the road serving Elk Creek Elementary School. The left turns by school busses there are a tragedy waiting to happen. Safe access to the school needs to be incorporated into any final plan.

In that vein, perhaps it would be possible to treat Parker and Elk Creek Elementary as a separate issue from the intersection at Elk Creek Rd.

Finally, a traffic signal at Elk Creek Road would be incredibly dangerous. There would be rear end collisions there with every snowfall, and I'd be scared to death of some truck coming down the hill from Kings Valley every time I would have to stop there headed towards home. Besides, I thought that much of the idea here was to eliminate the traffic signals. That makes great sense. Everyone here knows the incredible impact on traffic flow that accompanied the end of the signals at Safeway and Foxton Road.

- Bill Dooley,33336 Diana Road, Pine CO 80470, wtd3@msn.com

Ref: US 285 Project (Deer Cr. Rd)

Hi sir. I was unable to attend your last meeting on February 12, 2003, a friend went on the Web for me and got some information about the upgrade of US 285.

I live back in the Deer Creek area off of Co. Rd 43. Looking at your options for that area, I think Option D is more feasible. I realize it will cost more to build this option but it seems like the one more accessible than the other options.

A penny for your thoughts, if you go around the town of Bailey as you have one option, I think you will be hurting a lot of business.

- Paul O'Engelbrecht, 64 Elkhorn Ct., Bailey, CO 80421-1107

Response to Second Public Workshop for US 285

Mr. Halouska,
Louis Gonzalez here, former Chairman of the Park County Planning Commission.

Your meeting in February was very informative but also very disturbing.

1. Cudos for making the effort to receive input from your taxpaying citizens.

2. Your apparent disregard for input from the majority of people is both self-serving and maddeningly bureaucratic.
3. You ask us for our opinion but you apparently KNOW what you are going to do before this process starts. If that is the case, then stop wasting millions of dollars and untold hours of everyone's' time to receive input that is going to be ignored because of "budgetary concerns" (our money), the screening of "design goals and standards" (our money) and flat out "eliminating" alternatives because "Any benefits would not offset the greater costs and impacts" (ES-5 Alternatives Development, Bailey Bypass Alignment Alternatives). Excuse me, since taxpayers already agreed to pony up extra tax dollars for the existing improvements on 285, why wouldn't we decide to pay for more improvements in the future? If "safety and capacity" are you primary stated goals, then why are you disregarding alternatives based on short term budgetary constraints?
4. The Bailey Bypass must be considered!!! The alternatives you eventually allowed to be considered; with the exception of the "runaway ramp", are derelict, short sighted and inherently against the intent of making 285 a 'freeway'. Why the Slaughterhouse bypass, or any other bypass was no longer even being discussed is a travesty. While I understand your budgetary concerns place some limit to what can be done in the near term (20 years according to Pam Hutton) why have you chosen to completely ignore the "long term" solutions??? I believe that your "planning" efforts are obviously tied to some other agenda. Politics perhaps?. Pacification of pesky taxpayers so they "feel" involved with the project?
5. The choice that limited the project scope to the fringe of Bailey is a complete disservice to the community, the taxpayers, and your efforts on our behalf, at long range planning. The "narrows" ARE the biggest issue between Conifer and Fairplay yet you chose, in your great wisdom and budgetary concerns, to completely ignore the keystone portion of road improvement through Park County.
6. What are the choices for the narrows? Ignoring that portion of the road is horrific. Not good, very myopic.
7. Your fatality numbers for the top of Crow Hill are outdated and incorrect. Prior to the installation of the traffic light at the top of Crow Hill (the end result of a debacle which also resulted in the recall of all three of our County Commissioners) we experienced several 'major' accidents at the intersection of Rosalie, Bulldogger, and US 285. As you may recall, CDOT created a "right turn only" lane at Bulldogger which stranded people trying to make a "left turn" onto Rosalie. This road "striping" kept people who were trying to make a left turn, waving in the breeze while through traffic barreled down upon them. This debacle was a result of prior "planning" efforts.

8. Last meeting you did not even have the correct names or the collector roads properly marked. I am glad you updated your maps!
9. The improved alignment with a grassy median IS the best long term choice. I am sure some may groan about projected costs, remember WHO is paying for this. Unless something tragic occurs in this country to decrease the population, the improvements must look at the broader picture. Today's money is best spent when planning for tomorrow's needs.
10. Your own documentation states that a "set of longer-term, more involved improvements, and for those in the northeastern portion of the corridor, an outline of the additional documentation needed to proceed with implementation." (ES-1 Executive Summary, Introduction) Did somebody forget THAT part of your Feasibility Study?

I have lived in Park County since 1974. Personally I would have liked 285 to remain the sleepy "scenic" highway it was back then. But reality must be confronted with bold ideas and long term planning. I respectfully submit to you that before you engage in any development plan for Crow Hill, you must consider the "narrows" and a workable bypass around Bailey in order to meet your own standards of "safety and capacity". The suggested alternatives will be a waste of money and no solution in either the short or long term.

The runaway truck ramp at the bottom of Crow Hill is a "no-brainer" and should be installed immediately before someone else gets killed!

Thank you for your time and consideration.

- Louis Gonzalez, P.O. Box 1039, Bailey CO 80421, 303-838-4878, gonznagel@purplemtn.com

I was unable to attend the meeting last evening, but have looked at the alternatives today on the website. Of the ones presented for the Parker/Elk Creek intersections, I would think that only alternatives "B" and "G" would really work for the residents of the Mountain View Lakes and eastern Woodside subdivisions who access US 285 at Parker Avenue, as I do. Both alternatives seem somewhat convoluted, but so is the interchange at the Safeway in Conifer, and that seems to be working OK.

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is not difficult most of the time, but can be in the early evening when there's a lot of outbound traffic from Denver. Fridays are particularly bad.

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Finally, a traffic signal at Elk Creek Road would be incredibly dangerous. There would be rear end collisions there with every snowfall, and I'd be scared to death of some truck coming down the hill from Kings Valley every time I would have to stop there headed towards home. Besides, I thought that much of the idea here was to eliminate the traffic signals. That makes great sense. Everyone here knows the incredible impact on traffic flow that accompanied the end of the signals at Safeway and Foxton Road.

Sincerely yours,

- Bill Dooley, 33336 Diana Road, Pine CO 80470, wtd3@msn.com

My home is right on 285 at the junction of Mt. Evans and 126, and would like to know if properties are being bought out for this intersection and widening. It looks to be encroaching on the south side rather than taking the abandoned road on north, just south of intersection.

- Rick Dunn, 34473 Ella Ave., Pine, CO 80470, 303/838-5188

US 285 EIS Public Workshop
February 12, 2003

Format:

This meeting is an open house format. No presentation will be given.

Room Arrangement:

The room is arranged around the following five stations. Each station has graphics about the project and people available to answer questions.

Station #1: **Background Information**

Station #2: **Environmental Issues**

Station #3: **Alternatives Development** (Please let us know which alternative you like best for each.)

Station #4: **Aesthetic Treatments** (Please fill out a survey form located at this station.)

Station #5: **Comments**

Opportunities to Comment:

You have the following opportunities to comment about the project. We strongly urge you to make your opinions known tonight, by:

1. Speaking to a project team representative, who will write down your comment on a card.
2. Filling out a comment sheet and putting it in the "Comment Box."
3. Filling out a comment sheet and mailing it in later.
4. Writing down a comment card and taping it on the wall.

Also, please visit the project Web site at **www.us285.com**. There you will find project information and have further opportunity to give us your suggestions and opinions about the project.

Thanks for coming to the open house and for participating!

Aesthetic Treatments Survey

Please check the appropriate box indicating how well you like each treatment.

Photo 1	☐ Looks great Like a lot	☐ Looks okay	☐ Neutral	☐ Not too good	☐ Looks terrible Dislike a lot
Photo 2	☐ Looks great Like a lot	☐ Looks okay	☐ Neutral	☐ Not too good	☐ Looks terrible Dislike a lot
Photo 3	☐ Looks great Like a lot	☐ Looks okay	☐ Neutral	☐ Not too good	☐ Looks terrible Dislike a lot
Photo 4	☐ Looks great Like a lot	☐ Looks okay	☐ Neutral	☐ Not too good	☐ Looks terrible Dislike a lot
Photo 5	☐ Looks great Like a lot	☐ Looks okay	☐ Neutral	☐ Not too good	☐ Looks terrible Dislike a lot
Photo 6	☐ Looks great Like a lot	☐ Looks okay	☐ Neutral	☐ Not too good	☐ Looks terrible Dislike a lot
Photo 7	☐ Looks great Like a lot	☐ Looks okay	☐ Neutral	☐ Not too good	☐ Looks terrible Dislike a lot
Photo 8	☐ Looks great Like a lot	☐ Looks okay	☐ Neutral	☐ Not too good	☐ Looks terrible Dislike a lot

Comment: _____

COMMENT SHEET

I have the following comments or questions about the US 285 (Foxton Road to Bailey) EIS project:

Name:	
Address:	
Phone:	**e-mail:**

(above information is optional)

Fold here

Return Address:

_____

_____

_____

Place stamp here

Troy Halouska
Carter & Burgess, Inc.
707 17th Street, Suite 2300
Denver, Colorado 80202

Fold here

SIGN-IN SHEET

US 285 (Foxton Road to Fairplay)
Public Workshop – Platte Canyon Fire Station – February 12, 2002

Name (please print)
Mailing Address
City, State, Zip Phone

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US 285
Foxton Road to Bailey EIS

US 285 Foxton Road to Bailey EIS Public Workshop

August 13, 2003

A Public Workshop was held on Wednesday, August 13, 2003 from 4:00 p.m. to 7:00 p.m. at the Platte Canyon Fire Station (153 Dellwood Drive, Bailey). One hundred eighteen people signed the attendance roster for the Public Workshop. The meeting was held in an open-house format. No formal presentation was given. All project personnel responsible for the project were available throughout the evening to answer questions, receive comments and talk with the public about any concerns they had regarding the project.

The following project personnel were present:

Deb Angulski, CDOT
Joe Conway, CDOT
Rob Hirschfeld, CDOT
Pam Hutton, CDOT
Jeff Kullman, CDOT
Bob Mero, CDOT
Kris Meiring, CDOT
Kim Patel, CDOT
Brian Pinkerton, CDOT
Kevin Radel, CDOT
Jill Schlaefer, CDOT
Scott Sands, FHWA
Elizabeth Bentley, Carter & Burgess
Velvet Hangebrauk, Carter & Burgess
Craig Gaskill, Carter & Burgess
Kim Gambrill, Carter & Burgess
Troy Halouska, Carter & Burgess
Gina McAfee, Carter & Burgess
Karen Rhea. Carter & Burgess
Kirk Webb, Carter & Burgess
Melissa Bordewin, PBS&J
Steve Smith, PBS&J
Troy Sieglitz, PBS&J
Alex Larson, PBS&J
Gail Keeley, Hermsen and Associates
Bernie Dull, Solutions Engineering

Descriptions of the handouts and graphic materials displayed at the meeting follow:

Sign-In Table:

An agenda sheet, comment sheet and the latest newsletter were handed out at the sign-in table.

Graphics:

Background Information

Purpose of Tonight's Workshop – A series of snowcards listed the reasons for the Public Meeting, i.e., to provide updates on project information and to show the preliminary preferred alternative, to show preliminary environmental impacts, what is next in the EIS process, and to obtain public input on the project and its alternatives.

Purpose and Need Statement – This graphic gave the purpose and need for the US 285 EIS project. The need is due to growth in population and thus increased traffic volumes, congestion, inadequate access to US 285, inadequate turning and passing lanes, safety needs, etc. The purpose is to accommodate anticipated traffic volumes safely and efficiently.

Project Schedule – This graphic showed the schedule for completion of the EIS.

EIS Process – This graphic showed the tasks and activities associated with the EIS process, and it showed where we are in the process.

Contents of an EIS – This series of snowcards showed the elements that are reviewed in the EIS process, i.e., land use, economic, transportation resources, purpose and need, social, right-of-way, pedestrian/bicycles, description of alternatives, environmental justice, farmland, parks and recreation, air quality, wetlands, permits, historical and archaeological, noise, floodplains, wildlife/fisheries, hazardous waste, water resources/quality/wild and scenic rivers, threatened and endangered species, visual resources, energy/utilities, irreversible and irretrievable commitment of resources, list of document recipients, construction impacts, cumulative impacts, comments and coordination, relationship of local short-term uses versus long-term productivity and list of preparers.

Alternatives

Alternatives Development Process – This graphic showed the process for alternatives development beginning with the development of improvement options and ending with the record of decision.

Roadway Alternatives – This map showed the entire length of the study area.

Typical Sections – This graphic illustrated the typical sections being considered from Bailey to the top of Crow Hill and from the top of Crow Hill to Foxton Road.

Green Valley Ranch Alternatives – These graphics showed the three alternatives that have been evaluated for the Green Valley Ranch area.

Richmond Hill Road Alternatives – These graphics showed the two alternatives that have been evaluated for the Richmond Hill area.

Kings Valley – These graphics showed the nine alternatives that have been evaluated for the Kings Valley area.

Shaffers Crossing Alternatives - These graphics showed the 14 alternatives that have been evaluated for the Shaffers Crossing area.

Pine Junction Alternatives - These graphics showed the three alternatives that have been evaluated for the Pine Junction area.

Rim Rock/Wisk Creek Alternatives - These graphics showed the eight alternatives that have been evaluated for the Rim Rock/Wisk Creek area.

Deer Creek/Crow Hill Alternatives - These graphics showed the six alternatives that have been evaluated for the Deer Creek/Crow Hill area.

Bailey Alternatives - These graphics showed the seven alternatives that have been evaluated for the Bailey area.

No-Action Alternatives - This graphic showed the No-Action Alternatives for Park View Court Intersection (under construction), for Wandcrest Drive intersections and for Mountain View park-n-Ride and Richmond Hill (constructed in the fall of 2002.)

Runaway Truck Escape Ramp – This graphic depicted the three alternatives that were considered for the runaway truck escape ramp just north of Bailey.

Alternatives Mode Elements – This series of snowcards showed the alternative mode elements, i.e., RTD, encouraging village center growth and open space acquisition, access management, carpools, vanpools and use of park-n-Rides, amenities at park-n-Rides, advanced traveler information, and transportation demand management incentives.

Bike/Pedestrian – This series of snowcards showed the proposed facilities for bikes and pedestrian travel.

Right-of-Way Acquisition Process - This series of snowcards showed the right-of-way acquisition process from funding to the process timeline. There were brochures in this section, which further explained this process.

Environmental Issues/Impacts

Wetlands – This map showed the locations of the wetlands.

Floodplain – This map showed the potential floodplain impact locations.

Wildlife – This map showed various wildlife issues including accidents involving wildlife, elk migration, and areas of high concern.

Existing Land Use – This map showed land uses, such as, agriculture, commercial, industrial/mining, exempt, mixed use, residential and vacant land.

Parks and Recreation – This map showed the parks and recreational resources in the study area.

Noise Process – These graphics showed the noise abatement criteria, sound level comparisons, and explained how a noise barrier works.

Noise Impact Areas – This map showed the noise impact areas.

Hazardous Materials – This map showed the hazardous material sites in the study area.

Historic Properties – This map showed the historic locations that are eligible for the national register, on the national register, potential properties, on the state register, and potential historic district.

Locations of Cuts/Fills and Overpasses – This map showed the locations where the major cuts/fills and rock cuts would occur, and the locations of the overpasses.

Year 2025 Travel Times – This table showed estimated travel times in the year 2025 for the No-Action Alternative and the Preferred Alternative.

Impact Summary Table – This table summarized the impacts that would occur if the No-Action Alternative or the Preferred Alternative were implemented.

Mitigation Measures

Wetland Mitigation –This map showed the potential sites for wetland mitigation and the current wetland sites.

Wildlife Crossing – This series of snowcards described the locations and types of crossing being considered under the Preferred Alternative.

Wildlife Crossing – This map showed the locations for the wildlife crossings.

Aesthetic Elements – This series of snowcards showed aesthetic elements, such as, reseeding disturbed areas with native grasses, wild flowers and shrubs; wall treatments for walls and bridges; roadway edge treatments being reconstructed; locations considered for additional plantings; embankment slope angles designed for vegetation growth; and inclusion of soil stabilization in all reseeded area.

Aesthetic Treatments in Phase V – This graphic showed the treatments used on retaining walls, underpasses, etc in Phase V.

Mitigation Summary Table – This table showed the mitigation measures proposed for the various categories in the EIS.

Comments

Upcoming Steps – This graphic shows the remaining steps in the EIS process.

Public and Agency Involvement – This series of snowcards showed the public involvement elements, such as, public workshops, public hearings, project Web site, newsletters, who to contact, small group meetings and resources agency meetings.

Comment Sheets - were again available in the comment section.

Comment Box - was provided for the comments completed the night of the Public Meeting.

Snowcards with comments given to the project personnel were displayed in the Comments section.

Verbal Comments from the Public

- Need to retain trail at existing greenbelt/trail at 310+00 to 317+00
- What noise impact studies have been done from Reggie's Restaurant to MP 227? Specifically as they impact Will O' Wisp and McKinley subdivisions? (Dan Drucker – McKinley subdivision)
- Ambulance service just got approved for some property south of Crow Hill – does the plan accommodate this?
- Three lanes on Crow Hill is terribly short-sighted.
- Like the improvements to Richmond Hill – wider with 4-lanes is good.

- Current arrangement for access to 4-H riding arena is very poor. Like the new frontage road across the front of the RTD park-n-Ride.
- Frontage road on south side of US 285 between Rosalie and PCR 43 not up to county road standards; needs to be improved.
- Do not like roundabouts; we have too many trucks and trailers and they don't work well in bad weather.
- Would prefer ramp stop at Mountain View park-n-Ride, but preferred alternative will do.
- Contractors should work more hours during the summer, to take advantage of all of the daylight.
- During construction, why should the lowered speed limit be in force on weekends?
- Hurry up and finish the EIS.
- Bailey Propane – have another plant on Park County Road 64A. 18,000 gallon tank.
- Concerned about noise impacts near Elk Creek Road.
- Hopefully the wetland mitigation at Shaffers Crossing can still be pursued.
- A bridge at Shaffers Crossing would be great for wildlife.
- Thanks for all of the wildlife crossings.
- At Shaffers Crossing, the on and off ramp curves look very tight. Can these be flattened out?
- US 285 needs more guard rails.
- Very well presented, easy to comprehend and understandable.
- What is planned south of Bailey – and when?
- I can't wait to see the signals removed – looks good – get started!
- I'm still for the Bailey bypass; we need it badly.
- Want to make sure that wildlife crossings are in appropriate locations.
- Concern with new developments' access to US 285. Don't want new access to interfere with traffic on US 285. Want to make sure access doesn't worsen problems, before this project is completed.
- Need grade separation at Roland Valley. Don't impact wetlands! Need wildlife crossing for elk here!
- What can be done about "Jake Brake" truck noise?
- No more spending money on 285 or adjacent roads until they patch pavement on 285!
- Will they just start construction at Foxton and continue from there?
- Why did you advance the only alternative at King's Valley that impacts Long Brothers?
- How do local developers get access off of 285?
- How did the access from PCR 43A get approved so close to signal?
- What can local people do to help acquire funding to fix this dangerous chunk of highway?
- Why is there a roundabout proposed at Sunset?
- U-turn at 517+00 will be very dangerous because of grade of road.

- Can all widening be moved to the west side of 285 instead of impacting property access at 542+00 to 548+00?
- Elimination of the signal near CR 72 would be good, but trucks run that light all of the time!
- This meeting has been very helpful.
- Thanks for listening! You came out to my property, listened to my concerns, and changed the alignment.
- Should have a way through or around Bailey to maintain 55 mph.
- Why is the four laning not going through Bailey?
- Pine Junction grade-separated intersections will help get onto US 285.
- Roland Valley curve improvements sound great. There are too many accidents there now.
- When will the interim improvements be funded and constructed?
- Where are the budget numbers for the proposed improvements? What will this cost?
- Deer Creek/Rosalie grade separated intersection – good idea; left turns are very difficult, currently.
- The project newsletter should have explained what is meant by a "grade-separated intersection."
- Concerned about wetlands and open space at Deer Creek. Would like to see it preserved, for wildlife.
- The Preferred Alternative at Kings Valley looks good to me!
- You have done a great job of accommodating homeowners in the Kings Valley area with the Preferred Alternative.
- What is the total cost of the project?
- Suggest rumble strips in areas (should be at Richmond Hill) that will not be widened in the near future, but have safety issues with head-ons.
- Need to look at Rim Rock Road (south access) for interim improvements. Northbound accel lane.
- Very good presentation.
- We need these improvements – the sections that are already improved provide much quicker drive to the city.
- The new road is a pleasure to drive.
- Richmond Hill is dangerous – the plan for interim improvements is good.
- At Roland Valley, make sure we consider the new development.
- The advanced Kings Valley grade-separated intersection is great!
- Where is the funding coming from?
- Are you considering that they want to develop a state park behind Elk Creek Road? It should be considered for traffic purposes.
- This project should be funded ASAP.
- In Bailey at East Main Street – allow a right-out so traffic can get to post office (left turn at PCR 64) vs. crossing movement at PCR 64.

- Note house just west of Long Brothers Garage next to Frontage Road. Check to see if this is a take.
- Want a left turn at Roland Drive. Both ways
- Note: access point at 602 + 50. Right Red Gate.
- Send plan sheet for Sta. 400 + 00 to Leonard Oeltjenbruns.
- O'Malley's Service – well is directly impacted by roadway. Send plan sheets to O'Malley Auto Service.

Written Comments from the Public

Thanks for continuing to listen to public comments. I believe that this is the third presentation that I've attended and for the most part am very pleased with the preferred alternatives and am anxious for the construction process to continue.

The only real concern is for the Bailey resolution – or lack of it. We really need a by-pass to keep our small community intact. Concerns still exist for downhill speed and merging from 4 lanes. The truck ramp is a small improvement.
(Pamela D. Ryken, 1109 Bluebird lane, Bailey, CO 80421)

There are several issues that need to be considered that apparently haven't been:

I. It is obvious that nuclear and other wastes will be transported through this (more convenient, less populated) corridor to New Mexico and Utah storage sites.

   Bailey is particularly vulnerable to spills, as have been demo'd in the past in the form of potatoes, beer, and the crash on south side of 285 in center of town that burned down the body shop.

   A nuclear waste crash would wipe out the area – remember Chernobyl?

II. Noise mitigation – it needs to be a priority – some people have psychological sensitivities that can be triggered/exacerbated by chronic and/or sudden loud noises that trucks and other vehicles create. Please help.

(No name given)

I have a concern regarding the relocation of the bus stop at Pine Junction. I fear moving it on to Mount Evans will adversely impact our local access to homes in the developments along Mt. Evans. The school bus runs along Mt. Evans and putting the bus (RTD) on Mt. Evans would increase traffic and reduce safety for our children. At minimum, Mt. Evans upgrade needs to be looked at.
(Pine Junction Resident)

Green Valley – great
Richmond Hill – needed badly
Kings Valley – will this accommodate a medium sized commercial development?

Shaffers – Config B seems the better choice
Pine Junction – looks fine, what happened to Will O' the Wisp? - never mind (Sunset)
Rim Rock – are you putting most of the north bound traffic up to Will O ??
Deer Creek – Config 6 is GREAT!! This allows for significant commercial development.
Bailey – no need to spend more money until the "Bailey Bypass" scenario
Bailey truck ramp needed right NOW!! I consider it a MAJOR safety issue
Bailey – what about lowering the speed limit to 35 mph?
(Louis Gonzalez, Box 1039, Bailey, CO 80421)

Could you please send me the aerial photos with preferred overlays for Shaffers Crossing Sheet #11 – 13 and 14 options. I actually prefer the #4 configuration. Why was it dismissed?

The noise from the highway is a major concern of mine. Could signs be posted coming down the hill from Pine Junction to Shaffers Crossing discouraging truckers use of Jake brakes? What are the possibilities of getting a noise abatement device installed on the Shaffers Crossing stretch?
(Andy Nelson, 13024 S. Hwy 285, Pine, CO 80470)

At Park County 43A allow for some kind of access to the Park County Library.

Keep the runaway truck ramp on Crow Hill away from residential properties.

The roundabout near Wandcrest is not user friendly. Looks nice on the map.

On all retaining walls, look into granite block construction. It may be cheaper . . . if you must do concrete.

As an artist I would like to design facades like Carolyn Brocksma is doing on I-25
(Vincent Tolpo, Box 134 Shawnee, CO)

Overall, the improvements are great and Carter & Burgess is doing a good job incorporating public comment into the designs.

Some comments include reviewing and adding guardrail at more locations. There are some curves right before you get to Safeway going south that if a vehicle went off the road, the occupants would not have a chance and could go into a house.

If it possible, the radius for the on/off turns and Shaffers Crossing should be increased.

Some areas need safety improvements as soon as possible such as Shaffers Crossing and Richmond Hill area.
(Dan Mares, 31187 Sunset Trail)

Excellent workshop. All my questions answered. Personnel well informed and helpful.

Some concern with access to Bighorn Vet (between Shaffers Crossing and Pine Junction).
(H.L. McMullen, 490 Rosalie Road, Bailey, CO 80421)

Sheet #21 (would like to have #21)

Also would like to see more intersections the old way – under – bridge with ramp's to exit and ramp's to access the hi-way.

Thank you.
Would like a set of maps Foxton to Bailey
(Richard Schofield, 52 Little Spring Lane, Bailey, CO)

- Shaffers Crossing – prefer config 13.
- Pine Junct. – prefer only option as long as affected local businesses are in concurrence.
- Rim Rock – Config 8 OK though seems awkward for residents of Rangeview/Rim Rock.
- Deer Creek – prefer no degradation of wetland.
- Bailey – whatever residents vote for.
- Sunset – development needs to pay for ALL.
- Green Valley – all turns need to be able to accommodate long bed pick-up pulling 6-horse trailer. Prefer Config 2.
- Richmond Hill – Config 2 OK but concerned that Fire Station has EXCELLENT access.
- Kings Valley – concerned that Longs is taken and preference given to yet undeveloped commercial land.
- General concerns – wetlands, wildlife, residential and business social impacts. All need to preserve what sense of community we have – not just be a gateway to the ski slopes.
- I am with the 4-H club that owns the El Carl Arena next to the park-n-Ride. I am interested in any impacts there.

(Marian Phillips, 11329 S. Foxton Road, Conifer, CO 80433)

We are concerned about the proposed cut on our property (Station 608). Recognizing the additional expense, we would prefer a retaining wall.

I would like to have copies of sheets 6 and 7 of the "Sheet Map with Preferred Alternative."
(Daniel and Elaine Kellenaers, 12125 US Hwy 285 Conifer, CO 80433)

We appreciate the preservation of the wetlands areas along 285/Rosalie Road to CR 72. Please send us an aerial view #4 and #5 of the expansion plan (Mt. View park-n-Ride) for review by Olde Glory Antiques.
(James and Penny Ballenski, 2 Deer Trail Drive, Bailey, CO 80421)

Please consider additional or better signage for mitigating entrance and exit at site relocations. It is commonly known that people owning businesses presently in Aspen Park are suffering with people missing an exit and not understanding how to get from one side of the highway to the other now that the lights have been removed, and the 4 lanes are done. This is not only for 285 corridor residents, but also for tourist traffic as well.

Looks like the intersections presently in design look good. Now, all we need is the funding.
(Suzanne Nelson, P.O. Box 409, Conifer, CO 80433)

I am at Kings Valley off frontage road. It looks as if overpass will be aimed right at my house with lights shining into my home. Noise is also a concern. What can be done?
(Robert Fredrickson, 12469 S. US Hwy 285, Conifer, CO)

1. How close to our home will this highway come.
2. Just built a shed what impact will it do on that.
3. Access to and from our driveways we have (2).
4. Concerned about noise and traffic by our house.
5. We bought it to have easy access off of 285 and far enough away that the traffic noise wasn't to much of an issue. But the way it is drawn who would give us anything for our property with 285 going through our back yard.

(Keith Gravert, 170 Roland Drive)

We are the residence on the south in the Pine Junction and I-26 at Ella Ave and Cypress. The Configuration 3 which is advanced is the absolute worst for my family and properties future. It will destroy the value of this cute property which was once a 1930's school house. I would like to know what my recourse legally is in the case that Conf. 3 is chosen. I realize my next door neighbor will be taken and I hate to sell my home to someone else to pass this burden of depreciation and inconvenience on to. If I don't take a large loss with the expansion expected. I realize there may not be much a small tax paying voice like ourselves can do to protect are hard earned investments but would appreciate a response.
(Rick and Beth Dunel, 34473 Ella Ave., Pine, CO 80470)

Thanks for the great presentation!

Wish funding was in place already!
(Annette McDaniel, 15083 S. Elk Creek Road, Pine, CO)

Please! No more painted, fake rock on over/under passes such as done in Conifer. Painted rock used on overpass in Aspen Park is fine.

Thanks for presentations and the meetings with the public. You've done a great job. Keep it up.
(No name given)

We would like to have continued information as plans progress regarding O'Malley's Auto Service and the highway plans. We are very concerned about highway access to our business going north especially and also how close is it actually going to be to the building? dangerously close. Will we have access to our business from both sides of the highway? It looks like it will go through our well and septic. Will it?
(Leo and Debbie O'Malley, O'Malleys Auto Service, 22 Roland Drive)

My property is located at 12475 US Hwy #285 next to the Long Bros Garage. I am requesting more information concerning my property.
(Debbie Nelson, 12475 US Hwy #285, Conifer, CO 80433)

Shaffers Crossing - variation II will cause less impacts to the fishing pond business. Do not take properties – find alternatives.

Deer Creek – need access to library.

Roland Valley – approve of bridge fly-over only but need full access to Roland Valley a major access road for hundreds of home.
(Lynda James)

I would like to receive a set of design plans and/or aerials of entire project, if possible.
(Annette McDaniel, 15083 S. Elk Creek Road, Pine, CO 80470)

I was part of the citizen's advisory committee for Parmalee to Foxton Rd!
What you've done here is incredible. Was it done by committee?

Wish we could move faster and get it done in my lifetime.
(Rita Job-Effler, P.O. Box 1212, Conifer, CO 80433)

In the town of Bailey, I think you have done a good job of keeping Bailey intact.

For safety I think you should make the intersection at the east end of Main Street a right in and a right out. Right now you only have it a right in. Having driven in Bailey for 45 years I can tell you it is much safer to turn right onto 285 and merge left and turn left onto Co Rd 64 to the Post Office than it is to get across four lanes of traffic at the west end of town.

There you have to watch both ways continually to get across. One has adequate time to observe traffic coming down Crow Hill at the east end of town (Main Street), turn right and then merge left and only then be concerned with traffic going north to cross to Co Rd 64. Be aware of the dangers of grade separations like the one at Conifer by Safeway. People ignore the stop sign coming down Pleasant Park Road. Maybe you should consider some stop lights at these access points. Thanks.
(Ester J.M. Steverson, Box 212, Bailey, CO 80421)

We are extremely upset as we contacted the DOT prior to our spending 250,000.00 on an addition to our house, only to find out we were not told the truth and now an overpass will dump into our backyard. This is very distressing because we let people into our property to do testing and marking under false pretenses. We are very concerned about noise and dirt, loss of property and traffic. We feel DOT should make sure to protect our privacy as we now have and furnish us with proper walls or fencing to deter vandals (now our property will be exposed to the world) and also protect our wildlife from traffic and noise. We have horses that are fenced in and I hope that this is considered before working and they are properly protected. It would be nice in the future to learn the truth about expansion. We would of opted to move our house further back from the highway. I hope that this letter does not go to deaf ears and that we will be treated with care and respect for our house and property. We purchased this property to be alone and enjoy the wildlife and greatly improved and cleaned up the property since our ownership. Please respond to these comments.
(Lori Livingston, 12434 US Hwy 285, Conifer – mailing: 3595 Ridgeview Drive, West Birmingham, AL 35213)

US 285 – Foxton Road to Bailey EIS
Public Workshop

August 13, 2003, 4:00 – 7:00 p.m.
Platte Canyon Fire Station – Crow Hill

Format:

This meeting is an open house format. No presentation will be given.

Room Arrangement:

The room is arranged around the following five stations. Each station has graphics about the project and staff available to answer questions.

Station #1: **Background Information**
Station #2: **Alternatives**
Station #3: **Environmental Issues/Impacts**
Station #4: **Mitigation Measures**
Station #5: **Comments**

Opportunities to Comment:

You have the following opportunities to comment about the project. We strongly urge you to make your opinions known tonight, by:

1. Speaking to a project team representative, who will write down your comment on a card.
2. Filling out a comment sheet and putting it in the "Comment Box."
3. Filling out a comment sheet and mailing it in later.

Also, please visit the project Web site at **www.us285.com**. There you will find project information and have further opportunity to give us your suggestions and opinions about the project.

Thanks for coming to the open house and for participating!

US 285
Foxton Road to Bailey EIS

COMMENT SHEET – August 13, 2003

I have the following comments or questions about the US 285 (Foxton Road to Bailey) EIS project:

Name:	
Address:	
Phone:	**e-mail:**

(above information is optional)

Fold here

Return Address:

_____

_____

_____

Place stamp here

Troy Halouska
Carter & Burgess, Inc.
707 17th Street, Suite 2300
Denver, Colorado 80202

Fold here

Public Workshop – Platte Canyon Fire Station – August 13, 2003

Sign-In Sheet

Name (please print)		Name (please print)	
Mailing Address		Mailing Address	
City, State, Zip	Phone	City, State, Zip	Phone
Name (please print)		Name (please print)	
Mailing Address		Mailing Address	
City, State, Zip	Phone	City, State, Zip	Phone
Name (please print)		Name (please print)	
Mailing Address		Mailing Address	
City, State, Zip	Phone	City, State, Zip	Phone
Name (please print)		Name (please print)	
Mailing Address		Mailing Address	
City, State, Zip	Phone	City, State, Zip	Phone
Name (please print)		Name (please print)	
Mailing Address		Mailing Address	
City, State, Zip	Phone	City, State, Zip	Phone

Transmittals

Carter::Burgess

707 17th Street, Suite 2300, Denver, Colorado 80202 (303) 820-5240

LETTER OF TRANSMITTAL

Project: 070306.405.1.0001 **Date:** 8/14/03

To: Oscar Summers
790 S. Canosa Ct.
Denver, CO 80219

Attn:

Ref:

Item	Qty.	Date	Description
	1		Set of aerial mapping with preferred alternative

- [ ] For your approval
- [ ] For your signature
- [ ] For your information
- [X] As you requested
- [ ] For your review and comment
- [ ] Please return
- [ ] Other:

REMARKS: **Dear Mr. Summers,**
Enclosed is the sheet map that you requested last night at the public meeting meeting. If you have any other questions that we can answer, please contact our public involvement specialist, Troy Halouska, at 303-820-4898, or halouskatk@c-b.com.

Signed: Kirk Webb, 303-223-5852, webbks@c-b.com
Copies: Troy Halouska

Via: Mail

Carter::Burgess

707 17th Street, Suite 2300, Denver, Colorado 80202 (303) 820-5240

LETTER OF TRANSMITTAL

Project: 070306.405.1.0001 **Date:** 8/14/03

To: Stephanie Piccone
322 Bailey Dr.
Bailey, CO 80421

Attn:

Ref:

Item	Qty.	Date	Description
	1		Sheet 28 of aerial mapping with preferred alternative

- [ ] For your approval
- [ ] For your signature
- [ ] For your information
- [X] As you requested
- [ ] For your review and comment
- [ ] Please return
- [ ] Other:

REMARKS: **Dear Ms. Piccone,**
Enclosed is the sheet map that you requested last night at the public meeting meeting. If you have any other questions that we can answer, please contact our public involvement specialist, Troy Halouska, at 303-820-4898, or halouskatk@c-b.com.

Signed: Kirk Webb, 303-223-5852, webbks@c-b.com
Copies: Troy Halouska

Via: Mail

Carter::Burgess

707 17th Street, Suite 2300, Denver, Colorado 80202 (303) 820-5240

LETTER OF TRANSMITTAL

Project: 070306.405.1.0001 **Date:** 8/14/03

To: Marian Phillips
11329 So. Foxton Rd.
Conifer, CO 80433

Attn:

Ref:

Item	Qty.	Date	Description
	1		Set of aerial mapping with preferred alternative

- [ ] For your approval
- [ ] For your signature
- [ ] For your information
- [X] As you requested
- [ ] For your review and comment
- [ ] Please return
- [ ] Other:

REMARKS: **Dear Ms. Phillips,**
Enclosed is the sheet map that you requested last night at the public meeting meeting. If you have any other questions that we can answer, please contact our public involvement specialist, Troy Halouska, at 303-820-4898, or halouskatk@c-b.com.

Signed: Kirk Webb, 303-223-5852, webbks@c-b.com
Copies: Troy Halouska

Via: Mail

CDOT Project No. NH 2854-093
Code No. 14112

Carter::Burgess

707 17th Street, Suite 2300, Denver, Colorado 80202 (303) 820-5240

LETTER OF TRANSMITTAL

Project: U.S. 285 (Foxton Road to Bailey) EIS **Date:** 8/18/03

To: Leonard Oeltjenbruns
4939 County Road 154
Glenwood Springs, CO 81601

Attn:

Ref: 070306.405.1.0390

Item	Qty.	Date	Description
1	1		Plan Sheet for Sta 440+00

- [ ] For your approval
- [ ] For your information
- [ ] For your review and comment
- [ ] Other:
- [ ] For your signature
- [X] As you requested
- [ ] Please return

REMARKS:

Signed: Craig Gaskill
Copies: C&B Project File #070306405

Via: U.S. Mail

J:_Transportation\us285\TEMPLATES\Transmittal Letter.doc

CDOT Project No. NH 2854-093
Code No. 14112

Carter::Burgess

LETTER OF TRANSMITTAL

707 17th Street, Suite 2300, Denver, Colorado 80202 (303) 820-5240

Project: U.S. 285 (Foxton Road to Bailey) EIS **Date:** 8/18/03
To: O'Malley's Auto Service
22 Roland Drive
Bailey, CO 80421

Attn: Deb
Ref: 070306.405.1.0390

Item	Qty.	Date	Description
1	1		Plan Sheet for Roland Drive

- [ ] For your approval
- [ ] For your information
- [ ] For your review and comment
- [ ] Other:
- [ ] For your signature
- [X] As you requested
- [ ] Please return

REMARKS:

Signed: Craig Gaskill
Copies: C&B Project File #070306405
Keith Gravert, 170 Roland Drive, Bailey, CO 80421

Via: U.S. Mail

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CDOT Project No. NH 2854-093
Code No. 14112

Carter::Burgess

LETTER OF TRANSMITTAL

707 17th Street, Suite 2300, Denver, Colorado 80202 (303) 820-5240

Project: U.S. 285 (Foxton Road to Bailey) EIS **Date:** 8/19/03

To: Richard Scofield
52 Little Spring Lane
Bailey, CO 80421

Attn:

Ref: 070306.405.1.0390

Item	Qty.	Date	Description
1	1		Plan sheet (sheet #21)

- [ ] For your approval
- [ ] For your information
- [ ] For your review and comment
- [ ] Other:
- [ ] For your signature
- [X] As you requested
- [ ] Please return

REMARKS: **Per your request at the public workshop, plan sheets are enclosed. Please note that these are draft plan sheets and that the design is still very preliminary. Expect that there will be changes.**

Signed: Troy Halouska
Copies: C&B Project File #070306405

Via: U.S. mail

J:_Transportation\us285\TEMPLATES\Transmittal Letter.doc

CDOT Project No. NH 2854-093
Code No. 14112

Carter::Burgess

707 17th Street, Suite 2300, Denver, Colorado 80202 (303) 820-5240

LETTER OF TRANSMITTAL

Project: U.S. 285 (Foxton Road to Bailey) EIS **Date:** 8/19/03

To: Daniel and Elaine Kellenaers
12125 US Hwy 285
Conifer, CO 80433

Attn:

Ref: 070306.405.1.0390

Item	Qty.	Date	Description
1	1		Plan sheets 6 and 7 (station 608)

- [ ] For your approval
- [ ] For your information
- [ ] For your review and comment
- [ ] Other:
- [ ] For your signature
- [X] As you requested
- [ ] Please return

REMARKS: **Per your request at the public workshop, plan sheets are enclosed. Please note that these are draft plan sheets and that the design is still very preliminary. Expect that there will be changes.**

Signed: Troy Halouska
Copies: C&B Project File #070306405

Via: U.S. mail

J:_Transportation\us285\TEMPLATES\Transmittal Letter.doc

CDOT Project No. NH 2854-093
Code No. 14112

Carter Burgess

LETTER OF TRANSMITTAL

707 17th Street, Suite 2300, Denver, Colorado 80202 (303) 820-5240

Project: U.S. 285 (Foxton Road to Bailey) EIS **Date:** 8/19/03

To: James and Penny Ballenski
2 Deer Trail Drive, Bailey, CO 80421
Conifer, CO 80433

Attn:

Ref: 070306.405.1.0390

Item	Qty.	Date	Description
1	1		Plan sheets 4 and 5 (Mt. View park-n-Ride)

- [ ] For your approval
- [ ] For your information
- [ ] For your review and comment
- [ ] Other:
- [ ] For your signature
- [X] As you requested
- [ ] Please return

REMARKS: **Per your request at the public workshop, plan sheets are enclosed. Please note that these are draft plan sheets and that the design is still very preliminary. Expect that there will be changes.**

Signed: Troy Halouska

Copies: C&B Project File #070306405

Via: U.S. mail

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CDOT Project No. NH 2854-093
Code No. 14112

Carter::Burgess

LETTER OF TRANSMITTAL

707 17th Street, Suite 2300, Denver, Colorado 80202 (303) 820-5240

Project: U.S. 285 (Foxton Road to Bailey) EIS **Date:** 8/19/03

To: Andy Nelson
13024 S. Hwy 285
Pine, CO 80470

Attn:

Ref: 070306.405.1.0390

Item	Qty.	Date	Description
1	1		Plan sheet for Shaffers Crossing (sheet #11 – 13 & 14 options)

- [ ] For your approval
- [ ] For your information
- [ ] For your review and comment
- [ ] Other:
- [ ] For your signature
- [X] As you requested
- [ ] Please return

REMARKS: **Per your request at the public workshop, plan sheets are enclosed. Please note that these are draft plan sheets and that the design is still very preliminary. Expect that there will be changes.**

Signed: Troy Halouska
Copies: C&B Project File #070306405

Via: U.S. mail

J:_Transportation\us285\TEMPLATES\Transmittal Letter.doc

Carter::Burgess

707 17th Street, Suite 2300, Denver, Colorado 80202 (303) 820-5240

LETTER OF TRANSMITTAL

Project: 070306.405.1.0001 **Date:** 8/19/03

To: Renee Ramsey
P.O. Box 1388
Bailey, CO 80421

Attn:

Ref:

Item	Qty.	Date	Description
	1		Set of aerial atlas maps with preferred alternativ
	1		Wildlife map

- [ ] For your approval
- [ ] For your information
- [ ] For your review and comment
- [ ] Other:
- [ ] For your signature
- [X] As you requested
- [ ] Please return

REMARKS: **Ms. Ramsey,**
Enclosed are the maps you requested last week at the public meeting. If you need help understanding them, please contact myself or Troy Halouska (303-820-4898, halouskatk@c-b.com) and we will gladly answer your questions.

Signed: Kirk Webb, 303-223-5852, webbks@c-b.com
Copies:

Via: U.S. Mail

CDOT Project No. NH 2854-093
Code No. 14112

Carter::Burgess

707 17th Street, Suite 2300, Denver, Colorado 80202 (303) 820-5240

LETTER OF TRANSMITTAL

Project: U.S. 285 (Foxton Road to Bailey) EIS **Date:** 8/19/03

To: Masada Management
P.O. Box 1606
Evergreen, CO 80437

Attn: Steve Cohen

Ref: 070306.405.1.0390

Item	Qty.	Date	Description
1	1		Graphic – Kings Valley GSI
2	1		Plan Sheet

- [ ] For your approval
- [ ] For your information
- [ ] For your review and comment
- [ ] Other:
- [ ] For your signature
- [X] As you requested
- [ ] Please return

REMARKS:

Signed: Craig Gaskill
Copies: C&B Project File #070306405

Via: U.S. Mail

J:_Transportation\us285\TEMPLATES\Transmittal Letter.doc

CDOT Project No. NH 2854-093
Code No. 14112

Carter:Burgess

LETTER OF TRANSMITTAL

707 17th Street, Suite 2300, Denver, Colorado 80202 (303) 820-5240

Project: U.S. 285 (Foxton Road to Bailey) EIS **Date:** 9/4/03

To: Rick and Beth Dunn
34473 Ella Ave.
Pine, CO 80470

Attn:

Ref: 070306.405.1.0390

Item	Qty.	Date	Description
1	1	5/03	Concept Plans with estimated wall heights (Page 14 & 15)
2	1	8/03	Aerial plans (Sheet 16)

- ☐ For your approval
- ☐ For your information
- ☐ For your review and comment
- ☐ Other:
- ☐ For your signature
- ☐ As you requested
- ☐ Please return

REMARKS:

Signed: Craig Gaskill
Copies: C&B Project File #070306405

Via: U.S. Mail

CDOT Project No. NH 2854-093
Code No. 14112

Carter::Burgess

707 17th Street, Suite 2300, Denver, Colorado 80202 (303) 820-5240

LETTER OF TRANSMITTAL

Project: U.S. 285 (Foxton Road to Bailey) EIS **Date:** 9/8/03

To: Annette McDaniel
15083 S. Elk Creek Road
Pine, CO 80470

Attn:

Ref: 070306.405.1.0390

Item	Qty.	Date	Description
1	1 set	8/19/03	Aerial Drawings

- [ ] For your approval
- [ ] For your information
- [ ] For your review and comment
- [ ] Other:
- [ ] For your signature
- [X] As you requested
- [ ] Please return

REMARKS: **Per your request at the public workshop, plan sheets are enclosed. Please note that these are draft plan sheets and that the design is still very preliminary. Expect that there will be changes.**

Signed: Troy Halouska
Copies: C&B Project File #070306405

Via: U.S. mail

J:_Transportation\us285\TEMPLATES\Transmittal Letter.doc

CDOT Project No. NH 2854-093
Code No. 14112

Carter::Burgess

LETTER OF TRANSMITTAL

707 17th Street, Suite 2300, Denver, Colorado 80202 (303) 820-5240

Project: U.S. 285 (Foxton Road to Bailey) EIS **Date:** 10/2/03

To: Phil Simms
P.O. Box 255
Conifer, CO 80433

Attn:

Ref:

Item	Qty.	Date	Description
1	1	7/29/003	Preferred Alternative Plan Sheet
2	1	7/29/03	Green Valley Ranch Alternative Plan Sheet

- ☐ For your approval
- ☐ For your information
- ☐ For your review and comment
- ☐ Other:
- ☐ For your signature
- ☐ As you requested
- ☐ Please return

REMARKS:

Signed: Craig Gaskill

Copies: C&B Project File #070306405

Via: U.S. Mail

J:_Transportation\us285\TEMPLATES\Transmittal Letter.doc

CDOT Project No. NH 2854-093
Code No. 14112

Carter::Burgess

707 17th Street, Suite 2300, Denver, Colorado 80202 (303) 820-5240

LETTER OF TRANSMITTAL

Project: U.S. 285 (Foxton Road to Bailey) EA **Date:** 2/20/04

To: Bob Montgomery
P.O. Box 1647
Evergreen, CO 80437-1647

Attn:

Ref: 070306.405

Item	Qty.	Date	Description
1	1	1/2004	Plan Sheet #10
2	1	1/2004	Plan Sheet #11
3	1	2/2004	Preferred Alternative Sheet Map #21

- ☐ For your approval
- ☐ For your signature
- ☐ For your information
- ☐ As you requested
- ☐ For your review and comment
- ☐ Please return
- ☐ Other:

REMARKS: **These plans are attached per our February 10, 2004 meeting.**

Signed: Craig Gaskill
Copies: C&B Project File #070306405

Via: U.S. Mail

Post Cards, Newsletters

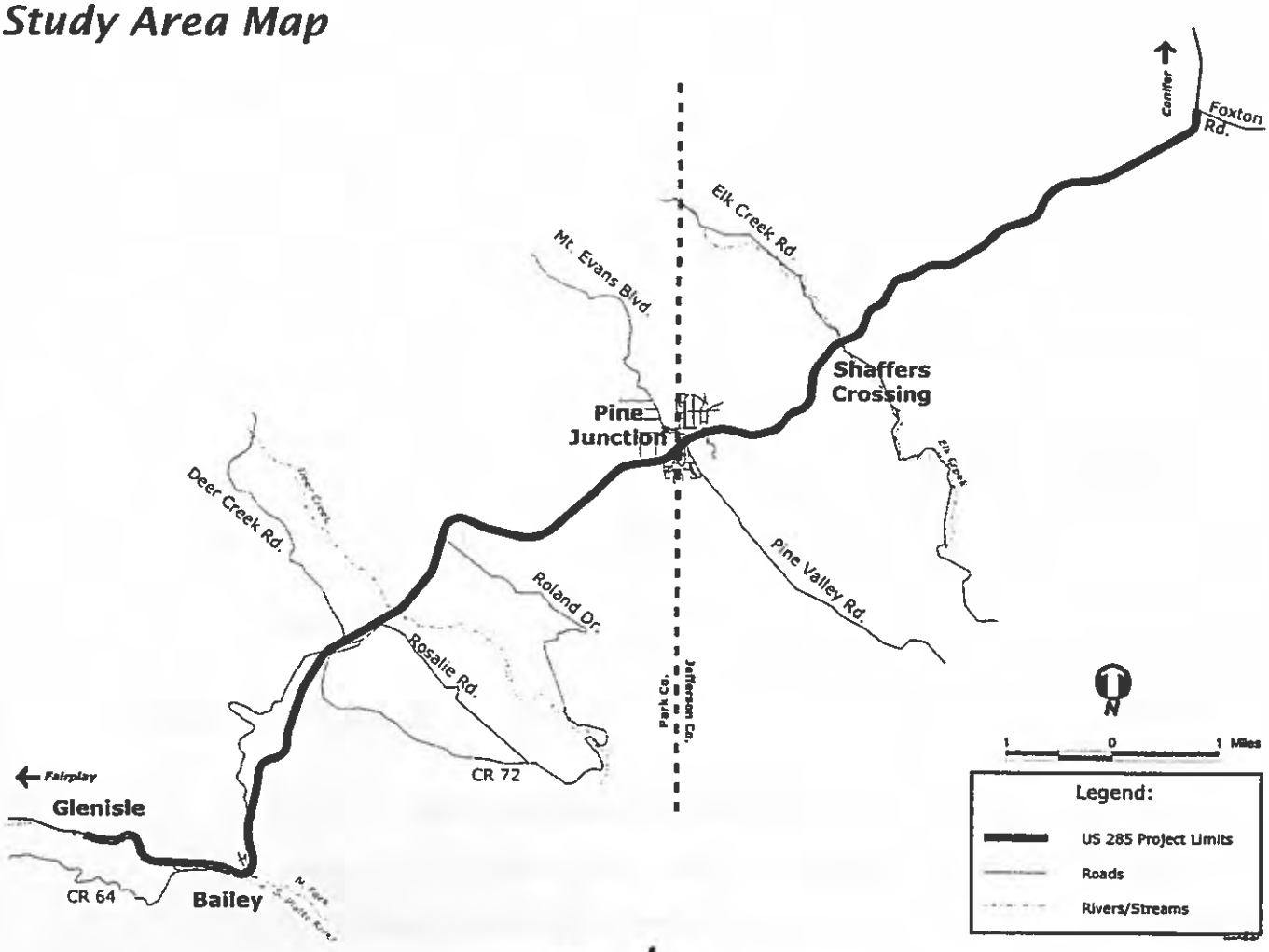
Project Update

The last public meeting for the Environmental Impact Statement (EIS) was July 30, 2002. Since that time, we have been:

- *Developing possible layouts for a widened US 285*
- *Looking at layouts for full movement intersections*
- *Collecting information on wildlife habitat, wetlands, historic properties, water resources, land use changes, noise*
- *Meeting with public agencies*

At the public open house coming up on February 12, we will have available for your comments layouts for US 285 and the intersections, as well as the results of our data collection activities.

Study Area Map



CDOT wants to hear from YOU!

Public involvement is an integral part of the EIS process. The project team encourages you to attend the Open Houses! This is your opportunity to meet one-on-one with project team members and give your comments or concerns and ask questions.

Other Opportunities to Get Involved in the US 285 Project Include:

1. Visit the project website at: **www.us285.com**.
2. Provide input by contacting the project team.
3. Complete the comment sheets available at the Open Houses.
4. Write a letter with suggestions, comments and concerns on the US 285 corridor and send it to the following person. (Regular mail, electronic mail or fax is appropriate.)

Troy Halouska
Carter & Burgess, Inc.
707 17th Street,
Suite 2300
Denver, Colorado 80202
(303) 820-4898
(303) 820-2401 (fax)
halouskatk@c-b.com

US 285
Foxton Road to Bailey EIS

Second Public Workshop

Open house to discuss the Environmental Impact Statement for US 285 from Foxton Road south to Bailey.

Wednesday, February 12, 2003
Platte Canyon Fire Station
153 Dellwood Drive, Bailey
(On Top of Crow Hill)
4:00 p.m. - 7:00 p.m.

Information that will be available:

- New data collected
- Evaluation of alternatives
- Opportunities to comment
- Alternatives development
- What's next in the process & schedule

For more information:

Go to **www.US285.com** or call or email Troy Halouska at Carter & Burgess
(303) 820-4898 ◆ (303) 820-2401 (fax) ◆ halouskatk@c-b.com

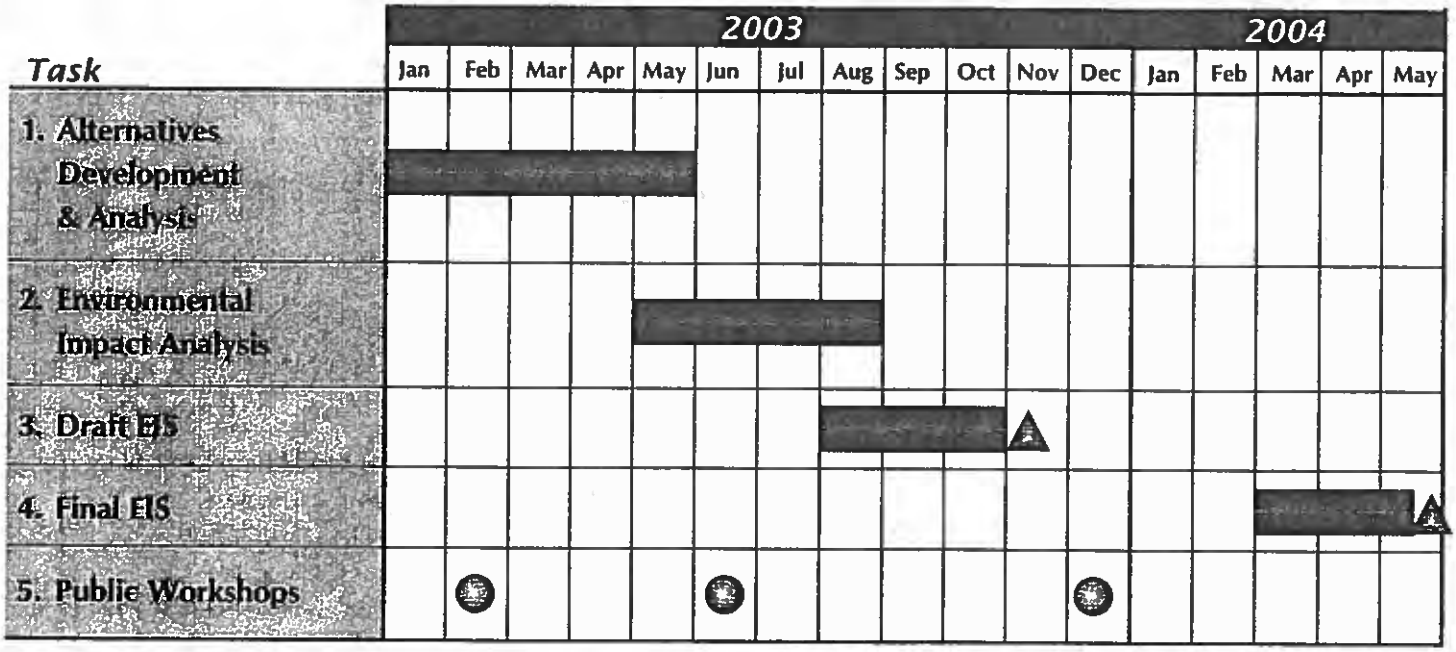
In compliance with the Americans with Disabilities Act. For any special accommodations, call Troy Halouska at 303-820-4898 or the TDD number for the hearing impaired at 800-659-3656.

DOT

Federal Highway Administration

US Army Corps of Engineers

Project Schedule



US 285
Foxton Road to Bailey EIS

Carter & Burgess, Inc.
707 17th Street, Suite 2300
Denver, Colorado 80202
Attn: Troy Halouska

DOT

Project Update

The last public workshop for the US 285 Environmental Impact Statement (EIS) project was held on February 12, 2003. There was a very good turnout with over 150 members of the public attending. The project team received very good feedback and was able to address several concerns heard that evening.

Since the last workshop, we have been refining alternatives for each proposed new grade-separated intersection as well as alternatives for the entire corridor. We have been assessing social, economic and environmental impacts that each of the alternatives will have and documenting them in the Draft EIS. We have continued to meet with public agencies, resource agencies and different stakeholder groups to keep them apprised of what is going on with the project and get their feedback.

Please join us at the upcoming public workshop to see the most current project information and to let us know your questions, comments and concerns.

CDOT wants to hear from you!

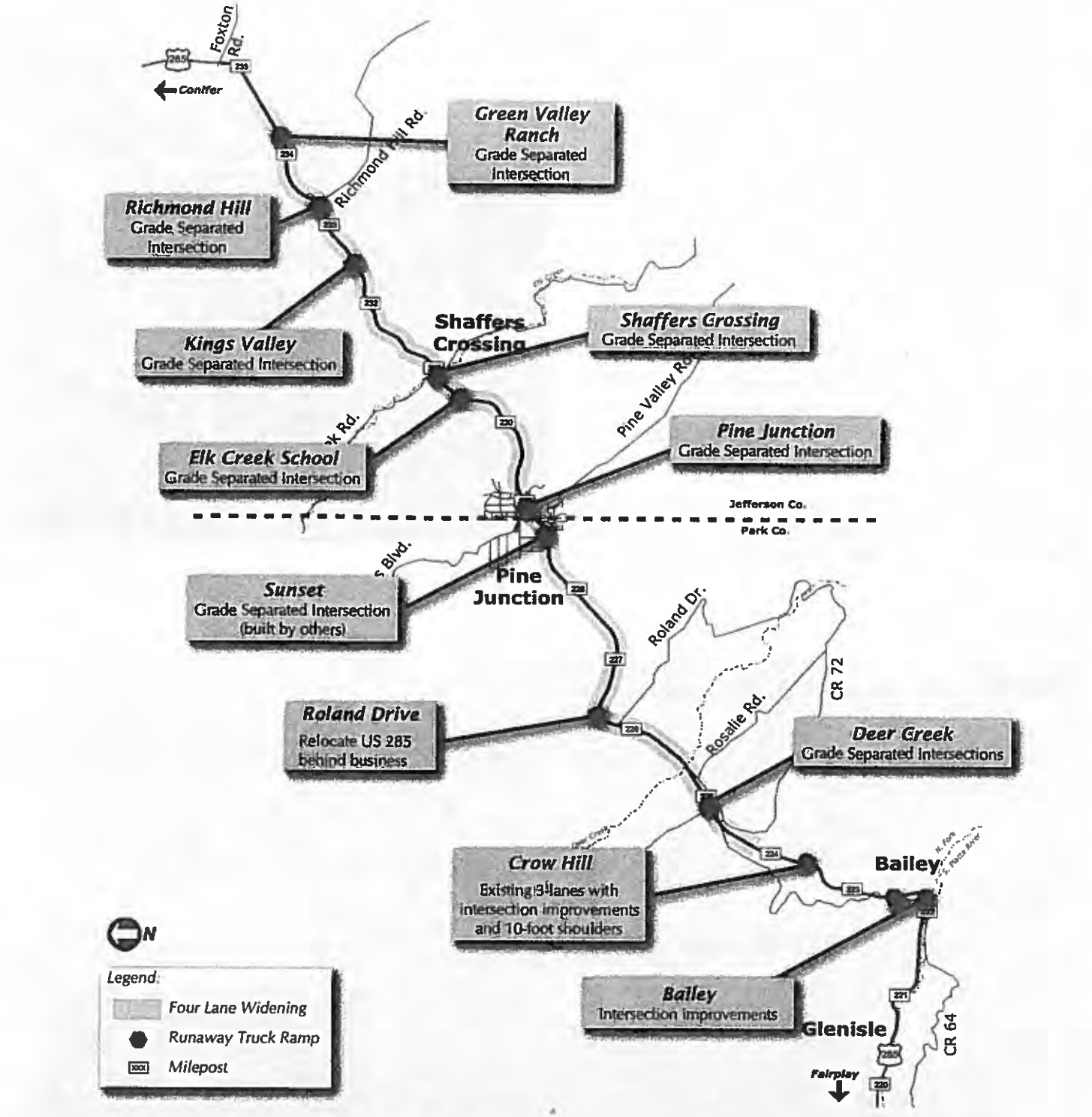
Public involvement is an integral part of the EIS process. The project team encourages you to attend the Open Houses! This is your opportunity to meet one-on-one with project team members and give your comments or concerns and ask questions.

Other Opportunities to Get Involved in the US 285 Project Include:

1. Visit the project website at: **www.us285.com**.
2. Provide input by contacting the project team.
3. Complete the comment sheets available at the Open Houses.
4. Write a letter with suggestions, comments and concerns on the US 285 corridor and send it to the following person. (Regular mail, electronic mail or fax is appropriate.)

Troy Halouska
Carter & Burgess, Inc.
707 17th Street,
Suite 2300
Denver, Colorado 80202
(303) 820-4898
(303) 820-2401 (fax)
halouskatk@c-b.com

Preliminary Preferred Alternatives



Build Alternatives Development

Both the No-Build and a Preferred Alternative have been carried forward for analysis in the DEIS. Following are some features of the Preferred Alternative:

- *The new alignment will generally follow the existing alignment except where it is moved to correct substandard curves.*
- *Four through lanes and a depressed median between the top of Foxton Road and Crow Hill.*
- *Two through lanes and a passing lane between Bailey and top of Crow Hill.*
- *Ten foot shoulders and a twelve foot clear zone would be provided on both sides of highway.*
- *New frontage roads near Deer Creek, Pine Junction, Kings Valley Drive and Green Valley to provide improved access.*
- *Runaway truck ramp located just north of Bailey.*

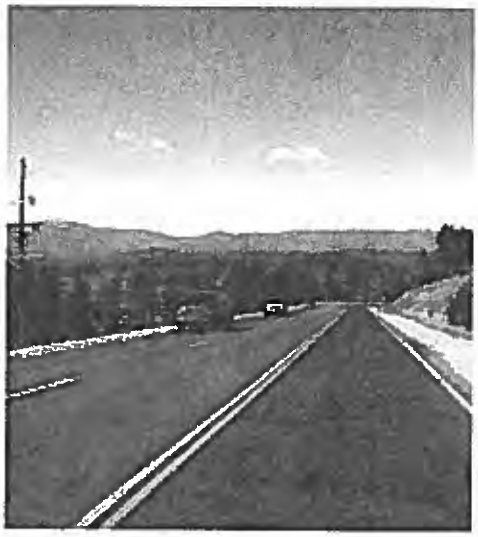
Full movement intersections with grade separations have been developed in the following locations:

- *Green Valley Ranch*
- *Elk Creek School & Shaffers Crossing*
- *Richmond Hill*
- *Pine Junction*
- *Kings Valley*
- *Deer Creek*

Most other study area intersections will have turning movements that are restricted.

Recommendations to make it easier to use alternative transportation modes in the corridor have been created. These include:

- *Access management*
- *Advanced traveler information*
- *Pedestrian and bicycle facilities at underpass and overpass*
- *Carpool, vanpools, and use of park-n-Rides*

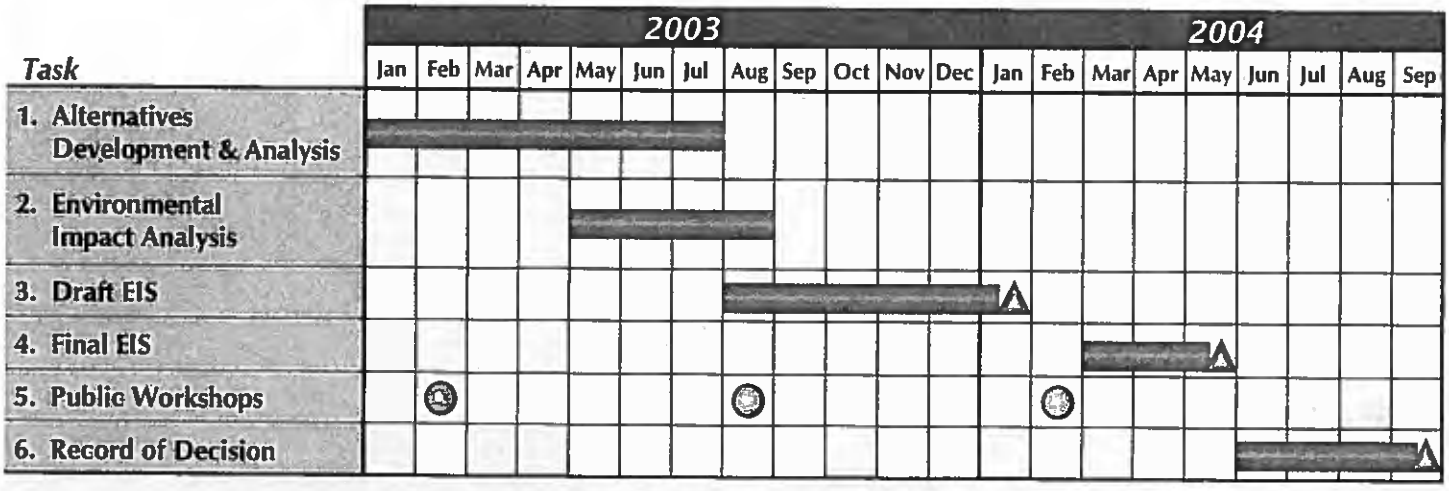


Environmental Impact Information

The following items will be presented at the upcoming public workshops:

- *Preliminary noise impacts*
- *Potential wetland impacts*
- *Historic resource impacts*
- *Hazardous materials impacts*
- *Wildlife impacts*

Project Schedule



Third Public Workshop

Open house being held to discuss the progress of the Environmental Impact Statement project for US 285 from Foxton Road south to Bailey.

Wednesday, August 13, 2003
*Platte Canyon Fire Station**
153 Dellwood Drive, Bailey (On top of Crow Hill)
*4:00 p.m. – 7:00 p.m.***

* In compliance with the Americans with Disabilities Act. For any special accommodations, please call Troy Halouska at 303-820-4898, or the TDD number for the hearing impaired at 800-659-3656.

** There is no formal presentation, so feel free to stop by at anytime.

Information that will be available at this workshop:

- *Project background*
- *Preferred alternatives for grade-separated intersections*
- *Next steps in the process*
- *Project team to answer questions and take comments*
- *Preferred alternative for roadway improvements*
- *Environmental impacts information*
- *Project schedule*

For more information:
Go to www.US285.com, or call or email Troy Halouska at Carter& Burgess 303.820.4898, fax-303.820.2401, halouskatk@c-b.com.

US Army Corps of Engineers

US 285
Foxton Road to Bailey EIS

Carter & Burgess, Inc.
707 17th Street, Suite 2300
Denver, Colorado 80202
Attn: Troy Halouska

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Appendix B

Agency Coordination Information

[Federal Register: July 12, 2002 (Volume 67, Number 134)]
[Notices]
[Page 46241-46242]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr12jy02-99]

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

U.S. 285 **Notice of Intent**

AGENCY: Federal Highway Administration.

ACTION: **Notice of intent** and public scoping meeting.

SUMMARY: The FHWA is issuing this **notice** to advise the public that an environmental impact statement will be pr epared for proposed transportation improvements to U.S. 285 f rom Foxton Road to Bailey in Jefferson and Park Counties, Colorado.

FOR FURTHER INFORMATION CONTACT: Mr. Scot t Sands, FHWA Colorado Division, 555 Zang Street, Room 250, Denv er, CO 80228, Telephone (303) 969-6730, extension 362.

SUPPLEMENTARY INFORMATION: The FHWA, in c ooperation with the Colorado Department **of** Transportation (CDOT) will prepare an En vironmental Impact Statement in accordance with the N ational Environmental Policy Act (NEPA) for transportation improvement s on U.S. 285 from Foxton Road in Conifer to just south **of** Bailey, Colorado. The EIS will evaluate the No-Action and Build alternative(s) and deter mine the estimated costs and potential impacts **of** each. CDOT will be the local lead agency for the EIS. The project is approximately 15 miles in length. Alternatives that may be evaluated include the No -Action Alternative and various 2, 3 and 4 lane alternatives. A public scopi ng meeting has been scheduled for July 30, 2002 at the Elk Creek Fire P rotection District at 11993 Blackfoot Road in Conifer, CO. Scoping me etings are also planned with the U.S. Army Corps **of** Engineers, U.S. Forest Service, U.S. Environmental Protection Agency, U.S. Fis h and Wildlife Service, Colorado Division **of** Wildlife and various local agencies. Thi s effort will build on the results **of** the U.S. 285 Feasibility Study which was completed in March **of** 2002.

Written comments on project scope sho uld be sent to: Mr. Kim Patel, Project Manager, CDOT Region One, 18500 E ast Colfax Avenue, Aurora, CO 80111, Telephone: (303) 365 -7373.

FHWA, CDOT and other local agencies i nvite interested individuals, organizations, and federal, state and

[[Page 46242]]

local agencies to participate in refining the alternatives to be evaluated in the EIS and identifying any significant social, economic or environmental issues related to the al ternatives. Scoping comments may be made at the scheduled scoping meet ing or in writing. Scoping comments received during the development **of** the U.S. 285 Feasibility

Study will be incorporated into the overa ll scoping comments for the EIS. The public will receive notices on l ocations and times of future public meetings through newspaper adverti sements and individual correspondence. If you wish to be placed on the project mailing list, please contact Mr. Kim Patel at the addre ss noted above.

All significant social, economic and environmental impacts of the alternatives carried forward for complete EIS analysis will be evaluated. Depending on the alternatives under study, environmental and social impacts to be evaluated will inclu de safety and mobility impacts, impacts on cultural resources, n oise impacts, natural resources, air quality, threatened and en dangered species, wildlife resources, habitat connectivity, and park s and recreation resources.

In accordance with FHWA policy, the D raft EIS will be prepared with required engineering design studies neces sary to complete the document. After its publication, the Draft EIS will be available for public and agency review and comments and a public h earing will be held. A Final EIS will hen be prepared, followed by a R ecord of Decision which will officially select a preferred alternative . Prior to the official selection of a preferred alternative in the Record of Decision, notification of the preference will be made in either th e Draft or Final EIS.

The No-Action Alternative is expected to include minor safety improvements, (e.g., intersection improve ments, shoulder widening, or climbing lanes) resurfacing, bridge repai r, maintenance, stream or other environmental improvements, and the construction of a grade separated intersection at Wandcrest Drive . Through the course of the EIS, other independent utility projects m ay be identified if they are found to not conflict with the outcome of the EIS.

Issued on: June 13, 2002.
William C. Jones,
Division Administrator.
[FR Doc. 02-17504 Filed 7 -11-02; 8:45 am]
BILLING CODE 4410-22- M

Beach to the south; Volvo Parkway in Chesapeake and Lynnhaven Parkway and Laskin Road in Virginia Beach to the north; and Bird Neck Road in Virginia Beach to the east.

The EIS will examine a range of alternatives consisting of a no-build alternative as well as transportation system management strategies, mass transit, improvements to existing facilities, and new alignment facilities. Initial studies for this project began in 1987, with a Draft EIS issued in September 1989 followed by a Supplemental Draft EIS in September 1994. Subsequently, VDOT recommended, and Virginia's Commonwealth Transportation Board endorsed, a preferred alternative. However, work was suspended prior to the completion of a Final EIS. Because of the lapse of time since the circulation of the previous drafts, the study is being reinitiated with a new Draft EIS. Previous studies will be used to the extent practical and will be updated to reflect changes in the project area. The final selection of an alternative will not be made until the alternatives' impacts and comments on the draft EIS and from the public hearing have been fully evaluated.

The scoping process is currently underway. Scoping letters describing the proposed study and soliciting input are being sent to the appropriate Federal, State and local agencies who have expressed or are known to have an interest or legal role in this proposal. A Citizen's Information Meeting will be held to enable organizations, citizens, and interest groups to provide input into the development of the EIS and identify issues that should be addressed. No formal scoping meeting is planned at this time.

A Public Hearing will be held upon completion of the Draft EIS. Notices of the Public Hearing will be given through various forums, providing the time and place of the meeting along with other relevant information. The Draft EIS will be available for public and agency review and comment prior to the Public Hearing.

To ensure that the full range of issues related to this proposed action are addressed and all significant issues identified, comments and suggestions are invited from all interested parties. Comments or questions concerning this proposed action and the EIS should be directed to the FHWA at the address provided above.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Planning and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program.)

Issued on: December 17, 2003.

Kenneth R. Myers,

Planning & Environmental Program Manager.

[FR Doc. 03–31639 Filed 12–23–03; 8:45 am]

BILLING CODE 4910–22–P

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

Environmental Impact Statement: Jefferson and Park Counties, CO

AGENCY: Federal Highway Administration (FHWA) and Department of Transportation (DOT).

ACTION: Notice to amend notice of intent.

SUMMARY: FHWA is issuing this notice to advise the public that an environmental assessment will be prepared for transportation improvements on US 285 in the Counties of Jefferson and Park, Colorado, rather than an environmental impact statement.

FOR FURTHER INFORMATION CONTACT: Scott Sands, Operations Engineer, FHWA, Colorado Division, 555 Zang Street, Room 250, Lakewood, CO, 80228, Telephone: (303) 969–6730 extension 362. Kamalesh (Kim) Patel, Project Manager, CDOT Region 1, 18500 East Colfax Avenue, Aurora, CO, 80011, Telephone: (303) 365–7373.

SUPPLEMENTARY INFORMATION: The FHWA, in cooperation with the Colorado Department of Transportation (CDOT), has begun the National Environmental Policy Act (NEPA) for transportation improvements along US 285 between Conifer and Bailey, Colorado. Scoping has been completed, alternatives have been developed and evaluated and environmental impact analysis has been done.

As a result of these NEPA studies, FHWA and CDOT have determined that this project will not result in a significant impact to the environment, thus an environmental impact statement will not be prepared.

Analysis of the following areas was conducted to reach this determination: Land use and zoning; social; economic; right-of-way; air quality; noise; water resources and quality; wetlands; floodplains; wild and scenic rivers; vegetation and wildlife; threatened, endangered and sensitive species; visual quality; historic preservation; hazardous waste; utilities; parks and recreation resources; farmland; relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity; irreversible and irretrievable commitments of resources; and cumulative impacts.

Comments or questions concerning this proposed action and the environmental assessment should be directed to the FHWA or the Colorado Department of Transportation at the addresses provided above.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Planning and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program.)

Issued on: December 18, 2003.

Ronald Speral,

Program Delivery Engineer.

[FR Doc. 03–31668 Filed 12–23–03; 8:45 am]

BILLING CODE 4910–22–M

DEPARTMENT OF TRANSPORTATION

Federal Motor Carrier Safety Administration

[Docket No. FMCSA–2003–16564]

Qualification of Drivers; Exemption Applications; Vision

AGENCY: Federal Motor Carrier Safety Administration (FMCSA), DOT.

ACTION: Notice of applications for exemption from the vision standard; request for comments.

SUMMARY: This notice publishes the FMCSA's receipt of applications from 29 individuals for an exemption from the vision requirement in the Federal Motor Carrier Safety Regulations. If granted, the exemptions will enable these individuals to qualify as drivers of commercial motor vehicles (CMVs) in interstate commerce without meeting the vision standard prescribed in 49 CFR 391.41(b)(10).

DATES: Comments must be received on or before January 23, 2004.

ADDRESSES: You may submit comments identified by DOT DMS Docket Number FMCSA–2003–16564 by any of the following methods:

- Web site: *http://dms.dot.gov.* Follow the instructions for submitting comments on the DOT electronic docket site.
- *Fax:* 1–202–493–2251.
- *Mail:* Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL–401, Washington, DC 20590–0001.
- *Hand Delivery:* Room PL–401 on the plaza level of the Nassif Building,

Carter::Burgess

216 16th Street, Suite 1700
Denver, Colorado 80202
Phone: 303.820.5240
Fax: 303.820.2402
www.c-b.com

September 4, 2002

Mr. Tom Easley
Colorado State Parks
1313 Sherman Street, Room 618
Denver, CO 80203

RE: 6(f) Property Request for US 285 from Conifer to Bailey

Dear Mr. Easley:

Carter & Burgess, Inc. has been hired by the Colorado Department of Transportation to perform environmental consulting services for a project that includes improvements to US 285 from Foxton Road in Conifer south through the town of Bailey. We are currently compiling the necessary documentation and coordination to prepare an Environmental Impact Statement for the project.

I am contacting you to find out if there are any properties in the project area that were funded using money from the Land and Water Conservation Fund (LWCF). The general legal description for the project area is T6S, R71W, Sections 23, 26, 27, 28, 31, 32, and 33, T7S, R71W, Sections 5 and 6, T7S, R72W, Sections 1, 10, 11, 12, 15, 16, 17, 20, 21, 29, and 30, and T7S, R73W, Section 25. A set of project maps is enclosed for your reference.

If there are LWCF properties located within this project area, please send me a detailed map of their exact locations, including property line boundaries.

I can be reached at the following:

Troy Halouska
Carter & Burgess, Inc.
216 16th Street, Suite 1700
Denver, CO 80202
Phone: 303.820.4898
Email: halouskatk@c-b.com

Please do not hesitate to contact me if you have any questions or concerns. I look forward to hearing from you.

Sincerely,

Troy Halouska
Environmental Planner

Enclosure

cc: File # 070306

J:_Transportation\us285 EIS\manage\corr\6(f) Request.doc

STATE OF COLORADO

COLORADO STATE PARKS
1313 Sherman Street, Room 618
Denver, Colorado 80203
Phone (303) 866-3437
FAX (303) 866-3206
www.parks.state.co.us

Troy Halouska
Carter and Burgess, Inc.
216 16th Street, Suite 1700
Denver, CO 80202

October 24, 2002

Dear Mr. Halouska,

I'm writing in regard to your request for information about properties along the US 285 corridor between Conifer and Bailey that might have been funded with money from the Land and Water Conservation Fund.

Based on the project map that your provided and an examination of our files for the LWCF grants in Jefferson County and Park County, we find no LWCF properties that will be affected by your project.

If you have any questions, feel free to contact me at (303) 866-3203.

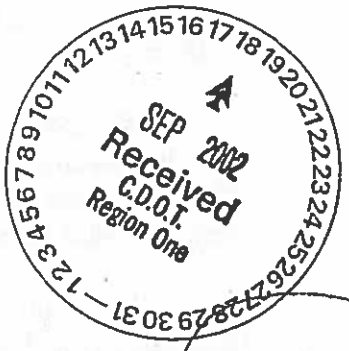
Yours,

Tom Easley

Tom Easley
Colorado State Parks

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

SEP 17 2002



cc: Pinkerton
Ferrel
? Joy

Ref: 8EPR-EP

Jeff Kullman
Regional Transportation Director
Colorado Department of Transportation
Region 1
18500 East Colfax Avenue
Aurora, CO 80011

William C. Jones
Division Administrator
Federal Highway Administration
Colorado Division
555 Zang Street
Lakewood, CO 80228

RE: Scoping Comments for the Environmental Impact Statement, Proposed Widening and Other Improvements to Highway U.S. 285, Foxton Road in Conifer to Bailey, Colorado

Dear Messrs. Kullman and Jones:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, the Region 8 office of the Environmental Protection Agency (EPA) provides scoping comments regarding the Environmental Impact Statement (EIS) for proposed widening and other improvements to Highway U.S. 285, from Conifer to Bailey, Colorado. We have worked closely with your staff on the I-70 West Mountain Corridor's programmatic EIS and other Colorado highway projects that have expanded highway capacity and enhanced mobility, and we have confidence that the Draft EIS for U.S. 285 will reflect advances that our agencies have accomplished for environmental assessment and disclosure. Many of the concerns that EPA has raised regarding cumulative and indirect or secondary impacts on past projects will be concerns in the U.S. 285 mountain corridor.

Adverse environmental impacts are inevitable if greater access is provided to outer commuting areas, where congestion and extended travel time now serve to deter commuting from the foothills and mountains west and south of Denver along the U.S. 285 corridor. In addition, widening the highway will provide greater access to mountain recreation, resort, and other "high-amenity" areas. EPA recommends that particular attention be given to: environmental impacts to streams and significant wetlands; disclosure of indirect and cumulative impacts in and beyond the highway corridor as appropriate; estimates of environmental impacts due to transportation;

socioeconomic and travel demand assumptions; and selection of appropriate baselines for impact analysis.

We suggest that a programmatic EIS might be appropriate for the U.S. 285 corridor. The corridor is being completed in segments, and decisions on one segment are often dependent on decisions made for a previous segment. We suggest that decisions in isolation of an overall environmental protection policy is not the best way to approach this corridor.

We encourage CDOT to evaluate alternatives on U.S. 285 that include mass transit and traffic supply and demand management. Priorities may be established in alternatives to provide environmental enhancements such as wildlife crossings and other mitigation practices, both for previous environmental damages caused by past and existing highway construction practices and alignment and for future widening that is proposed.

When completed, under authorities in Section 309 of the Clean Air Act, EPA will review the Draft EIS (DEIS) to determine if information is provided at the level of detail necessary to: (1) determine environmental and social consequences from implementing proposed transportation alternatives, (2) avoid adverse impacts, and (3) mitigate unavoidable environmental impacts.

Attached are EPA's detailed comments. We welcome an opportunity to discuss these comments. If you would like to schedule a meeting or just have questions about our scoping comments, the staff contact is Brad Crowder, who can be reached at 303-312-6396 or by email at crowder.brad@epa.gov.

Sincerely,

Cynthia Cody
Director, NEPA
Ecosystems Protection Program

Enclosure: EPA's Scoping Comments for U.S. 285 Widening and Other Improvements

cc: Gina McAfee

EPA's Scoping Comments for U.S. 285 Widening and Improvements, Foxton Road in Conifer to Bailey, Colorado

Specific Comments for U.S. 285

We understand that CDOT uses EISs to develop a broad, relatively long-term vision for transportation improvements. 'Build' alternatives will enhance capacity and directly expand highway user populations in fragile mountain ecosystems and enable additional residents and houses to move into the "red zone" where fire danger and ecological impacts are greatest. Greater fire risk to property and lives is associated with more residential and commercial development in the rugged terrain of mixed lodgepole and ponderosa pine forests, typical of the foothills and mountains adjacent to the U.S. 285 highway corridor. Expanding transportation capacity on U.S. 285 has the potential to cause adverse direct, indirect, and cumulative impacts to the environment in the mountains and foothills. We suggest that CDOT use the opportunity this project provides to work with Jefferson and Park Counties to avoid impacts from this project through land use planning decisions and other avenues open to the counties. Together, CDOT and the counties can plan alternatives that truly reduce the environmental impacts of expanded highway capacity and development on this fragile ecosystem. Most of our comments are directed at ways to avoid or minimize impacts to sensitive natural and community resources that will with the inevitable growth in the vicinity of the highway corridor.

Indirect and Cumulative Effects

EPA recommends that CDOT work with Jefferson and Park Counties to develop thresholds or management goals for environmental impacts to sensitive environmental receptors and mountain communities, as CDOT does for its Level of Service (LOS) to develop its Purpose to expand transportation capacity in mountain areas. By doing so, CDOT can propose environmental protections that are necessary to avoid impacts to sensitive natural resources and communities, whether those protections be through local or State government. Also, environmental mitigation can be identified and proposed, whether by CDOT or others, for adverse impacts that are unavoidable in the foothills and mountain areas. EPA believes that there should be discussion in the EIS about capacity thresholds, including transportation access to the mountains for recreation.

Alternatives are likely to include highway widening, mass transit, transportation demand management (TDM), transportation supply management, and alternative routes. Economic and financial biases against mass transit and TDM occur when transportation decisions consider resolving traffic demand over multiple, short segments of highway. The U.S. 285 West corridor is being completed in segments, as resources and transportation demand allow CDOT to proceed (e.g., the numerous alternatives being developed in Chapter 4 and numerous "localized highway improvements" in Chapter 6 of the "U.S. 285 Foxton Road to Fairplay Feasibility Study," March 2002). A policy document similar to the I-70 West corridor's programmatic EIS may be appropriate on U.S. 285 to avoid segment decisions in isolation of an overall environmental protection policy. For example, an environmentally preferred alternative for the segment of

highway from Conifer to Bailey is dependent on what has already been done to widen and enhance highway capacity on U.S. 285 from C-470 to Conifer.

Additional development will be enabled in the area that is served by the highway if its capacity is increased to four lanes between Conifer and Bailey. Additional development and impacts will occur beyond Bailey along the U.S. 285 corridor. Because of the nature of recreation travel along U.S. 285 up to and beyond the Conifer to Bailey corridor, induced travel demand associated with additional transportation capacity will cause environmental and socioeconomic impacts. There should be specific representation of what each alternative studied will accomplish in the short and long term for mobility and access to mountain recreation and other traffic demands. Further congestion of the corridor between C-470 and Conifer, compared to No Action, will result from widening the highway to Bailey, ultimately increasing congestion beyond Bailey to Fairplay and the mountain communities.

The EIS should identify the sensitive environmental resources that are or could be affected directly, indirectly, and cumulatively because of transportation enhancements and other actions. Included should be identification of resources that were degraded by past highway-related and other construction, maintenance, operations, and other activities. Following evaluation, protection of natural resources and mitigation of environmental impacts can be planned.

EPA recognizes that identifying the boundaries for analysis of cumulative and indirect impacts is difficult. Many impacts to water resources and wildlife habitats will extend beyond the highway corridor. It is important to recognize indirect and cumulative impacts, to reasonably estimate the potential effects of proposed alternatives on both terrestrial and aquatic habitats. Though natural systems may not be immediately or completely lost as a result of adverse impacts, their functions may be moderately to severely reduced. Induced impacts outside the highway corridor will continue to affect wetlands, streams, ponds, lakes, and terrestrial habitats. There are several ways to measure the amount of growth that will occur in the vicinity of a highway project, because of the highway. We refer you to the National Cooperative Highway Research Program's 1998 document entitled " Land Use Impacts of Transportation: A Guidebook." Some innovative methods are being used for Highway 93 in New Hampshire. I encourage you to contact Deborah Lebow in EPA Region 8's office for more information on this project (303 312-6223).

The benefits and costs from relieving congestion should be compared to the likely environmental and social costs of additional highway capacity into sensitive mountain environments. Enhanced transportation capacity is expected to cause accelerated development of mountain communities, increased use of sensitive public and private lands, and increased use of natural resources. Balancing of benefits and costs associated with increased growth and development should include full consideration of public input and participation regarding highway capacity improvements and further development of mass transit. Sensitive mountain ecosystems and wildlife habitats are under increasing pressure in Colorado, and the fires of 2002 clearly demonstrated the human consequences associated with residential development in fire-prone mountain areas. Increasing access to the mountains will further stress sensitive ecosystems and

place more structures and people in danger of fire, as more land will be developed or impacted by recreation and construction activities.

We recommend that the highway and community resources necessary for each alternative(s) be evaluated and disclosed, and that the public have the information and opportunity necessary to compare alternatives which include information about their ability to resolve the project purpose and need alongside their costs. Alternatives that increase access to the foothills from the Denver metropolitan area are likely to increase the requirements for energy and vehicle fuel use and for community services such as water and sewage treatment and road and highway maintenance. Similar development in areas that already are developed or available for development in less environmentally sensitive areas of the Denver metropolitan area would be expected to have lower costs for the same services and use of natural resources.

The following comments on "NEPA and Environmental Planning" and "Environmental and Community Impacts" issues that are typically encountered with highway projects. Our comments are specific to the U.S. 285 corridor, to the extent that information is available.

I. NEPA and Environmental Planning

Alternatives

CDOT should assess and evaluate the congestion relief and increased mobility that are probable from increasing highway and transit capacities. Alternatives should look at the effects on the mobility, location and relocation, and other impacts for low-income groups and low-income, minority groups who live and work in the U.S. 285 corridor. By fully analyzing all alternatives, the public and decision-makers can weigh probable impacts to communities and specific demographic groups, wetlands, water quality, air quality, and other natural and human resources.

Because of the potential environmental benefits and financial costs associated with transit alternatives, options that enhance transit ridership can be considered. Such options may include additional park and ride facilities, subsidized or free fares or local shuttles to transit access points, local government decisions about land use measures (e.g. zoning and density requirements) that encourage transit use, and combinations of these options.

When and where adverse impacts to critical environmental resources are determined to be unavoidable, the DEIS can identify and lay the groundwork for planning and implementing programmatic mitigation measures for environmental and community resources. Local and regional land use plans will be influenced by anticipated U.S. 285 capacity enhancements. Areas along and adjacent to the highway corridor will develop differently (e.g., low-density residential in a No-Build situation versus higher-density residential, retail, and other uses in Build scenarios) if access to the foothills and mountains is constrained by No-Build situations. Those differences in development will lead to differential indirect and cumulative impacts to the human and natural environments far beyond the highway corridor.

The stated purpose for proposed transportation improvements should go beyond a stated desire to reduce peak-hour traffic congestion. EPA expects that the DEIS, as the U.S. 285 Feasibility Study, will conclude that planned capacity improvements will not fully meet the long-term demand. EPA appreciates evaluation of the benefits that available TDM programs can provide, including how the future use of telecommuting and ridesharing will affect future population and other socioeconomic and demographic trends.

All environmental costs should be considered in a long-term view of impacts throughout the corridor. The benefits of accomplishing LOS as a design goal should be balanced against environmental and other social and economic impacts to determine whether improvements pass public efficiency (that is, benefits greater than costs) criteria. The DEIS should discuss why it is necessary to achieve additional LOS. Social and environmental impact analyses can inform locally-preferred alternatives for communities that will be impacted by constructing additional highway capacity and creating increased local access. Socioeconomic analysis can include estimates of cost savings from reduced delay, reduced accident rates, air quality impacts, or other benefits that result from higher LOS in each location where highway and transit improvements are proposed.

We suggest analyzing an alternative that could potentially meet the purpose and need for this project through land use changes and combinations of TDM, TSM and mass transit improvements. Although we know that FHWA and CDOT do not have authority over land use decisions, NEPA and its implementing regulations, and case law do not require that the lead agency be able to implement all the alternatives analyzed, just that they be reasonable alternatives. Even if an alternative that incorporated sustainable development principles, TDM and mass transit does not quite meet the purpose and need stated for this project, it may be an important disclosure opportunity. Decision makers will be able to compare an alternative that may not cost nearly as much as a build alternative but have significantly fewer environmental impacts, and meet at least a portion of the need.

Induced Demand Analysis and Indirect Impacts

The Council of Environmental Quality (CEQ) regulations for implementing the procedural provisions of NEPA state that the environmental consequences section of an EIS should include: "Indirect effects and their significance (40 CFR 1502.16(b))." Effects and impacts are used interchangeably by CEQ. Indirect effects are defined as "...caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth-inducing effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems" (40 CFR 1508.9(b)). The CEQ regulations also indicate that an EIS should include "means to mitigate adverse environmental effects" (40 CFR 1502.16(h)). The regulations do not distinguish among impacts, and this provision applies to indirect and cumulative effects as well as direct effects. Because of the near certainty of induced changes in land use and growth rates from

a four-lane U.S. 285 in the Conifer-Bailey corridor, these indirect impacts from additional residential, commercial, and perhaps industrial growth need to be assessed.

We concur with CDOT that additional highway capacity generates additional travel. Additional highway lanes, and enhancements of other travel modes, induce additional trips from existing travelers after transportation capacity is increased. The U.S. 285 Feasibility Study concluded that some congestion will continue in the future even with additional lanes. In the1995 report entitled "Expanding Metropolitan Highways: Implications for Air Quality and Energy Use," the Transportation Research Board concluded that, "The evidence from the studies reviewed here supports the view that highway capacity additions can induce new trips, longer trips, and diversions from transit." A November 1998 study by the Surface Transportation Policy Project analyzed 15 years' worth of congestion data compiled by the Texas Transportation Institute and found that, "Metro areas that invested heavily in road capacity expansion fared no better in easing congestion than metro areas that did not." The report goes on to say, "Since the 1940's, dozens of traffic studies have found that traffic inducement does indeed occur ... The most notable of these covers 30 urban areas in California from 1973 to 1990. The authors, UC Berkeley researchers Mark Hansen and Yuanlin Huang, found that at the metropolitan level, every 1% increase in new lane-miles generated a 0.9% increase in traffic in less than five years, which led them to conclude that, 'With so much induced demand, adding road capacity does little to reduce congestion.' "

The environmental impacts of existing transportation capacity, and proposed expansions of access to the foothills and mountains, warrant assessment for their indirect impacts on sensitive lands and environmental receptors throughout the region. Analysis of peak and total person-trips will help to determine the degree of trip suppression and environmental impacts with a No-Build alternative versus highway expansions and various transit options.

The following list represents examples of resources that could be affected by increased growth and urbanization induced by the proposed highway improvements: (1) water quality and hydrology of lakes, streams, and ground water; (2) floodplains and wetlands; (3) vegetation; (4) wildlife and their habitats; (5) biodiversity; (6) air quality; (7) transportation; (8) regional and community growth; (9) land use, property values, employment, and tax revenues; and (10) other social and economic impacts on affected communities and groups.

Mitigation for indirect effects may or may not be required, subject to regulations or other requirements. The DEIS should offer local decision-makers adequate notice of foreseeable environmental consequences from alternatives and provide an opportunity to plan and implement required or voluntary measures in a timely manner.

The scope of analysis of indirect effects should not rely solely on existing land use plans. Generally, compliance with comprehensive land use plans still results in adverse environmental effects. Also, in fast-growing areas, approved plans typically are superseded by additional development plans. Population projections in the State SIP should be harmonized with local and regional development plans, and environmental impacts with and without transportation

improvements should be evaluated in light of projections and their assumptions. For example, the same set of assumptions should be used to both determine the Need Purpose and Need for additional highway capacity and to evaluate the environmental impacts of a proposal. The DEIS should identify local land use controls that affect or regulate development with regard to induced growth. If this analysis occurs before transportation projects are completed, local, regional, and State decision-makers can plan for growth and develop mitigation plans.

Cumulative Impact Analysis and Critical Environmental Receptors

The baseline to assess environmental impacts should be appropriate for the environmental resources to be evaluated. For example, wetlands impacts include not only those that will be impacted directly (filled) by the highway but also wetlands that are likely to be filled or otherwise lost as indirect results from additional highway lanes, future and foreseeable transportation construction, and induced development. For air quality, the baseline (No Build) generally is represented as an out-year when traffic increases are projected. Traffic, emissions, and other environmental impacts from traffic generally are not compared to current or recent years, only with and without a proposed project. EPA recommends that the baseline for comparing impacts to the environment be based on today's affected environment at a minimum, and include a discussion of the historical baseline where such information is available.

Each Build alternative is likely to cause some adverse impacts to wildlife and their habitats. Those impacts may be direct, such as increased mortality associated with animals crossing additional lanes in their migration or foraging patterns. Indirect impacts occur from changes in hydrology and induced development and recreation visitation, for example. The relative impacts to fish and wildlife habitats should carefully be examined to determine the total impacts (direct, indirect, and cumulative) for alternatives, and what mitigation measures are appropriate and who may have responsibility for that mitigation.

Connected Actions and Cumulative Impacts

Regulation [40 CFR 1508.27(b)(7)] states, "The following should be considered in evaluating intensity: Whether an action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it into small component parts." We provide examples here for cumulative impacts that should be assessed, evaluated, and disclosed:

- Linked Developments - If new construction or reconstruction of roads, interchanges, or other transportation infrastructure is likely to facilitate or cause additional developments, the effects of these indirect impacts will be assessed, evaluated, and disclosed.

- Highway Maintenance and Debris Disposal - Road standards and design have a major effect on scheduled and unscheduled maintenance needs. Normally scheduled maintenance such as ditch cleaning and sanding, and anticipated but unscheduled maintenance, should be analyzed

and planned. Practices such as sidecasting material, filling depressions, and widening shoulders adversely affect wetlands, riparian areas, and streams. Plans for normal and emergency maintenance should be disclosed, including plans to prevent and manage noxious or undesirable vegetation. Plans to use herbicides require disclosure.

- Winter maintenance - Winter maintenance activities have long-term, indirect and cumulative environmental effects. Snow plowing and runoff move sand and salt into adjacent ditches and fill slopes, ultimately migrating into streams, riparian lands, and wetlands and altering their functional values. Those impacts and steps to minimize and mitigate the unavoidable effects on water quality (that is, sediment traps, reuse of sanding material, maintenance program requirements, etc.) should be discussed.

Socioeconomic Assumptions and Environmental Impacts

Socioeconomic assumptions profoundly affect the analysis of environmental impacts. Indirect and cumulative impacts result from past, current, and future transportation decisions to develop a "linear community" with urban characteristics along U.S. 285 and other corridor highways in the mountains, decisions that directly affect critical environmental resources in the mountain ecosystems and communities.

The analysis should consider the extent to which households and businesses may or may not locate in or near the U.S. 285 highway corridor beyond Conifer, depending on transportation improvements, and what environmental impacts are caused by additional trips and population that are induced by additional transportation capacity. Past EAs and EISs have assumed identical or similar development and travel demand or VMT estimates in Build and No Build scenarios, and therefore precluded accurate analysis of environmental quality and other impacts of future Build scenarios. The use of a single set of socioeconomic assumptions was identified by the U.S. District Court for the Northern District of Illinois as a flaw in an EIS for a proposed toll road in northern Illinois:

> "Specifically, plaintiffs point out that defendants relied on a single population forecast and that the forecast was used to analyze the build and no-build scenarios. . . Plaintiff's argument is persuasive. Highways create demand for travel and expansion by their very existence. Swain v. Brinegar, 517 F.2d 766, 777 (7th Cir. 1975); Def. 12(M) P 86. However, the final impact statement in this case relies on the implausible assumption that the same level of transportation needs will exist whether or not the tollroad is constructed. In particular, the final impact statement contains socioeconomic forecast that assumes the construction of a highway such as the tollroad and then applies that forecast to both the build and no-build alternatives. As a result, the final impact statement creates a self-fulfilling prophecy that makes a reasoned analysis of how different alternatives satisfy future needs impossible."

II. Environmental and Community Impacts

Wetlands and Waters of the United States

Wetlands and Riparian Areas

Limited wetlands exist along the highway beside U.S. 285. However, beyond Bailey the South Platte River has many riparian wetlands, as does South Park. The widening of U.S. 285 from Conifer to Bailey can be expected to significantly increase the population of mountain communities along U.S. 285. That population growth will eventually lead to further direct, indirect, and cumulative impacts. As a result of that growth, improvements to U.S. 285 between Bailey and Fairplay are likely to be necessary – such as those described in the U.S. 285 Feasibility Study – to accommodate the additional traffic generated by population growth. As a result, we suggest an analysis of wetlands and other natural resources impacts for the entire corridor from Conifer to Fairplay, to facilitate future highway and natural resources planning by CDOT and local governments. Environmental information should be developed to identify the least damaging, practicable alternative(s), as required by Section 404 of the Clean Water Act.

Wetlands and other water resources are regulated by hydrological factors that are impacted by highway construction and maintenance, through both direct and indirect pathways. Creative solutions are needed to avoid such impacts. Opportunities should be explored to mitigate the unavoidable impacts from past or future highway actions to wetlands, water quality (chemical and physical constituents), stream morphology, and riparian zones. Opportunities may exist to improve stream morphology and water quality. By controlling runoff and erosion and encouraging streams to follow a more natural course, there will be improved habitat for fish and wildlife and less bank erosion and undercutting, which in turn may reduce highway maintenance costs.

Avoidance and alternatives. The Section 404(b)(1) Guidelines of the Clean Water Act (CWA) require selection of the least environmentally damaging practicable alternative(s). Practicable alternatives are more rigorously defined than feasible or reasonable alternatives under NEPA. We suggest using the Guidelines to facilitate wetlands identification, avoidance, and mitigation.

Impacts attributed to alternatives that are evaluated should include direct, indirect, and cumulative adverse impacts to adjacent wetlands and waters of the United States, including wetland fragmentation and stream morphology changes related to proposed alignments or construction. Supporting groundwater hydrology and potential changes to hydrology from highway construction and related activities need to be considered. To assess whether an alternative(s) is the least damaging one(s), full disclosure and analysis of all possible alternative options should be presented at a level of detail necessary to evaluate the long-term impacts throughout the highway corridor. Evaluation of each alternative should be based on the basic purpose for a proposed project (40 CFR 230.10(a)).

Mitigation. Section 404(b)(1) requires that adverse impacts to wetlands, stream morphology and riparian habitat, and streams or other waters of the United States be avoided to the maximum extent practicable. A sequential approach to mitigation is required. Specifically, the February 7, 1990 Memorandum of Agreement (MOA) between the United States Department of the Army and EPA concerning the determination of mitigation under the CWA Section 404(b)(1) Guidelines states that:

> "Compensatory mitigation may not be used as a method to reduce environmental impacts in the evaluation of the least damaging practicable alternatives for the purposes of requirements under Section 230.10(a)."

After alternatives are evaluated without inclusion of mitigation, the least environmentally damaging practicable alternative(s) should be identified and selected. Should any adverse impacts be unavoidable with a selected alternative(s), then mitigation would be applied to those impacts to assure that impacts are compensated to an acceptable level.

If unavoidable adverse impacts are determined, restoration of hydrologically degraded wetlands generally is preferred to wetlands creation. Proposed mitigation should not result in net loss of wetlands or stream functions and values. Sufficient information should be developed to determine the extent to which restoration can mitigate unavoidable impacts associated with various alternatives, as information is available or can be reasonably acquired for programmatic analysis. Wetland mitigation projects at higher elevations are difficult and problematic due to short growing seasons and low diurnal temperatures. The potential for acquisition and restoration or enhancement of hydrologically degraded areas can be evaluated and presented so that decision makers can weigh the alternatives of restoration versus avoidance, based on the feasibility and costs of restoration and creation.

EPA supports CDOT's past and ongoing plans to restore degraded wetlands, streams, and their habitats, in part to mitigate for past impacts caused by highway construction, maintenance, and other activities. It is appropriate to consider protecting, restoring, and preserving valuable components of Colorado's natural and cultural legacy as part of any mitigation plan. "Over-mitigating" wetland and other water-resource impacts can improve the appearance and functions of the natural environment, thus reducing the costs of future highway maintenance and mitigation.

Adverse impacts and disclosure. Analysis of the wetland and riparian habitat fragmentation that is likely to occur as a result of various alternatives is needed, from potential direct, indirect, and cumulative effects. In addition to the possible direct impacts (e.g. habitat destruction) from the footprint of new highway lanes, for example, indirect and cumulative impacts will occur. Habitat fragmentation results in (1) loss of habitat integrity because of physical barriers to species and ecological processes and (2) habitat degradation because of resident species loss, pollution, altered natural hydrologic and biotic processes, and introduced exotic species. Impacts to all native aquatic species, not just endangered and threatened species such as boreal toad and greenback cutthroat trout, should be avoided to the extent possible. Fragmented habitats can have serious consequences, and may include eroded genetic diversity and amplified inbreeding,

increased probability of local extinction from small population sizes and reduced likelihood of reestablishment, loss of sensitive species, and increased abundance of weedy species.

Associated with fragmentation is habitat degradation through the "edge effect," or reduced habitat integrity at the boundary of a highway corridor, caused by disturbance, contamination, or other degrading factors that extend into natural habitats. The effects of highway activities may extend considerable distances into existing habitats in which organisms have become adapted.

Various highway construction and operations significantly alter surface and groundwater flow patterns. Operations that can have a significant effect on wetland and riparian area and functions include: stockpiling materials; maintaining mechanized equipment; disrupting drainage patterns; construction, maintenance and use of staging areas; and snow and ice controls. Operations can eliminate or change habitat types through ponding that changes vegetation, soil compaction, and lowering the water table with eventual draining of down-gradient wetlands.

The potential indirect effects of induced development (land conversions), including increased impervious surface area (i.e., developed flows), will markedly affect hydrology and its impact on linear water courses and their substrates. Down cutting of relatively small drainage channels can adversely impact adjacent wetlands. Gradient changes from grading or construction also can lead to indirect losses of wetland hydrology and ultimately their functions.

Water Quality

Drinking water supply. The DEIS should address how existing and future drinking water supplies will be protected during construction, maintenance, and operations, including headwaters and wellhead areas. As you know, Colorado's Department of Public Health and the Environment (CDPHE) assesses watersheds used for drinking water, and existing assessments can be integrated in the DEIS. Avoiding impacts to drinking water sources is preferred to drinking water treatment for communities to plan sustained use of those waters for domestic use purposes. Data and other information may be acquired from CDPHE.

Water pollutants and their control. Primary water-quality problems from highway projects and operations are sediments and runoff that contain de-icing and other chemicals. Accidental spills of toxic chemicals are a significant source of water pollution. Current measures used to prevent and control pollutants should be evaluated to determine if they sufficiently protect stream uses (e.g., aquatic life, drinking water supply) in downstream areas. Where water uses are impaired or are likely to be impaired, the DEIS should determine what measures are necessary to maintain or restore water quality and designated uses. For example, where possible there should be an evaluation of loads or concentrations of sediment and magnesium chloride to determine if they surpass thresholds that impact aquatic life. Those thresholds and impacts should be compared to what will likely occur with proposed alternatives, and then mitigation measures and BMPs can be evaluated and planned to avoid or mitigate water-quality impacts.

Aquatic life impacts. The DEIS should describe the relationship between surface water quality and biota in affected waters. Clear descriptions are needed for the effects that each alternative has on designated uses for surface waters, with attention to fisheries spawning and rearing habitat. Water quality parameters that are limiting factors to local fisheries, if any, should be described. The extent to which fish habitat could be impaired by road construction activities should be considered, including effects on stream structure, seasonal and spawning habitats, large organic material supplies, and riparian habitats. Impacts to biota and stream stability and deposition patterns, due to restrictions in stream bedload transport by highway bridge spans and/or culverts, should be evaluated and disclosed. Some information regarding specific water resources may be obtained from Colorado's Section 305(b) water quality assessments.

Temperature modification. Water temperature can be altered by habitat alteration and destruction, highway chemicals, changes in stream morphology and alignment, and other activities. Sensitive aquatic species, such as cutthroat and rainbow trout, are sensitive to changes or increases in temperature regimes. Other habitats, including those of threatened and endangered species, may be affected by highway modifications that alter water temperature. If aquatic life is likely to be affected by construction and maintenance or other transportation activities, the DEIS should include an evaluation of the necessary temperature ranges that need to be sustained, and present mitigation alternatives to maintain desired temperatures.

Antidegradation standards. Along with numeric water quality standards, an antidegradation standard is intended to maintain the quality and functions of high-quality waters. In Colorado, the

application of the antidegradation standard is based on three stream segment classifications: "outstanding waters," intermediate quality, and "use-protected." For streams designated as "outstanding waters," no degradation is allowed. For intermediate stream segments, degradation of water quality is disallowed except when necessary to accommodate important economic or social development. The antidegradation standards do not apply to stream statements designated as "use protected." Most stream segments are in the intermediate category. Working with the CDPHE, the DEIS should determine which waters, if any, are designated as high quality and look at how proposed changes to transportation facilities will comply with the State's antidegradation water-quality standard.

Hazardous Waste Sites

Highway routes and potential rights of way should be examined for proximity to hazardous waste sites. Projects that are located near hazardous waste sites should provide mitigation measures that will safely avoid hydrologic and other disturbances of these sites. A commonly used source for identification of known hazardous waste sites is the CERCLIS inventory generated from the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA).

National Forest Management Impacts

Plans to increase transportation access to mountain recreation areas will impact those areas and also be impacted by decisions and management of those resources. Increased emissions from highway vehicles should include indirect and cumulative impacts from regional travel, to evaluate the impacts to visibility in designated national wilderness and other sensitive natural areas and impacts to other critical environmental receptors that are identified. Alternatives to widen the highway and enhance transportation capacity into the foothills and mountains will directly expand recreation user populations in fragile mountain ecosystems. More capacity will enable additional residential and commercial development in the "red zone" adjacent to the National Forests where fire danger and ecological impacts are greatest. Greater fire risk to property and the lives of residents and firefighters will result in significant additional costs to thin and otherwise manage fire risks in the mixed lodgepole and ponderosa pine forests that are typical of the foothills and mountains between Conifer and Bailey. Those costs will be financial and environmental. Habitat values of private lands near the National Forests will be altered and in many cases degraded or eliminated because of human habitation. Consultations on these and related costs with the U.S. Forest Service should be supplemented with additional input from fish and wildlife agencies regarding the environmental and ecological costs associated with both direct losses and degradation of habitats, both because of development and because of the indirect costs associated with managing fire risks and other changes in forest management.

Social Impacts Analysis and Environmental Justice

Transportation and increased access to mountain communities and recreation areas will have significant social impacts. The DEIS will describe the social impacts that communities along

the corridor are likely to experience as a result of foreseeable transportation enhancements. Presidential Executive Order 12898, entitled, "Federal Actions to Address Environmental Justice in Minority and Low Income Populations," provides guidance to address concerns about low-income and minority populations that are affected by Federal and Federally-funded projects. EPA chaired an interagency group that developed guidance to address environmental justice concerns. Our Environmental Justice group has data, guidance, and research to assist CDOT in addressing those concerns in the EIS and other transportation projects, available on request.

Noise

We expect to see typical CDOT noise analysis, including a description of the existing environment and evaluation of the proposed project and alternatives. Existing and anticipated land uses near proposed projects or routes should be described that have a sensitivity to noise and the number of people living near likely projects. Existing noise levels and the predicted noise levels from alternatives should be evaluated. Noise abatement measures should be proposed and described, where they will be necessary to mitigate completed projects and the noise generated during construction. Describe the number of residences and businesses exceeding noise thresholds for each alternative and number of residences and businesses exceeding a 10 dB increase in noise levels. Finally, describe facilities that will not be protected by noise abatement measures and the likely impacts on the occupants.

STATE OF COLORADO

DEPARTMENT OF TRANSPORTATION

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NH 2854 – 093, Code 14112
US 285 EIS, Conifer to Bailey

December 20, 2002

Brad Crowder
Environmental Protection Agency
999 18th Street, Suite 500
Denver, CO 80202

Dear Brad:

We appreciate the time you took to meet with us on November 22, 2002.

Attached is our formal response to the comments you sent us on September 17, 2002.

We look forward to working with you on the US 285 (Conifer to Bailey) EIS.

Sincerely yours,

Kim Patel, P.E.
Project Manager

cc: Gina McAfee
Deb Angulski
Cecelia Joy
Edrie Vinson

GENERAL COMMENTS IN COVER LETTER

1. *Page 1, first paragraph: "We have confidence that the Draft EIS for US 285 will reflect advances that our agencies have accomplished."*

   We will review EPA response letters and documents for the I-70 PDEIS, the SH 9 DEIS and the SH 119 DEIS to make sure we know how these issues and advances might be applicable to the US 285 project.

2. *Page 1, second paragraph: "EPA recommends that particular attention be given to environmental impacts to streams and significant wetlands, disclosure of indirect and cumulative impacts in and beyond the highway corridor, estimates of environmental impacts due to transportation, socioeconomic and travel demand assumptions, and selection of appropriate baselines for impact analysis."*

   The Environmental Consequences chapter of the US 285 DEIS will contain environmental impacts to streams and significant wetlands and analysis and disclosure of indirect and cumulative impacts, as well as estimates of environmental impacts due to transportation factors and socioeconomic analyses. Travel demand assumptions as well as those related to induced demand will be clearly documented. The Affected Environment chapter of the US 285 DEIS will identify the appropriate baselines for impact analysis.

3. *Page 2, first full paragraph: "We suggest that a programmatic EIS might be appropriate for the US 285 Corridor."*

   Programmatic EISs are appropriate for actions that have broad policy implications or when detailed data will not be available about a specific project, so that its environmental impacts cannot be fully and completely assessed. The *US 285 Foxton Road to Fairplay Feasibility Study* discussed many of the broad policy implications such as growth and related transportation needs for a greater portion of US 285 than that being examined by this EIS. The Feasibility Study determined that improvements were not needed beyond Bailey for the 20 year planning horizon. The limits that have been identified for the US 285 Conifer to Bailey EIS have logical termini, this section of US 285 has independent utility, and project-specific design data will be available, so it is appropriately identified as a project level EIS.

4. *Page 2, second full paragraph: "We encourage CDOT to evaluate alternatives on US 285 that include mass transit and traffic supply and demand management."*

   We have established a Transit Feasibility Working Group (including RTD, DRCOG, EPA, Park County, Jefferson County, the Sierra Club and local public representatives) to help examine projected land uses and to develop a transit/land use/TDM alternative and then to determine its feasibility. This group's work will be coordinated with the Land Use Committee. We will also develop transit friendly

elements of a highway widening alternative, for example, bus pull-outs, formal park-n- Rides, carpool parking lots, and ITS measures.

SPECIFIC COMMENTS FOR US 285

1. *Page 1, first paragraph: "We suggest that CDOT use this opportunity to work with Jefferson and Park Counties to avoid impacts from this project through land use planning decisions and other avenues open to the counties. Together, CDOT and the counties can plan alternatives that truly reduce the environmental impacts of expanded highway capacity and development."*

   Jefferson and Park Counties were involved during the Feasibility Study and will continue to be involved during the EIS as full partners in the development of transit and other alternatives that will have a bearing on the extent of environmental impacts.

2. *Page 1, second paragraph: " EPA recommends that CDOT work with Jefferson and Park Counties to develop thresholds or management goals for environmental impacts to sensitive environmental receptors."*

   CDOT will be working with a broad group of federal and local stakeholders throughout the EIS to evaluate key areas like project goals, purpose and need, affected environment, reasonableness of alternatives, and any thresholds to be considered in the evaluation of alternatives.

3. *Page 1, third paragraph: "An environmentally preferred alternative for the segment of highway from Conifer to Bailey is dependent on what has already been done to widen and enhance highway capacity on US 285 from C-470 to Conifer."*

   The completed section of US 285 between C470 and Conifer certainly presents one very strong candidate for a reasonable alternative to be considered. However there also are transit options that will also be considered that could increase the utilization of transit throughout the Conifer to Bailey corridor. The determination of reasonable alternatives to study was suggested in the Feasibility Study and will be re-affirmed or expanded upon during the course of scoping for this EIS.

4. *Page 2, first full paragraph: "There should be specific representation of what each alternative studied will accomplish in the short and long term for mobility and access."*

   The DEIS will provide this information. A 20-year planning horizon will be used from which to examine changes to mobility and access by alternative.

5. *Page 2, second full paragraph: "The EIS should identify the sensitive environmental resources that are or could be affected directly, indirectly and cumulatively because of transportation enhancements and other actions."*

   The DEIS will provide this information in the Environmental Consequences chapter.

6. *Page 2, third full paragraph: "It is important to recognize indirect and cumulative impacts on both terrestrial and aquatic habitats. Some innovative methods are being used for Highway 93 in New Hampshire."*

   CDOT will be collecting data within the project area of affect to better understand habitats, ranges, and species of concerns. At the same time data will be collected regarding future land uses. These data sets will be overlayed on GIS mapping to better understand areas of conflict, concern, or any areas of potential for preserving the connectivity of habitats. CDOT will pursue its standard coordination with resource agencies to help in determining issues and impacts to terrestrial and aquatic habitats, as well as involve the land use committee in exploring the issues of where growth is most likely to occur from a local perspective. CDOT will host a joint meeting between the land use committee and the resource agencies to explore the opportunities and constraints of preserving habitat and connectivity within the urbanizing areas of Jefferson and Park County.

   Analysis so far indicates that under the No-Action Alternative, wildlife habitat is being compromised with the increasingly urbanizing areas of the counties. The added challenge with future land use changes as proposed by the counties will be disclosed as part of the potential Build alternatives.

   We have already contacted Deb Lebow for information about the Highway 93 project. We intend to use a Delphi technique by requesting advice from our land use committee (and DRCOG land use planners) about expected induced development.

7. *Page 2, fourth full paragraph: "The benefits and costs from relieving congestion should be compared to the likely environmental and social costs of additional highway capacity into sensitive mountain environments."*

   The DEIS will identify the benefits from relieving congestion and enhancing safety, as well as environmental and social impacts of this additional highway capacity.

8. *Page 3, first full paragraph: "We recommend that the highway and community resources necessary for each alternative should be evaluated. Alternatives that increase access to the foothills … are likely to increase the energy and vehicle fuel use and for community services such as water and sewage treatment and road and highway maintenance."*

   These types of impacts will be documented in the DEIS: in the energy section and in the social impact section.

COMMENTS ON NEPA AND ENVIRONMENTAL PLANNING

1. *Page 3, first paragraph in this section: "Alternatives should look at the effects on the mobility, location and relocation and other impacts for low-income groups who live and work in the US 285 corridor."*

   The DEIS will provide this analysis in the Environmental Justice section.

2. *Page 3, second paragraph in this section: "Options that enhance transit ridership can be considered."*

   See answer to General Comment #4.

   We have already begun the work to define transit options and had specific scoping questions about transit options at our first public scoping meeting.

3. *Page 3, third paragraph in this section: "The DEIS can identify and lay the groundwork for planning and implementing programmatic mitigation measures for environmental and community resources."*

   The DEIS will identify appropriate mitigation measures for adverse impacts.

4. *Page 4, first paragraph: "EPA appreciates evaluation of the benefits that available TDM programs can provide."*

   We are committing to look at TDM measures in the US 285 DEIS and will evaluate their benefits. The corridor already has a fair amount of telecommuting occurring, according to participants at public meetings.

5. *Page 4, second paragraph: "All environmental costs should be considered in a long-term view of impacts."*

   The DEIS will include disclosure of all significant environmental impacts.

6. *Page 4, third paragraph: "We suggest analyzing an alternative that could potentially meet the purpose and need for this project through land use changes and combinations of TDM, TSM and mass transit."*

   See answer to General Comment #4.

   We are also developing options to improve pedestrian and bicycle facilities along this section of US 285.

COMMENTS ON INDUCED DEMAND AND INDIRECT IMPACTS

1. *Page 5, second full paragraph: "Analysis of peak and total person-trips will help to determine the degree of trip suppression and environmental impacts with a No-Build alternative versus highway expansions and various transit options."*

   The project team has coordinated closely with the travel demand forecasting efforts of other EIS projects currently underway in Colorado's central mountain region (projects include the I-70 Programmatic EIS, State Highway 9 Frisco to Breckenridge EIS, and the Access to the Gaming Areas EIS [State Highway 119]) to arrive at an approach to address induced and suppressed demand along the various corridors. In cooperation with the Federal Highway Administration (FHWA), CDOT developed definitions of induced and suppressed demand. "Induced demand" may simply be defined as those transportation system users (for example, automobile drivers) enabled to use the system (such as a highway) once it is improved, because the transportation system is more accessible and desirable. The users always had a demand for transportation, but they now are able to exercise that wish. Technically, induced demand will be defined as: "Increased use of transportation facilities resulting from those (short-term) travel choices or (long-term) transportation and location investment decisions that are not explicitly accounted for in a travel demand forecast."[1] As historically and incorrectly defined, induced demand was the new demand following a transportation improvement project that traffic modelers/ planners are not able to predict and/or measure. However, Dr. Spear of FHWA noted that demand is demand, and a transportation system is either satisfying the demand or not satisfying the demand.

   "Demand suppression" may result if transportation system improvements do not take place. Demand suppression occurs when a transportation system (typically a driver) wants to go somewhere, but the transportation system is too inconvenient or inadequate, and the driver chooses not to make a trip. Hence, the demand has been suppressed. New improvements do not bring upon newly created demand, these improvements enable suppressed demand to be satisfied. The improvements simply facilitate travel to take place, because the need/demand already exists. (In the case of these EIS studies, travelers want to use the highway corridors to drive in the mountains.)

   It is recognized that travel on US 285 and along any highway corridor is a function of many factors such as people's behavior and events that influence their travel choices and frequency, in addition to land use and development patterns. US 285 provides commuter access between employment in the Denver metro area and residential and commercial development in the foothills and mountain areas. The highway also provides access from Denver to recreational areas in the mountains.

[1] Spear, PHD., Bruce, FHWA, 2002. "Induced Demand: Gaining a Better Understanding," presentation during the "I-70 PEIS Travel Demand Model Workshop" on July 16, 2002 to the Mountain Corridor Advisory Group, CDOT, FHWA and interested stakeholders.

While recreational trips are more elastic than other trip types such as commuter, commercial delivery, and in-town local trips because recreational trips are discretionary and are less likely to be made if a highway is extremely congested, to better develop an understanding of the relationship between land use and future traffic forecasts for the US 285 corridor, a land use committee was formed. This group is being used as a resource to determine the amount and likelihood for future development based on remaining vacant land and available infrastructure. The information from this committee is being used to establish land use assumptions and build-out conditions in some areas. This group will also be used to provide expert advice on the inducement potential as a result of the implementation of the alternatives.

Given the potential for differing degrees of development, the elasticity of recreational trips, and the potential for suppressed demand, two land use scenarios will be used to evaluate alternatives. One will represent a high-growth scenario including more recreational trips and higher development densities to account for the potential for increased new development; the other will include a lower growth scenario utilizing historical growth traits. The alternatives will be tested using one or the other scenario to account for all possible demand, regardless of whether it is induced or suppressed.

2. *Page 5, third full paragraph: "The following list represents examples of resources that could be affected by increased growth and urbanization: 1) water quality and hydrology, 2) floodplains and wetlands, 3) vegetation, 4) wildlife and their habitat, 5) biodiversity, 6) air quality, 7) transportation, 8) regional and community growth, 9) land use, property value, employment and tax revenue..."*

   The DEIS will disclose direct and indirect effects on these resources.

3. *Page 5, fifth full paragraph: "Population projections in the State SIP should be harmonized with local and regional development plans."*

   The Land Use Committee was initially developed for the *Corridor Feasibility Study* to obtain information about existing land use conditions along the corridor, what types of future development are most likely to occur and in what locations, what growth rates are the areas along the corridor currently experiencing, and what growth trends are anticipated over the next 20 years. The input provided from these groups provided a basis for the land use projections that went into the traffic modeling efforts to determine future volumes along the US 285 corridor. The committee was initially separated into a Park County group and a Jefferson County group for the feasibility study because of the length of the corridor and the difference in growth patterns between the two counties. However, since the EIS study limits include a much shorter portion of roadway where growth trends are more homogeneous, the two committees have been combined. Members included representatives from Jefferson and Park Counties, Chambers of Commerce in Conifer, Platte Canyon area, and Fairplay, homeowners associations, planning commissions and the

Conifer 285 Corridor Area Community Plan coordinating committee. So far, this committee has met once during the EIS process.

COMMENTS ON CUMULATIVE IMPACT ANALYSIS AND CRITICAL ENVIRONMENTAL RECEPTORS

1. *Page 6, first full paragraph: "The baseline to assess environmental impacts should be appropriate for the environmental resources to be evaluated."*

   The baseline for each environmental receptor has been established primarily as the existing condition for that receptor and will be documented in the Affected Environment chapter. For traffic and air quality, information will be provided that will allow the reader to compare existing conditions with future conditions.

   For air quality, CDOT will complete a corridor-level analysis of motor vehicle carbon monoxide and PM-10 emissions on US 285 between Foxton and Bailey. PM-10 emissions will include both motor vehicle exhaust and reentrained roadway dust emissions. The analysis will compare existing (2002) emissions with future (2025) emissions for the No-Action and Build alternatives.

   Intersection hot spot modeling will not be done because there will not be any signalized intersections in the project corridor. Three existing signalized intersections will be eliminated by constructing grade-separated intersections. Grade separations will also be constructed at other locations where signalization would normally be warranted.

   Since there are no air quality monitors located in the Park County part of the project, assumptions or projections of existing carbon monoxide and PM-10 concentrations will be based on a comparison with monitors located in Jefferson County. The Denver region has been redesignated attainment/maintenance for carbon monoxide, ozone, and PM-10. Therefore, the project area, including the portion located in Jefferson County, which is part of the Denver attainment/maintenance area, would also be considered to be attainment for all National Ambient Air Quality Standards.

2. *Page 6, second full paragraph: "Each Build alternative is likely to cause some adverse impacts to wildlife and their habitats."*

   The EIS will examine issues like habitat connectivity, critical ranges and the potential for increased mortality, and the interplay with projected growth.

3. *Page 6, third full paragraph: "Cumulative impacts of linked developments, highway maintenance and debris disposal and winter maintenance should be provided."*

   The DEIS will assess these impacts in the cumulative impact section. Direct impacts associated with winter maintenance activities will be identified in the DEIS.

SOCIOECONOMIC ASSUMPTIONS AND ENVIRONMENTAL IMPACTS

1. *Page 7, second paragraph in this section: "The analysis should consider the extent to which households and businesses may or may not locate in or near the 285 highway corridor beyond Conifer, depending on transportation improvements and what environmental impacts are caused by additional trips and population that are induced by additional transportation capacity."*

   The extent to which households and businesses locate near the US 285 corridor will be assessed using zoning, local community plans and input from our land use committee. Our analysis will evaluate all alternatives using two different sets of socioeconomic assumptions (high growth and moderate-low growth scenarios) to identify the additional trips that may be the result of induced or suppressed demand.

ENVIRONMENTAL AND COMMUNITY IMPACTS

1. *Wetlands: "We suggest using the Section 404(b)(1) Guidelines to facilitate wetlands identification, avoidance and mitigation. A sequential approach to mitigation is required. Restoration of hydrologically degraded wetlands generally is preferred to wetland creation. Analysis of wetland and riparian habitat fragmentation that is likely to occur as a result of various alternatives is needed.*

   CDOT Region 1 takes wetland impacts into consideration when developing alignments and is well aware of the (b)(1) Guidelines' requirement to select the least damaging alternative to the aquatic environment. CDOT R-1 considers avoidance the best alternative because of the benefits of NOT having to mitigate for wetlands. CDOT R-1 generally does a worse case scenario when determining impacts in an environmental document. During the preliminary and final design phases, impacts are further reduced as design is developed utilizing the wetland mapping; so avoidance and minimization are looked at during several stages of project development.

   Restoration is also CDOT's first choice in locating wetland mitigation sites. Exact location of mitigation in some instances may not be known until design is well under way and opportunities present themselves. Water rights will be a big consideration on this project since many of the impacts will be a single crossing, not longitudinal. There are opportunities in most drainages to remove a fill or sculpt out a bank to widen an existing wetland.

   Fragmentation of wetlands or riparian areas should not be an issue beyond the existing condition because the roadway will stay on its existing alignment for most of the project distance. Expanding toes or cuts should only result in sliver impacts to wetlands or riparian areas that are directly adjacent to the existing highway.

2. *Water Quality: "The DEIS should address how existing and future drinking water supplies will be protected. The DEIS should determine what mitigation measures are necessary to maintain or restore water quality. The DEIS should describe the relationship between surface water quality and biota in affected areas. The DEIS should include an evaluation of the necessary temperature ranges that need to be sustained. The DEIS should determine which waters are high quality."*

   CDOT is currently developing an approach to water quality analysis to include in all documents. A meeting is being scheduled for Fall 2002 with EPA to discuss this. The approach used for the US 285 EIS will be consistent with this generalized approach, developed with EPA's input.

3. *Hazardous Waste Sites: "Highway routes and potential rights of way should be examined for proximity to hazardous waste sites."*

   The DEIS Environmental Consequences section will contain this information.

4. *National Forest Management Impacts: "Increased emissions ... should evaluate the impacts to visibility in designated national wilderness areas. More capacity will enable additional residential and commercial development in the "red zone" adjacent to National Forests. Habitat values of private lands near the National Forests will be altered and degraded or eliminated. Consultations on these and related costs with the US Forest Service should be supplemented with additional input from fish and wildlife agencies."*

   We have begun the consultation process with the US Fish and Wildlife Service, Colorado DOW and the Forest Service. We will commit to meeting with the Forest Service and the fish and wildlife agencies to discuss these possible impacts to National Forest lands.

5. *Social Impacts Analysis: "Effect to low-income and minority populations must be documented"*

   This information will be in the DEIS

6. *Noise: "We expect to see typical CDOT noise analysis."*

   This information will be in the DEIS.

United States Department of Agriculture

NRCS
Natural Resources Conservation Service
Metro Office
655 Parfet Street - RM. E300
Lakewood, CO 80215

720-544-2868 OFFICE
720-544-2964 FAX
www.co.nrcs.usda.gov
eugene.backhaus@co.usda.gov

December 12, 2002

Troy Halouska
Carter-Burgess
216 16th St., Ste. 1700
Denver, CO 80202

Re: Prime & Unique Farmlands and Soils of Statewide Importance

Dear Mr. Halouska:

In reviewing the soils along the U.S. Highway 285 corridor from Pine Junction, CO, through Bailey, CO, with the Prime & Unique soils list and listing for Soils of Statewide Importance, we found no soils that are on either list or meet the criteria for their listing.

Sincerely,

Eugene H. Backhaus
District Conservationist

Cc: Leon Kot, D.C., Woodland Park

COLORADO
HISTORICAL
SOCIETY

The Colorado History Museum 1300 Broadway Denver, Colorado 80203-2137

January 29, 2003

Rebecca D. Vickers
Environmental Programs Manager
Department of Transportation
4201 East Arkansas Avenue
Denver, CO 80222

Re: US 285 Between Bailey and Conifer

Dear Ms. Vickers:

This office has reviewed your January 21, 2003 correspondence and the cultural resource report prepared for the project listed above.

5JF3172, 5JF3173, 5PA2417, 5PA2418, 5PA2428 and 5PA2431 are not eligible to the National Register. These sites consist of historic trash scatters, foundations and prospect pits that have no integrity and will yield no further information important to history. 5PA425 was determined to be not eligible on March 19, 1986.

5PA2424 is a small rock shelter where three flakes were found in a shovel test. We concur that additional testing is warranted.

If we may be of further assistance please contact Jim Green at 303-866-4674.

Sincerely,

Georgianna Contiguglia
State Historic Preservation Officer

GC/WJG

Carter::Burgess

707 17th Street, Suite 2300
Denver, Colorado 80202-3404
Phone 303 820 5240
Fax 303 820 2402
www.c-b.com

October 13, 2003

Richard Turner
Jefferson County Planning Director
100 Jefferson County Parkway, Suite 3550
Golden, CO 80419-3550

Re: US 285 EIS Foxton Road to Bailey

Dear Mr. Turner:

We are in the process of preparing the Draft Environmental Impact Statement for the US 285 project. One of our tasks is investigating and reporting on open space issues. We have received information from your county departments already, and appreciate your help so far. We had a meeting with open space representatives such as the Mountain Area Land Trust, Jefferson County Open Space, and the Colorado Division of Wildlife. In this meeting, it was suggested that we provide your department with mapping of valuable areas along creeks, that could be preserved as open space, either through conservation easements or open space set asides.

We are providing you with a map of the locations of the areas along the project corridor that our investigations have led us to believe should have high priority for inclusion in your open space development plans. These areas are along streams, contain riparian habitat, and are currently undeveloped, and create valuable scenic and wildlife resources. We would like to recommend that as parcels in these areas become available, they should be considered as possible acquisitions for open space or for conservation easements. We would also recommend that if parcels in these areas come up for development review, that provisions for open space set asides should be included in any future plans.

We would appreciate any comments you have to this map of potential open space areas, and would like to be informed of any other areas that may be included in this list.

Sincerely,

Gina McAfee

Gina McAfee, AICP
Project Manager

cc: Kim Patel, CDOT
Deb Angulski, CDOT
Ginny Ades, Mountain Area Land Trust
File

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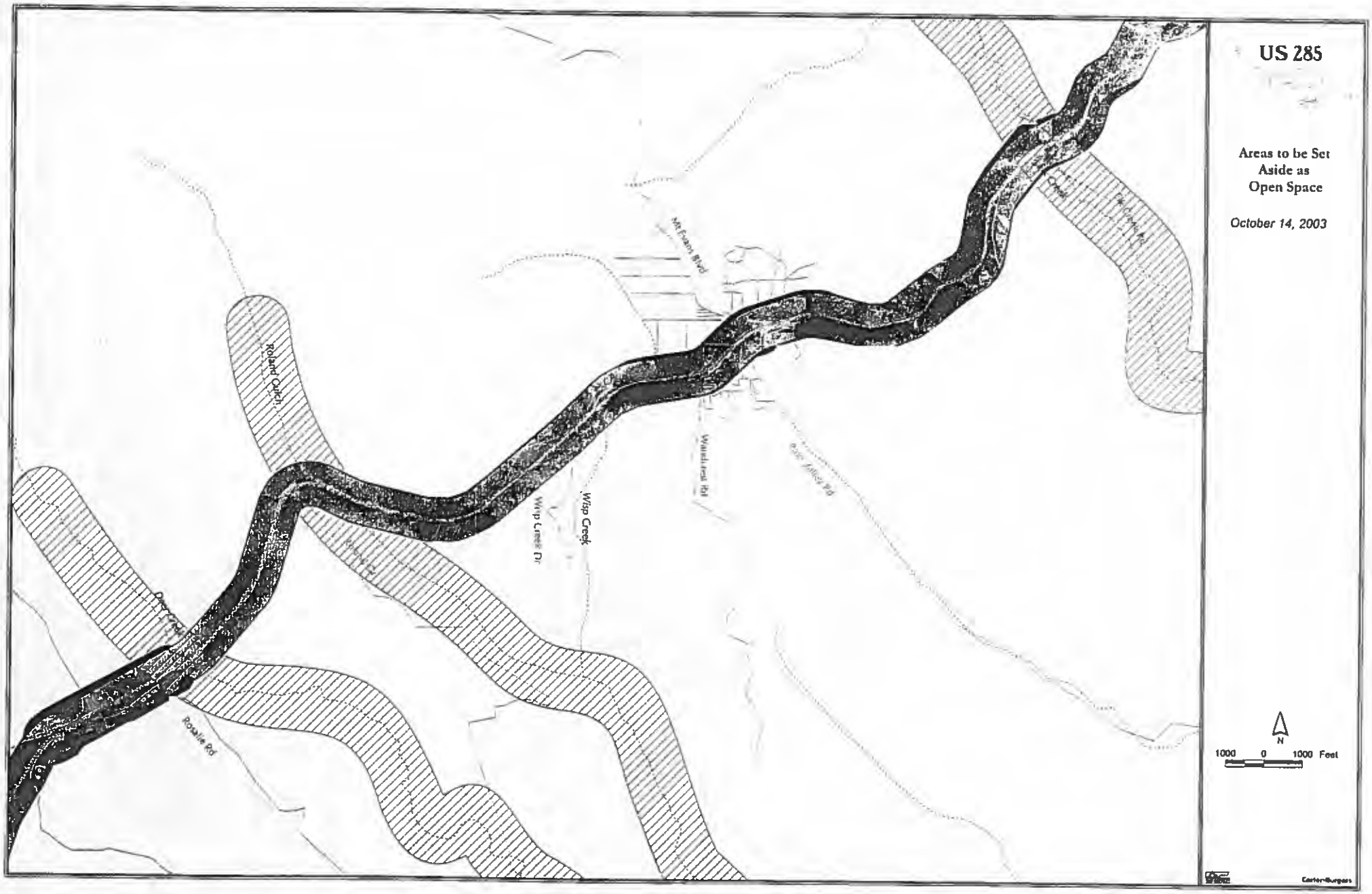
US 285
Areas to be Set Aside as Open Space
October 14, 2003
Roland Gulch
Wisp Creek
Wisp Lakes Dr
Waterlevel Rd
Rosalie Rd
1000 0 1000 Feet
N

Carter::Burgess

707 17th Street, Suite 2300
Denver, Colorado 80202-3404
Phone: 303.820.5240
Fax: 303.820.2402
www.c-b.com

October 13, 2003

Thomas Eisenman
Park County Development Services Coordinator
P.O. Box 1598
Fairplay, CO 80440

Re: US 285 EIS Foxton Road to Bailey

Dear Mr. Eisenman:

We are in the process of preparing the Draft Environmental Impact Statement for the US 285 project. One of our tasks is investigating and reporting on open space issues. We have received information from your county departments already, and appreciate your help so far. We had a meeting with open space representatives such as the Mountain Area Land Trust and the Colorado Division of Wildlife. In this meeting, it was suggested that we provide your department with mapping of valuable areas along creeks, that could be preserved as open space, either through conservation easements or open space set asides.

We are providing you with a map of the locations of the areas along the project corridor that our investigations have led us to believe should have high priority for inclusion in your open space development plans. These areas are along streams, contain riparian habitat, and are currently undeveloped, and create valuable scenic and wildlife resources. We would like to recommend that as parcels in these areas become available, they should be considered as possible acquisitions for open space or for conservation easements. We would also recommend that if parcels in these areas come up for development review, that provisions for open space set asides should be included in any future plans.

We would appreciate any comments you have to this map of potential open space areas, and would like to be informed of any other areas that may be included in this list.

Sincerely,

Gina McAfee

Gina McAfee, AICP
Project Manager

cc: Kim Patel, CDOT
Deb Angulski, CDOT
Ginny Ades, Mountain Area Land Trust

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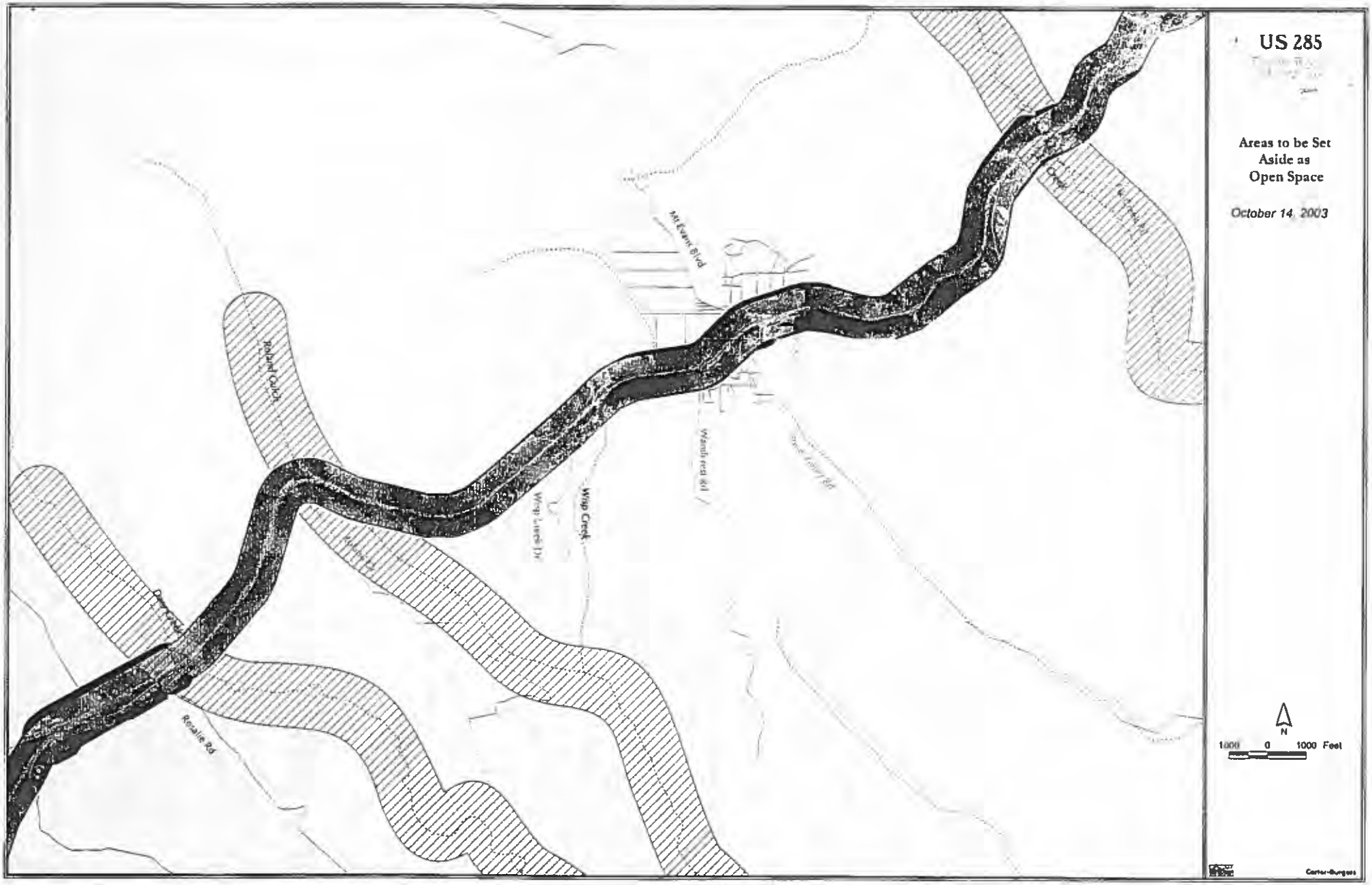
US 285
Areas to be Set Aside as Open Space
October 14, 2003
Mt Evans Blvd
Roland Gulch
Wrap Creek
Wrap Creek Dr
Roslie Rd
N
1000 0 1000 Feet

Memorandum

To: Edrie Vinson

From: Tom Boyce

Cc: Deb Angulski

Date: 2/5/2004

Re: Determination of "No Effect" for the US 285 EIS

Dear Edrie,

The following table lists all federally listed, proposed or candidate species that occur in Jefferson and Park Counties. As part of the US 285 Environmental Impact Statement (EIS), Foxton Road to Bailey, the impacts of the project on listed species is required under the Endangered Species Act (ESA). As shown in the table, this project will have a 'no effect' determination for any of these species. Under the ESA the Federal action agency can make a 'no effect' determination, without further coordination with the U.S. Fish and Wildlife Service. For documentation as part of the National Environmental Policy Act procedure we request a letter from you for inclusion in the EIS stating that the FHWA has determined 'no effect' to any listed, proposed, candidate species or designated or proposed critical habitat.

Species	Status	County	Present in Study Area
Amphibians			
Boreal toad *Bufo boreas boreas*	Candidate	Park	No - None present in CDOW surveys.
Fish			
Greenback cutthroat trout *Oncorhynchus clarki stomias*	Threatened	Park	No - None present in 1980s stream surveys.
Pallid sturgeon *Scaphirhynchus albus*	Endangered	Jefferson and Park	No - Project will not impact water sources that are part of the South Platte River system.
Birds			
Bald eagle *Haliaeetus leucocephalus*	Threatened	Jefferson and Park	Yes - Transitory during migration.
Whooping crane *Grus americana*	Endangered	Jefferson and Park	No - Project will not impact water sources that are part of the South Platte River system.
Least tern (interior population), *Sterna antillarum*	Endangered	Jefferson and Park	No - Project will not impact water sources that are part of the South Platte River system.
Piping plover *Charadrius melodus*	Threatened	Jefferson and Park	No - Project will not impact water sources that are part of the South Platte River system.
Mexican spotted owl *Strix occidentalis lucida*	Threatened	Jefferson and Park	No - Jefferson County designated critical habitat is not in the study area vicinity. Breeding habitat is not present in the study area.

Mammals			
Preble's meadow jumping mouse *Zapus hudsonius preblei*	Threatened	Jefferson	No - The study area is above the elevational range of this species.
Canada lynx *Lynx canadensis*	Threatened	Jefferson and Park	No – CDOW maps show this area as potential habitat due to the vegetative cover and resources that are needed to support a lynx population. However, the project is located in habitat that lynx do not use because of the development in this area.
Black-tailed prairie dog *Cynomys ludovicianus*	Candidate	Jefferson	No - Appropriate habitat is not present in the study area.
Invertebrates			
Uncompahgre fritillary butterfly *Boloria acrocnema*	Endangered	Park	No - Appropriate habitat is not present in the study area
Pawnee montane skipper *Hesperia leonardus montana*	Threatened	Jefferson and Park	No - The study area is above the elevation range of this species.
Plants			
Penland alpine fen mustard *Eutrema penlandii*	Threatened	Park	No - The study area is below the elevational range of this species.
Ute ladies'-tresses orchid *Spiranthes diluvialis*	Threatened	Jefferson	No - The project is above the elevational range of this species.
Colorado butterfly plant *Gaura neomexicana coloradensis*	Threatened	Jefferson	No - The project is above the elevational range of this species.

The bald eagle is only listed as potentially being in the project area because birds do have the capacity to fly over the corridor during migration. There is no habitat within the study area capable of supporting migrating or resident bald eagles. The South Platte at Bailey is in too much of an urban setting to be used by bald eagles. Therefore, there will be 'no effect' on bald eagles resultant of the proposed alternatives outlined in the EIS.

Please direct additional questions to Ms. Deb Angulski, CDOT Region 1 at 303-757-9111.

Sincerely,

Tom Boyce
CDOT Natural Resources Unit Manager

FHWA CONCURRENCE
DATE 1/5/04
BY _____
for
Division Administrator
Colorado Division

STATE OF COLORADO

DEPARTMENT OF TRANSPORTATION

Environmental Programs Branch
4201 East Arkansas Avenue
Denver, Colorado 80222
(303) 757-9259

DEPARTMENT OF TRANSPORTATION

February 13, 2004

Ms. Georgianna Contiguglia
State Historic Preservation Officer
Colorado Historical Society
1300 Broadway
Denver, CO 80203

SUBJECT: Determination of Eligibility and Effect, CDOT Project NH 2854-093, US Highway 285 Environmental Impacts Statement, Jefferson and Park Counties (SA14112)

Dear Ms. Contiguglia:

This letter and the attached materials constitute the request for concurrence on Determinations of Eligibility and Effects for the project referenced above. The Colorado Department of Transportation is undertaking an Environmental Impact Statement (EIS) to explore transportation improvements to a 14.7-mile segment of US Highway 285, extending from Foxton Road in Jefferson County to the community of Bailey in Park County. The EIS will assess potential environmental, social and economic impacts that may result from proposed transportation improvements. The location of the project is shown on Figure 1 in the attached Historic Resources Survey Report.

With the continued growth along the US 285 corridor and increases in population along the entire Front Range, traffic volumes have climbed significantly on this segment of US 285. This increase has resulted in deteriorating traffic operations, which creates congestion and decreases safety on the roadway. There are inadequate shoulders and clear zones, and existing accesses were originally designed for lower traffic volumes. Alleviating traffic congestion, and reducing accident occurrences and severity are high priorities for Jefferson and Park Counties in order to keep this area desirable for residential, business and recreational uses.

The purpose of the US 285 project is to accommodate present and anticipated traffic volumes safely and efficiently. Improvements will be made at key intersections and along the corridor where needed, including roadway widening and grade-separated interchanges, as well as access improvements and other safety measures.

SURVEY RESULTS

Gail Keeley and Barbara Norgren of Hermsen Consultants inventoried the project area for historical resources, resulting in the documentation of forty properties. The locations of the surveyed properties are shown on the USGS quadrangle map sections included with each of the attached surveys. The following table lists these properties by site number and location, and also provides CDOT'S determination of eligibility and effect. Please see the attached historic survey report and inventory forms for more detailed information regarding the evaluated resources and our eligibility recommendations.

NEWLY RECORDED PROPERTIES IN THE STUDY AREA
(Listed from North to South)

Site Number	Name/Location	National Register Eligibility Determination*	Determination of Effect
5JF3520	El-Carl Arena Shed 11801 S. US Hwy 285	Not Eligible H,A	No historic properties affected
5JF3521	Trucks/Trailers For Rent 11855 S. US Hwy 285	Not Eligible H, A, Alt	No historic properties affected
5JF3522	David Long House 12394 S. US Hwy 285	Contributes to Potential National Register Historic District	No adverse effect
5JF3523	Long Brothers Garage 12425 S. US Hwy 285	Not Eligible A, not original garage, less than 50 years old	No historic properties affected
5JF3524	Techarukpong House 12434 S. US Hwy 285	Not Eligible A, Alt	No historic properties affected
5JF3525	Conely's Restaurant 12434 S. US Hwy 285 Capp House 12484 S. US Hwy 285	Not Eligible Alt Not Eligible H, A, Alt	No historic properties affected
5JF3526	Bear Park View House 12465 S. US Hwy 285	Not Eligible A, Alt	No historic properties affected
5JF3527	Moore House/ Outbuildings 12555 S. US Hwy 285	Not Eligible H, A, Alt	No historic properties affected
5JF3528	Frazier House 12595 S. US Hwy 285	Not Eligible H, A	No historic properties affected
5JF3529	Mountain Club 12795 S. US Hwy 285	Not Eligible H, A	No historic properties affected
5JF3530	Bevelhimer House 12935 S. US Hwy 285	Not Eligible H, A, Alt	No historic properties affected
5JF3531	Tack Shack 12882 S. Elk Creek Rd.	Not Eligible H, A	No historic properties affected
5JF3532	Rainbow Roundup Trout Pond 12883 S. Elk Creek Rd.	Not Eligible H	No historic properties affected
5JF3533	Eden Frame House 13004 S. US Hwy 285	Not Eligible A, Alt	No historic properties affected
5JF3534	Wazny House 13014 S. US Hwy 285	Not Eligible A, Alt	No historic properties affected
5JF3535	Nelson House 13024 S. US Hwy 285	Not Eligible A, Alt	No historic properties affected
5JF3536	Eden Log Cabin Just West of 12996 S. US Hwy 285	Not Eligible Alt	No historic properties affected
5JF3537	Eden House 12296 S. US Hwy 285	Not Eligible Alt	No historic properties Affected
5JF3538	Hexagon Grange, Urmston (Elk Creek School), 13034 S. US Hwy 285	Eligible	No adverse effect
5JF3539	Shed 13253 S. US Hwy 285	Not, Eligible H, A	No historic properties affected

Site Number	Name/Location	National Register Eligibility Determination*	Determination of Effect
5JF3540	House With Stone Foundation 13525 S. US Hwy 285	Not Eligible H, A, Alt	No historic properties affected
5JF3541	Penny House 13565 S. US Hwy 285	Not Eligible H, A, Alt	No historic properties affected
5JF3542	Alpine Liquors 34355 S. US Hwy 285	Not Eligible H, A, Alt	No historic properties affected
5JF3543	Pine Junction Country Store 34375 S. US Hwy 285	Not Eligible H, A, Alt	No historic properties affected
5JF3544	Mickiewica/Dunn House 34473 Ella Ave.	Not Eligible A, Alt	No historic properties affected
5JF3545	Elk Creek Bridge, on Old US 285 just north of Trout Pond	Eligible	No adverse effect
5JF3546.1	US Highway 285, Jefferson County	Not Eligible	No historic properties affected
5PA2443	Woodside Inn 67348 US Hwy 285	Not Eligible H, A	No historic properties affected
5PA2444	Log Cabin 67318 US Hwy 285	Not Eligible H, Alt	No historic properties affected
5PA2445	Sher-Ahnn House 183 Main, Bailey	Not Eligible H, A, Alt	No historic properties affected
5PA2446	Bailey Propane 60786 US Hwy 285	Not Eligible H, A, Alt	No historic properties affected
5PA2447	Mountain View Café 157 Main, Bailey	Not Eligible H, A, Alt	No historic properties affected
5PA2448	China Village Restaurant/ Apartments, 60693 US Hwy 285	Not Eligible Alt	No historic properties affected
5PA2449	Knotty Pine 60641 US Hwy 285	Not Eligible H, A, Alt	No historic properties affected
5PA2450	White Building 120 Main, Bailey	Not Eligible H, A	No historic properties affected
5PA2451	Park Plaza – Blue Coyote/ The Dumplin USA, 60615 US Hwy 285	Not Eligible Alt	No historic properties affected
5PA2452	Rohloff House 5 Main, Bailey	Not Eligible H, A, Alt	No historic properties affected
5PA2453	Deer Creek Heating NW Corner Main and US 285	Not Eligible H, A	No historic properties affected
5PA2454	Zivojnovic House 60319 US Hwy 285	Not Eligible H, A, Alt	No historic properties affected
5PA2456.1	US Highway 285, Park County	Not Eligible	No historic properties affected

*H = No known historical associations
A = No significant architecture
Alt = Building has lost integrity due to alternations and/or additions

In addition to the properties noted above, there were seven previously surveyed properties in the study corridor. A Site Reevaluation form was prepared for each of these sites, with the exception of the recently surveyed Clifton House (5JF2128). The following table lists the previously surveyed historic properties in the study area:

PREVIOUSLY RECORDED PROPERTIES IN THE STUDY AREA

Site Number	Name/Location	National Register Eligibility Determination	Determination of Effect
5JF2128	Clifton House Hotel (Pollitz – Long Ranch), 12414 S. US Hwy 285	Eligible	No adverse effect
5JF1944	Elk Creek Fire Station No. 1 12424 S. US Hwy 285	Officially Eligible, July 1999	No adverse effect
5PA310	Deer Creek Valley Ranch 64057 US Hwy 285	Eligible	No adverse effect
5PA78	Deer Valley Stage Stop	Not Eligible (destroyed)	No historic properties affected
5PA31	Entriken Cabin 43 County Road 68	On SRHP, May 1992	No adverse effect
5PA418	Denver South Park & Pacific Railroad	Officially Eligible, May 1988	No adverse effect
5PA32	Glenisle Resort US285 1 mile west of Bailey	Listed on NRHP, January 1985	No adverse effect

EFFECTS ANALYSIS

On June 3, 2003, a Preferred Alternative was presented to the affected resource agencies, including representatives from your office. The Preferred Alternative was selected, in consultation with your staff, to specifically avoid impacts to a potential historic district comprised of buildings associated with the Long family (5JF3522, 5JF1944 and 5JF2821).

Based on the survey results, there will be **no adverse effects** to the historic properties within the Area of Potential Effect. Please review the enclosed survey report for a detailed description of this finding.

We hereby request your concurrence with these Determinations of Eligibility and Effects. The EIS is funded jointly by the Federal Highway Administration and CDOT, and the survey report has therefore been prepared to meet the requirements for compliance with the State Register Act, Article 80.1, and for compliance with Section 106 of the National Historic Preservation Act (as amended), as well as the Advisory Council on Historic Preservation's regulations.

Thank you in advance for your prompt attention to this matter. If you require additional information, please contact CDOT Acting Staff Historian Bob Autobee at (303) 757-9758.

Very truly yours,

for Brad Beckham, Manager
Environmental Programs Branch

cc: Kim Patel/Deb Angulski, CDOT Region 1
Gina McAfee, Carter & Burgess

COLORADO
HISTORICAL
SOCIETY

The Colorado History Museum 1300 Broadway Denver, Colorado 80203-2137

February 20, 2004

Brad Beckham
Manager, Environmental Programs Branch
Colorado Department of Transportation
Department of Transportation
Environmental Programs Branch
4201 East Arkansas Avenue
Denver, CO 80222

Re: CDOT Project NH 2854-093, US Highway 285 (CHS #36806)

Dear Mr. Beckham,

Thank you for your correspondence dated February 13, 2004 regarding the determination of eligibility and effect assessments related to the above-mentioned project.

After reviewing the survey forms and report, we concur with your findings of National Register eligibility and determinations of potential effects.

If we may be of further assistance, please contact Amy Pallante, our Section 106 Compliance Coordinator, at (303) 866-4678.

Sincerely,

Mark Wolfe

for Georgianna Contiguglia
State Historic Preservation Officer

GC/ajp

Agency Meeting Invitations

Carter::Burgess

216 16th Street, Suite 1700
Denver, Colorado 80202
Phone 303.820.5240
Fax 303.820.2402
www.c-b.com

May 24, 2002

«F_Name» «L_Name»
«Title»
«Agency»
«Address»
«CSZ»

RE: US 285, Foxton Road to Bailey (14112)

Dear «F_Name»:

The Colorado Department of Transportation (CDOT) is initiating an Environmental Impact Statement (EIS) to cover transportation improvements to US 285 from Foxton Road in Conifer to just south of Bailey.

We would like to invite you to a scoping meeting to be held:

June 21, 2002
9:00 to 11:00 a.m.
Location: CDOT Region I
18500 E. Colfax Avenue
Aurora, CO
Main Conference Room (trailer south of main building)

At this meeting, we will plan to present anticipated alternatives and any known environmental issues. We would really appreciate any input you might have on issues which we should plan to address in the EIS, including specific cumulative impact issues.

Sincerely yours,

Gina McAfee, AICP
Project Manager

cc: Kim Patel
Deb Angulski
File

J:_Transportation\us285\manage\corr\ResourceAgency_502402L.doc

F Name	L Name	Title	Agency	Address	CSZ
Russ	Mason	District Wildlife Manager	Colorado Division of Wildlife	6060 Broadway	Denver, CO 80216
Dan	Coil	District Wildlife Manager	Colorado Division of Wildlife	6060 Broadway	Denver, CO 80216
John	Woodling	Water Quality/Fisheries Specialist	Colorado Division of Wildlife	6060 Broadway	Denver, CO 80216
Eric	O'Dell	Habitat Biologist	Colorado Division of Wildlife	317 W. Prospect Street	Fort Collins, CO 80526
Sarah	Fowler		Environmental Protection Agency	999 18th Street, Suite 500	Denver, CO 80202
Alison	Michael		U.S. Fish and Wildlife Service	755 Parfet, Suite 361	Lakewood, CO 80215
Tim	Carey		U.S. Army Corps of Engineers Tri-Lakes Project Office	9307 South Platte Canyon Road	Littleton, CO 80128
Randy	Hickenbottom		US Forest Service	*South Platte Ranger District*	Morrison, CO 80465
Pat	Martinek		Colorado Department of Public Health	4300 Cherry Creek Drive South	Denver, CO 80222-1530
Kaaren	Hardy		State Historic Preservation Office	1300 Broadway	Denver, CO 80203
Edrie	Vinson		FHWA	555 Zang Street, Suite 250	Lakewood, CO 80228
Scott	Sands		FHWA	555 Zang Street, Suite 250	Lakewood, CO 80228

June 3, 2002

«F_Name» «L_Name»
«Title»
«Company»
«Address»
«CSZ»

RE: US 285, Foxton Road to Bailey (14112)

Dear «F_Name»:

The Colorado Department of Transportation (CDOT) is initiating an Environmental Impact Statement (EIS) to cover transportation improvements to US 285 from Foxton Road in Conifer to just south of Bailey.

We would like to invite you to a scoping meeting to be held:

June 25, 2002
1:00 – 3:00 p.m.
Location: CDOT Lakewood Residency
9858 W. Girton Drive
Lakewood, CO
(map to meeting location is enclosed)

At this meeting, we will plan to present anticipated alternatives and any known environmental issues. We would really appreciate any input you might have on issues which we should plan to address in the EIS.

Sincerely yours,

Gina McAfee, AICP
Project Manager

Enclosure

cc: Kim Patel
Deb Angulski
File

J:_Transportation\us285\manage\corr\Local AgencyMergeLtr.doc

F. Name	L. Name	Title	Company	Address	CSZ
			Jefferson Como Fire Protection District Station 5	20200 County Road 15	Fairplay, CO 80440-0000
			Jefferson County	100 Jefferson County Parkway	Golden, CO 80419-5550
Liz	Rao	Manager of Planning & Engineering	RTD	1600 Blake Street	Denver, CO 80202
Richard	Sheehan	Chairman	Jefferson County Commissioners	100 Jefferson County Parkway	Golden, CO 80419-5550
Michelle	Lawrence	Chairman Pro Tem	Jefferson County Commissioners	100 Jefferson County Parkway	Golden, CO 80419-5550
Patricia	Holloway		Jefferson County Commissioners	100 Jefferson County Parkway	Golden, CO 80419-5550
Richard	Turner	Director	Jefferson County Planning and Zoning Department	100 Jefferson County Parkway Jefferson County Administration & Courts Bldg. 3rd Floor, Administration Side Suite 3550	Golden, CO 80419-3550
Joe	Siccardi	Chairman	Jefferson County Planning Commission	100 Jefferson County Parkway Jefferson County Administration & Courts Building 3rd Floor, Administration Side, Suite 3550	Golden, CO 80419-3550
Lewis	Stieghorst	Vice-Chairman	Jefferson County Planning Commission	100 Jefferson County Parkway Jefferson County Administration & Courts Building 3rd Floor, Administration Side, Suite 3550	Golden, CO 80419-3550
Alan	Fox	Vice-Chairman	Jefferson County Planning Commission	100 Jefferson County Parkway Jefferson County Administration & Courts Building 3rd Floor, Administration Side, Suite 3550	Golden, CO 80419-3550
Paul	Rosasco		Jefferson County Planning Commission	100 Jefferson County Parkway Jefferson County Administration &	Golden, CO 80419-3550

F. Name	L. Name	Title	Company	Address	CSZ
				Courts Building 3rd Floor, Administration Side, Suite 3550	
Wallace	Pulliam		Jefferson County Planning Commission	100 Jefferson County Parkway Jefferson County Administration & Courts Building 3rd Floor, Administration Side, Suite 3550	Golden, CO 80419-3550
Jan	Rousselot		Jefferson County Planning Commission	100 Jefferson County Parkway Jefferson County Administration & Courts Building 3rd Floor, Administration Side, Suite 3550	Golden, CO 80419-3550
Jim	Cole		Jefferson County Planning Commission	100 Jefferson County Parkway Jefferson County Administration & Courts Building 3rd Floor, Administration Side, Suite 3550	Golden, CO 80419-3550
Walt	Knudsen	Associate Member	Jefferson County Planning Commission	100 Jefferson County Parkway Jefferson County Administration & Courts Building 3rd Floor, Administration Side, Suite 3550	Golden, CO 80419-3550
Dan	Brindle	Director	Jefferson County Public Works Division	100 Jefferson County Parkway	Golden, CO 80419-3550
			Jefferson County Department of Highways	100 Jefferson County Parkway	Golden, CO 80419-5550
Barbara	Pasco		Park County Clerk and Recorder	PO Box 220	Fairplay, CO 80440
C. J.	DeLange	District #1	Park County Commissioners	PO Box 220	Fairplay, CO 80440
Lynda	James	District #2	Park County Commissioners	PO Box 220	Fairplay, CO 80440
Jerry	Solberg	District #3	Park County Commissioners	PO Box 220	Fairplay, CO 80440

F. Name	L. Name	Title	Company	Address	CSZ
			Park County Historical Society	PO Box 43	Bailey, CO 80421
			Park County Sheriff	1180 County Road 16	Fairplay, CO 80440
			Park County Sheriff Substation	288 Main Street, #7	Bailey, CO 80421
			Platte Canyon Chamber of Commerce	67318 US Highway 285	Bailey, CO 80421
			Platte Canyon Fire Department	60298 US Highway 285	Bailey, CO 80421-0000
			Platte Canyon Rescue Inc.	153 Delwood Drive	Bailey, CO 80421
Stephen	Millard	District N	RTD Board of Directors	c/o Executive Assistant to the Board RTD 1600 Blake Street	Denver, CO 80202
			South Park Historical Foundation	100 Fourth Street PO Box 634	Fairplay, CO 80440
George	Scheuernstuhl	Director, Transportation Services	DRCOG	2480 W. 26th Avenue, Suite 200B	Denver, CO 80211-5580
Kent	Wiley	Park Manager VI	State of Colorado Colorado State Parks	11500 North Roxborough Park Road	Littleton, CO 80125
James	Smith	Assistant Park Manager	State of Colorado Division of Parks & Outdoor Recreation Chatfield State Park	11500 N. Roxborough Park Road	Littleton, CO 80125

Carter::Burgess

216 16th Street, Suite 1700
Denver, Colorado 80202
Phone: 303 820.5240
Fax: 303 820.2402
www.c-b.com

14112

June 13, 2002

«F_Name» «L_Name»
«Title»
«Agency»
«Address»
«CSZ»

Re: US 285, Foxton Road to Bailey EIS

Dear «F_Name»:

Attached is an initial statement of purpose and need for the US 285 project. We will be using this as the basis for developing alternatives.

We look forward to seeing you at our upcoming scoping meeting.

Thank you for your ongoing participation in this EIS.

Sincerely yours,

Gina McAfee, AICP
Project Manager

cc: Kim Patel
Deb Angulski
Cecelia Joy
Scott Sands
Edrie Vinson
Kim Gambrill
Craig Gaskill

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F Name	L Name	Title	Agency	Address	CSZ
Russ	Mason	District Wildlife Manager	Colorado Division of Wildlife	6060 Broadway	Denver, CO 80216
Dan	Coil	District Wildlife Manager	Colorado Division of Wildlife	6060 Broadway	Denver, CO 80216
John	Woodling	Water Quality/Fisheries Specialist	Colorado Division of Wildlife	6060 Broadway	Denver, CO 80216
Eric	O'Dell	Habitat Biologist	Colorado Division of Wildlife	317 W. Prospect Street	Fort Collins, CO 80526
Sarah	Fowler		Environmental Protection Agency	999 18th Street, Suite 500	Denver, CO 80202
Alison	Michael		U.S. Fish and Wildlife Service	755 Parfet, Suite 361	Lakewood, CO 80215
Tim	Carey		U.S. Army Corps of Engineers Tri-Lakes Project Office	9307 South Platte Canyon Road	Littleton, CO 80128
Randy	Hickenbottom		US Forest Service	*South Platte Ranger District*	Morrison, CO 80465
Pat	Martinek		Colorado Department of Public Health	4300 Cherry Creek Drive South	Denver, CO 80222-1530
Kaaren	Hardy		State Historic Preservation Office	1300 Broadway	Denver, CO 80203
Edrie	Vinson		FHWA	555 Zang Street, Suite 250	Lakewood, CO 80228
Scott	Sands		FHWA	555 Zang Street, Suite 250	Lakewood, CO 80228
Sir/Madam			Jefferson Como Fire Protection District Station 5	20200 County Road 15	Fairplay, CO 80440-0000
Liz	Rao	Manager of Planning & Engineering	RTD	1600 Blake Street	Denver, CO 80202

F Name	L Name	Title	Agency	Address	CSZ
Richard	Sheehan	Chairman	Jefferson County Commissioners	100 Jefferson County Parkway	Golden, CO 80419-5550
Michelle	Lawrence	Chairman Pro Tem	Jefferson County Commissioners	100 Jefferson County Parkway	Golden, CO 80419-5550
Patricia	Holloway		Jefferson County Commissioners	100 Jefferson County Parkway	Golden, CO 80419-5550
Richard	Turner	Director	Jefferson County Planning and Zoning Department	100 Jefferson County Parkway Jefferson County Administration & Courts Bldg. 3rd Floor, Administration Side Suite 3550	Golden, CO 80419-3550
Joe	Siccardi	Chairman	Jefferson County Planning Commission	100 Jefferson County Parkway Jefferson County Administration & Courts Building 3rd Floor, Administration Side, Suite 3550	Golden, CO 80419-3550
Lewis	Stieghorst	Vice-Chairman	Jefferson County Planning Commission	100 Jefferson County Parkway Jefferson County Administration & Courts Building 3rd Floor, Administration Side, Suite 3550	Golden, CO 80419-3550

F Name	L Name	Title	Agency	Address	CSZ
Alan	Fox	Vice-Chairman	Jefferson County Planning Commission	100 Jefferson County Parkway Jefferson County Administration & Courts Building 3rd Floor, Administration Side, Suite 3550	Golden, CO 80419-3550
Paul	Rosasco		Jefferson County Planning Commission	100 Jefferson County Parkway Jefferson County Administration & Courts Building 3rd Floor, Administration Side, Suite 3550	Golden, CO 80419-3550
Wallace	Pulliam		Jefferson County Planning Commission	100 Jefferson County Parkway Jefferson County Administration & Courts Building 3rd Floor, Administration Side, Suite 3550	Golden, CO 80419-3550
Jan	Rousselot		Jefferson County Planning Commission	100 Jefferson County Parkway Jefferson County Administration & Courts Building 3rd Floor, Administration Side, Suite 3550	Golden, CO 80419-3550

F Name	L Name	Title	Agency	Address	CSZ
Jim	Cole		Jefferson County Planning Commission	100 Jefferson County Parkway Jefferson County Administration & Courts Building 3rd Floor, Administration Side, Suite 3550	Golden, CO 80419-3550
Walt	Knudsen	Associate Member	Jefferson County Planning Commission	100 Jefferson County Parkway Jefferson County Administration & Courts Building 3rd Floor, Administration Side, Suite 3550	Golden, CO 80419-3550
Dan	Brindle	Director	Jefferson County Public Works Division	100 Jefferson County Parkway	Golden, CO 80419-3550
Sir/Madam			Jefferson County Department of Highways	100 Jefferson County Parkway	Golden, CO 80419-5550
Barbara	Pasco		Park County Clerk and Recorder	PO Box 220	Fairplay, CO 80440
C. J.	DeLange	District #1	Park County Commissioners	PO Box 220	Fairplay, CO 80440
Lynda	James	District #2	Park County Commissioners	PO Box 220	Fairplay, CO 80440
Jerry	Solberg	District #3	Park County Commissioners	PO Box 220	Fairplay, CO 80440
Sir/Madam			Park County Historical Society	PO Box 43	Bailey, CO 80421
Sir/Madam			Park County Sheriff	1180 County Road 16	Fairplay, CO 80440

F Name	L Name	Title	Agency	Address	CSZ
Stephen	Millard	District N	RTD Board of Directors	c/o Executive Assistant to the Board RTD 1600 Blake Street	Denver, CO 80202
Sir/Madam			South Park Historical Foundation	100 Fourth Street PO Box 634	Fairplay, CO 80440
George	Scheuernstuhl	Director, Transportation Services	DRCOG	2480 W. 26th Avenue, Suite 200B	Denver, CO 80211-5580
Deb	LeBow	Environmental Protection Agency	NEPA EcoSystem Protection	Mail Stop 8EPR-EP 999 18th Street	Denver, CO 80202

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Initial Statement of Purpose and Need (6-12-02)

The growing urbanization in the Denver metropolitan area and its mountain-area suburbs along with a growing demand for mountain oriented recreation has resulted in increased demand on US 285.

US 285 is characterized by mountainous terrain and steep grades with numerous access points along the northern stretch. There are only a few areas of adequate shoulders or acceptable clear zones, and there are horizontal and vertical sight distance problems in numerous locations.

Statement of Need for Transportation Improvements

The underlying need for transportation improvements along US 285 is to:

- Provide a limited access facility
- Improve congested conditions
- Improve motorist safety

The CDOT Commission recently approved a change in classification for US 285 north of this segment to "Expressway". The new roadway planned for this segment will be planned for Expressway status, which means that intersection spacing is recommended at one mile with no private access.

Traffic volumes along US 285 have been steadily increasing over the years. Volumes increased by 85 percent north of Bailey between 1990 and 1999. Year 2020 average daily traffic (ADT) volumes are shown in Table 1. Summer weekend volumes are approximately 15% to 65% greater than summer weekday volumes, representing the recreational use of the corridor. By the year 2025, future volumes will result in Level of Service (LOS) F throughout most of the corridor, for both weekdays and weekends. (LOS F represents the worst-case traffic operations on a scale from A to F.) Current LOS is D, E or F during peak travel periods. The corridor goal for LOS is C.

Table 1
2000 ADT

Location	Weekday		Weekend	
	Summer	Fall	Summer	Fall
1. Bailey to top of Crow Hill	7,400	7,800	12,100	8,900
2. Crow Hill to Shaffer's Crossing	14,700	10,800	18,700	11,200
3. Shaffer's crossing to Foxton Road	21,100	17,700	24,200	17,700

Current travel time delays during the weekday and weekend peak periods are generally due to the inability of faster-moving vehicles to pass slow-moving vehicles, or traffic turning from or onto US 285 from intersecting roads or driveways.

Accident rates along this stretch of US 285 range from 58 to 80 percent higher than average statewide accident rates for similar facilities. Approximately 38 percent of accidents occurred at intersections or access points and 36 percent of accidents occurred because of collisions with fixed objects.

Statement of Purposes to be Attained while Meeting the Underlying Need

The purposes of improvements to the US 285 corridor are to:

- Improve bus transit services
- Provide for non-motorized travel
- Provide an implementable project

RTD provides bus service to about half of the corridor from Pine Junction north. There are two park-n-Rides in the study area: Pine Junction and Mountain View. On a typical weekday, there are spaces available at the Mountain View park-n-Ride but not at Pine Junction. Buses currently experience travel time delay due to congestion on US 285 during peak periods.

Bicycle, pedestrian and equestrian trails to connect key activity centers and more urban areas are missing along the corridor. US 285 has been classified in the top 15 percent of all highways used by bicyclists and top 15 percent of all highways in Colorado needing shoulder improvements. Bicyclists, pedestrians and equestrians currently utilized unpaved shoulders along US 285.

The corridor improvements must be affordable in terms of capital and operating costs and implementable, considering any institutional issues.

Carter Burgess

216 16th Street Suite 1700
Denver, Colorado 80202
Phone: 303.820.5240
Fax: 303.820.2402
www.c-b.com

December 19, 2002

«First_Name» «Last_Name»
«Agency»
«Agency_2»
«Street»
«City_State_Zip»

Dear «Addr» «Last_Name»:

You are invited to attend a meeting regarding the US 285 (Conifer to Bailey) EIS. The purpose of the meeting is to discuss likely project impacts on wildlife resources and possible measures which could be implemented to mitigate impacts, such as open space preservation.

The meeting will be:

January 24, 2003 from 9:00 to 11:00 a.m.
Colorado Department of Transportation
Lakewood Residency Office
9858 W. Girton Drive, Lakewood, CO

A map with directions to this location is attached.

If you are unable to attend this meeting, please send a substitute in your place.

We look forward to your continued involvement in the US 285 EIS.

Sincerely,

Gina McAfee, AICP
Project Manager

cc: Kim Patel
Jerry Powell
Deb Angulski

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Alison Michael
US Fish and Wildlife Service
755 Parfet, Suite 361
Lakewood, CO 80215

Anne Mangusso
Colorado Department of Wildlife
6060 Broadway
Denver, CO 80216

Dan Coil
Colorado Department of Wildlife
6060 Broadway
Denver, CO 80216

Tod Bacigalupi
Mount Evans Group of the Sierra Club
Chair, US 285 Corridor Committee
12126 Pohatan Trail
Conifer, CO 80433

Gary Nichols
Park County
Director of Tourism
PO Box 220
Fairplay, CO 80440

Janet Bell
Jefferson County
100 Jefferson County Parkway
Golden, CO 80419-5550

Bryan Posthumus
Jefferson County
Open Space
700 Jefferson County Parkway, Suite 100
Golden, CO 80401

Carter::Burgess

707 17th Street, Suite 2300
Denver, Colorado 80202-3404
Phone 303 820 5240
Fax 303 820 2402
www.c-b.com

CDOT Project No. NH 2854-093
Code No. 14112

March 21, 2003

«Mr» «First_Name» «Last_Name»
«Title»
«Organization»
«Street»
«City_State_Zip»

Re: U.S. 285 (Foxton Road to Bailey) EIS
Open Space Coordination Meeting

Dear «Mr» «Last_Name»:

I would like to invite you to a meeting to be held on April 30 from 9:00 a.m. to 11:00 a.m. at the CDOT Lakewood Residency office (9858 W. Girton Drive, Lakewood, CO). A map to that office is enclosed.

The purpose of the meeting is to discuss possible partnerships for preserving additional open space land in the US 285 corridor to lesson potential impacts to wildlife and other mountain resources that could result from widening US 285. Your input in this meeting is most important, therefore if you are unable to attend, please send a substitute in your place.

I look forward to seeing you at the meeting.

Sincerely,

Gina McAfee, AICP
Project Manager

cc: Kim Patel (CDOT)
Deb Angulski (CDOT)
C&B File #070306405

J:_Transportation\us285 EIS\manage\corr\14112_OpenSpaceMtg043003.doc

Mr.	First Name	Last Name	Title	Organization	Street	City State Zip
Mr.	Lance	Schul	Northern Colorado Regional Director	Rocky Mountain Elk Foundation	P.O. Box 150716	Lakewood, CO 80215
Mr.	Dieter	Erdmann	Director/Technical Information Mgr	Colorado Open Lands	274 Union Blvd., Suite 320	Lakewood, CO 80228
Ms.	Ginny	Ades		Mountain Area Land Trust	27972 Meadow Drive	Evergreen, OC 80439
Mr.	Eric	Odell		Colorado Division of Wildlife	57 West Bromley Lane	Brighton, CO 80601
Mr.	Frank	Kunze		Jefferson County	700 Jefferson County Parkway, Suite 100	Golden, CO 80401
Mr.	Bob	Meulengracht	Director/Technical Information Mgr	Mule Deer Foundation	P.O. Box 16728	Golden, CO 80401
Ms.	Leni	Walker	Commissioner	Park County	P.O. Box 1373	Fairplay, CO 80440
Mr.	Tom	Eisenman	Director of Planning and Environmental Health	Park County	P.O. Box 216	Fairplay, CO 80440
Mr.	Gary	Nichols	Director of Community Development and Tourism	Park County	P.O. Box 1373	Fairplay, CO 80440

Carter::Burgess

707 17th Street, Suite 2300
Denver, Colorado 80202-3404
Phone 303 820 5240
Fax 303 820 2402
www.c-b.com

May 6, 2003

CDOT Project No. NH28254-093
Code No. 14112

«F_Name» «L_Name»
«Title»
«Agency»
«Address»
«CSZ»

Re: RESCHEDULE – US 285 Foxton Road to Bailey EIS Meeting to June 3, 2003

Dear «F_Name»:

The US 285 EIS meeting that was scheduled for May 12, 2003 has been changed to June 3, 2003 at 1:00 p.m. at CDOT's Lakewood Residency office. The address is 9858 W. Girton Drive in Lakewood. (A map is enclosed.)

The purpose for the meeting remains the same, that is, to update you on the alternatives we are considering, the impacts of these alternatives, and to give you a preliminary recommendation for a preferred alternative and mitigation needs. We would like your input on all of these areas.

I apologize for the delay in scheduling this meeting, and look forward to seeing you on June 3rd.

Sincerely yours,

Gina McAfee, AICP
Project Manager

Enclosure

cc: Kim Patel
Deb Angulski
File

F Name	L Name	Title	Agency	Address	CSZ
John	Woodling	Water Quality/Fisheries Specialist	Colorado Division of Wildlife	6060 Broadway	Denver, CO 80216
Eric	Odell	Habitat Biologist	Colorado Division of Wildlife	57 West Bromley Lane	Brighton, CO 80601
Brad	Crowder		Environmental Protection Agency	999 18th Street, Suite 500	Denver, CO 80202
Cindy	Cody		Environmental Protection Agency	999 18th Street, Suite 500	Denver, CO 80202
Sarah	Fowler		Environmental Protection Agency	999 18th Street, Suite 500	Denver, CO 80202
Alison	Michael		U.S. Fish and Wildlife Service	755 Parfet, Suite 361	Lakewood, CO 80215
Tim	Carey		U.S. Army Corps of Engineers Tri-Lakes Project Office	9307 South Platte Canyon Road	Littleton, CO 80128
Randy	Hickenbottom	*South Platte Ranger District*	US Forest Service	19316 Goddard Ranch Court	Morrison, CO 80465
Pat	Martinek		Colorado Department of Public Health	4300 Cherry Creek Drive South	Denver, CO 80222-1530
Dan	Corson		State Historic Preservation Office	1300 Broadway	Denver, CO 80203
Edrie	Vinson		FHWA	555 Zang Street, Suite 250	Lakewood, CO 80228
Scott	Sands		FHWA	555 Zang Street, Suite 250	Lakewood, CO 80228
Dennis	Durbin		FHWA	555 Zang Street, Suite 250	Lakewood, CO 80228
Anne	Mangusso		Colorado Division of Wildlife	6060 Broadway	Denver, CO 80216
Ty	Petersburg		Colorado Division of Wildlife	6060 Broadway	Denver, CO 80216

Archaeological Resources
Native American Consultation

STATE OF COLORADO

DEPARTMENT OF TRANSPORTATION
Environmental Programs
4201 East Arkansas Avenue
Denver, Colorado 80222
(303) 757-9259

January 21, 2003

Ms. Georgianna Contiguglia
State Historic Preservation Officer
Colorado Historical Society
1300 Broadway
Denver, CO 80203

Dear Ms. Contiguglia:

SUBJECT: Section 106 Archaeological Resource Report for the US 285 Environmental Impact Statement; Determinations of Eligibility

Enclosed is the archaeological resource survey report for the CDOT undertaking referenced above. The project proposes major widening of a 15-mile segment of US Highway 285 between the communities of Bailey and Conifer (highway mileposts 220.5-235.5), the environmental effects of which are presently being documented in an Environmental Impact Statement. In addition to the widening, five grade-separated intersections will be constructed along the corridor, and a highway bypass is proposed for Bailey. The Area of Potential Effect (APE) established for the project involves the existing highway right-of-way (ROW), an additional 30 m on either side of the highway, and much larger areas at each of the grade-separations.

Five previous CDOT projects have occurred within or near the current APE. One previously recorded prehistoric open lithic/ground stone site (5PA425) and one isolated find (5JF369) are located within the project corridor. Both 5JF369 and 5PA425 were evaluated as not eligible to the National Register subsequent to earlier undertakings. Historic resources are known to exist along this corridor, but a survey and report documenting historic sites and features will be completed and submitted to you separately.

The pedestrian survey was conducted in October and November 2002, and January 2003. Due to the completion of previous inventories, additional survey was unnecessary within the existing highway right-of-way. The survey therefore focused on properties to be acquired temporarily or permanently for construction purposes outside the ROW, of which approximately 70% were surveyed. Areas not surveyed were those exhibiting steep terrain, properties impacted significantly by highway construction, and commercial and residential developments and private properties where access was not permitted. Additional survey may be necessary in the future for selected properties once project design is complete and access is acquired. Unsurveyed parcels are largely associated with the proposed Kings Valley Drive grade separation.

The survey resulted in the reevaluation of known site 5PA425 and the identification of 17 previously undocumented archaeological resources. Nothing remains of 5PA425, and as such we recommend that the previous eligibility evaluation of not eligible be retained. The new resources include one prehistoric sheltered site (5PA2424), two historic trash scatters (5JF3172, 5PA2418), one site with a rectangular stone alignment and mining test pit (5JF3173), a historic camp site (5PA2428), a chimney/house site (5PA2417), the remnants of a historic residence (5PA2431), six historic isolated features (5JF3174-5JF3177, 5PA2422, 5PA2423), and four prehistoric isolated finds (5JF3178, 5PA2419-5PA2421). The prehistoric sheltered site (5PA2424) and the rectangular stone alignment site (5JF3173) are recommended as potentially eligible for listing on the National Register, pending the results of test excavations. The remaining resources are recommended as not eligible, with all pertinent information having been collected at the time of recordation.

More specific information concerning the project and individual resources is located in the enclosed report. We request your concurrence with the National Register eligibility recommendations proposed for each of these localities. If you have questions or require additional information in order to complete your review, please contact CDOT Staff Archaeologist Dan Jepson at (303)757-9631.

Very truly yours,

for Rebecca D. Vickers
Environmental Programs Manager

Enclosure

cc: RF/CF

COLORADO
HISTORICAL
SOCIETY

The Colorado History Museum 1300 Broadway Denver, Colorado 80203-2137

January 29, 2003

Rebecca D. Vickers
Environmental Programs Manager
Department of Transportation
4201 East Arkansas Avenue
Denver, CO 80222

Re: US 285 Between Bailey and Conifer

Dear Ms. Vickers:

This office has reviewed your January 21, 2003 correspondence and the cultural resource report prepared for the project listed above.

5JF3172, 5JF3173, 5PA2417, 5PA2418, 5PA2428 and 5PA2431 are not eligible to the National Register. These sites consist of historic trash scatters, foundations and prospect pits that have no integrity and will yield no further information important to history. 5PA425 was determined to be not eligible on March 19, 1986.

5PA2424 is a small rock shelter where three flakes were found in a shovel test. We concur that additional testing is warranted.

If we may be of further assistance please contact Jim Green at 303-866-4674.

Sincerely,

Georgianna Contiguglia
State Historic Preservation Officer

GC/WJG

MEMORANDUM

DEPARTMENT OF TRANSPORTATION
Environmental Programs
4201 East Arkansas Ave.
Denver, Colorado 80222
(303) 757-9259

DATE: January 28, 2003

TO: Cecelia Joy **Attn:** Deb Angulski

FROM: Dan Jepson, Staff Archaeologist/Native American Liaison

SUBJECT: Section 106 Native American Consultation, US Highway 285 EIS

Attached for your files is a copy of the Native American consultation letter prepared for the project referenced above. In addition to the addressee–Chairman of the Apache Tribe of Oklahoma–the letter was sent to the following federally recognized tribes with an established interest in Jefferson and Park Counties:

- Southern Ute Tribe (Colorado)
- Ute Mountain Ute Tribe (Colorado)
- Ute Tribe of the Uintah and Ouray Agency ("Northern" Ute) (Utah)
- White Mesa Ute Tribe (Utah)
- Cheyenne and Arapaho Tribes of Oklahoma
- Cheyenne River Sioux Tribe (South Dakota)
- Comanche Tribe of Oklahoma
- Crow Creek Sioux Tribe (South Dakota)
- Kiowa Tribe of Oklahoma
- Northern Arapaho Tribe (Wyoming)
- Northern Cheyenne Tribe (Montana)
- Oglala Sioux Tribe (South Dakota)
- Rosebud Sioux Tribe (South Dakota)
- Standing Rock Sioux Tribe (North Dakota)

The letter requests government-to-government cultural resources consultation with these tribes, at their discretion, as mandated by federal law. I will keep you apprised of any responses received and plans for future consultation efforts, if any. With the exception of sensitive materials not intended for public distribution, information provided by the tribes may be incorporated into the EIS and/or ROD. I will also document any action taken on my part in response to tribal concerns, as necessary. Please contact me at (303)757-9631 with questions or comments.

Attachments

cc: C. Farrar/E. Vinson/S. Sands (FHWA)
T. Halouska (Carter-Burgess)
RF/CF

STATE OF COLORADO

DEPARTMENT OF TRANSPORTATION
Environmental Programs
4201 East Arkansas Avenue
Denver, Colorado 80222
(303) 757-9259

January 27, 2003

Mr. Gene Maroquin, Chairman
Apache Tribe of Oklahoma
P.O. Box 1220
Anadarko, OK 73005

Dear Mr. Maroquin:

SUBJECT: US Highway 285 Environmental Impact Statement, Jefferson and Park Counties, Colorado; Section 106 Consultation with the Federal Highway Administration and Colorado Department of Transportation

The Colorado Department of Transportation (CDOT) is studying transportation congestion, mobility and safety issues on a 15-mile segment of US Highway 285 in Jefferson and Park Counties, Colorado. Pursuant to the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality implementing regulations (40 CFR 1500-1508), CDOT and the Federal Highway Administration (FHWA), the lead federal agency, are documenting the potential social, economic and environmental consequences of this action in an Environmental Impact Statement (EIS). Please refer to the enclosed maps for specific locational information.

CDOT and FHWA are seeking the participation of regional Native American tribes in cultural resources consultation for this project. If you have interest in this undertaking and in cultural resources that may be of religious or cultural significance to your tribe, we invite you to be a consulting party for the purposes of complying with Section 106 of the National Historic Preservation Act. As a consulting party you are offered the opportunity to identify concerns about cultural resources and comment on how the project might affect them. Further, if it is found that the project will impact cultural resources that are eligible for inclusion on the National Register of Historic Places and are of religious or cultural significance to your tribe, your role in the consultation process may also include participation in resolving how best to avoid, minimize, or mitigate those impacts. It is our hope that by describing the proposed undertaking and the nature of known cultural sites that we can be more effective in protecting areas important to American Indian people.

Between October 2002 and January 2003, the Area of Potential Effect (APE) established for the undertaking was surveyed for archaeological resources. The APE consists of the existing Highway 285 right-of-way, a 30-meter corridor on either side of the highway, larger parcels at each of five proposed grade-separated intersections, and a short section of new alignment proposed to bypass the community of Bailey. All of the property in the project corridor beyond the highway right-of-way is presently privately owned, and much of the area has been disturbed by previous transportation construction as well as commercial and residential development. There are no lands bisected by the project area that are administered by federal agencies such as the Bureau of Land Management or US Forest Service.

The archaeological survey identified two sites and four isolated artifacts that exhibit evidence of Native American occupation or use. One site (5PA425), consisting of a sparse surface scatter of chipped stone and ground stone artifacts, was recorded in 1985 and subsequently evaluated as not eligible for listing on the

National Register of Historic Places (NRHP) by the State Historic Preservation Officer (SHPO). The site was revisited during the 2002 survey; no artifacts were observed on the ground surface and the soils suggest that subsurface cultural remains do not exist. As such, the site remains not eligible for the National Register and no further work is proposed for that locality. One newly documented site (5PA2424) is comprised of a small rock overhang that may contain subsurface cultural deposits. The site is assessed as potentially eligible for listing on the National Register, and has been recommended for avoidance. A preferred highway alignment will be selected later in the EIS documentation process, and the location and future disposition of 5PA2424 will be addressed at that time. If the site cannot feasiblely be avoided, a limited-scale test excavation program will be necessary in order to determine the nature and extent of cultural remains in the context of eligibility to the National Register. The isolated artifacts consist of chipped stone flakes and tools, none of which, by definition, are NRHP eligible. No human skeletal remains or items of cultural patrimony were discovered at any of these localities, nor is there any indication that these types of materials are present in a subsurface provenience.

Both FHWA and CDOT take seriously any potential concerns regarding American Indians or American Indian issues on transportation projects in Colorado. We are committed to ensuring that you are informed of and involved in decisions that have a potential to impact places that may be culturally significant to your tribe. Please complete and return the enclosed Consultation Interest Response Form to me within 30 days at the address or facsimile number listed at the bottom of that sheet. I can also be reached via Email at daniel.jepson@dot.state.co.us. or by telephone at (303)757-9631. If you have concerns regarding the confidentiality of information you might provide to us, please note that on the Interest Response Form so we can develop a plan to respect those interests. Thank you for considering this request for consultation.

Sincerely,

Dan Jepson
Staff Archaeologist & Cultural Resource Manager

Enclosures

cc: C. Farrar/E. Vinson (FHWA)
D. Angulski (CDOT Region 1)
T. Halouska (Carter-Burgess)
RF/CF

FEDERAL HIGHWAY ADMINISTRATION/COLORADO DEPARTMENT OF TRANSPORTATION
SECTION 106 TRIBAL CONSULTATION INTEREST RESPONSE FORM

PROJECT: US Highway 285 Environmental Impact Statement

The _____ Tribe [is / is not] (circle one) interested in becoming a consulting party for the Colorado Department of Transportation project referenced above, for the purpose of complying with Section 106 of the National Historic Preservation Act and its implementing regulations (36 CFR 800). If your tribe will be a consulting party, please answer the questions below.

Signed: _____
Name and Title

CONSULTING PARTY STATUS [36 CFR §800.2(c)(3)]
Do you know of any specific sites or places to which your tribe attaches religious and cultural significance that may be affected by this project?

Yes No If yes, please explain the general nature of these places and how or why they are significant (use additional pages if necessary). Locational information is not required.

SCOPE OF IDENTIFICATION EFFORTS [36 CFR §800.4(a)(4)]
Do you have information you can provide us that will assist us in identifying sites or places that may be of religious or cultural significance to your tribe?

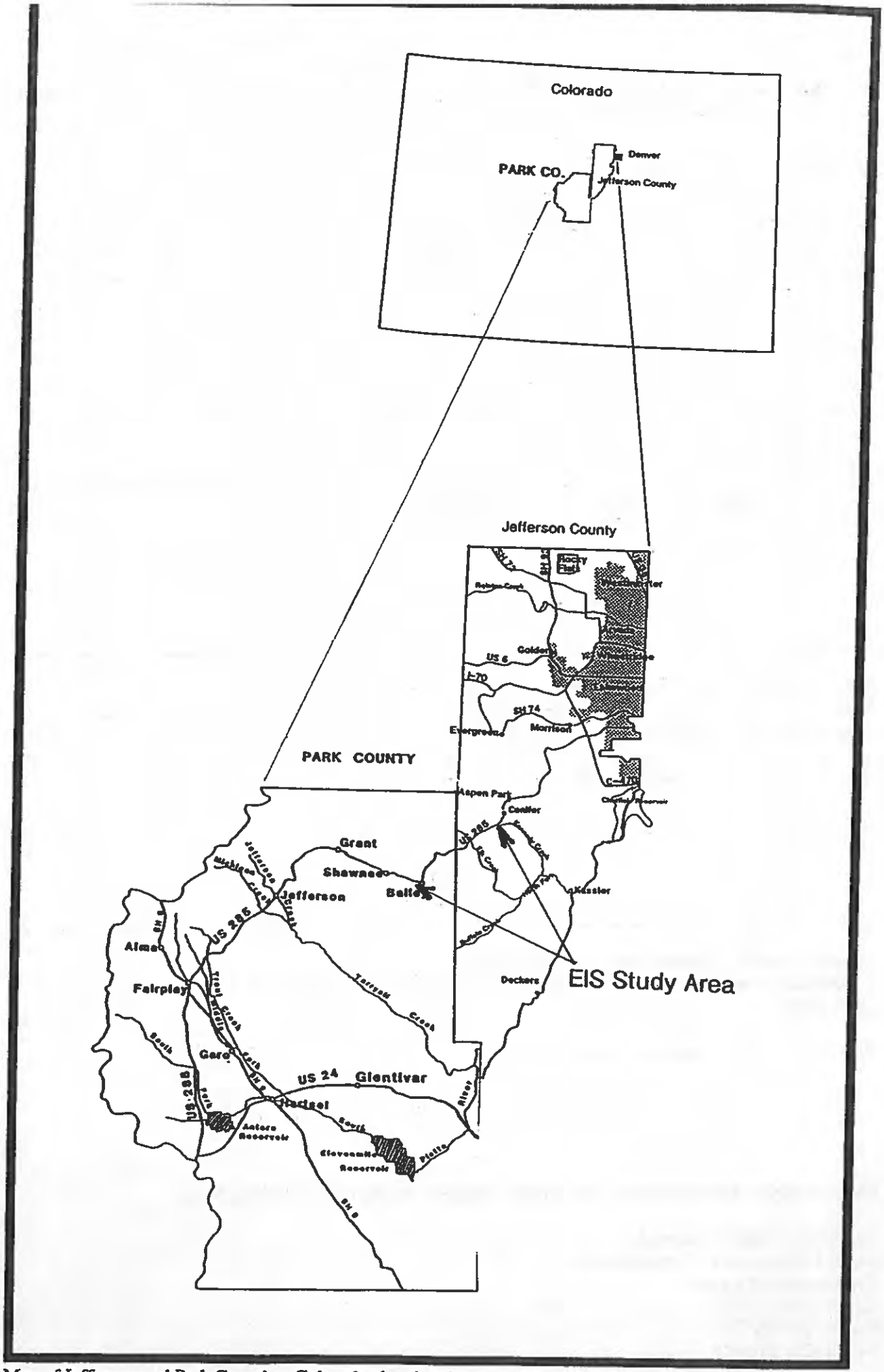
Yes No If yes, please explain.

CONFIDENTIALITY OF INFORMATION [36 CFR §800.11(c)]
Is there any information you have provided here, or may provide in the future, that you wish to remain confidential?

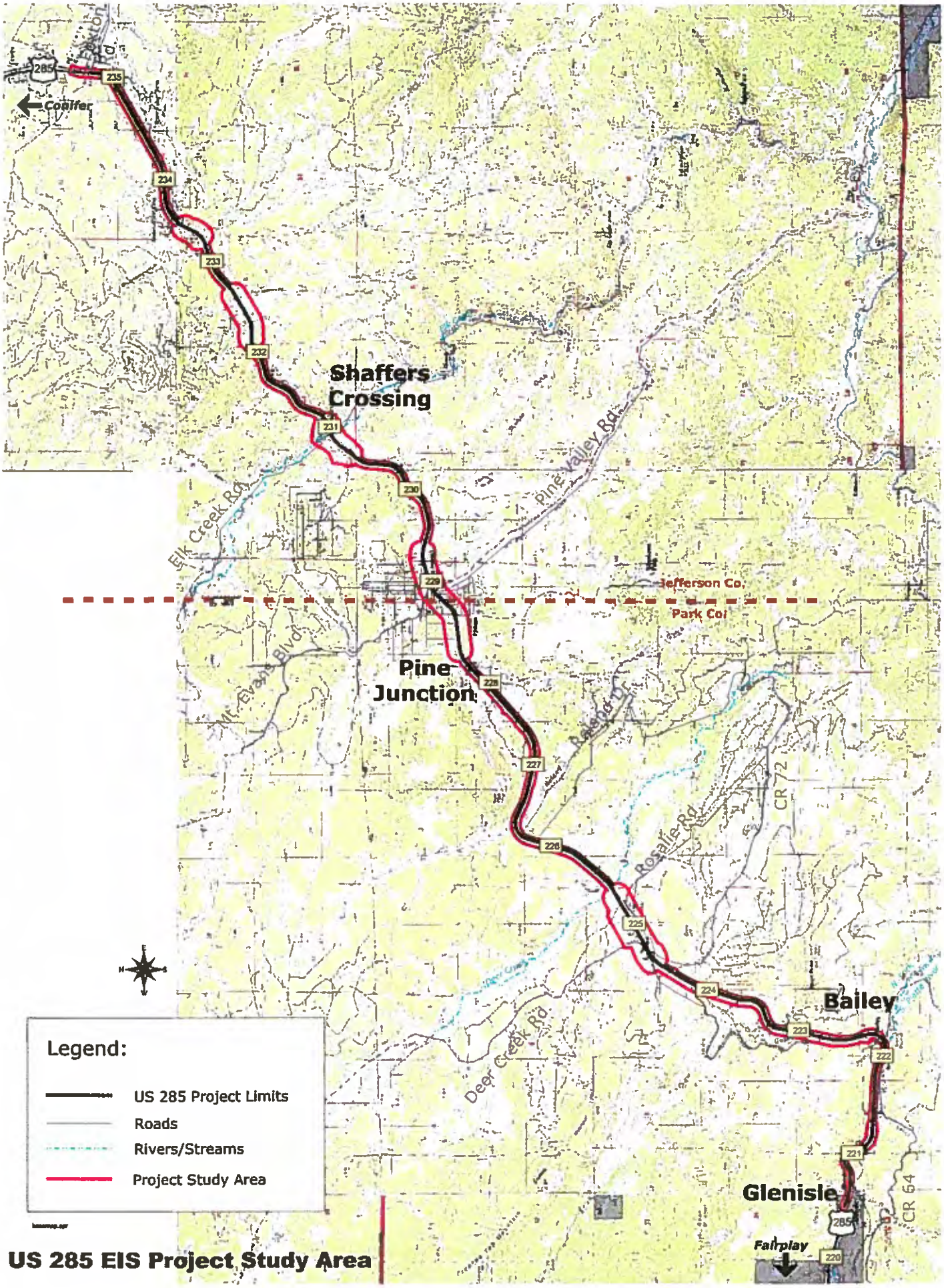
Yes No If yes, please explain.

Please complete and return this form within 30 days of receipt via US Mail or fax to:

Dan Jepson, Staff Archaeologist
Colorado Department of Transportation
Environmental Programs
4201 E. Arkansas Ave.
Denver, CO 80222
FAX: (303)757-9445



Map of Jefferson and Park Counties, Colorado showing the general location of the EIS study corridor.



US 285 EIS Project Study Area

MEMORANDUM

DEPARTMENT OF TRANSPORTATION

Environmental Programs
4201 East Arkansas Ave.
Denver, Colorado 80222
(303) 757-9259

DATE: February 4, 2003

TO: Cecelia Joy **Attn:** Deb Angulski

FROM: Dan Jepson

SUBJECT: Archaeological Resources Clearance, US Highway 285 EIS

Attached for your files is a copy of the archaeological resources survey report completed for the project referenced above. The inventory resulted in the reevaluation of one previously recorded archaeological site and 17 newly documented historic and prehistoric archaeological sites and isolated finds. In consultation with the State Historic Preservation Officer (SHPO) we have determined that only one site (5PA2424), a small rock shelter exhibiting the potential to contain significant prehistoric cultural remains in a buried context, is potentially eligible for listing on the National Register of Historic Places (NRHP). The remainder of the sites and isolates are assessed as not eligible for NRHP nomination, and no further work is required at these localities. The concurrence letter from SHPO is attached for your review.

Site 5PA2424 is recommended for avoidance during all phases of work associated with the proposed US 285 improvements. If avoidance is not a feasible alternative, test excavations will be required in order to determine the nature and extent of subsurface cultural strata and thereafter make a final determination of National Register eligibility. If testing leads to the site being determined NRHP eligible, data recovery excavations to mitigate adverse effects may be required.

Given that several properties within the US 285 Area of Potential Effect have not been surveyed due to lack of landowner right-of-entry, additional field studies for this undertaking may be required in the future. Otherwise, assuming the avoidance stipulation for 5PA2424 outlined above is observed, clearance to proceed is recommended.

Attachments

cc: T. Halouska (Carter-Burgess; CDOT & SHPO letters only)
RF/CF

FEDERAL HIGHWAY ADMINISTRATION/COLORADO DEPARTMENT OF TRANSPORTATION
SECTION 106 TRIBAL CONSULTATION INTEREST RESPONSE FORM

PROJECT: US Highway 285 Environmental Impact Statement

The Southern Ute Indian Tribe (is) / is not] (circle one) interested in becoming a consulting party for the Colorado Department of Transportation project referenced above, for the purpose of complying with Section 106 of the National Historic Preservation Act and its implementing regulations (36 CFR 800). If your tribe will be a consulting party, please answer the questions below.

Signed Neil A Cloud
Name and Title NAGPRA Coordinator

CONSULTING PARTY STATUS [36 CFR §800.2(c)(3)]
Do you know of any specific sites or places to which your tribe attaches religious and cultural significance that may be affected by this project?

Yes (No) If yes, please explain the general nature of these places and how or why they are significant (use additional pages if necessary). Locational information is not required.

SCOPE OF IDENTIFICATION EFFORTS [36 CFR §800.4(a)(4)]
Do you have information you can provide us that will assist us in identifying sites or places that may be of religious or cultural significance to your tribe?

Yes (No) If yes, please explain.

CONFIDENTIALITY OF INFORMATION [36 CFR §800.11(c)]
Is there any information you have provided here, or may provide in the future, that you wish to remain confidential?

Yes (No) If yes, please explain.

Please complete and return this form within 30 days of receipt via US Mail or fax to:

Dan Jepson, Staff Archaeologist
Colorado Department of Transportation
Environmental Programs
4201 E. Arkansas Ave.
Denver, CO 80222
FAX: (303)757-9445

FEDERAL HIGHWAY ADMINISTRATION/COLORADO DEPARTMENT OF TRANSPORTATION
SECTION 106 TRIBAL CONSULTATION INTEREST RESPONSE FORM

PROJECT: US Highway 285 Environmental Impact Statement

The Ute Indian Tribe [is / is not] (circle one) interested in becoming a consulting party for the Colorado Department of Transportation project referenced above, for the purpose of complying with Section 106 of the National Historic Preservation Act and its implementing regulations (36 CFR 800). If your tribe will be a consulting party, please answer the questions below.

Signed: _____
Name and Title

CONSULTING PARTY STATUS [36 CFR §800.2(c)(3)]
Do you know of any specific sites or places to which your tribe attaches religious and cultural significance that may be affected by this project?

Yes (No) If yes, please explain the general nature of these places and how or why they are significant (use additional pages if necessary). Locational information is not required.

SCOPE OF IDENTIFICATION EFFORTS [36 CFR §800.4(a)(4)]
Do you have information you can provide us that will assist us in identifying sites or places that may be of religious or cultural significance to your tribe?

Yes (No) If yes, please explain.

CONFIDENTIALITY OF INFORMATION [36 CFR §800.11(c)]
Is there any information you have provided here, or may provide in the future, that you wish to remain confidential?

Yes (No) If yes, please explain.

Please complete and return this form within 30 days of receipt via US Mail or fax to:

Dan Jepson, Staff Archaeologist
Colorado Department of Transportation
Environmental Programs
4201 E. Arkansas Ave.
Denver, CO 80222
FAX: (303)757-9445

FEDERAL HIGHWAY ADMINISTRATION/COLORADO DEPARTMENT OF TRANSPORTATION
SECTION 106 TRIBAL CONSULTATION INTEREST RESPONSE FORM

PROJECT: US Highway 285 Environmental Impact Statement

The Kiowa Tribe [is / is not] (circle one) interested in becoming a consulting party for the Colorado Department of Transportation project referenced above, for the purpose of complying with Section 106 of the National Historic Preservation Act and its implementing regulations (36 CFR 800). If your tribe will be a consulting party, please answer the questions below.

Signed: Rev. George Daingkau, NAGPRA Rep.
Name and Title

CONSULTING PARTY STATUS [36 CFR §800.2(c)(3)]
Do you know of any specific sites or places to which your tribe attaches religious and cultural significance that may be affected by this project?

Yes (No) If yes, please explain the general nature of these places and how or why they are significant (use additional pages if necessary). Locational information is not required.

SCOPE OF IDENTIFICATION EFFORTS [36 CFR §800.4(a)(4)]
Do you have information you can provide us that will assist us in identifying sites or places that may be of religious or cultural significance to your tribe?

(Yes) No If yes, please explain.

Bands of Kiowa traveled through this area which were part of the Kiowa Tribe. Kiowa did not travel as a group all in one type, but rather in groups separate from each other.

CONFIDENTIALITY OF INFORMATION [36 CFR §800.11(c)]
Is there any information you have provided here, or may provide in the future, that you wish to remain confidential?

Yes (No) If yes, please explain.

Please complete and return this form within 30 days of receipt via US Mail or fax to:

Dan Jepson, Staff Archaeologist
Colorado Department of Transportation
Environmental Programs
4201 E. Arkansas Ave.
Denver, CO 80222
FAX: (303)757-9445

FEDERAL HIGHWAY ADMINISTRATION/COLORADO DEPARTMENT OF TRANSPORTATION
SECTION 106 TRIBAL CONSULTATION INTEREST RESPONSE FORM

PROJECT: US Highway 285 Environmental Impact Statement

The Cheyenne & Arapaho Tribes of OK [tribe (is) ~~is not~~] (circle one) interested in becoming a consulting party for the Colorado Department of Transportation project referenced above, for the purpose of complying with Section 106 of the National Historic Preservation Act and its implementing regulations (36 CFR 800). If your tribe will be a consulting party, please answer the questions below.

Signed: William L Pidrop NAGPRA-NHPA-Rep.
Name and Title Southern Arapaho

CONSULTING PARTY STATUS [36 CFR §800.2(c)(3)]
Do you know of any specific sites or places to which your tribe attaches religious and cultural significance that may be affected by this project?

(Yes) ~~No~~ (No) If yes, please explain the general nature of these places and how or why they are significant (use additional pages if necessary). Locational information is not required.

SCOPE OF IDENTIFICATION EFFORTS [36 CFR §800.4(a)(4)]
Do you have information you can provide us that will assist us in identifying sites or places that may be of religious or cultural significance to your tribe?

(Yes) ~~No~~ (No) If yes, please explain.

CONFIDENTIALITY OF INFORMATION [36 CFR §800.11(c)]
Is there any information you have provided here, or may provide in the future, that you wish to remain confidential?

Yes (No) If yes, please explain.

Please complete and return this form within 30 days of receipt via US Mail or fax to:

Dan Jepson, Staff Archaeologist
Colorado Department of Transportation
Environmental Programs
4201 E. Arkansas Ave.
Denver, CO 80222
FAX: (303)757-9445

MEMORANDUM

DEPARTMENT OF TRANSPORTATION

Environmental Programs
4201 East Arkansas Ave.
Denver, Colorado 80222
(303) 757-9259

DATE: July 10, 2003

TO: Cecelia Joy **Attn:** Deb Angulski

FROM: Dan Jepson

SUBJECT: Additional Archaeology Clearance, US Highway 285 Environmental Impact Statement

Attached for your files is a copy of the letter addendum to the cultural resource survey report for the project referenced above. During Spring 2003, twenty-seven additional parcels within the Area of Potential Effect along the US 285 corridor requiring archaeological survey were identified by the Project Manager, of which 14 were subjected to inventory in May and June 2003. As noted in the letter, the remaining tracts were not surveyed due to steep terrain or impacts associated with previous commercial and residential development, all of which precluded the presence of archaeological remains. Three additional parcels within the revised Roland Gulch curve reduction area also were not surveyed because of a lack of private property access. The latter work will proceed once appropriate access is granted.

The inventory resulted in the documentation of an isolated rock feature (5PA2590), a probable prehistoric sheltered camp (5PA2591), and an isolated historic mine test pit (5JF 3628). In consultation with the State Historic Preservation Officer (SHPO), we have evaluated 5PA2590 and 5JF3628 as not eligible for listing on the National Register of Historic Places, and no further work is required at these localities. However, 5PA2591, located north of US 285 at MP 227.175, has the potential to contain subsurface cultural remains and has therefore been determined potentially eligible for nomination to the Register ("need data"). Project design plans indicate that 5PA2591 will be avoided during construction, which results in no historic properties affected. It may be necessary to fence or otherwise clearly demarcate the boundary of 5PA2591 prior to earth-moving activities in that area to ensure protection; a specification to this effect is recommended for inclusion in the project plans.

Clearance is provided for the areas outlined above and in the enclosed letter. Please contact me with questions, comments or concerns.

Attachments

cc: RF/CF
T. Halouska (Carter-Burgess)

STATE OF COLORADO

DEPARTMENT OF TRANSPORTATION
4201 East Arkansas Avenue
Denver, Colorado 80222
(303) 757-9011

June 26, 2003

Ms. Georgianna Contiguglia
State Historic Preservation Officer
Colorado Historical Society
1300 Broadway
Denver, CO 80203

Dear Ms. Contiguglia:

SUBJECT: Addendum to the Archaeological Resource Report for the US Highway 285 Environmental Impact Statement; Eligibility and Effects Determinations

In January 2003, we forwarded to your office the archaeological survey report for the project referenced above, along with a request for concurrence on determinations of eligibility for 18 resources. In a letter dated January 29, 2003, you concurred with our National Register site evaluations. Subsequent to that time design plans for the corridor were altered such that additional properties located outside of the original study corridor required pedestrian survey. A total of 27 additional survey localities were identified along the corridor, including eleven proposed cuts in steep terrain, seven access improvements, six fill areas, two drainage improvements, and one substantial curve modification at Roland Gulch (Figures 1-3). The total area encompassed by these additional properties is estimated at 14.3 ha (35.4 ac).

In order to fulfill our Section 106 obligations for the undertaking, a pedestrian survey of these areas was conducted on May 23 and June 6, 2003 by CDOT Assistant Staff Archaeologist O D Hand. Ten locations totaling 0.7 ha (1.8 ac)–ranging in size from 0.004 ha to 0.2 ha (0.01 ac to 0.4 ac)–were not surveyed due to steep terrain or impacts associated with previous commercial and residential development. In addition, three parcels associated with the Roland Gulch curve reduction were not surveyed because of a lack of access to private property. These latter areas, which total 3.9 ha (9.5 ac), will be inventoried at a later date once appropriate access is acquired. Therefore, the reconnaissance involved the remaining 14 locations, totaling 9.8 ha (24.13 ac); individual tracts ranged from 0.04 ha to 1.3 ha (0.1 ac to 3.3 ac) in size. The survey was completed by a single individual (Mr. Hand) walking primarily random transects dictated in large part by terrain. The survey resulted in the documentation of an isolated rock feature (5PA2590), a probable prehistoric sheltered camp (5PA2591), and an isolated historic mine test pit (5JF3628) (Figure 4).

Site 5PA2590 consists of a single rock feature of unknown function or cultural affiliation located north of US 285 at milepost 228.1, on the east slope of a high hill overlooking Wisp Creek. The feature consists of a small cluster of randomly piled rock aligned 3 m N/S by 1.5 m E/W. The rock cluster is low, a maximum of 0.5 m high on the downslope side, and is constructed along a natural exposure of granite. Most of the rocks in the area, including those comprising the feature, exhibit a lichen covering, indicating a lengthy but unknown period arranged in the same location. A small flat area, generally clear of rock and measuring 1 m by 1.5 m, is located immediately west of the feature on the up slope side. No artifacts or other cultural features were observed at or near this location. The nature of the structure, its restricted size, a lack of associated artifacts, and a position overlooking the Wisp Creek drainage indicate that the feature may have functioned as a hunting blind and/or observation area, either historically or prehistorically. Unfortunately, extensive rock outcroppings and exposures present in proximity to the feature severely limit the potential for subsurface cultural deposits.

Although the feature appears to be generally intact, it is isolated, not associated with additional cultural materials and there is little potential for subsurface cultural deposition. As a result, site 5PA2590 is recommended as not eligible to the National Register of Historic Places and will require no additional work.

Site 5PA2591 consists of a rock overhang located on the south face of a granite outcrop north of the highway at the intersection of Rangeview and Rim Rock Roads (milepost 227.175). The entire rock outcrop measures 20 m long by 2.5 m high, and the south face is obscured by heavy vegetation. Within the vegetated area is a low curved retaining wall (Feature 1), approximately 8 m long. The wall is comprised of one to two courses of unshaped granite cobbles and slabs extending 2 m south from the outcrop, whereupon it turns to the east for approximately 6 m. The retaining wall creates a stable, somewhat level surface. Within the retaining wall and adjacent to the rock outcrop is a single hearth feature (Feature 2), about 1 m in diameter and constructed of a circle of 15 granite stones around a hollow center. No ash or charcoal is present and there is minimal evidence of oxidation. Recent trash is located in the area (i.e., clear and brown bottle glass, plywood fragments, and a stovepipe segment), but most probably represents discard from traffic along Rangeview Road. Two pieces of bone, one heavily burned and the other unburned, were found in the sediments west of the hearth. No prehistoric artifacts were observed, but an aboriginal occupation is hypothesized based on the nature and location of the hearth feature. The Rangeview Road cut bank, located to the south and west, exhibited no cultural remains, but soil deposition in this area may extend to 1 m or more below the present surface. As such, there appears to be potential for cultural deposition in the immediate vicinity of the rock outcrop.

Based on the retaining wall (Feature 1) and hearth (Feature 2), coupled with the presence of burned and unburned bone fragments, 5PA2591 is evaluated as potentially eligible for listing on the National Register. Project plans indicate that 5PA2591 will be avoided during proposed highway improvements.

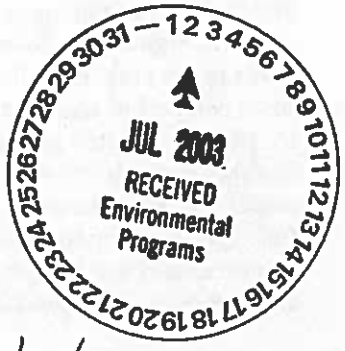
Feature 5JF3628 consists of an isolated mine test pit located on a high ridge north of US 285 at milepost 231.2. The pit is approximately 4 m in diameter and 1 m deep, and exhibits a debris pile to the east. No additional cultural material is associated with the feature, which probably dates to the late 1800s or early 1900s, an era of local mining exploration. However, as an isolated feature with no potential to provide additional significant information, this resource is, by definition, not eligible to the National Register.

Given the information outlined above, no historic properties will be affected by the proposed project, and no further work is recommended at any of the three recorded localities, in the context of the highway improvement project.

The enclosed inventory record forms provide additional information concerning the resources addressed herein. We request your concurrence with our eligibility and effects recommendations for these resources. If you have questions or require additional information in order to complete your review, please contact me at (303)757-9631.

Very truly yours,

Daniel A. Jepson
Acting Environmental Program Manager



Enclosures

cc: RF/CF

I concur Mark Wolfe for State Historic Preservation Officer Date 6/27/03

Colorado Office of Archaeology and Historic Preservation
CULTURAL RESOURCE SURVEY MANAGEMENT INFORMATION FORM

Please complete this form and attach a copy behind the Table of Contents of each standard survey report.

Federal acres of Potential Effect/Project:	Acres surveyed:
State acres of Potential Effect/Project:	Acres surveyed:
Private acres of Potential Effect/Project: 35.44 ac	Acres surveyed: 24.13 ac
TOTAL: 35.44 ac	TOTAL: 24.13 ac

Legal Location of Project (add additional pages if necessary)
Note: Only generalized subdivision ("quarter quarters") within each section is needed

Principal Meridian: 6th Quad. map name(s) and date(s): Bailey ('87), Conifer ('65/94), Pine ('94),
County: Jefferson and Park

Township: 6S	Range: 71W	Sec.: 26-28, & 32
Township: 7S	Range: 71W	Sec.: 6
Township: 7S	Range: 72W	Sec.: 10, 11, 16, & 29
Township:	Range:	Sec.: 1/4s
Township:	Range:	Sec.: 1/4s

	Smithsonian Number	Resource Type				Eligibility				Management Recommendations						
		Prehistoric	Historical	Paleontological	Unknown	Eligible	Not Eligible	Need Data	Contributes to National	No Further Work	Preserve/Avoid	Monitor	Test	Excavate	Archival Research	Other (specify on additional pages)
Sites	5PA2590				X		X			X						
	5PA2591	X(?)						X			X					
	TOTAL: 2															
Isolated Finds	5JF3628		X				X			X						
	TOTAL: 1															

Principal Investigator Name: Daniel A. Jepson Date: June 20, 2003

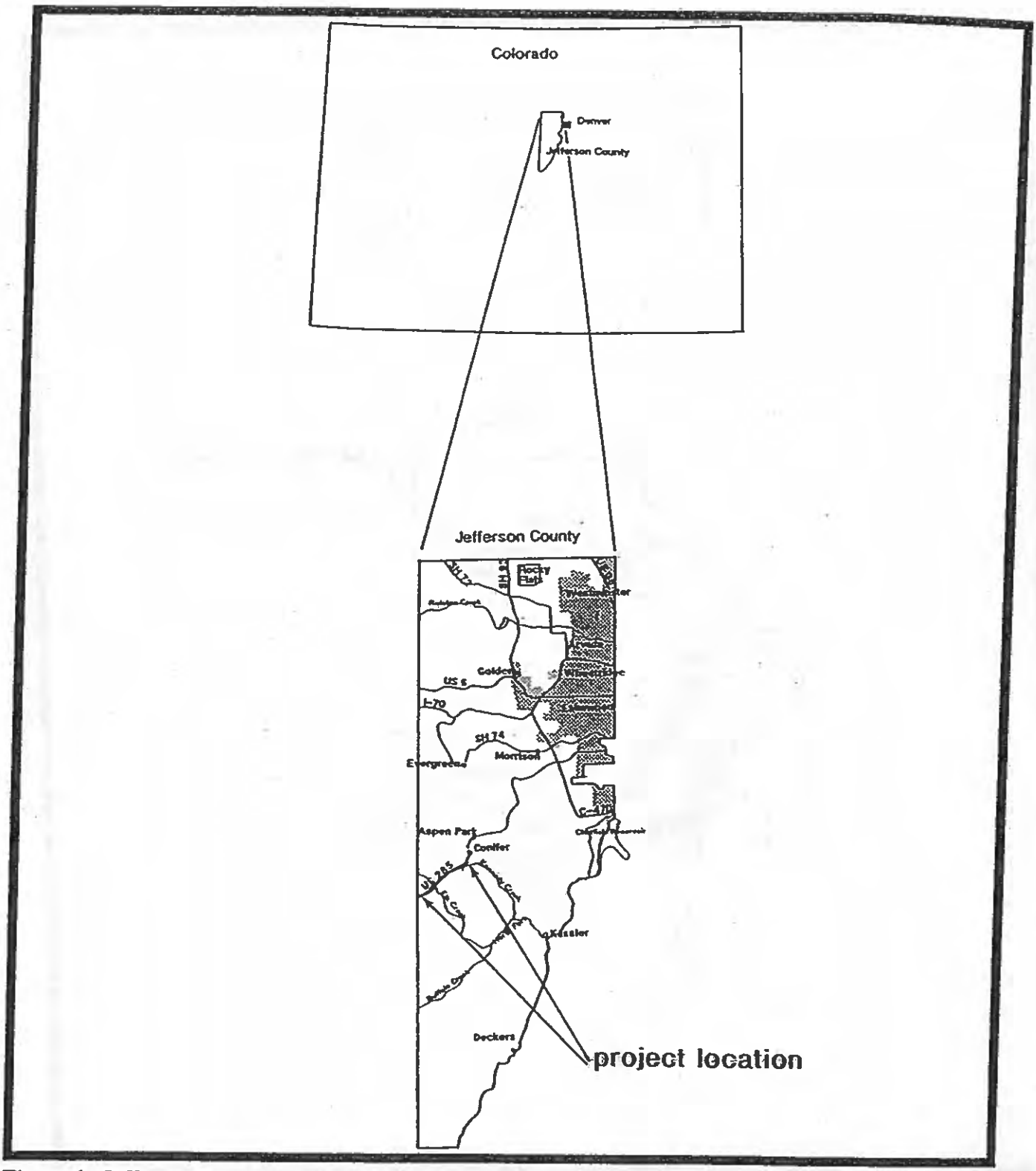


Figure 1. Jefferson County map showing project location

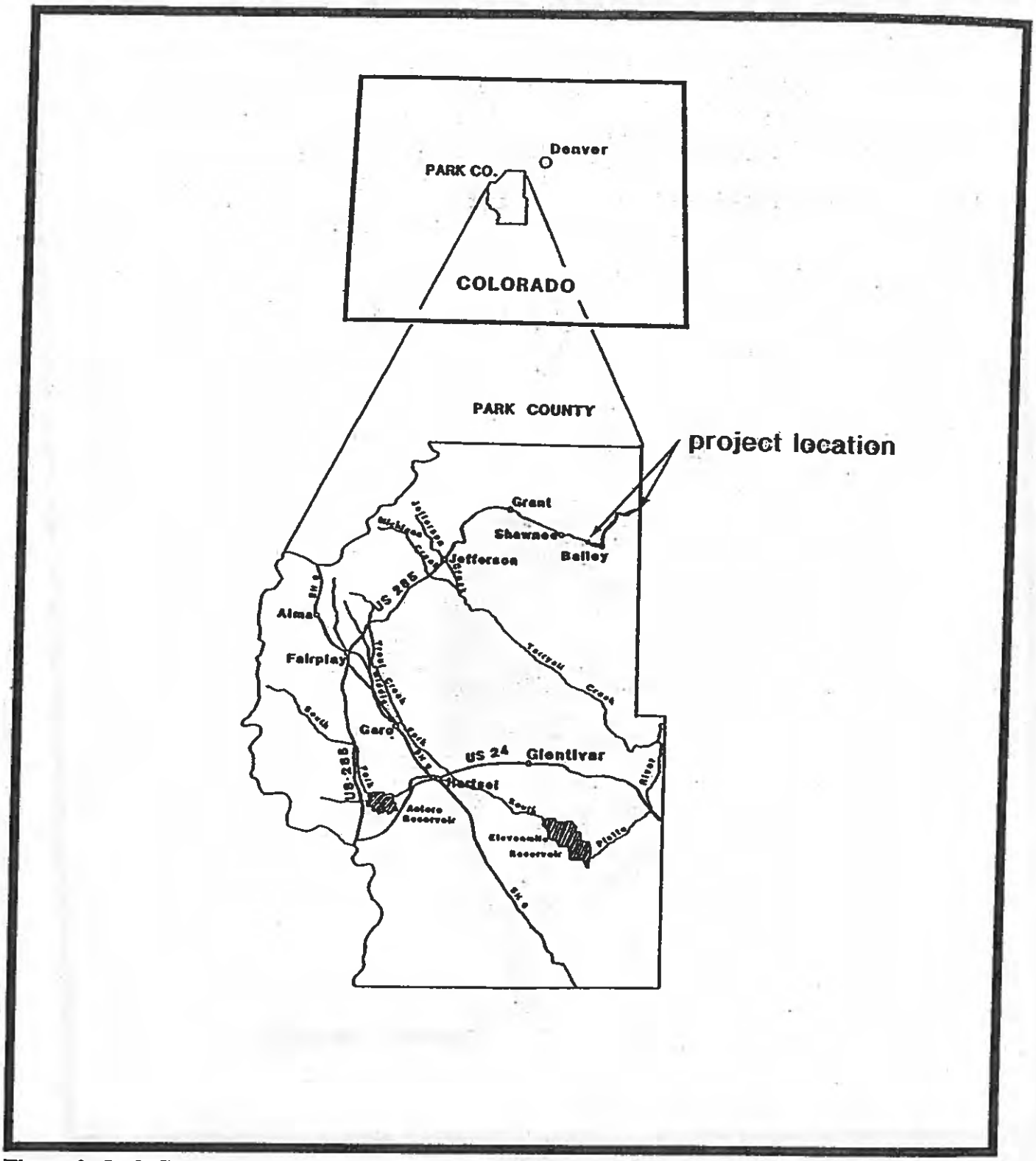


Figure 2. Park County map showing project location

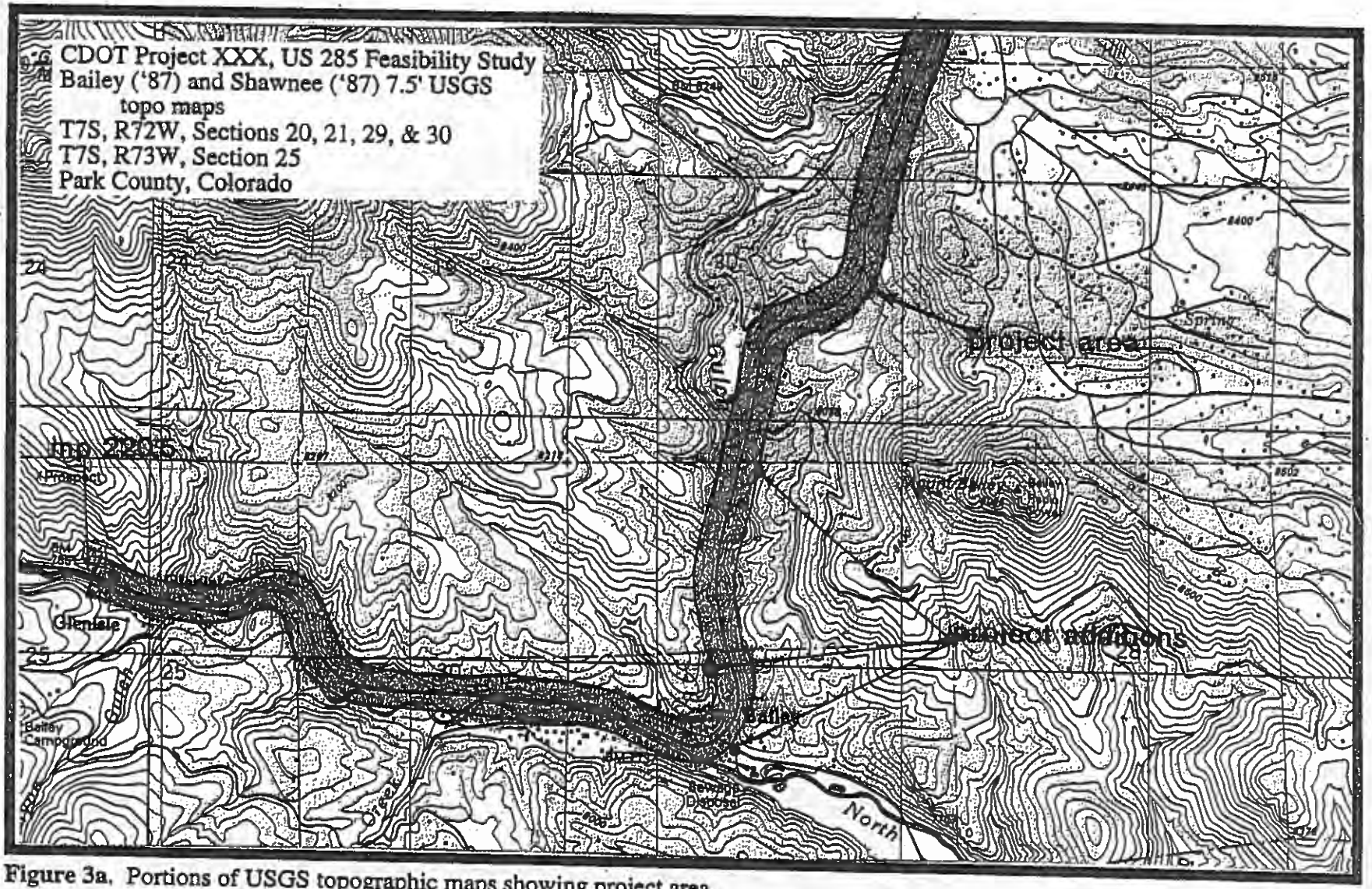


Figure 3a. Portions of USGS topographic maps showing project area

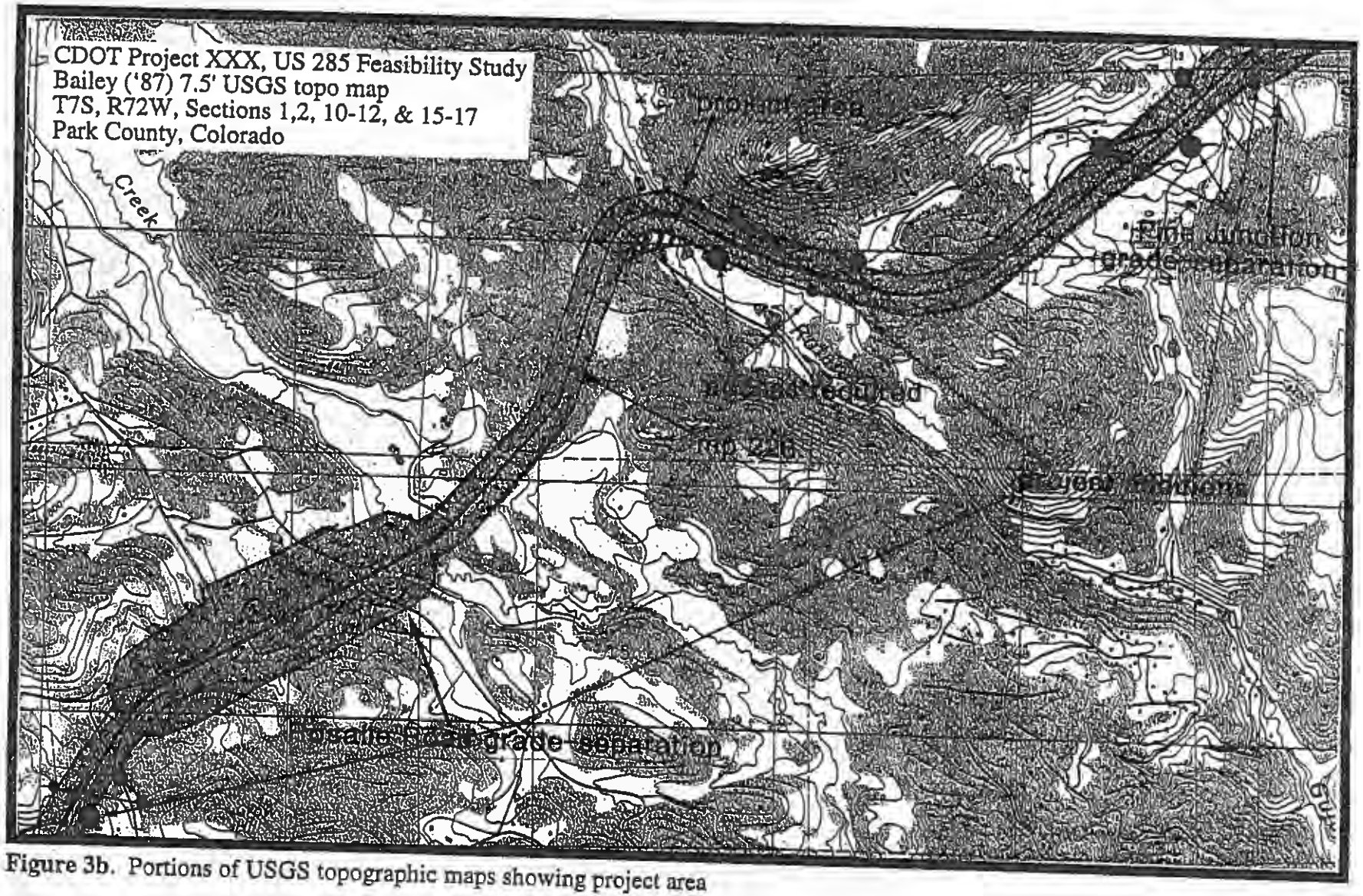


Figure 3b. Portions of USGS topographic maps showing project area

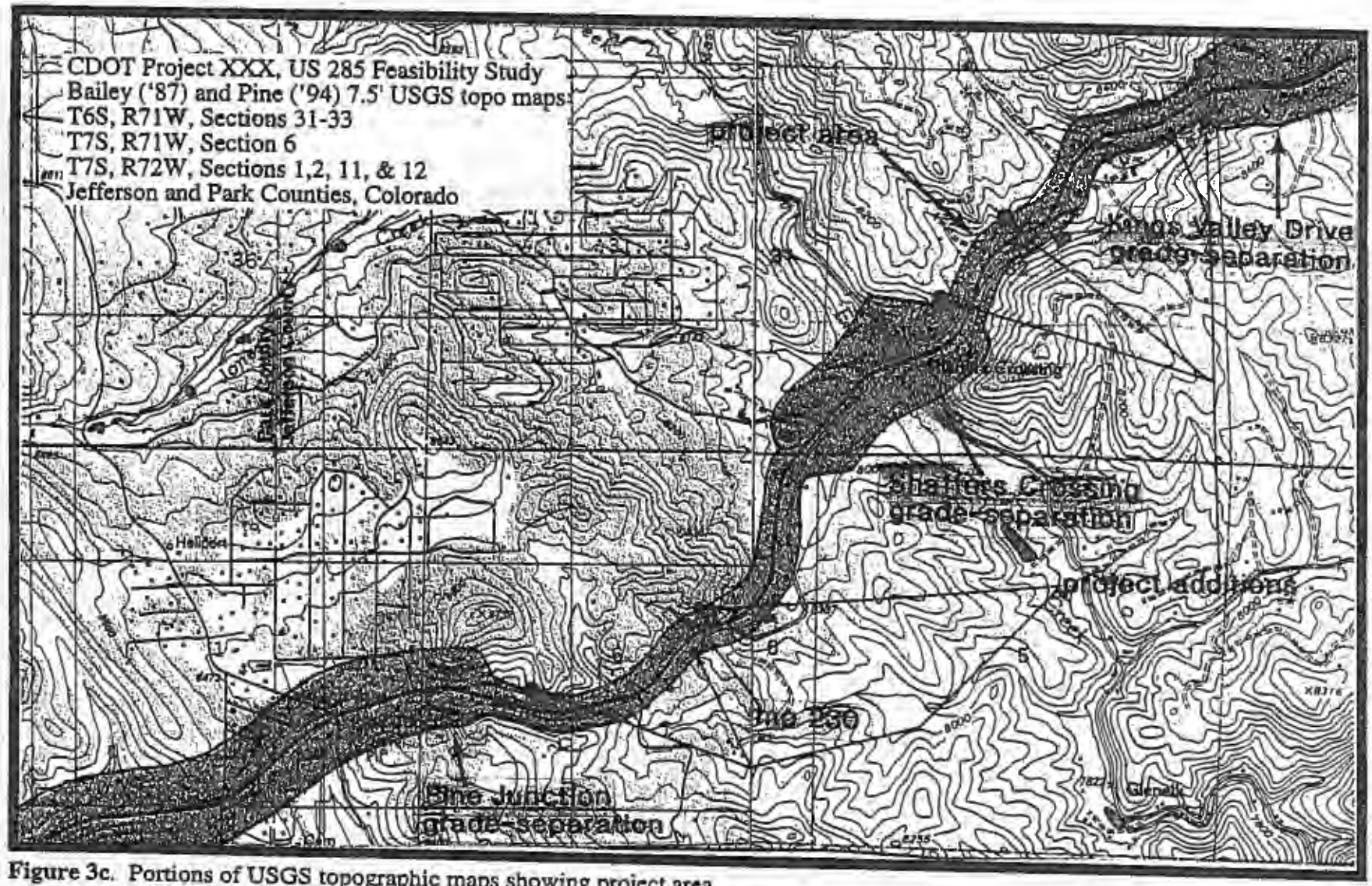


Figure 3c. Portions of USGS topographic maps showing project area

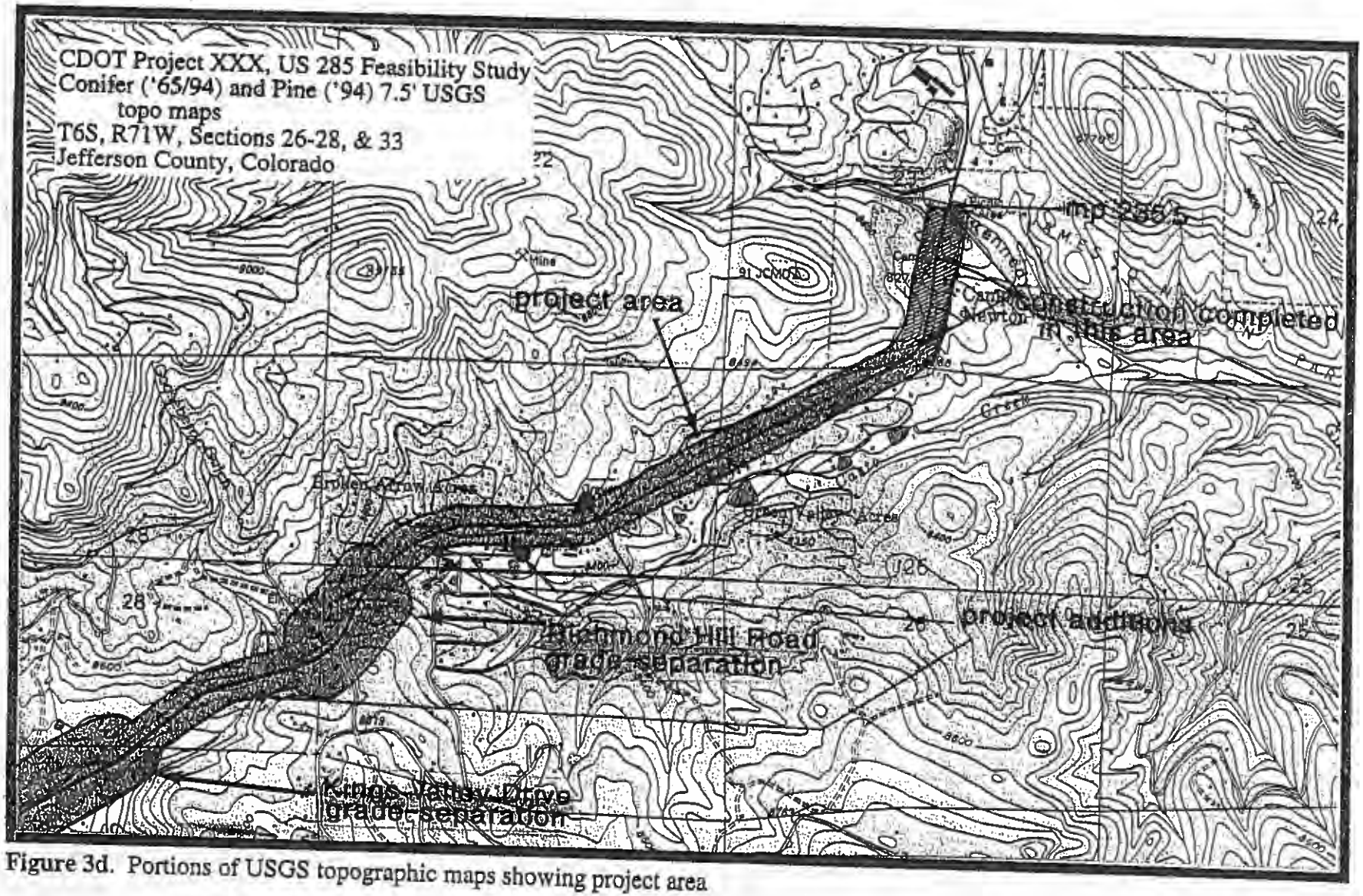


Figure 3d. Portions of USGS topographic maps showing project area

MEMORANDUM

DEPARTMENT OF TRANSPORTATION
Environmental Programs Branch
4201 East Arkansas Ave.
Denver, Colorado 80222
(303) 757-9259

DATE: December 4, 2003

TO: Cecelia Joy **Attn:** Deb Angulski

FROM: Dan Jepson, Staff Archaeologist/Native American Liaison

SUBJECT: Section 106 Native American Consultation, US 285 EA

Attached for your files is a copy of a letter sent to the five consulting Native American tribes for the project referenced above (Cheyenne and Arapaho Tribes of Oklahoma, Kiowa Tribe of Oklahoma, Southern Ute Tribe, Ute Tribe of the Uintah and Ouray Agency). The letter provides the tribes with updated information regarding the project, including the shift in scope from an EIS to an EA, and the results of additional cultural resources inventory conducted in the Area of Potential Effect last summer. Per information originating from FHWA and provided to me in an Email from Gina McAfee dated November 17th, the correspondence also states that unless we receive information to the contrary from the consulting tribes within 30 days, the Section 106 consultation process has ended. This effectively terminates the government to government tribal consultation conducted for the project.

If you have questions or concerns about the letter or the status of the tribal consultation, please contact me at (303)757-9631.

cc: C. Farrar/S. Sands (FHWA)
T. Halouska (Carter & Burgess)
RF/CF

STATE OF COLORADO

DEPARTMENT OF TRANSPORTATION
Environmental Programs
4201 East Arkansas Avenue
Denver, Colorado 80222
(303) 757-9259

U.S. Department
of Transportation
Federal Highway
Administration

Colorado Federal Aid Division
555 Zang Street, Room 250
Lakewood, CO 80228-1040

December 3, 2003

Mr. Clifford McKenzie, Chairman
Kiowa Tribe of Oklahoma
P.O. Box 369
Carnegie, OK 73015

Dear Mr. McKenzie:

SUBJECT: Additional Information on the US Highway 285 Environmental Assessment, Jefferson and Park Counties, Colorado; Section 106 Consultation with the Federal Highway Administration and Colorado Department of Transportation

Earlier this year your tribe expressed a desire to become a consulting party for the Colorado transportation project referenced above, under the terms of Section 106 of the National Historic Preservation Act. The project involves proposed improvements to a 15-mile segment of US Highway 285 southwest of the Denver metropolitan area. Since our initial correspondence with you in January 2003, environmental studies and engineering design for the project have progressed significantly, resulting in the availability of additional information.

Given that significant environmental impacts were anticipated for this corridor project, the undertaking was initiated as an Environmental Impact Statement, the most detailed level of environmental documentation required under the National Environmental Policy Act. Subsequently, however, it was determined that the proposed highway improvements will not result in extensive or substantial environmental impacts, and as such the level of study has been scaled back to an Environmental Assessment (EA). This change does not affect the Section 106 tribal consultation process either directly or indirectly.

In a letter to you dated January 27, 2003, the results of the initial cultural resources survey conducted for the study corridor were presented. Two sites exhibiting evidence of Native American occupation were identified, of which one (5PA425) was previously evaluated as not eligible for listing on the National Register of Historic Places (NRHP); the other (5PA2424) was assessed as potentially eligible for the Register, and therefore recommended for avoidance. We have determined that 5PA2424 is outside the Area of Potential Effect (APE) established for the corridor, and will therefore be avoided.

In the spring of 2003 CDOT archaeologists completed additional survey of the APE, focusing on areas for which access had not previously been granted, as well as a new curve alignment. That inventory resulted in the documentation of an isolated rock feature of undetermined age and cultural affiliation (5PA2590) and a possible sheltered site (5PA2591). Based on its isolated location and lack of associated soil deposits and cultural materials, 5PA2590 was evaluated as not eligible for the National Register, whereas 5PA2591 was assessed as potentially NRHP eligible. The State Historic Preservation Officer (SHPO) has concurred with these determinations. Based on recent selection of a preferred design alternative, site 5PA2591 will be avoided by all phases of construction, and therefore no historic properties will be affected by the project. The APE has been completely inventoried for cultural resources, and no additional work is necessary.

The Federal Highway Administration and Colorado Department of Transportation remain committed to addressing any issues you may have regarding the US Highway 285 Environmental Assessment. However, no Native American sites evaluated as eligible for listing on the National Register of Historic Places will be affected by the project, and consequently no further actions by the agencies are planned or warranted. Unless we receive notification from you within 30 days of receipt of this letter indicating your desire to extend government to government consultation, the Section 106 tribal consultation process for the US 285 undertaking will effectively end.

If you have questions about the information outlined above, please contact me by telephone at (303)757-9631, Email at daniel.jepson@dot.state.co.us, or at the CDOT mailing address listed on the letterhead.

Sincerely,

Dan Jepson, Staff Archaeologist
Section 106 Tribal Liaison

cc: C. Farrar/S. Sands (FHWA)
D. Angulski (CDOT Region 1)
T. Halouska (Carter-Burgess)
G. Daingkau (Tribal NAGPRA rep.)
RF/CF

STATE OF COLORADO

DEPARTMENT OF TRANSPORTATION
Environmental Programs
4201 East Arkansas Avenue
Denver, Colorado 80222
(303) 757-9259

U.S. Department
of Transportation
Federal Highway
Administration

Colorado Federal Aid Division
555 Zang Street, Room 250
Lakewood, CO 80228-1040

December 3, 2003

Mr. Robert Tabor, Chairman
Business Committee
Cheyenne and Arapaho Tribes of Oklahoma
P.O. Box 38
Concho, OK 73022

Dear Mr. Tabor:

SUBJECT: Additional Information on the US Highway 285 Environmental Assessment, Jefferson and Park Counties, Colorado; Section 106 Consultation with the Federal Highway Administration and Colorado Department of Transportation

Earlier this year your tribe expressed a desire to become a consulting party for the Colorado transportation project referenced above, under the terms of Section 106 of the National Historic Preservation Act. The project involves proposed improvements to a 15-mile segment of US Highway 285 southwest of the Denver metropolitan area. Since our initial correspondence with you in January 2003, environmental studies and engineering design for the project have progressed significantly, resulting in the availability of additional information.

Given that significant environmental impacts were anticipated for this corridor project, the undertaking was initiated as an Environmental Impact Statement, the most detailed level of environmental documentation required under the National Environmental Policy Act. Subsequently, however, it was determined that the proposed highway improvements will not result in extensive or substantial environmental impacts, and as such the level of study has been scaled back to an Environmental Assessment (EA). This change does not affect the Section 106 tribal consultation process either directly or indirectly.

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In the spring of 2003 CDOT archaeologists completed additional survey of the APE, focusing on areas for which access had not previously been granted, as well as a new curve alignment. That inventory resulted in the documentation of an isolated rock feature of undetermined age and cultural affiliation (5PA2590) and a possible sheltered site (5PA2591). Based on its isolated location and lack of associated soil deposits and cultural materials, 5PA2590 was evaluated as not eligible for the National Register, whereas 5PA2591 was assessed as potentially NRHP eligible. The State Historic Preservation Officer (SHPO) has concurred with these determinations. Based on recent selection of a preferred design alternative, site 5PA2591 will be avoided by all phases of construction, and therefore no historic properties will be affected by the project. The APE has been completely inventoried for cultural resources, and no additional work is necessary.

The Federal Highway Administration and Colorado Department of Transportation remain committed to addressing any issues you may have regarding the US Highway 285 Environmental Assessment. However, no Native American sites evaluated as eligible for listing on the National Register of Historic Places will be affected by the project, and consequently no further actions by the agencies are planned or warranted. Unless we receive notification from you within 30 days of receipt of this letter indicating your desire to extend government to government consultation, the Section 106 tribal consultation process for the US 285 undertaking will effectively end.

If you have questions about the information outlined above, please contact me by telephone at (303)757-9631, Email at daniel.jepson@dot.state.co.us, or at the CDOT mailing address listed on the letterhead.

Sincerely,

Dan Jepson, Staff Archaeologist
Section 106 Tribal Liaison

cc: C. Farrar/S. Sands (FHWA)
D. Angulski (CDOT Region 1)
T. Halouska (Carter-Burgess)
N. Cloud (Tribal NAGPRA rep.)
RF/CF

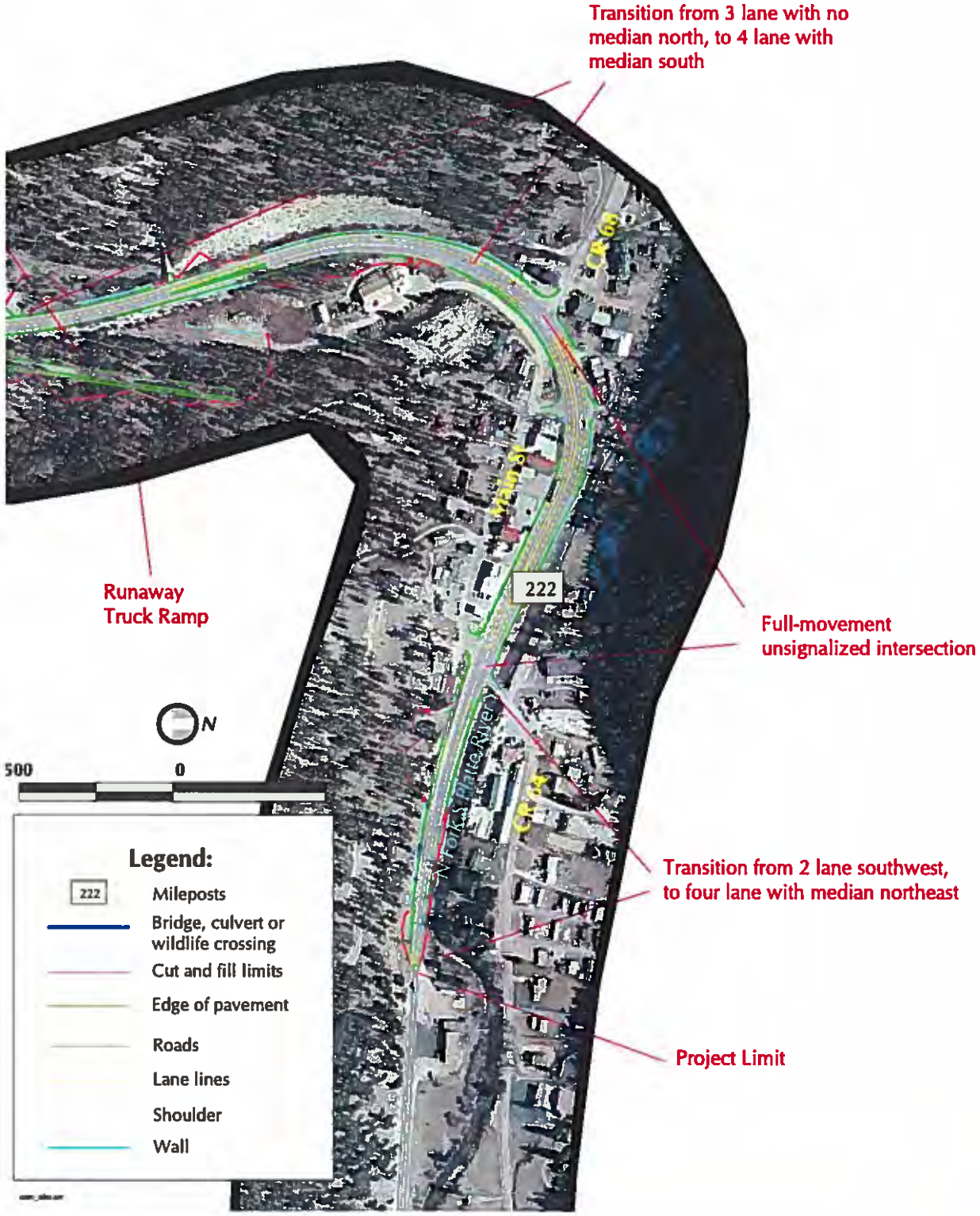
Appendix C

Aerial Photos of the Preferred Alternative

Appendix C

Aerial Photos of the Preferred Alternative

Exhibit 1 of 23



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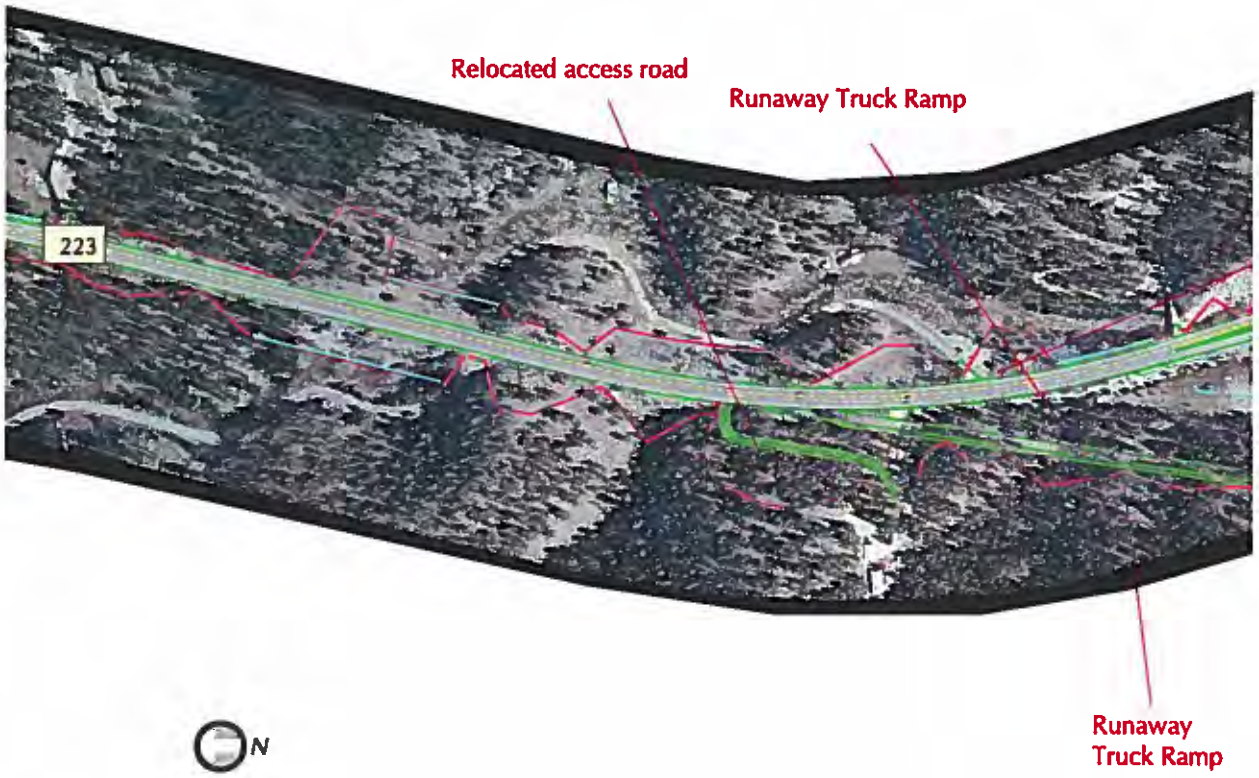

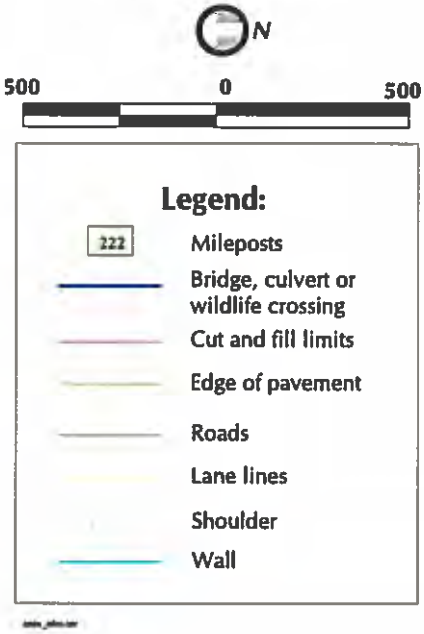

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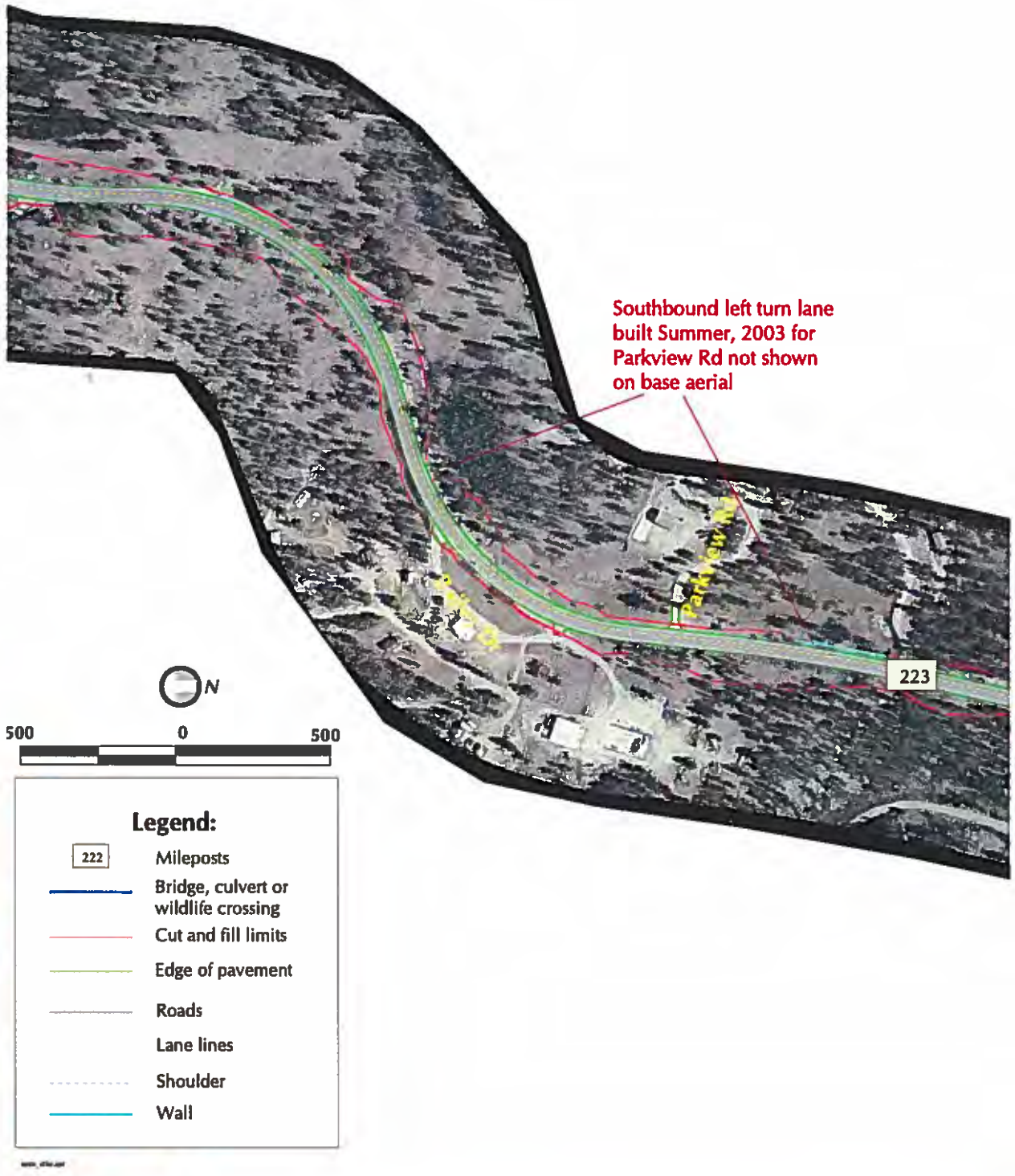

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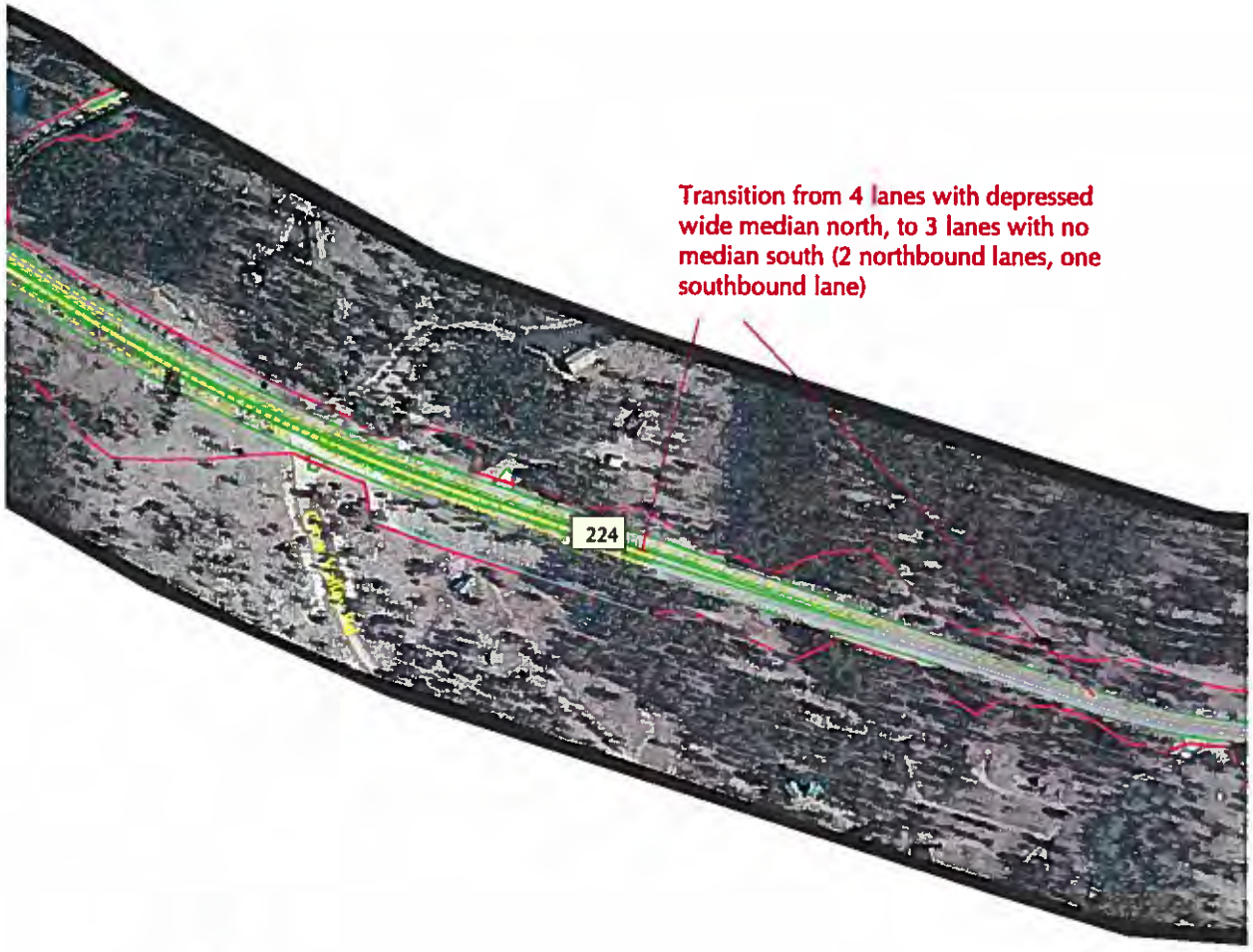


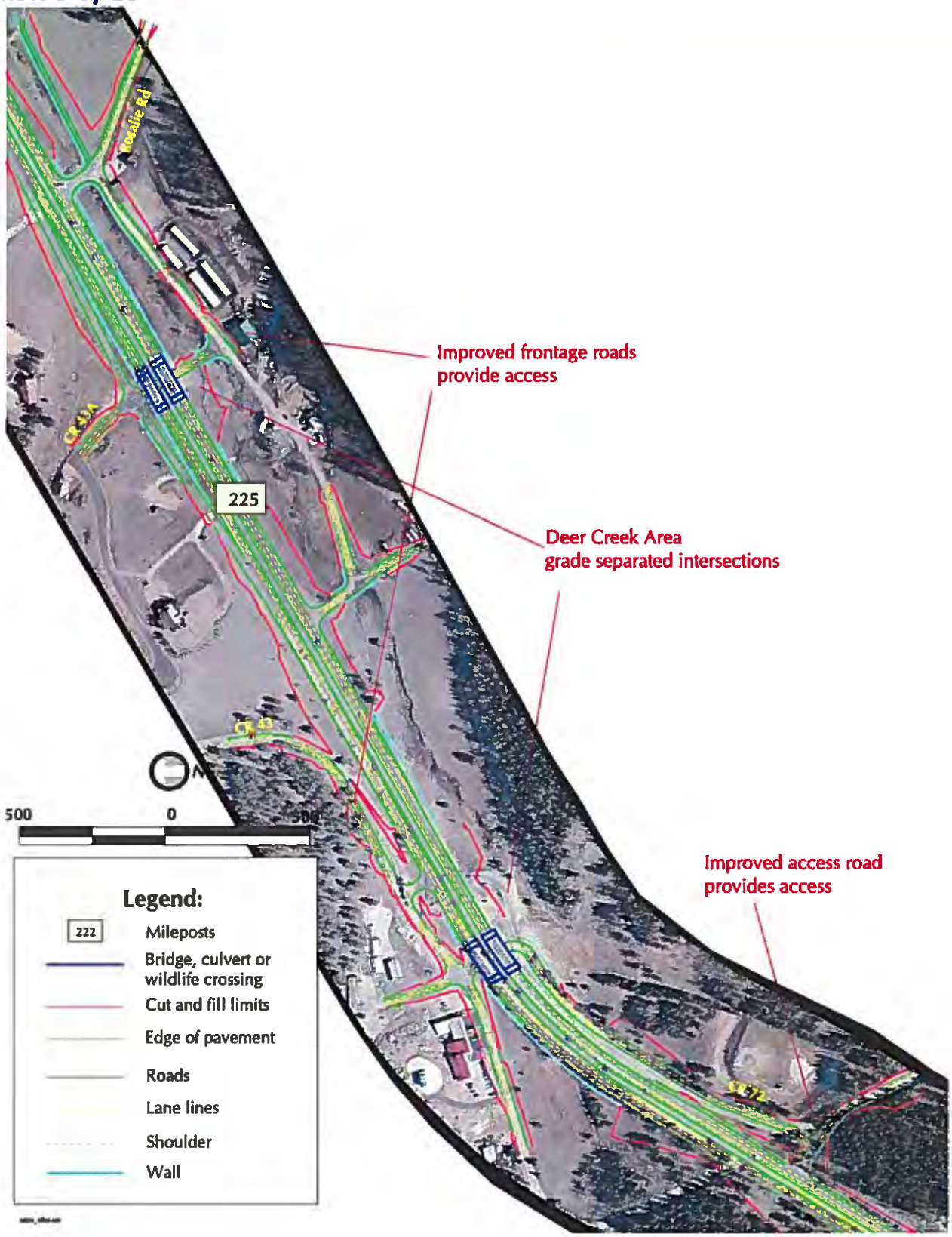
N

500 0 500

Legend:

- 222 Mileposts
- Bridge, culvert or wildlife crossing
- Cut and fill limits
- Edge of pavement
- Roads
- Lane lines
- Shoulder
- Wall

Exhibit 5 of 23



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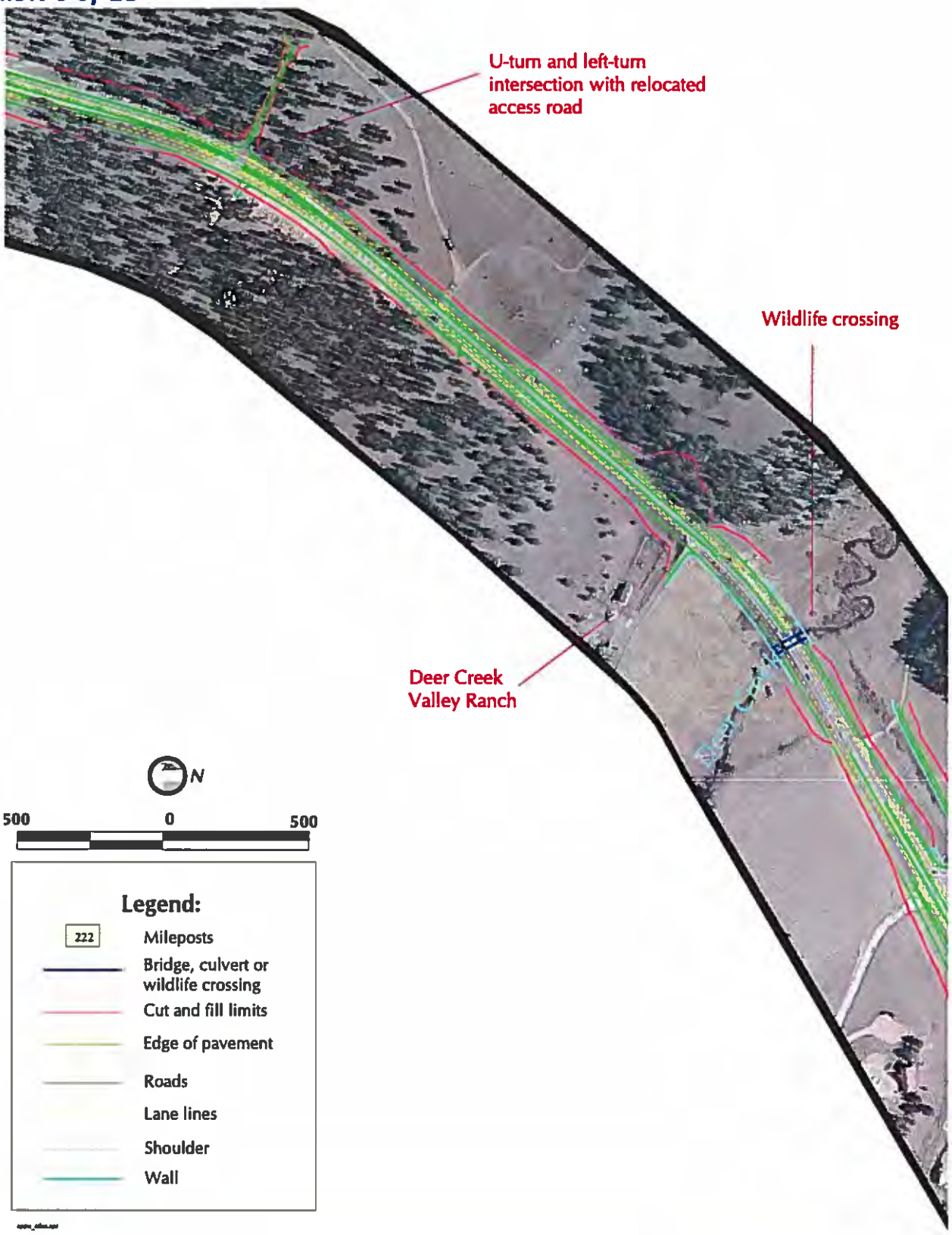

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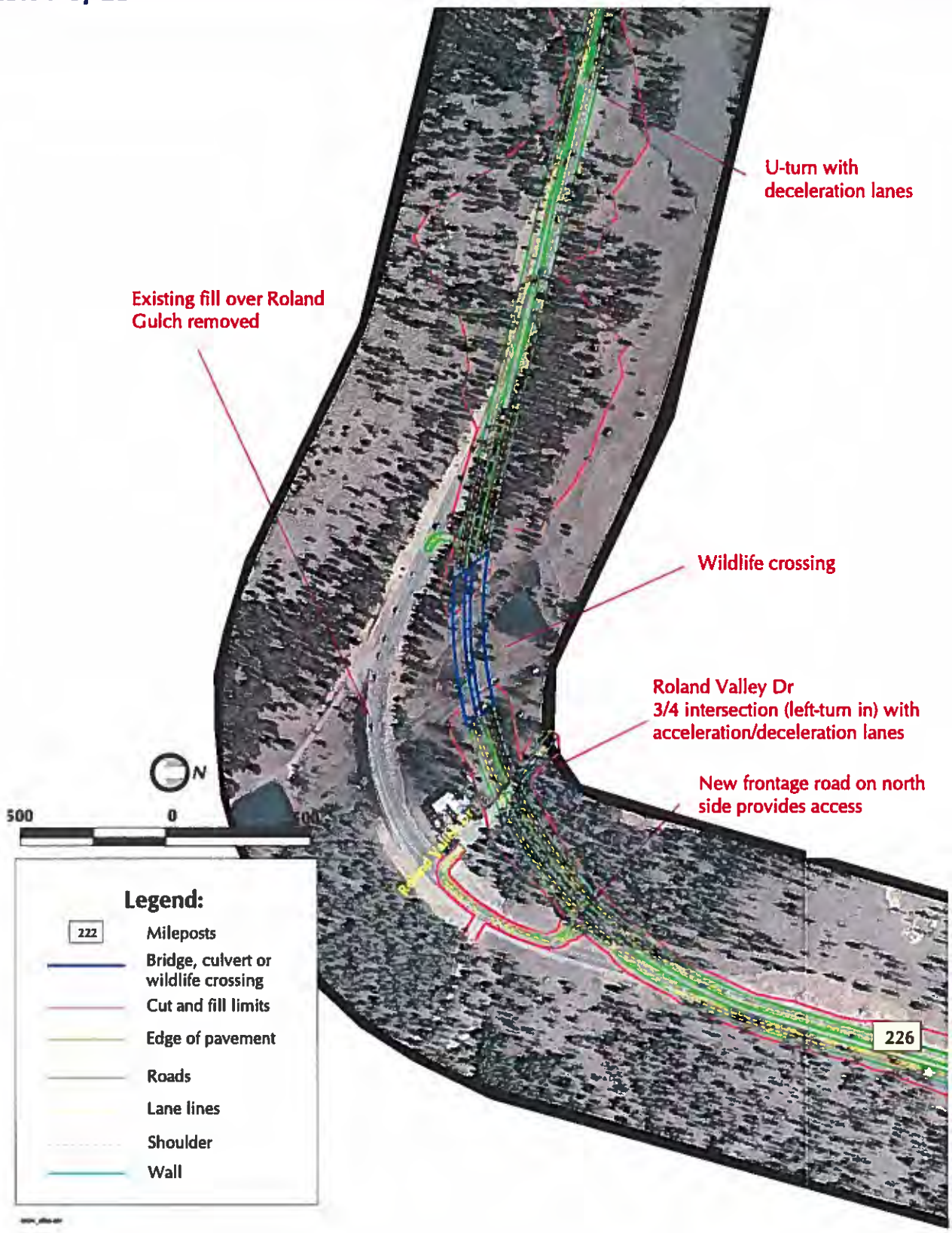

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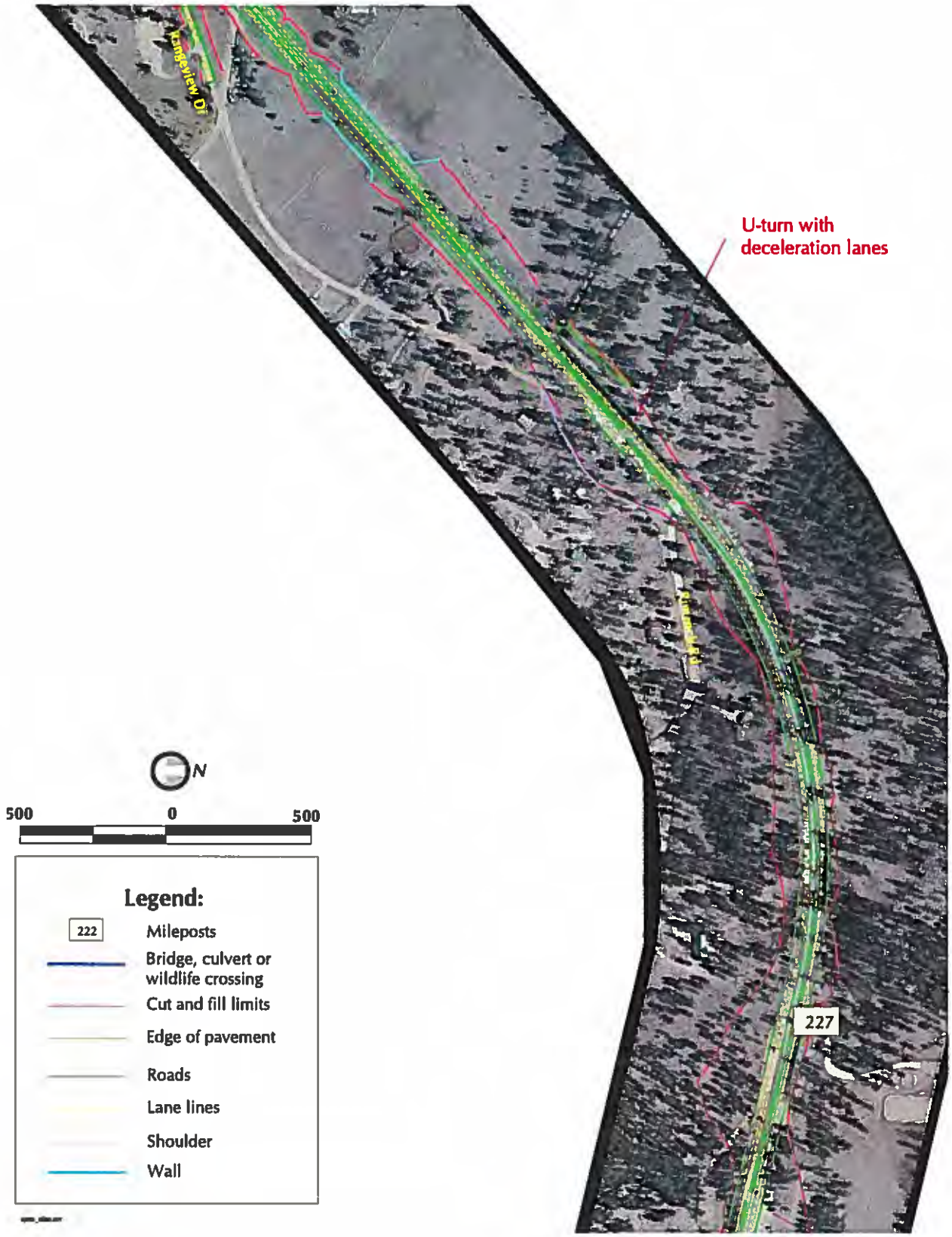

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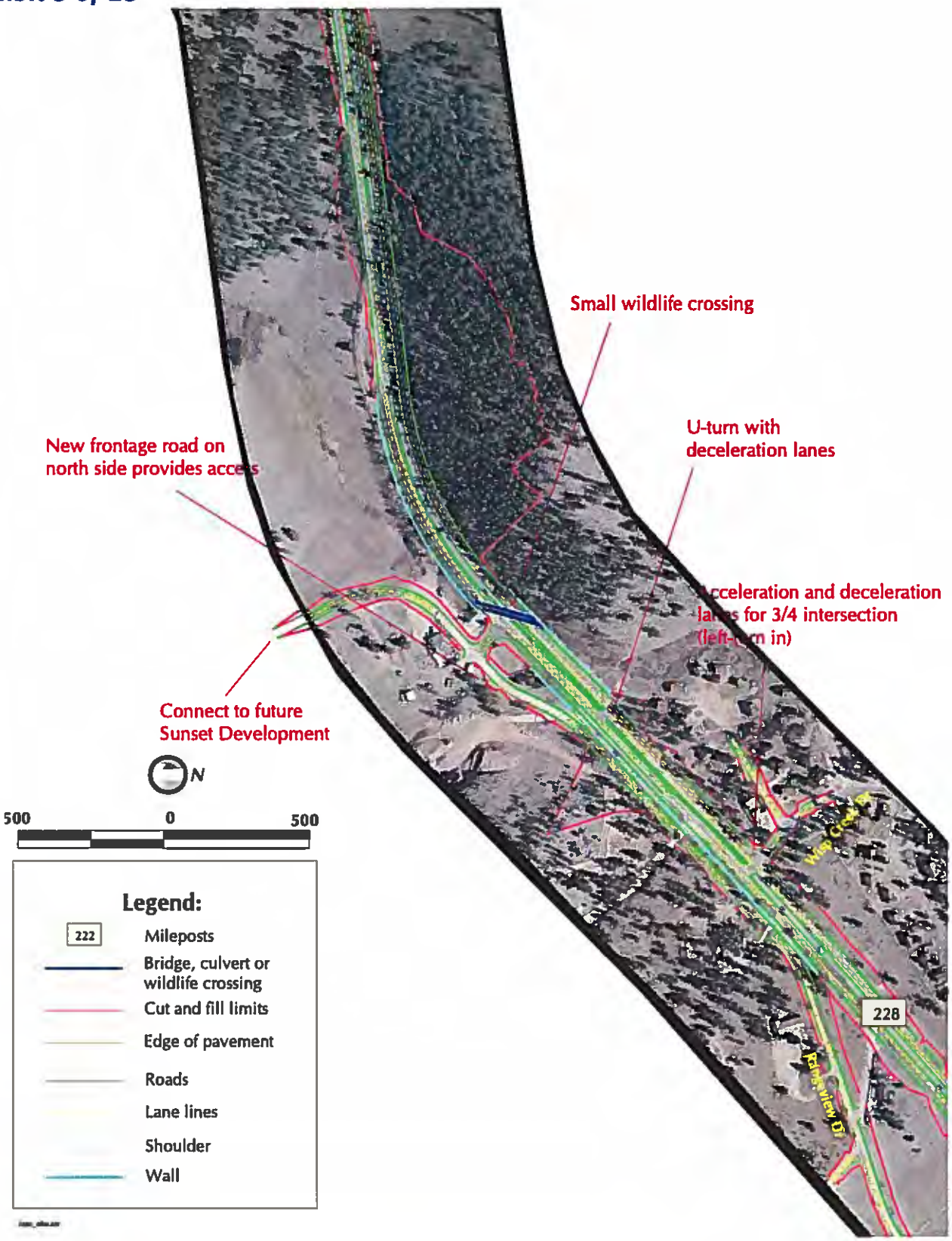

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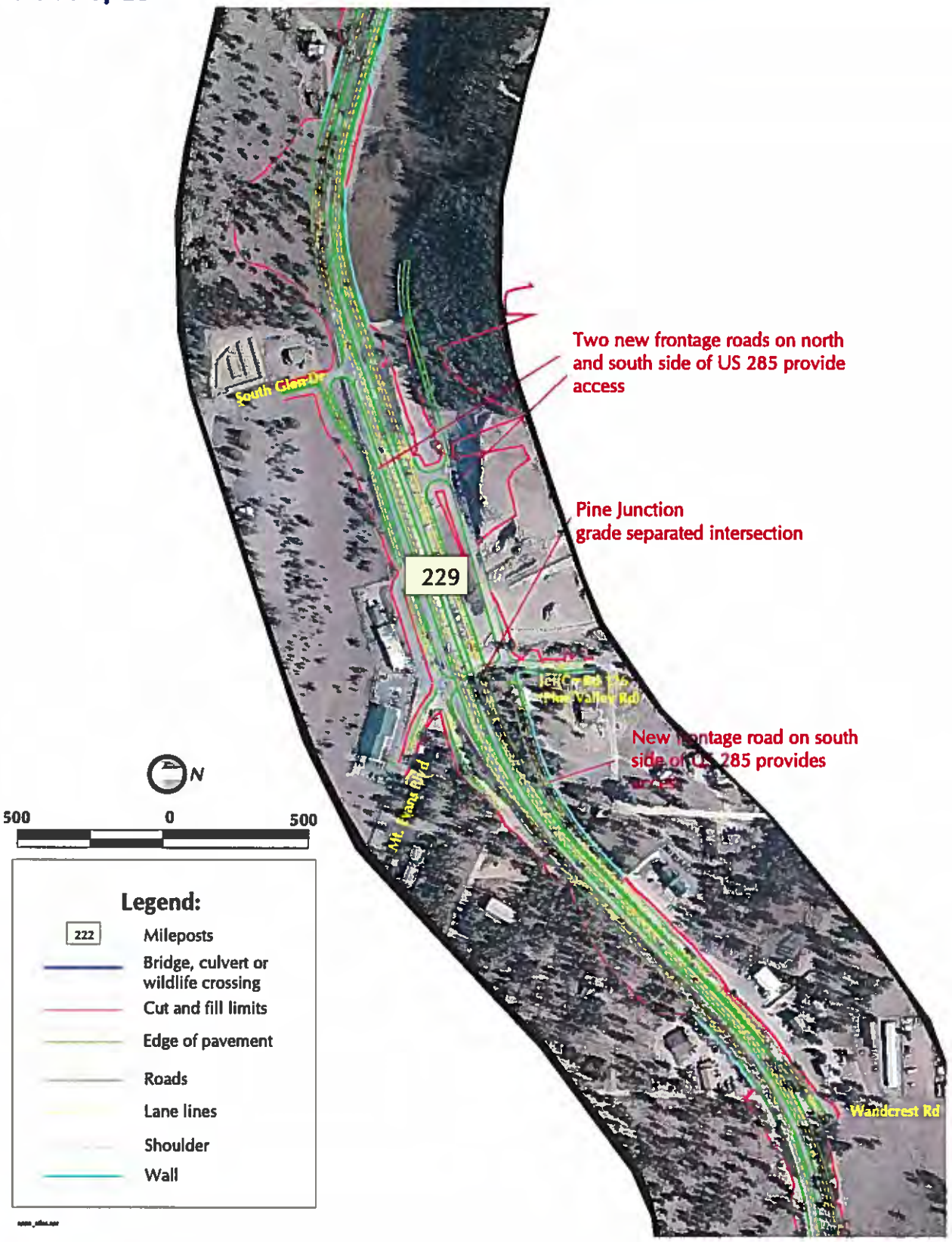

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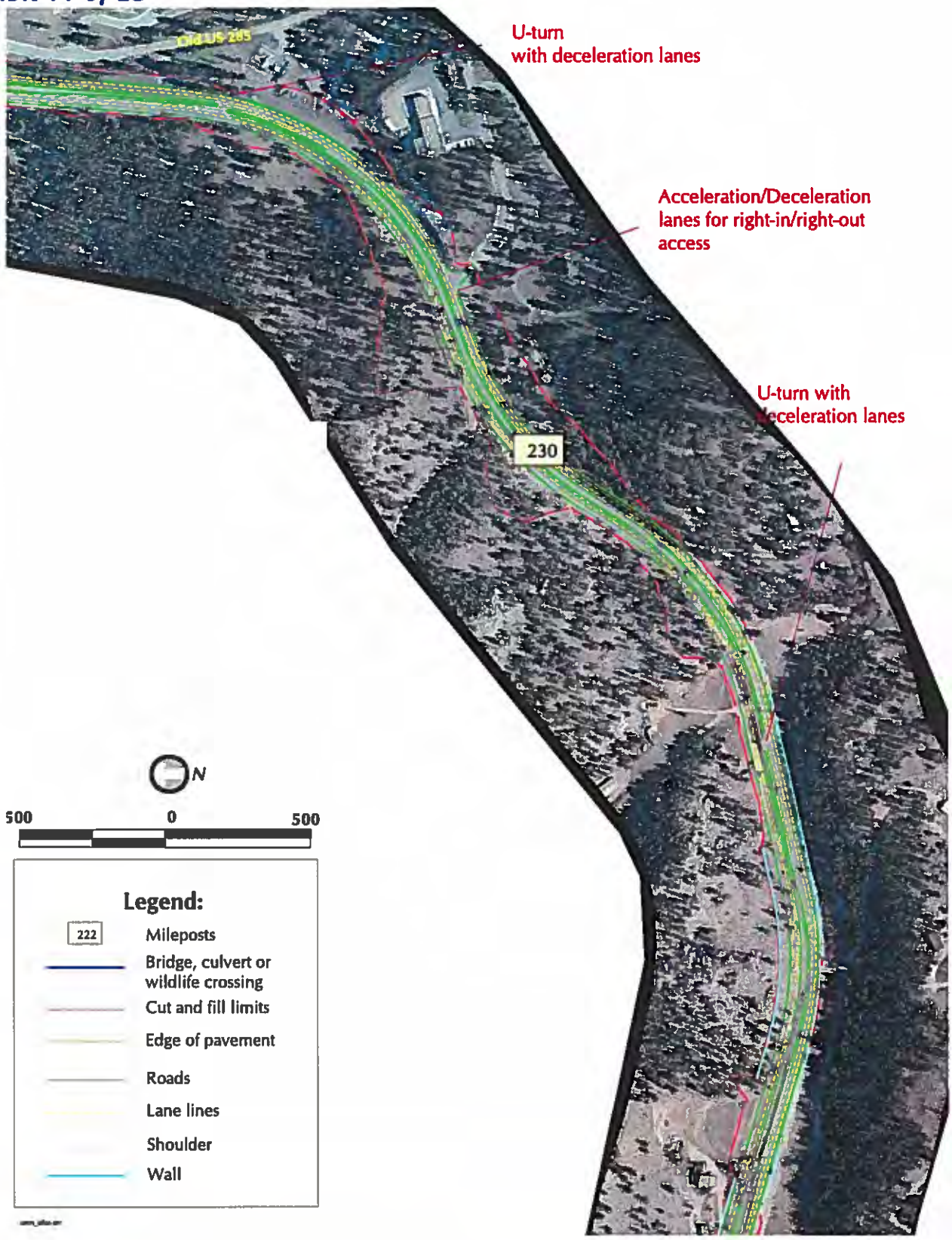

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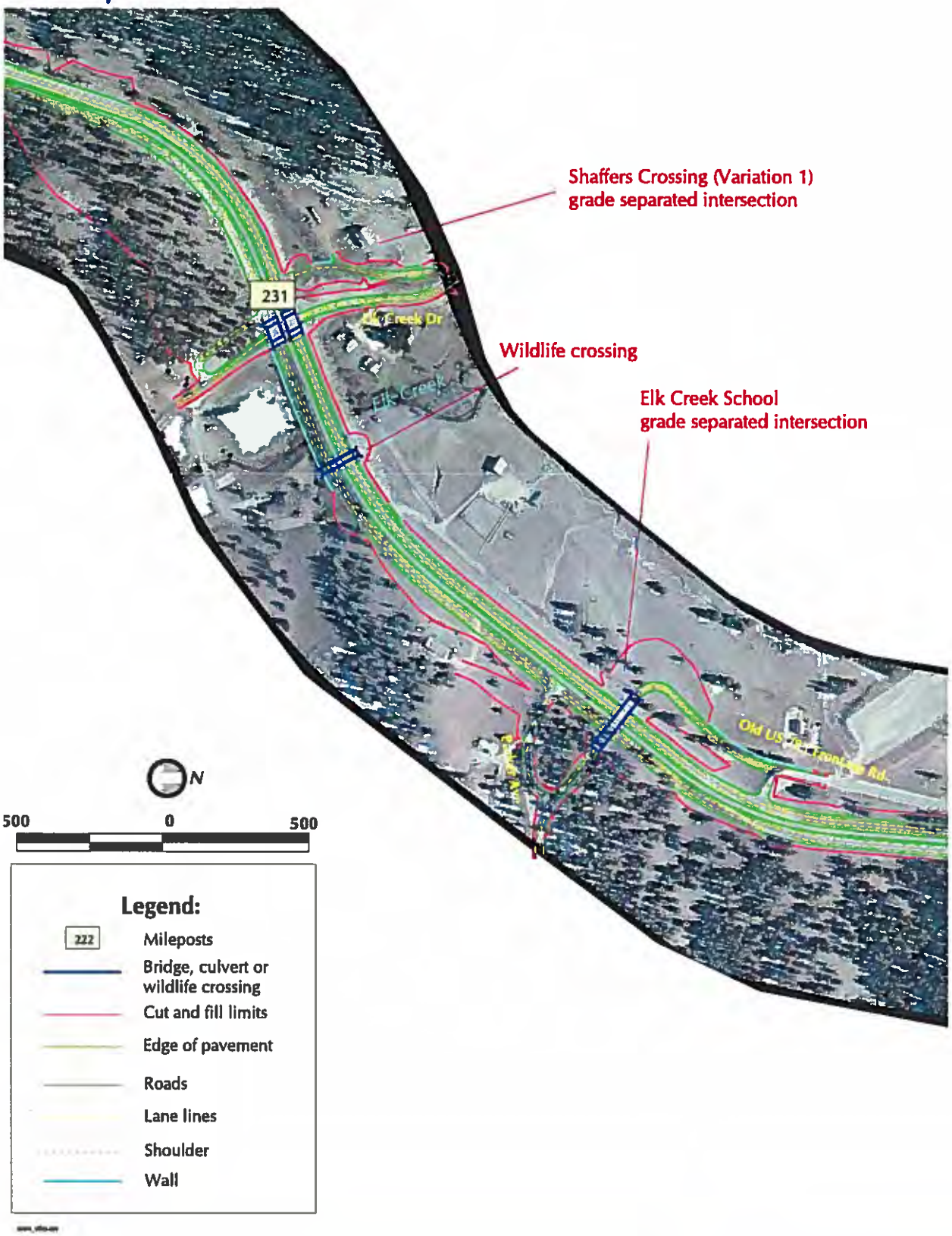

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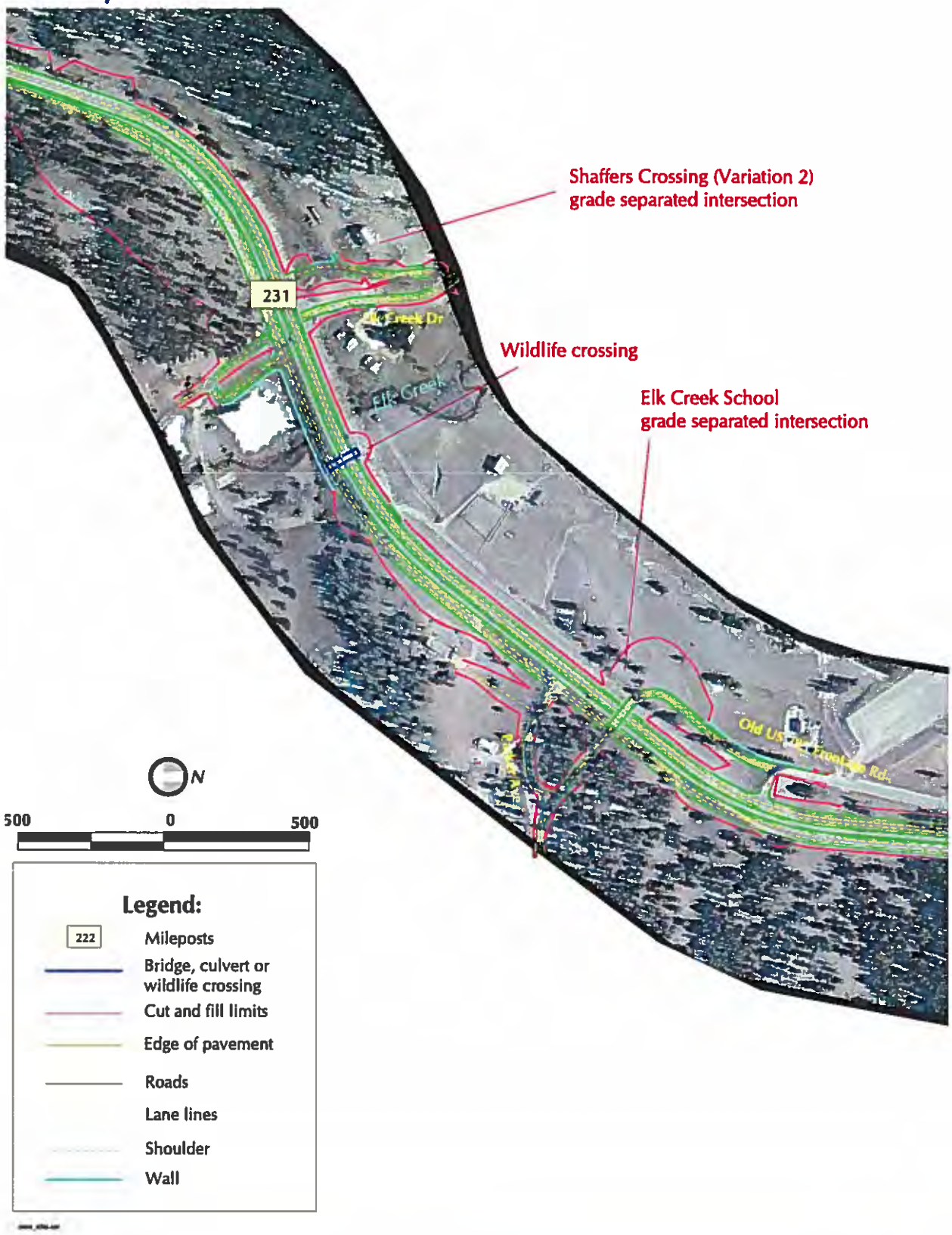

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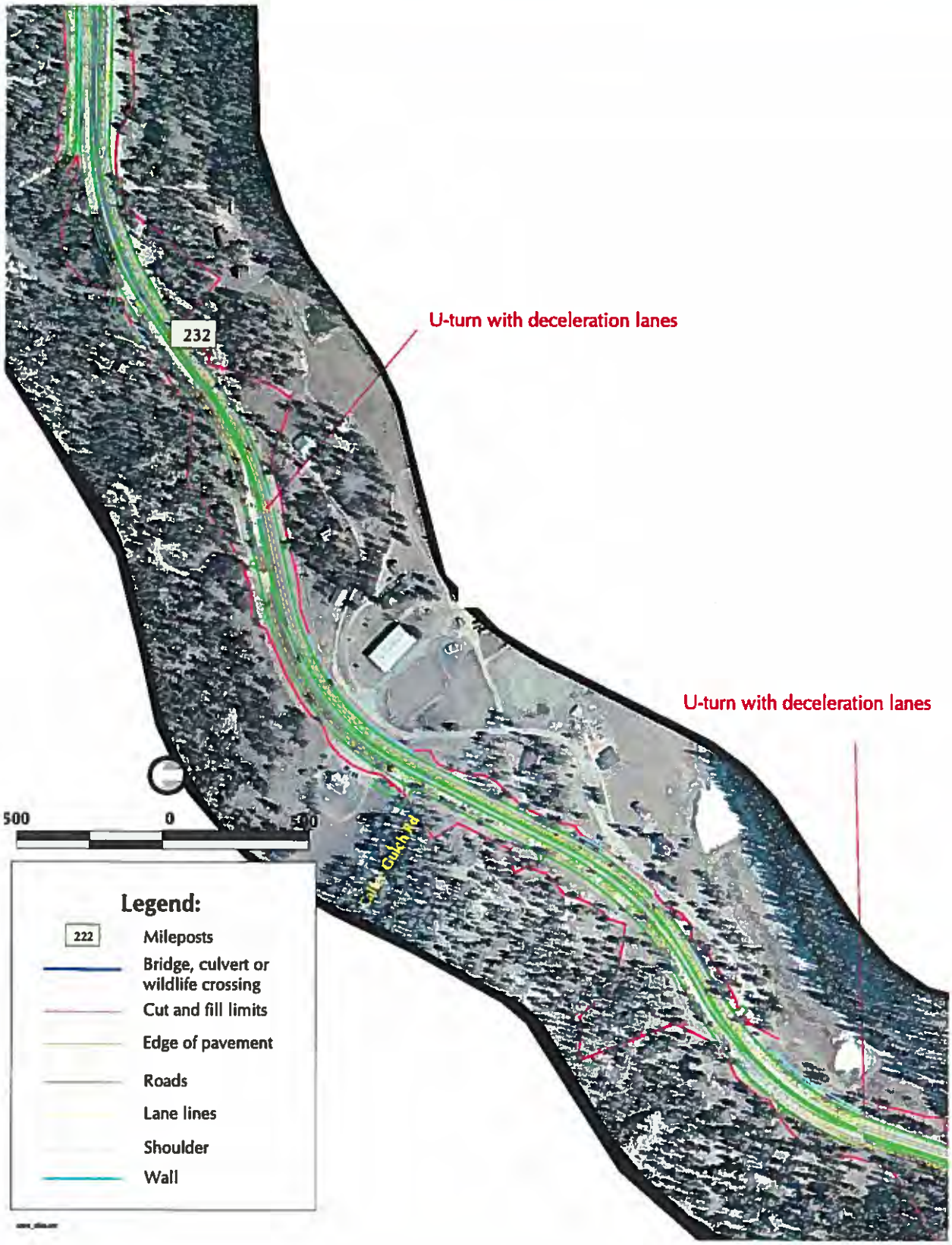

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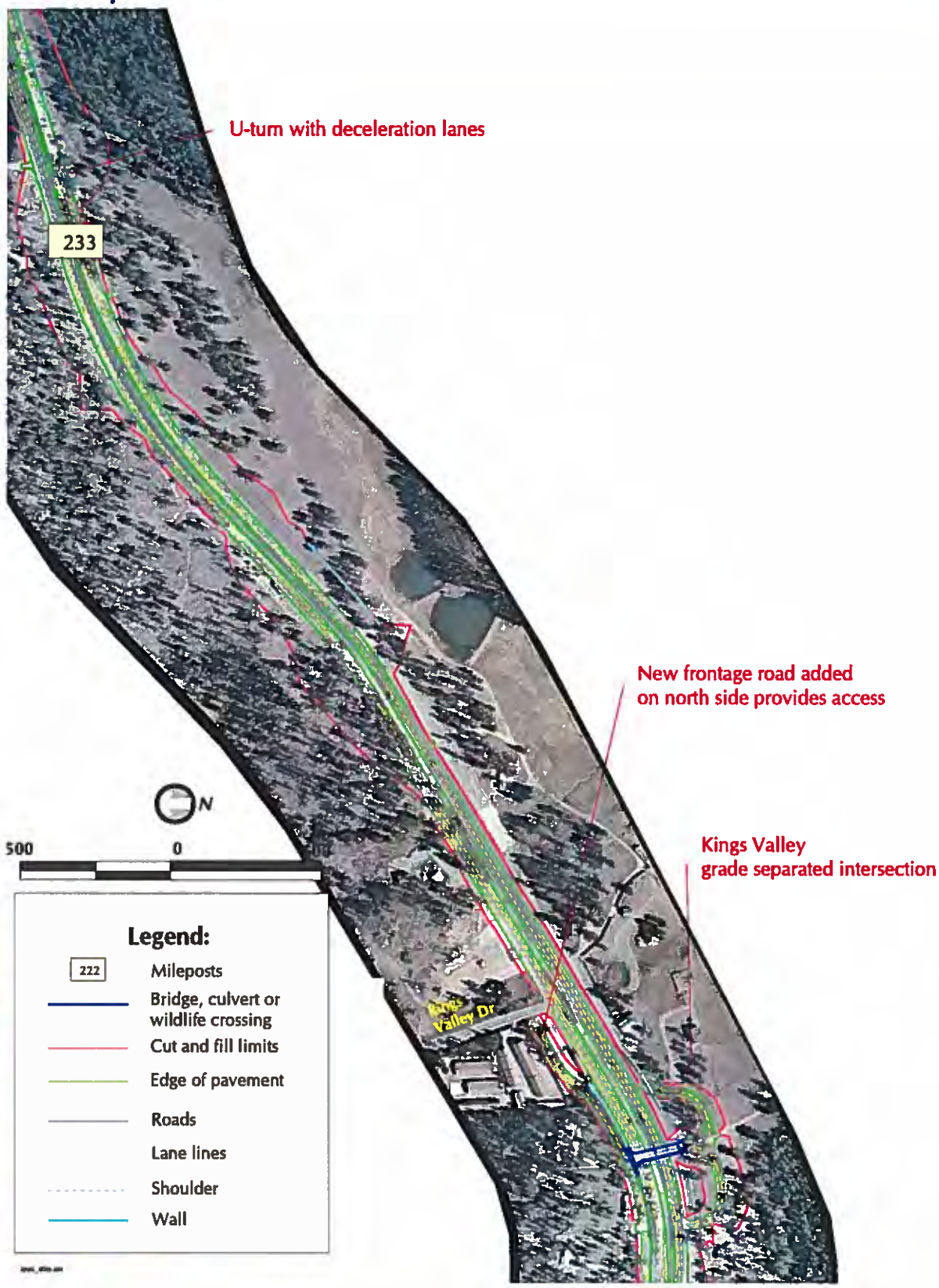

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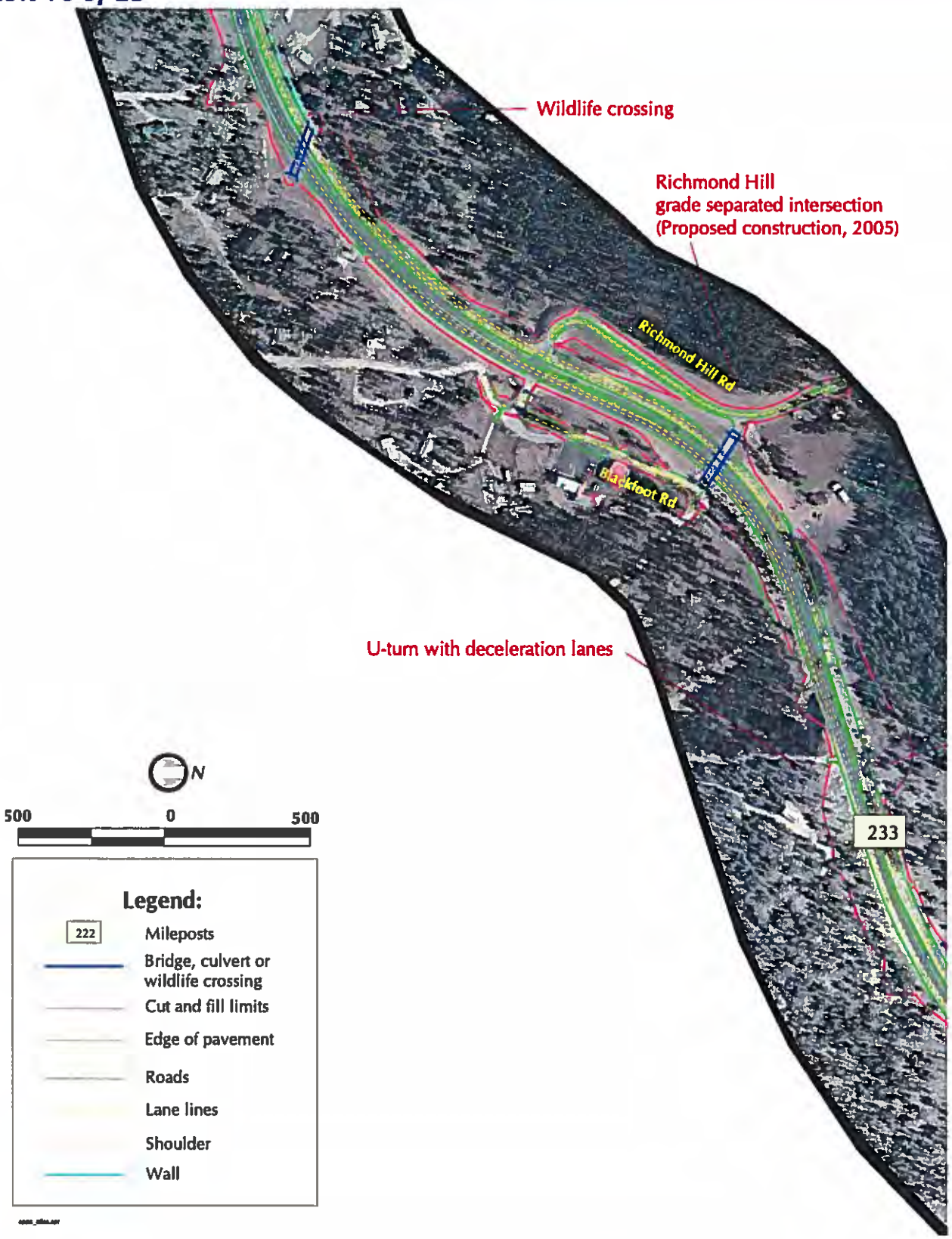

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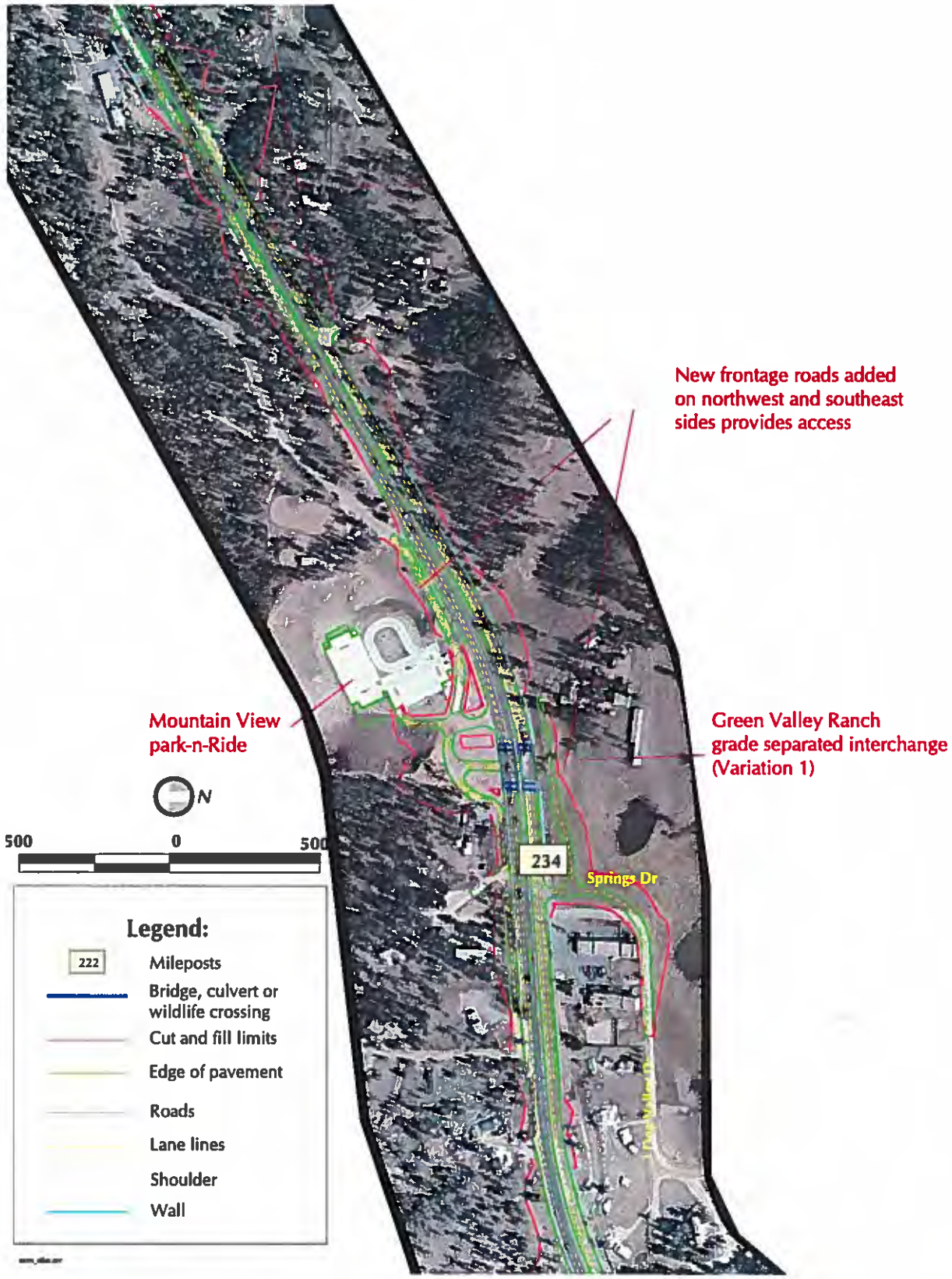

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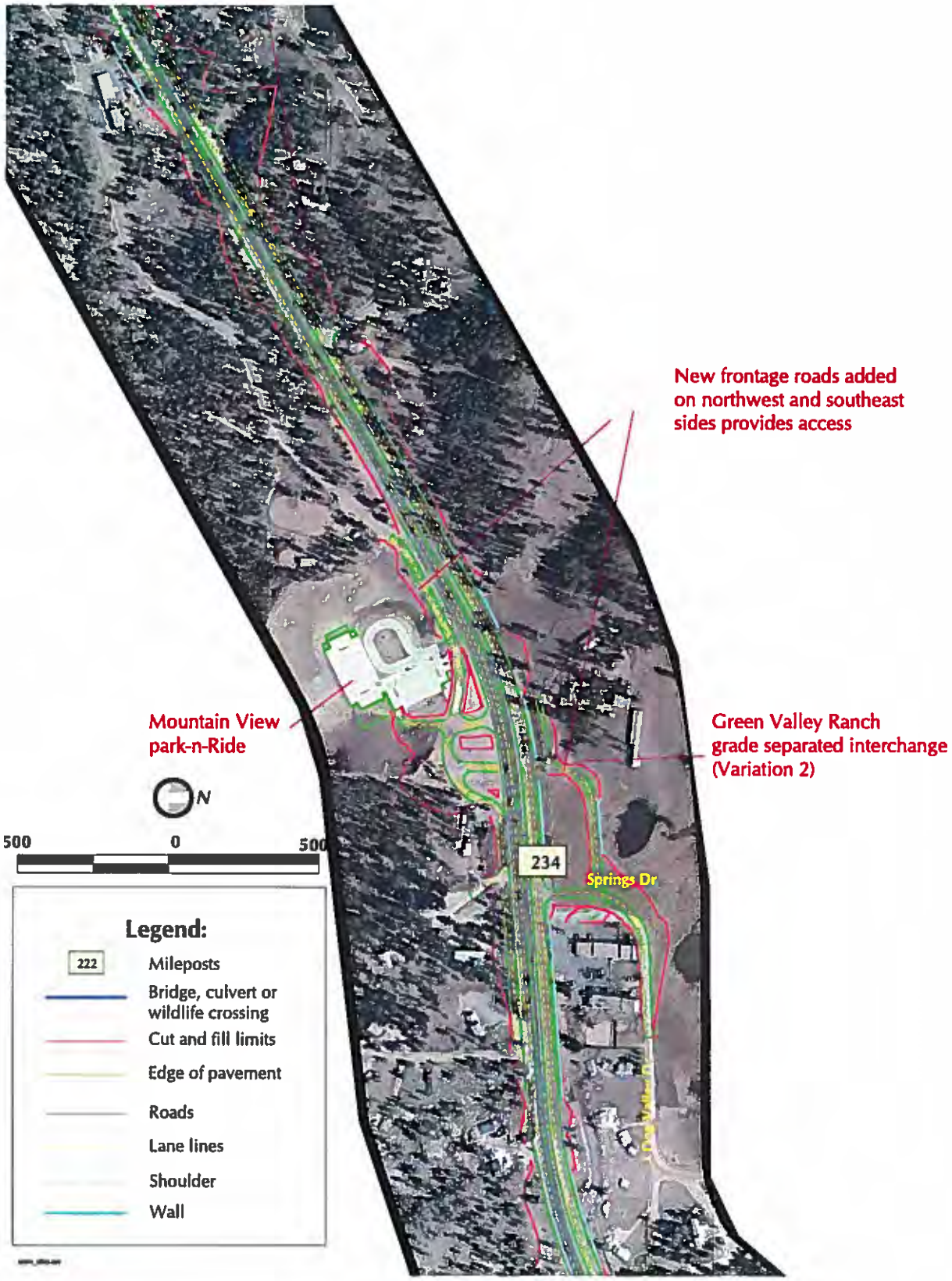

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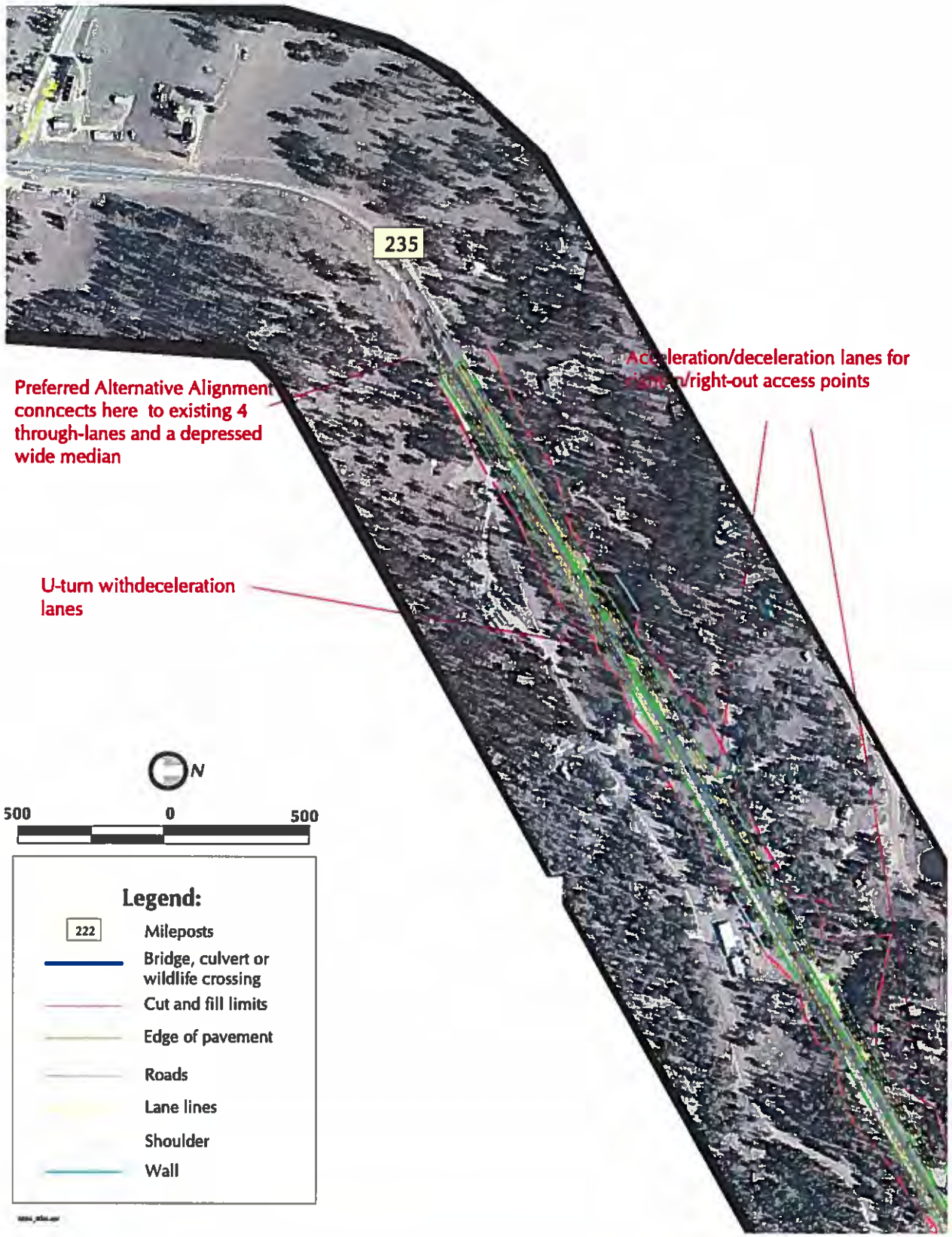


Exhibit 22 of 23 - US 285 looking Northeast at Roland Gulch

Before Improvements

After Preferred Alternative Improvements

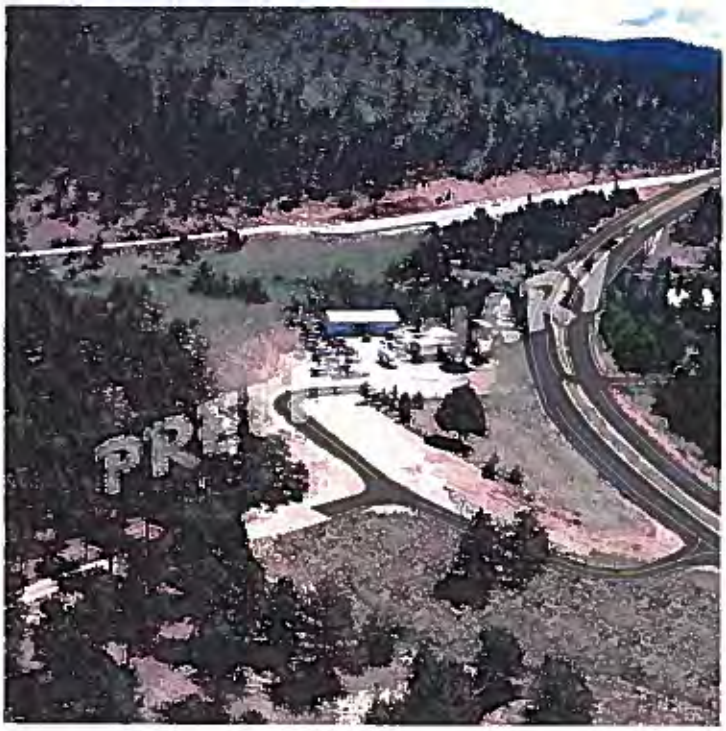
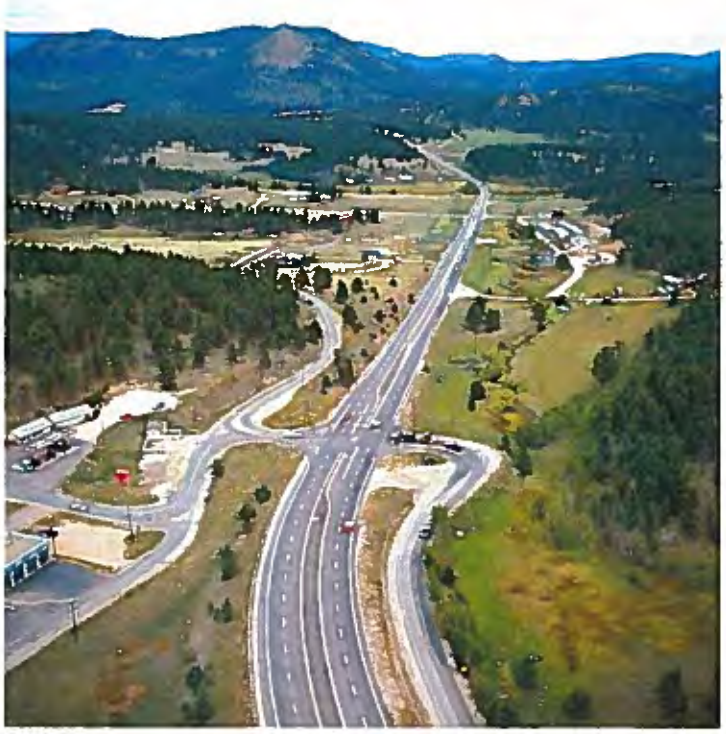
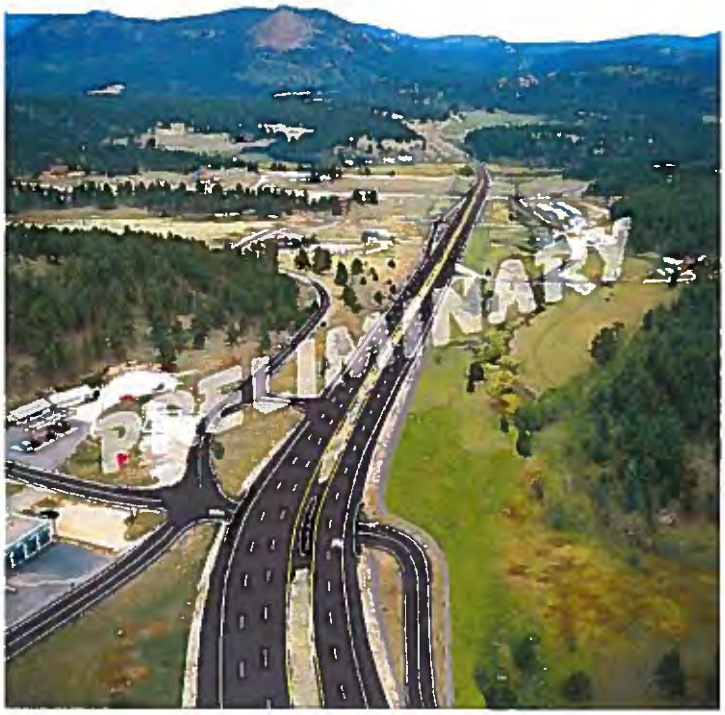


Exhibit 23 of 23 - US 285 looking Northeast at Deer Creek

Before Improvements



After Preferred Alternative Improvements



Appendix D

Travel Projection Information

Appendix D: Travel Projection Information

D.1 Travel Forecasting Model Background

D.1.1 Growth Factor

A corridorwide growth factor of 1.28 was applied to existing base volumes to account for the growth in through trips. This factor is consistent with background growth observed in Jefferson County. A 2% reduction in trips was subtracted from the daily traffic volumes to account for transit use north of the Pine Junction park-n-Ride. An additional 1% reduction for transit use was subtracted north of the Mountain View park-n-Ride.

D.1.2 Model Calibration

The model calibration process was completed using a combination of 24-hour and PM peak turning movement counts that were collected in July, August and October of 2000 and in August and December of 2002. These volumes were calibrated and normalized to a 2000 base year.

The model validation process also compared model-generated volumes to those produced by the DRCOG regional model for the portion of US 285 within the DRCOG region. The base count that DRCOG used was taken from a CDOT traffic count of 16,400 taken in 2001 south of Foxton Road. Using DRCOG's 3.3% growth rate per year for this location, this external station volume is projected at 35,700 vpd in 2025. The count used for DRCOG's base year is 37% lower than the count taken for this study at the same location in the summer of 2000. This forms the basis for the low projected DRCOG model volumes for this area, as both the DRCOG model and the US 285 model used consistent growth rates. It is expected that the projections at the outer limits of the DRCOG region will be less accurate than those in more central areas of the region.

D.1.3 Trip Generation and Distribution

The validated model network utilizing the Traffix software was used to simulate projected growth in the US 285 study area. In order to simulate future year conditions, trips were generated from housing units and commercial development at each access point for each land use scenario. Zoning and development data provided by Jefferson and Park Counties specified the remaining buildable land areas to reflect the maximum allowable growth based on existing zoning. Each trip generator and attractor along the study area was treated separately with different trip distribution characteristics depending on the size and location of the development. The majority of the residential trips were distributed to the northern end of the study area, with only a small percentage of trips distributed south of Bailey.

Seventy-five percent of retail commercial trips were assumed to be captured internally to the study area, since many home-based, non-work trips are made in trip chains with commuting trips during the peak hour.

Vehicle trips were estimated using trip generation rates/equations documented in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 6th Edition*, for the business and residences at each access point. ITE trip generation rates were used for the following major generators on the study area:

- Single Family Detached Housing
- Recreational Homes
- Specialty Retail
- Park-n-Ride Facility with Transit
- General Light Industrial
- General Office Building

The model assumed all trip generation from major access points along US 285 would be assigned to the study area, as US 285 serves as the only north/south route through this region.

The trips generated from the increased housing units and businesses were assigned to the US 285 study area at the appropriate access points. Since the model was developed without respect to roadway capacity constraints, the projected volumes represent the potential travel demand along the study area irrespective of roadway capacity. These projections were specifically developed to include the potential for induced development because of additional capacity resulting from improvement to US 285.

D.1.4 Travel Projections - Consideration of Other Studies

To gain a sense of greater validity in the traffic estimates and projections used for this report, other projects that have occurred on or near the US 285 study area were identified. Traffic volumes and projections from the identified projects were compared with those produced in conjunction with this report. The comparisons of these other projects' findings with those in this EA follow.

Denver Regional Council of Governments (DRCOG). DRCOG produces regional travel projections using a regional travel demand model that covers their boundaries. Using the DRCOG model to forecast future traffic volumes was discussed initially, but because it only covers a portion of the US 285 study area that is being analyzed, a separate sub-area model was developed. Another reason for the sub-area model was a concern about the reliability of a model at its outer edges. Many travel demand models are less reliable as they get closer to the edges of their boundaries.

An analysis was conducted to compare the forecasts from the DRCOG model with those generated by the sub-area model for US 285. The analysis compared traffic forecasts along US 285 at Foxton Road. The sub-area model predicted traffic volumes approximately 10,000 vpd higher than the DRCOG model in this area. The main reason behind the difference in the volumes is that the existing traffic volume used by DRCOG as the benchmark was approximately 6,000 vpd less than the traffic count that was collected in the summer of 2000. Using DRCOG's 2001 traffic volume of 16,400 vpd and their 3.3% growth rate, the 2025 projected volume is 35,700 vpd. This compares to a forecasted volume of 46,100 vpd from the sub-area analysis.

Another reason that the sub-area model was developed was to more accurately reflect the land uses in the study area. The traffic forecasts for the sub-area model were developed from detailed land use forecasts based on currently adopted zoning and land use plans in place in Jefferson and Park counties. Because the analysis was more detailed for the land use inputs adjacent to the US 285 corridor, it is expected that traffic volumes from the sub-area model would be higher.

The Urban Growth Boundary (UGB) currently established by DRCOG does not encompass any of the US 285 corridor from Foxton Road to Bailey. The Conifer and Aspen Park areas are included in this boundary, but these communities lie outside the study area of this EA. While the UGB establishes where urban, compact development is desirable in future years, it does not preclude growth from occurring outside its limits. It is used as a tool for planning local and regional infrastructure and facilities. Growth will continue to occur along the US 285 corridor. However, it is not likely that any of this development will ever be considered urban in nature or at the densities desirable within the UGB.

Tiny Town to Foxton Road EIS. An Environmental Impact Statement (EIS) was prepared by CDOT for the construction project recently completed north of Foxton Road, covering the US 285 corridor from Tiny Town to Foxton Road. The reevaluation of this (1986) EIS was completed in February 2000. Traffic projections in that EIS for the year 2019 were estimated at 30,400 vpd. Using the DRCOG 3.3% annual growth rate, this volume would be approximately 34,600 vpd in 2025. This compares to a forecast of 46,100 vpd using the sub-area model developed for this EA.

Similar to the discussion around the DRCOG analysis, the sub-area model is based on more recent information on traffic counts in the corridor and a more detailed assessment of residential and commercial growth along the US 285 corridor.

Staunton State Park Traffic Impact Study. A traffic impact study was completed for improvements to Staunton State Park to be located in Jefferson and Park Counties northwest of Shaffers Crossing. Access to the park will be via US 285 and Elk Creek Road. Traffic counts (24-hour counts and turning movements) were collected at the US 285/Elk Creek Road intersection for this study in the summer of 1999. Traffic volume data also were collected from CDOT and Jefferson County. The PM peak hour volume on Elk Creek Road north of US 285 reported 55 vph on a weekday, while PM peak hour volume in the same location reported 46 vph on a weekend. Projections for the year 2020 with anticipated park improvements were estimated at 123 vph in the PM peak hour on a weekday, and 143 vph in the PM peak hour on the weekend. Once the park is improved, 600 one-way park trips (1,200 total) per day are expected.

Traffic counts and projections for this report were based on daily vehicle counts. The *Staunton State Park Traffic Impact Study* estimated that peak hour park trips on a weekday are approximately 3% of the daily trips, while peak hour trips on a weekend are 6% of the daily trips. Based on these factors, daily volumes on Elk Creek Road, north of US 285, were estimated at 39 vph in a weekday PM peak, and 96 vph in a weekend PM peak. Projections for 2025 estimated a weekday PM peak of 90 vph and 252 vph in a weekend PM peak.

Guanella Pass Road EIS. A traffic study was completed for the Supplemental Draft EIS for improvements to Guanella Pass Road, which connects to US 285 at the town of Grant located at MP 211. During the peak season, the traffic study found that current weekday ADTs on Guanella Pass Road just north of Grant are 295 and weekend ADTs are 730. The *US 285 Foxton Road to Fairplay Feasibility Study* found these numbers to be similar to 300 on the weekday and 600 on the weekend during the peak season.

The traffic study concludes that the traffic volume along Guanella Pass Road would increase between 40% and 80% due to improvements. Assuming just a 40% increase above the projected No-Action 2015 ADTs, the peak season weekday count would be 620 and the weekend count would be 1,565 at the same location. This increase in traffic on Guanella Pass Road would add to the increase already predicted for US 285, and is consistent with what was found in the *US 285 Foxton Road to Fairplay Feasibility Study* for this area.

Appendix E

Level of Service Information

Appendix E: Level of Service Information

Side Street Levels of Service

The presence of grade-separated intersections has an impact on side-street intersections in the vicinity of each proposed grade-separated intersection. A LOS operations analysis was conducted at these intersections under the conditions of the Preferred Alternative.

Figure E-1 displays the locations of the proposed grade-separated intersections, and **Figures E-2** through **E-6** display the location and an identification number for these side-street intersections in each grade-separated intersection area. **Table E-1** displays the results of the LOS analysis. All of the side-street intersections would operate at LOS C conditions or better.

Table E-1: Level of Service of Side-Street Intersections Near Grade-Separated Intersections

Side-Street Intersection†		Minor Approach†	2025 Preferred Alternative
Deer Creek/ PCR 43	#1-PCR 72 & Underpass	Southbound	A
	#2-PCR 43 & US 285 Access	Westbound	A/C*
	#3-E Frontage Road & Rosalie	Northbound	B/A**
	#4-E Frontage Road & US 285 Access	Southbound	B
	#5-SB Half Diamond & PCR 43A	Westbound	B
Mt Evans	#1-W Frontage Road & Glen Drive	Northbound	B
	#2-E Frontage Road & US 285 Access	Eastbound	A
	#3-W Frontage Road & Mt Evans	Northbound	C/B***
	#4-E Frontage Road & PCR 126	Northbound	C
	#5-E Frontage Road & Sunset/Wandcrest	Southbound	B
Shaffers Crossing	#1-E Frontage Road & US 285 Access	Westbound	A
	#2-Parker Ave & Underpass	Westbound	A
	#3-W Frontage Road & Elk Creek (Configuration #13)	Northbound	B
	#3-W Frontage Road & Elk Creek (Configuration #14)	Southbound	B
	#4-E Frontage Road & Elk Creek	Westbound	A
Kings Valley	#1-W Frontage Road & Underpass	Northbound	A
	#2-W Frontage Road & Kings Valley	Eastbound	B
Green Valley	#1-E Frontage Road & Springs	Westbound	A
	#2-W Frontage Road & Mt View pnR	Eastbound	A

Note: PM peak conditions
** LOS A under the existing zoning scenario, LOS C under the rezoning scenario*
*** LOS B under the existing zoning scenario, LOS A under the rezoning scenario*
**** LOS C under the existing zoning scenario, LOS B under the rezoning scenario*
†Based on US 285 being north/south

Figure E-1: Elements of the Preferred Alternative

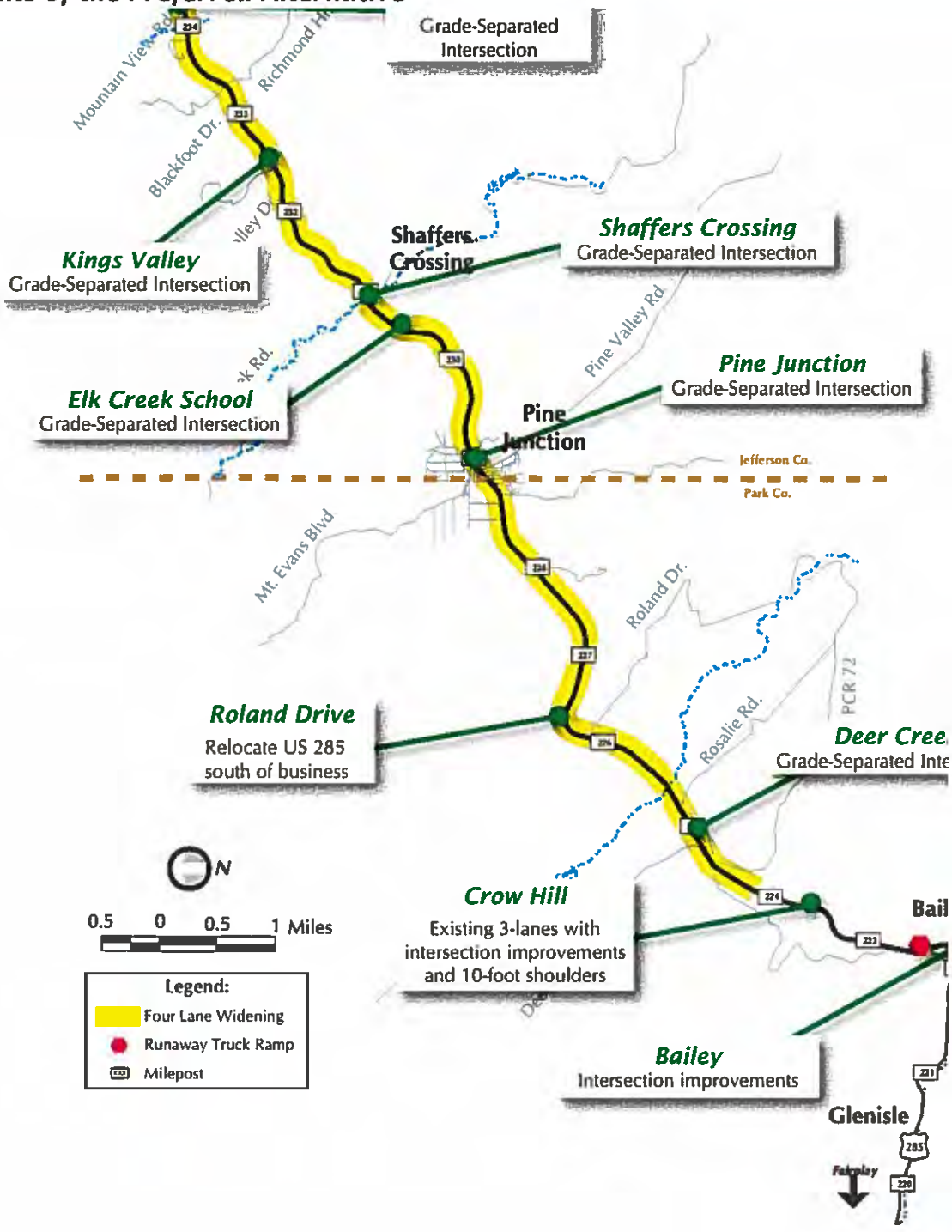


Figure E-2: Side Street Intersections Near Deer Creek Grade-Separated Intersection

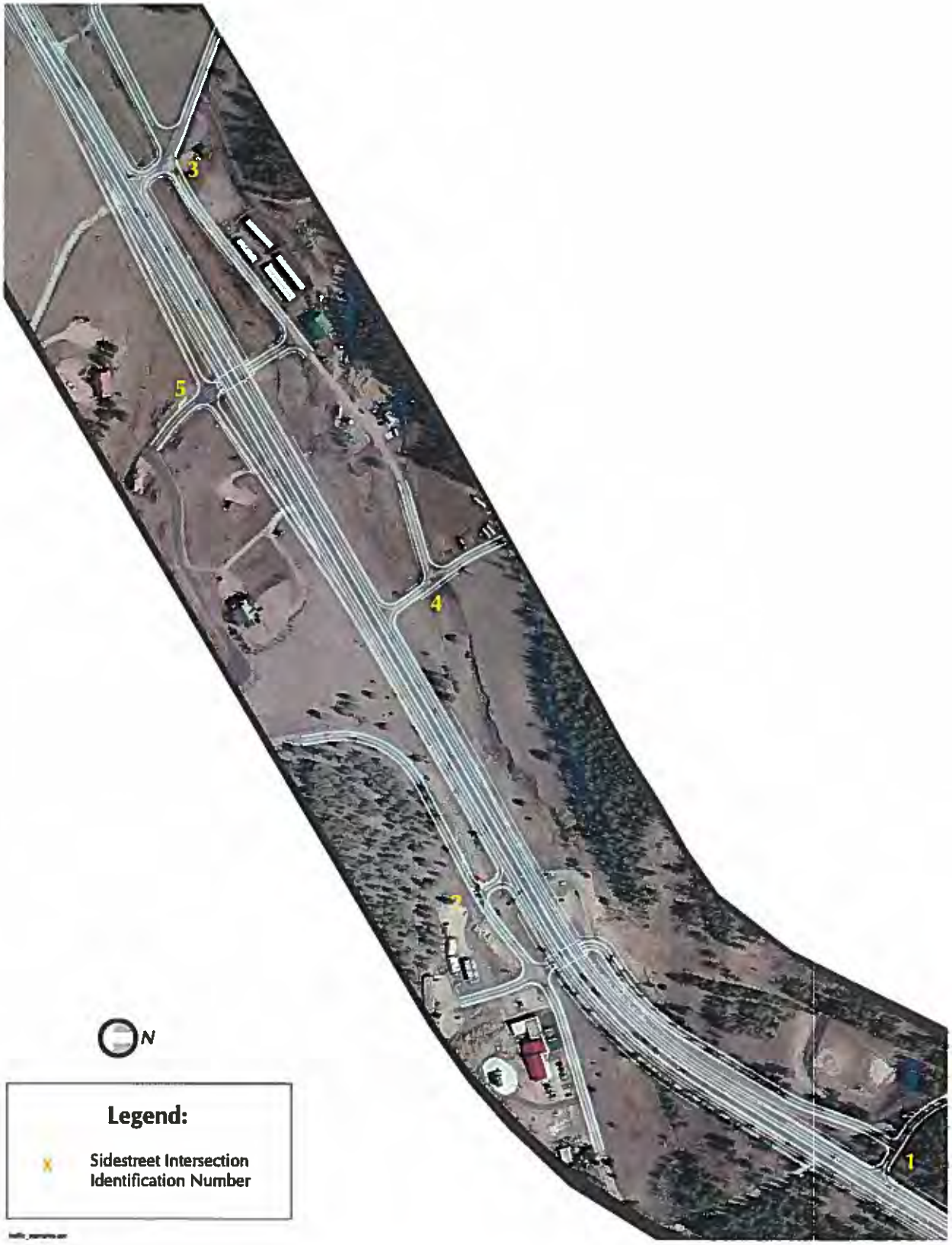


Figure E-3: Side Street Intersections Near Mt Evans Blvd. (Pine Junction) Grade-Separated Intersection

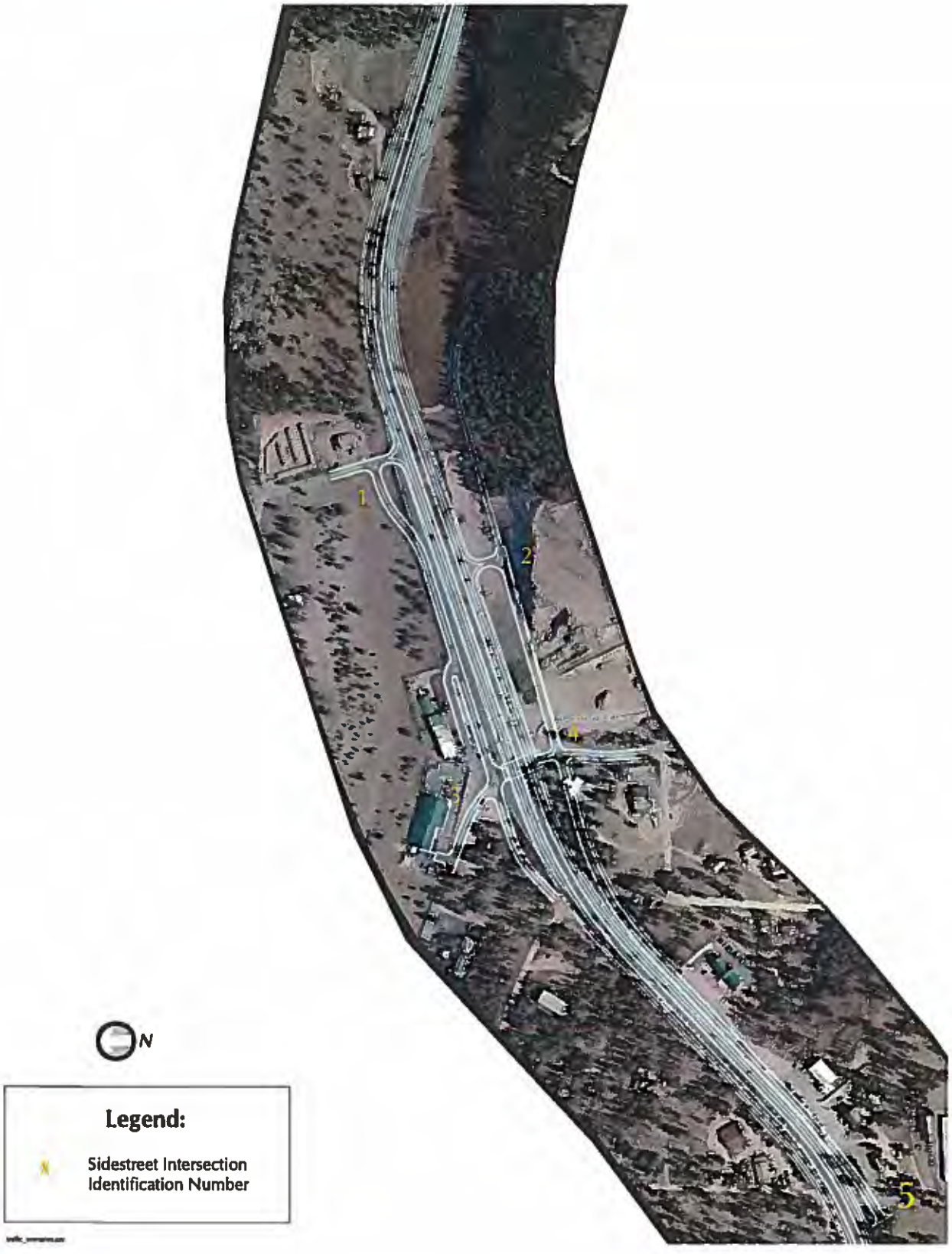


Figure E-4: Sidestreet Intersections Near Elk Creek Road (Shaffers Crossing) Grade-Separated Intersection

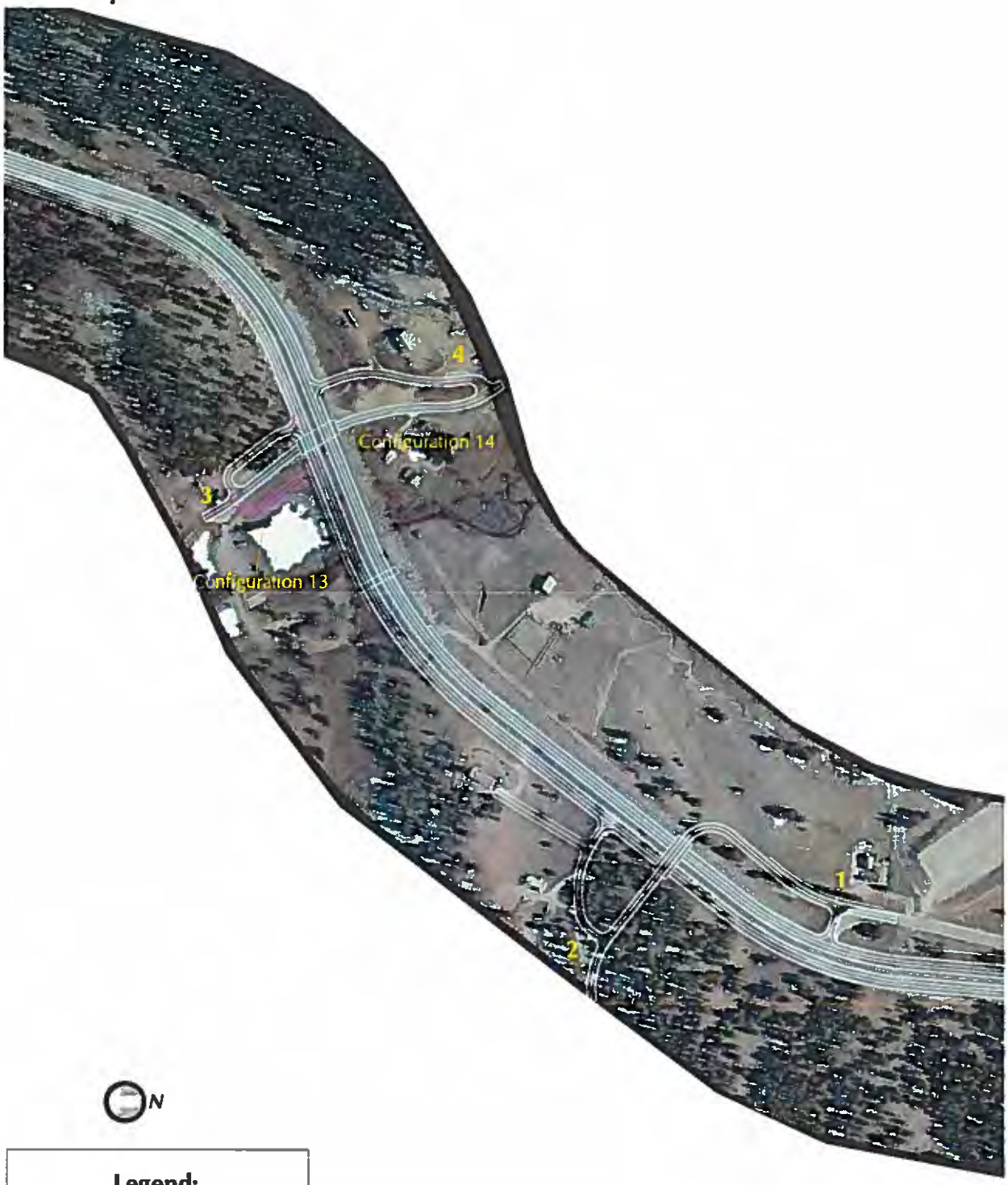


Figure E-5: Sidestreet Intersections Near Kings Valley Grade-Separated Intersection

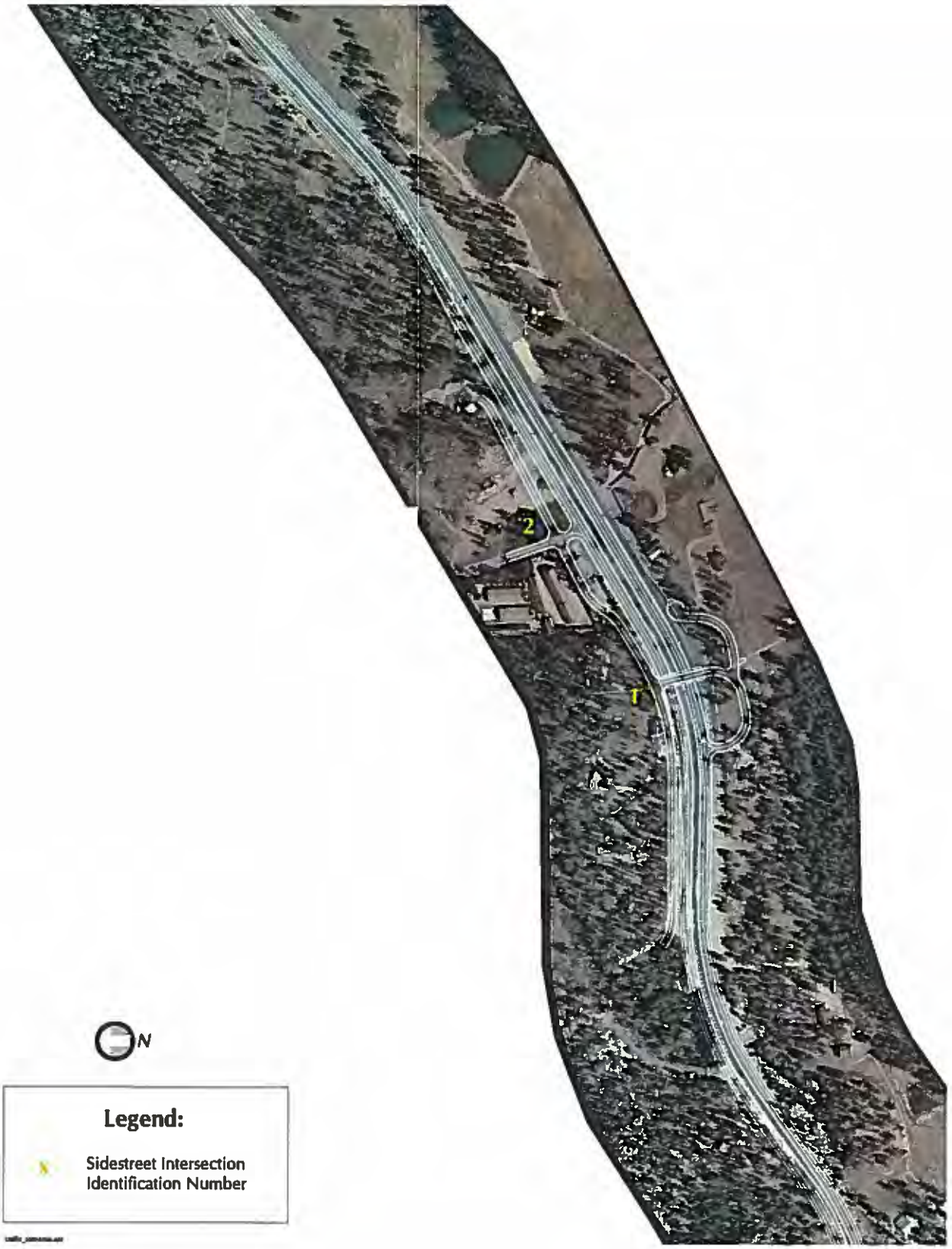
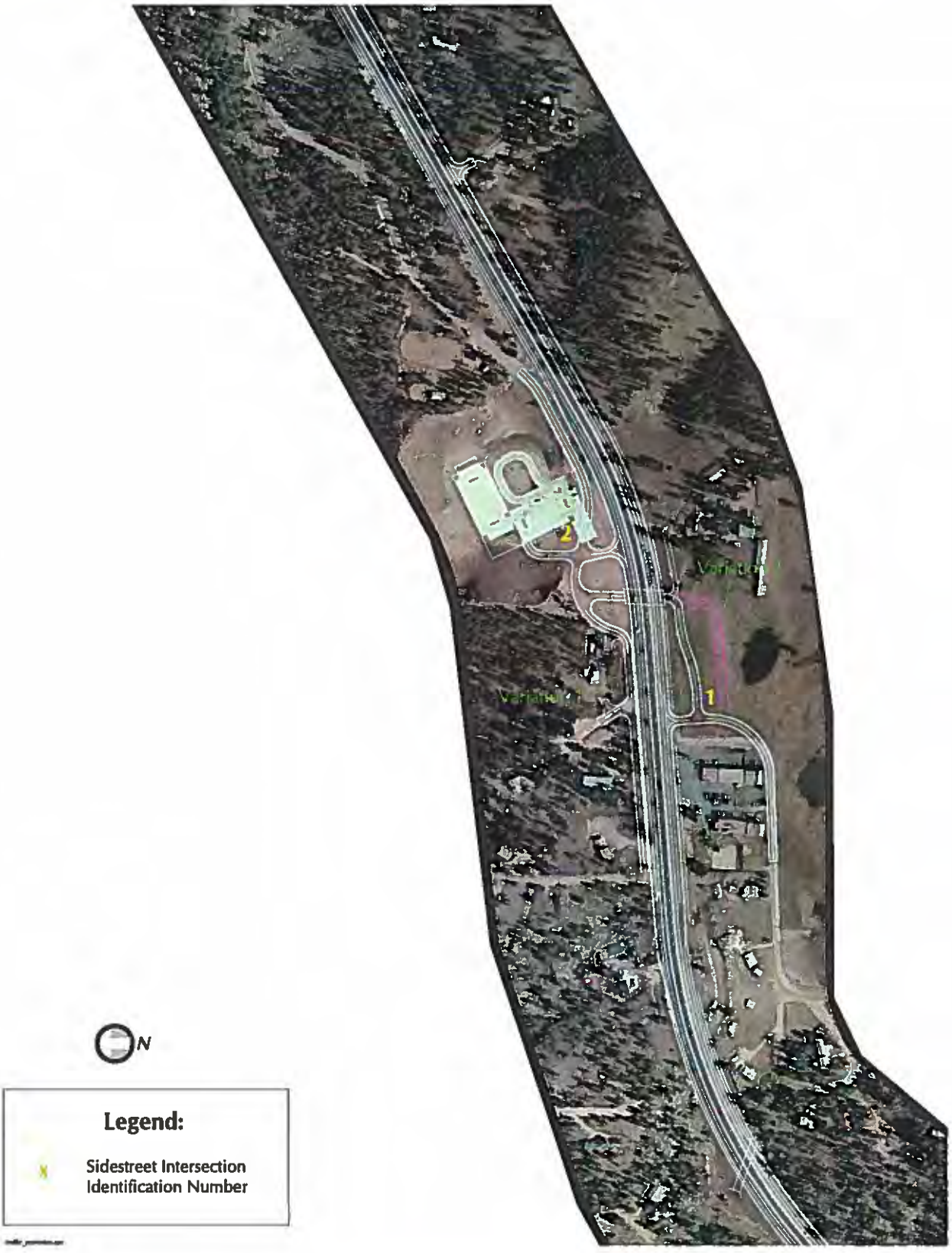


Figure E-6: Side Street Intersections Near Green Valley Grade-Separated Intersection



Appendix F

Wetland Finding

Appendix F: Wetland Finding (July 2004)

This Wetland Finding has been written in compliance with Executive Order 11990 "Protection of Wetlands" and is in accordance with 23 CFR 771, 23 CFR 777 and Federal Highway Administration's Technical Advisory T6640.8A (October, 1987).

Location

As described in Chapter 1 of the EA, US 285 is a federal two-lane highway passing through the central portion of Colorado. The study area for this EA is the 14.7 miles, from Foxton Road near Conifer (MP 235.2), south to the town of Bailey (MP 220.5).

Project Description

The primary purpose and need for improvements to this section of US 285 is to improve safety and reduce congestion.

The 14.7-mile study area is a two-lane rural highway with limited passing opportunities at specific locations only. Horizontal and vertical sight distance deficiencies exist throughout the study area.

Two alternatives are described in the EA the No-Action and the Preferred Alternatives. Other alternatives were considered but ruled out. Those advanced were evaluated on cost and technical merit while considering environmental consequences. The 404 (b)(1) Guidelines were used in this analysis.

The fact that the Preferred Alternative is primarily located on the existing US 285 alignment was significant in avoiding and minimizing impacts to wetlands and other Waters of the US. The study area's major widening southern terminus was shortened so that this EA would not predetermine the alignment of the next EA/EIS segment through the Narrows area between Bailey and Shawnee.

Wetland Resources

The Executive Order 11990 "Protection of Wetlands" directs that "Each agency shall provide leadership and shall take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities...". CDOT, in conjunction with the Federal Highway Administration, has a strong commitment to this Executive Order, and to the avoidance and minimization of impacts to wetlands, as well as other aquatic resources. Section 404 (b)(1) Guidelines of the Clean Water Act were an important part of the analysis of potential alternatives for this EA.

Wetlands are legally defined as: "Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." As outlined in the US Army Corps of Engineers' "Wetland Delineation Manual" (1987) this definition requires that three environmental characteristics be present for an area to qualify as a wetland 1) hydrophytic vegetation 2) hydric soils 3) wetland hydrology.

At the beginning of the EA process, the US Department of Interior, Remote Sensing and Geographic Information Group was supplied with June, 2001 color infrared aerial photography at a scale of 1:6000 and requested to provide baseline inventories of the biological resources for US 285. This is part of an on-going multi-year partnership to provide CDOT Planners and Engineers with advanced information on natural resources. The resulting report "*US Highway #285 Vegetation Survey and Mapping*" (Dec. 13, 2001) used a modified version of the Anderson classification system. This system did not specifically identify wetlands, but did identify classes such as Willow/mixed Riparian Shrublands, mixed Cottonwood-Blue Spruce Riparian Woodland, and Sedge/Graminoid Emergent Wetland/Riparian Herbaceous Vegetation that could have wetland components in them. Utilizing these base maps, each site was field checked to determine if wetland vegetation was present and then the area remapped to indicate wetlands and reclassified

to fit the required Cowardin Wetland Classification System (1979).

Carter & Burgess conducted wetland investigations in May 2004 in preparation for the Environmental Assessment. At that time, Colorado remained in drought conditions, and snowpack in the South Platte River Basin was 52% of average (www.drought.colostate.edu, 2004).

Most US 285 study area wetlands are found in association with various drainages, all tributary to the North Fork of the South Platte River. The wetlands are generally confined by the existing steep topography and are therefore narrow in character. In a few locations such as Deer Creek, wetlands expand into broad, sedge meadows dominated by aquatic and beaked sedges. Other herbaceous species found in these meadows include hairgrass, Canada reedgrass, spikerush and arctic rush. Many wetlands consist of narrow bands of willow, alder and birch that hug the stream edge, expanding where topography allows. The opportunity for wetlands in many of these drainages is limited because of topography and the close proximity of the existing roadway. It is assumed that wetlands probably existed under what is now the footprint of the road in some areas. In some areas, stream relocations due to both the construction of roads and development have resulted in the historic loss of other wetlands.

Wetland Descriptions

Detailed wetland descriptions are available in the technical report, *Wetlands of the US 285 Study Area, Bailey to Foxton Road*, Project No. NH 2854-093 prepared by Carter & Burgess for CDOT.

Wetlands 18B, 19A, 19B, 19C, 20, 23 and 25 will be permitted in a separate project.

Bailey

Wetland 1: Bailey, North Fork of the South Platte River

Discontinuous bands of mainly palustrine scrub-shrub wetland are present along the North Fork of the South Platte River at the toe of the steep road embankment. Dominant vegetation is mountain willow, sandbar willow, narrow-leaved cottonwood, Engelmann spruce, and river birch. Soils are cobbles. Wetland hydrology is supplied by stream flows and run off.

Crow Gulch Area

Wetland 2: Crow Gulch adjacent to US 285

Wetland 2 (east side of US 285) is bands of mainly palustrine scrub-shrub vegetation adjacent to Crow Gulch flows. Dominant vegetation is mountain willow and sandbar willow with a sparse understory of dandelion, cow parsnip, and vegetative grasses. Most willows are decadent. Soils are very dark brown sandy clay loam overlying cobbles and were damp at the time of the survey. Wetland hydrology is supplied by stream flows and a US 285 roadside ditch.

Wetland 3A (west side of US 285) is bands of mainly palustrine scrub-shrub vegetation adjacent to Crow Gulch flows. Dominant vegetation is sandbar willow with minor emergent sedges and grasses adjacent to the stream. Many of the willows are decadent. Soils are sand with a high organic content in the surface layer. Soils were saturated below 6 inches in the emergent zone and were damp in the shrub band. Wetland hydrology is supplied by stream flows and a US 285 roadside ditch.

Wetland 3: Crow Gulch, north of Bailey

A palustrine emergent and scrub-shrub wetland is present in Crow Gulch north of Bailey. Dominant vegetation is sandbar willow with rush and forbs. Many of the willows are decadent. Soils are sand and gravel with a high organic content in the surface layer. Soils were saturated below 3 inches at the time of the survey. Wetland hydrology is supplied by minor flows through the north portion of the site. Flows have been diverted into a roadside ditch in the south portion of the site. Many areas of trash and fill are evident in the wetland area.

Deer Creek Area

Wetland 4: Meadow south of Dellwood Drive

A palustrine emergent meadow with minor scrub-shrub vegetation is present south of Dellwood Drive. Dominant vegetation is sedges and arctic rush with areas of sandbar willow. Soils are unmottled black sandy clay loam and were damp at the

time of the survey. Wetland hydrology is probably mainly supplied by subirrigation and run off.

Wetland 5: Meadow east of County Road 72

Minor palustrine emergent wetland patches are present in a wide, shallow valley east of County Road 72. Dominant vegetation appears to be arctic rush and clustered field sedge. Soils are unmottled black sandy clay loam and were damp below 6 inches at the time of the survey. Wetland hydrology appears to be primarily supplied by subirrigation.

Canada thistle, yarrow, and smooth brome are invading Wetlands 4 and 5.

Wetlands 6A through 6E: Deer Creek Tributary System

Wetlands 6A through 6E are mainly wetland stream margins or wet meadows present in or adjacent to a Deer Creek tributary which flows parallel to the south side of US 285.

Wetland 6A is a narrow palustrine emergent and scrub-shrub wetland band at the margin of a small pond west of Arcadia Drive. Dominant vegetation is seedling and sapling sandbar willow with sedges in an area of exposed pond margin. Willows above the band are dead or decadent with Canada thistle in the understory. Soils are unmottled black sandy loam and were saturated to the surface at the time of the survey. Wetland hydrology is provided by groundwater saturation from the pond.

Wetland 6B is a sedge dominated palustrine emergent meadow in the channel bottom east of Arcadia Drive. Soils are black organic and sandy material with strong brown mottles and were saturated to the surface at the time of the survey.

Wetland 6C is a palustrine emergent meadow on the north side of the tributary west of Rosalie Road. Dominant vegetation is arctic rush with grasses and sedges. Soils are unmottled dark brown or very dark brown sandy clay loam with angular gravel. Mottles are reddish yellow or black. Soils were saturated within the upper 12 inches at the time of the survey. Smooth brome, Canada thistle, mullein, and whitetop are invading the southwest portion of the site. The wetland is possibly supported by groundwater seepage as well as run off.

Wetlands 6D (west) and 6E (east) are streambank palustrine and scrub-shrub bands and wet meadow areas in the vicinity of Rosalie Road. Dominant vegetation is mountain willow, sandbar willow, arctic rush, and water sedge. Soils are organic materials and sand overlying cobbles and were saturated to the surface. Wetland hydrology is supplied by stream flows and possibly by seepage.

Wetland 6F

Wetland 6F is a palustrine emergent meadow in a shallow drainage between CR 43A and Bulldogger Road on the north side of US 285. Dominant vegetation is rushes with western wheatgrass and Wood's rose at the margins. Soils are unmottled black sandy clay and were damp at the time of the survey. Wetland hydrology may be provided by seeps as well as by run off.

Wetlands 7A (west) and 7B (east): Deer Creek

Palustrine scrub-shrub wetland bands and emergent meadows are present adjacent to Deer Creek. Dominant vegetation of the scrub-shrub bands is mountain willow, sandbar willow, Drummond's willow, and plane-leaf willow with an understory including grasses, golden banner, rushes, sedges, and spikerush. Soils are cobbles with a high organic content in the surface layer. Dominant vegetation of the meadows is beaked and water sedges, and probably red top, and reedgrass. Soils have a high organic content and were saturated below 6 to 8 inches at the time of the survey. Wetland hydrology is provided by stream flows.

Roland Gulch

Wetland 8: Roland Gulch, north of US 285

Wetland 8 is palustrine emergent wetlands with a minor scrub-shrub component in Roland Gulch north of US 285. Dominant vegetation is mountain willow, beaked sedge, and water sedge. Soils are a high organic content surface layer over coarse sand and gravel and were saturated to the surface at the time of the survey. Wetland hydrology is provided by stream flows in a narrow channel.

Wetland 9: Roland Gulch, south of US 285

Wetland 9 is a mosaic of palustrine emergent and scrub-shrub wetlands surrounding ponds in Roland Gulch south of US 285. Dominant vegetation is willows, sedges and rushes. Soils are a high organic content surface layer over gravel. Soils were saturated to the surface or inundated at the time of the survey. Dikes ponding the area allow a high groundwater table which supplies wetland hydrology.

Wisp Creek Area

Wetlands 10A (north) and 10B (south): Swale

Wetlands 10A and 10B are palustrine emergent wetlands in a shallow swale up gradient from Wisp Creek. Dominant vegetation is beaked sedge and water sedge. Soils are black sandy clay with a high organic content and were saturated within the upper 12 inches at the time of the survey. Wetland hydrology is supplied by seepage and run off.

Wetland 11A: Wisp Creek, south side of US 285

Palustrine scrub-shrub wetland bands are present adjacent to Wisp Creek on the south side of US 285. Dominant vegetation is mountain willow with gooseberry, cow parsnip, bluebells, and grasses. Soils are very dark grayish brown with yellowish red mottles and were saturated below 6 inches at the time of the survey. Wetland hydrology is supplied by flows in Wisp Creek.

Wetland 11B: Wisp Creek, north side of US 285

A palustrine emergent wet meadow is present in the Wisp Creek channel on the north side of US 285. Dominant vegetation is beaked sedge and water sedge. A scrub-shrub band of mountain willow and alder is present at the toe of the highway embankment. Soils have a high organic content and were saturated to the surface at the time of the survey. Wetland hydrology is supplied by Wisp Creek and probably by seepage.

Wetland 11C: Meadow north of Wisp Creek and upper Wisp Creek

Wetland 11C is a palustrine emergent meadow on the north side of Wisp Creek and adjacent to both sides of the creek above Wetland 11B. Dominant vegetation is iris, arctic rush, sedge, with cow parsnip and clumps of mountain willow. Soils are black unmottled clay with a high organic content and were damp at the time of the survey. Wetland hydrology appears to be supplied by seeps, a spring at the upper margin of the meadow, and stream flows.

Wetland 11D: Meadow on slope northwest of Wisp Creek

Wetland 11D is a palustrine emergent meadow on a slope north of Wisp Creek. Dominant vegetation is beaked sedge, water sedge, redtop, and arctic rush. Soils are black unmottled clay in the sedge center and sand with a high organic content in the surface layer in the outer band of grasses and rushes. Soils were saturated within the upper 12 inches at the time of the survey. Wetland hydrology appears to be supplied by a seep.

Elk Creek and Tributaries

Wetland 12A: Upper Elk Creek Tributary

Wetland 12A is a palustrine emergent meadow in an Elk Creek tributary just east of Pine Junction. Dominant vegetation is water sedge and other sedges with rush, redtop, and clumps of mountain willow. Soils have a high organic content and were saturated to the surface at the time of the survey. Wetland hydrology is supplied by runoff and probably by seeps. The upper end of the wetland has been damaged by sediment deposition.

Wetland 12B: Lower Elk Creek Tributary

Palustrine scrub-shrub wetland bands are present adjacent to the lower portion of the Elk Creek tributary. Dominant vegetation is mountain willow with grasses, bluebell, and nettle. Soils are black unmottled sandy loam and were saturated within the upper 12 inches. Wetland hydrology is supplied by stream flows which are probably seasonal. The stream is incised up to 8 feet deep and bank slumping is occurring.

Elk Creek Area

Wetland 13A: Pond area northeast of Elk Creek, Shaffers Crossing

Wetland 13A is palustrine emergent and scrub-shrub wetland bands adjacent to a pond northeast of Elk Creek. Dominant vegetation at the pond margin is redtop, sedges, rushes, and spikerush with a mountain willow and river birch band at the toe of the US 285 embankment. Soils are very dark gray clay loam with strong brown mottles in the emergent areas and mainly coarse granitic sands with inclusions of clay loam in the shrub band. Soils were saturated within the upper 12 inches at the time of the survey. Wetland hydrology is supplied by the high water table surrounding the pond.

Wetland 13B: Elk Creek, Shaffers Crossing

Palustrine scrub-shrub and emergent wetland bands are present adjacent to Elk Creek. Dominant vegetation is mountain willow, Drummond's willow, and alder with cow parsnip, grasses, and sedges. Soils are very dark grayish brown clay loam with strong brown mottles and were saturated to the surface in areas adjacent to the stream at the time of the survey. Wetland hydrology is supplied by perennial stream flows.

Wetland 13C and 14: Elk Creek tributary

Wetlands 13C and 14 are palustrine scrub-shrub and emergent wetland bands adjacent to an Elk Creek tributary. Dominant vegetation is mountain willow with grasses, bluebell, and cow parsnip. Soils are black unmottled loam in Wetland 13C and very dark grayish brown sandy clay loam with strong brown mottles in Wetland 14. Soils were saturated to the surface at the time of the survey. Wetland hydrology is supplied by flows in the tributary.

Wetland 15: Seep Area

Wetland 15 is a palustrine emergent wetland at the toe of the US 285 roadway. Dominant vegetation is sedges, redtop, and arctic rush. Soils were saturated in the upper 12 inches at the time of the survey. Wetland hydrology appears to be supplied by seepage under US 285.

Kings Valley and Gooseberry Gulch Area

Wetlands 16A and 16B: Small drainage, west of Kings Valley Drive

Wetlands 16A and 16B are a palustrine emergent and scrub-shrub wetlands adjacent to a small natural drainage. Dominant vegetation is sedges and grasses (probably reedgrass) with scattered river birch, rose and mountain willow. Several mature Douglas fir are present in Wetland A. Soils were clay or high organic content overlying coarse sand. Soils were saturated to the surface, and water was flowing in the drainage at the time of the survey. Wetland hydrology is supplied by flows in the drainage and by run off.

Wetlands 17A (north) and 17B (south): Upper Gooseberry Gulch

Wetlands 17A and 17B are palustrine emergent wetlands adjacent to the west fork of Gooseberry Gulch. Dominant vegetation is sedges with clumps of willow. Water was flowing in the upper gulch at the time of the survey. Wetland hydrology is supplied by flows which are supplemented by outflows from the sewage plant just upstream of the study area. Seeps also contribute to wetland hydrology in Wetland 17B.

Casto Creek Drainage, Richmond Hill Area

Wetland 18A: Small drainage, east of Richmond Hill

Wetland 18A is palustrine emergent and scrub-shrub wetland in a small drainage. Dominant vegetation is sedges, redtop, reedgrass, willows, and river birch. Soils were sandy clay loam overlying coarse sand and cobbles. Soils were saturated in the upper 12 inches, and flows were present in the drainage at the time of the survey. Areas of the wetland were inundated. Wetland hydrology is supplied by stream flows.

Wetlands 21 and 22: Small drainage and roadside ditch, Mountain View RTD Area

Wetlands 21 is a palustrine scrub-shrub wetland in a small natural drainage, and Wetland 22 is a tributary in a roadside ditch. Dominant vegetation of Wetlands 21 and 22 is mountain willow and watercress with river birch and bluebells. Soils of Wet-

land 21 are thin layers of very dark grayish brown and brown sandy clay loam overlying coarse sand, and soils of wetland 22 are black clay loam with a high organic content overlying coarse sand. At the time of the survey, soils were damp to saturated in the upper 12 inches and no flows were present. Wetland 21 has been disturbed by fill from recent construction.

Mountain View RTD Parking Lot Detention Pond and Outlet

Wetland 24: Stormwater detention pond at RTD parking lot

Wetland 24 is a palustrine emergent wetland present in a stormwater detention pond at the east side of the RTD parking lot. Dominant vegetation is spikerush, sedges, cattail, and redtop. Soils are a thin organic layer developing over coarse sand. Soils were saturated to the surface, and much of the wetland was inundated at the time of the survey. Wetland hydrology is provided by run off.

Wetland Jurisdiction

Waters of the US are those waterways considered to be under the jurisdiction of the US Army Corps of Engineers as a result of Section 404 of the Clean Water Act (1977). The following are considered Waters of the US:

- Upper Castro Creek
- Gooseberry Gulch
- Elk Creek
- Wisp Creek
- Roland Gulch
- Deer Creek
- Crow Gulch
- North Fork of the South Platte River
- Associated tributaries that exhibit "bed and bank" characteristics
- All associated wetlands.

All stream systems in the study area drain to the North Fork of the South Platte River.

Most wetlands of the study area were associated with a waterway of some type and would be considered "jurisdictional" under Section 404 of the Clean Water Act. The US Army Corps of Engineers will make a final determination of wetland jurisdiction.

CDOT and Federal Highways recognize "non-jurisdictional" wetlands. These are wetlands that exhibit the three required parameters and perform the accepted wetland functions, but are not recognized to be under the jurisdiction of Section 404. These are generally considered to be "isolated" wetlands or wetlands accidentally created by human activities.

Wetland Functions

State, federal and local regulations for the protection of wetlands are a result of the identified value of wetlands and their benefits to their associated ecosystems and the human community. Wetlands have several functions that are universally recognized. A single wetland cannot perform every function and the level at which it does perform a function varies based on a number of factors. The location (opportunity), size and dominant plant species are major factors in which functions a wetland performs and how well these functions are being accomplished. Functions performed by US 285 wetlands are listed below:

- Sediment/nutrient removal and retention.
- Stream bank stabilization.
- Dynamic water storage.
- Flood flow attenuation and storage.
- Groundwater recharge/discharge.
- Production export/food chain support.
- Wildlife habitat.
- Recreation/education potential.

Wetland functions will be addressed by individual wetland in the final EA. All wetlands will be avoided to the extent practicable, those of moderate to high value will be highlighted and special attention given to avoiding and minimizing primary and secondary impacts, both during alignment selection and final design of the preferred alternative.

Cowardin Classification

As required by the Federal Highway Administration, wetlands were classified using the Cowardin classification system. All identified wetlands belong to the Palustrine system. The classes identified were emergent, scrub-shrub, and very minor areas of forested wetlands. Approximately 60% of the wetlands are emergent and 40% are scrub/shrub.

Alternatives

Two alternatives were advanced, the No-Action and the Preferred Alternative. The No-Action Alternative includes only those projects that have committed funds for improvements. These improvements would be made whether or not any other improvements are made in conjunction with the EA. Please see **Section 2.4.1** in the EA for further discussion.

The Preferred Alternative includes four-lane widening from Foxton Road to Crow Hill, intersection, shoulder, and safety improvements between Crow Hill and Bailey and grade-separated intersection at major intersections. See **Section 2.4.2.** of the EA for a complete description of the Preferred Alternative.

Wetland Impacts

This project will result in the permanent loss of approximately 0.727 acre of wetlands in the study area (if the Shaffers Crossing Variation 1 is chosen) or a permanent loss of approximately 0.739 acre of wetlands (if the Shaffers Crossing Variation II is chosen). There would be temporary loss of approximately 1.130 acres (for either Variation). Wetland impacts decreased following formal wetland delineations in summer 2004 since the delineations showed actual wetland area to be generally smaller than previously identified by aerial photograph interpretation.

Wetland impacts from the construction of this proposed project are identified as permanent and temporary, as well as direct and indirect. Permanent direct impacts will result from fill placement in wetlands due to highway widening and realignment. Temporary direct impacts will occur from the placement of fill for temporary access roads and work areas located in wetlands. After completion of that portion of the project, the fill would be removed and the wetland restored. Indirect impacts can result from a multitude of actions, many subtle, and our ability to accurately predict them limited. In compliance with the 404 (b)(1) Guidelines and E.O. 11990 "Protection of Wetlands" (1977), CDOT has both Departmental and Regional commitments to avoid impacts to wetlands wherever possible. This direction has also been strongly supported historically by the Federal Highway Administration. In the scoping and alternative analysis phases and during preliminary design of the preferred alternative, CDOT directed its consultants to avoid and minimize impacts to wetlands and other aquatic resources. The result was an alignment that was shifted away from wetlands where possible and the utilization of numerous retaining walls to limit encroachment into wetlands when avoidance was not possible. A possible indirect impact of trying to limit encroachment with walls is the potential that these walls may interfere with subsurface hydrology that may, in part, support the very wetlands they were meant to protect. Options are being analyzed that may mitigate for this potential indirect impact to wetlands which are discussed later in the Wetland Mitigation Section.

Additional indirect impact may come from the increase in impervious surfaces resulting from additional lanes. This may increase runoff potential and may also increase surface flows in adjacent streams leading to the potential for erosion or the creation of channels in wetlands that were previously channel free. This runoff flow may contain pollutants associated with roadways. Sediment from winter sanding operations may also enter wetlands. Sedimentation may increase with lane additions, resulting in the gradual filling in of adjacent wetlands. Chemicals such as magnesium chloride and road salts may impact water quality, potentially impacting wetland plants and wildlife. Additional sediment and erosion can be expected during and post construction, until bare fill cut and fill slopes can be successfully revegetated. Disturbed areas may also allow the invasion of noxious weeds.

Because the road is being widened primarily on its existing alignment, much of the wetland area impacted will be wetlands that are already impacted by normal roadway activity and maintenance practices. At the time the original road was constructed, environmental laws and regulations were few or non-existent. Today CDOT has a much different view of the environment and is taking care to make sure the new US 285 is a more environmentally friendly roadway. In considering design options both wildlife and wetlands played a major role in various design decisions.

Table F-1: Permanent and Temporary Wetland Impacts

Wetland Number	Approximate Station	Wetland General Location	COE Jurisdictional? (preliminary)*	Wetland Impacts Acres	
				Permanent	Temporary
1	20 - 40	Bailey, North Fork of the South Platte River	Yes	0.002	0.034
2	44	Crow Gulch, east side of US 285	Yes	0	0
3A	47-48	Crow Gulch, west side of US 285	Yes	0	0
3	51-56	Crow Gulch, north of Bailey	Yes	0.022	0.011
4	162-166	Meadow south of Dellwood Drive	Yes	0.001	0.005
5	168	Meadow east of CR 72	Yes	0	0
6 A	181-182	Pond west of Arcadia Drive	Yes	0.002	0.003
6 B	182-186	Deer Creek tributary east of Arcadia Drive	Yes	0.001	0.008
6 C	193-197	Meadow west of Rosalie Road	Yes	0.004	0.268
6 D	186-198	Deer Creek tributary west of Rosalie Road	Yes	0.025	0.224
6 E	199-206	Deer Creek tributary east of Rosalie Road	Yes	0.002	0.032
6 F	193-195	Meadow between CR 43A and Bulldogger Road	Yes	0.047	0
7 A	205-213	Deer Creek, west side of US 285	Yes	0.129	0.148
7 B	208-212	Deer Creek, east side of US 285	Yes	0.106	0.082
8	263-269	Roland Gulch north of US 285	Yes	0	0
9	263-269	Roland Gulch, south of US 285	Yes	0.002	0.061
10 A	327-329	Swale, tributary to Wisp Creek, west side US 285	Yes	0.058	0.026
10 B	325 + 50-329	Swale, tributary to Wisp Creek, east side US 285	Yes	0	0
11 A	349-354	Wisp Creek, south side US 285	Yes	0.050	0.021
11 B	354-357	Wisp Creek, north side US 285	Yes	0.014	0.048
11 C	356-360	Meadow north of Wisp Creek and upper Wisp Creek	Yes	0	0
11 D	357-359	Meadow on slope northwest of Wisp Creek	No	0	0
12 A	409-435	Upper Elk Creek Tributary	Yes	0.116	0.069
12 B	436-438	Lower Elk Creek Tributary	Yes	0	0.025
13A	398-501	Pond area northeast of Elk Creek, Shaffers Crossing, Variation I	Yes	0.003	0.035
13A	398-501	Pond area northeast of Elk Creek, Shaffers Crossing, Variation II	Yes	0.015	0.035
13B	497-498	Elk Creek, Shaffers Crossing	Yes	0.003	0.002
13C	497-501	Elk Creek tributary, southeast side of US 285	Yes	0	0.008

Table F-1: Permanent and Temporary Wetland Impacts (Continued)

Wetland Number	Approximate Station	Wetland General Location	COE Jurisdictional? (preliminary)*	Wetland Impacts Acres	
				Permanent	Temporary
14	503-504	Small drainage tributary to Elk Creek, northeast side US 285	Yes	0.002	0
15	518	Small drainage northeast of Shaffers Crossing, northwest side of US 285	No	0	0.002
16A	557	Small drainage, west of Kings Valley Drive north side of US 285	Yes	0.058	0.002
16B	557	Small drainage, west of Kings Valley Drive south side of US 285	Yes	0.034	0.003
17A	582	Gooseberry Gulch, north side of US 285	Yes	0.010	0.001
17B	582	Gooseberry Gulch, south side of US 285	Yes	0	0
18A	609	Small drainage, west of Blackfoot Road, north side of US 285 east of Richmond Hill	Yes	0	0.002
18B	609	Small drainage, south of Blackfoot Road, south side of US 285 east of Richmond Hill	Yes	0	0
19 A	611	Seep on southeast side of US 285 east of Richmond Hill	No	0	0
19 B	612	Seep on southeast side of US 285 east of Richmond Hill	No	0	0
19 C	613	Seep on southeast side of US 285 east of Richmond Hill	No	0	0
20	654	Roadside ditch west of RTD parking	No	0	0
21	655	Small drainage west of RTD parking	No	0.002	0.008
22	655	West of RTD parking	No	0.034	0
23	655-656	Culvert outlet east of Spring Road	No	0	0
24	664-665	Storm water detention pond east side of RTD parking	No	0	0.002
25	664	Culvert outlet south of RTD parking	No	0	0
		Total - with Variation I		**0.727****	**1.130*****
		Total - with Variation II		**0.739****	**1.130*****

Note: Wetland impacts decreased following formal wetland delineations in spring 2004 since the delineations showed actual wetland area to be generally smaller than previously identified by aerial photograph interpretation

** To be confirmed by the COE*

*** 0.253 acre of wetland will be mitigated under CDOT Project NH2854-100 "Foxton Road to Richmond Hill"*

**** 0.023 acre of temporary wetland impacts will be restored under CDOT Project NH2854-100 "Foxton Road to Richmond Hill"*

Original wetland impacts were based on area from wetland photograph interpretation. Wetland impacts in this EA are based on spring 2004 wetland delineations. The larger potential wetland impacts that may occur and the impacts to the higher quality wetlands are discussed individually below:

Wetlands 6a through 6e West Deer Creek Tributary Sta. 181-206

This wetland is contiguous with West Deer Creek Tributary. It is located primarily in an incised channel which runs parallel to US 285 for several thousand feet. Direct impact will occur at three locations for a total of 0.034 acre. Impacts result from the widening of two existing road crossings and the addition of a new road crossing. Portions of existing dirt roads will be paved. In various locations along this drainage the current plan is to install retaining walls, sometimes on both sides of the stream to limit the encroachment required to accommodate the proposed roadway widening. Indirect impacts due to wall placement and changes in hydrology are not known. Temporary impacts from wall construction etc. are estimated to be 0.535 acre.

Wetland 7a and 7b Deer Creek Sta. 205-213

These two wetlands are the north and south sides of Deer Creek that have been split by the placement of fill for the original construction of US 285. Only a 91-inch culvert allows passage of the stream through the fill. This wetland is a sedge meadow with substantial subsurface flows. Initially the design left the existing culvert in place. Interagency discussions have resulted in this culvert being replaced with a much bigger arch culvert that would allow large wildlife such as deer and elk to pass. It would also allow Deer Creek seasonal high flows to pass more freely. However this enlarged culvert option would take a larger amount of wetlands. Discussion among the resource agencies resulted in the agreement that the additional "take" was warranted. Walls were originally proposed to minimize impacts and are still proposed to decrease the footprint of the widened roadway. Permanent impacts are now approximated at 0.235 acre. The extent of indirect impacts due to wall installation in the middle of the wetland/stream basin is not known. Temporary impacts to wetlands at this location resulting directly from construction are estimated to be 0.23 acre.

Wetland-9 Roland Gulch Sta. 263-269

This wetland/pond complex would be impacted due to a safety realignment of a dangerous curve. Existing US 285 over Roland Gulch passes the stream in a culvert. The Preferred Alternative would replace the culvert with a bridge at a new location. The new, three-piered bridge would allow seasonal high flows and wildlife to pass freely. Permanent impact from the construction of the piers would be approximately 0.002 acre. Temporary impacts would be 0.061 acre because of coffer dams needed to dewater the existing pond and temporary work areas and access roads. The use of a bridge at this location would also allow CDOT to remove the old roadway fill as mitigation.

Wetland 12a Headwater West Elk Creek Tributary Sta. 409 - 435

This sedge meadow has no obvious surface water source or channel, however as it narrows near Sta. 420 it alters into a narrow channel that is directly adjacent to existing US 285 and parallels if for around 1500 feet. The US 285 alignment is being shifted slightly to cross the northwest corner of this wetland. Resulting in the permanent loss of 0.116 acre of wetlands and 0.069 acre of temporary impacts. To minimize impacts retaining walls will be used for approximately 1,000 feet along the wetland/highway interface. The existing access road will be removed and relocated to the south and parallel to US 285. A 200-foot long wall will also border this wetland to the south because of the new frontage road. Due to the extent of walls that will be associated with this wetland indirect impacts to hydrology will be addressed by CDOT, both pre and post construction. Only monitoring will be able to address if there are actually impacts to this wetland beyond the permanent placement of fill material for the widening. Both groundwater and plant species will be monitored to determine possible indirect impacts.

Cumulative Wetland Impact

Major widening within the study area does not occur parallel to any major stream or wetland. Impacts to wetlands and waterways are primarily single crossings. All these crossings are on drainages tributary to the North Fork of the South Platte River, the average distance from the crossings to the river is around 5 miles. Cumulative impact to the individual drainages and the North Fork is minimal. Due to the selection of a Preferred Alternative that is, for the most part, located on the existing alignment, most impacts will only occur to those wetlands adjacent to the existing roadway. Widening will result generally in narrow strips of impact. The exception is Roland Gulch where the alignment will be moved 400 feet. The move will improve a dangerous curve and will replace a culvert with a bridge, overall improving roadway safety and allowing wildlife to pass freely under the road rather than over, and restoring historic wetlands and riparian vegetation that was lost under the footprint of the old roadway. This action will actually restore fragmented wetlands. CDOT is also installing of a large arch culvert at Deer Creek, which would restore the ability for large mammals to cross under, rather than over US 285, again improving rather than negatively impacting an important wetland and wildlife drainage. Efforts by CDOT to restore areas previously impacted will help to compensate for the loss of wetlands due to widening of US 285.

US 285 Wetland Mitigation

After avoidance and minimization of wetland impacts, compensation is the next step in wetland mitigation sequencing. The Colorado Department of Transportation's standard procedure is to replace all impacted wetlands, both Section 404 jurisdictional and non-jurisdictional. CDOT plans to replace all directly impacted wetlands on a 1:1 basis. Five potential mitigation sites have been identified within the proposed US 285 study area (see **Table F-2**). Many of the selected sites are restoration sites and therefore have a high probability of success. These sites will be evaluated to assure that they represent the type of wetlands impacted and that they replace functional values similar to those of the impacted wetlands. All site selection will be coordinated with the US Army Corps of Engineers and the Environmental Protection Agency, as well as other interested resource agencies. Wetland mitigation will also be available for review through the 404 Public Notice process.

Table F-2: Potential Wetland Mitigation Sites

Mitigation Site	Description	Possible Area in Acres
1	Restoration of a filled portion of Wetland 3 Crow Gulch.	0.34
2	West Deer Creek Tributary (Station 170-205)	1.5
3	Westward expansion of Wetland 7b, south side of US 285, possible restoration.	0.28
4	Restoration of Wetland 8 Roland Gulch by removal of existing roadway fill.	0.75
5	Removal of dirt road adjacent to Wetland 12a.	0.09
	Total	2.96

Mitigation Site #1 Sta. 51-56 - Located on the west side of US 285 at the bottom of Crow Hill, this existing scrub/shrub wetland (W-3b) was partially filled several years ago. It is presently being used as a storage area. At least part of the site is within existing CDOT ROW. Removal of the fill material and the planting of native willows will result in the restoration of approximately 15,000 sq. ft. of scrub/shrub wetlands.

Mitigation Site #2 Sta. 181-195 -West Deer Creek Tributary is located between existing US 285 and an unpaved frontage road south of US 285. Current design will encroach on this tributary at several

locations. The tributary will also receive increased highway runoff from lane additions, medians, a new interchange and improved shoulders. In addition, a large portion of the unpaved road will be paved as a part of this project. Pavement runoff from a new shopping center will also be discharging into this drainage. CDOT has commitments to address storm water runoff; however, secondary impacts to this channel over time are inevitable as the area becomes more and more urbanized. CDOT proposes to utilize this incised channel as wetland mitigation for a portion of the impacts anticipated at Deer Creek as well as impacts to the tributary. In locating wetland mitigation along this channel, CDOT will also be helping to protect the high quality sedge wetland associated with Deer Creek. CDOT proposes to broaden the narrow bottom of the existing channel to create additional wetlands. A series of subsurface sheet metal check dams similar to those installed under a previous project at Meyer Ranch Open Space will be installed to stabilize the channel and prevent the head cutting that will eventually occur as a result of increased surface flows. Slowing these flows will not only inhibit erosion but will help return increased surface flows to recharge the associated water table rather than be carried down stream as surface flow. It is anticipated that 1 acre of wetland creation/restoration could occur at this site as required.

Mitigation Site #3 Sta. 204-207 - Located between W-5b and W-7b. This site is at the confluence of Deer Creek and West Deer Creek Tributary. Portions of this site appear to have been floodplain of West Deer Creek Tributary that has been filled previously. Monitoring wells will be necessary to determine the level of groundwater and whether excavation to expose it is feasible. There are also power or telephone poles that would need to be addressed as well. Deer Creek is the site of the largest permanent take, almost 0.72 acre. If selected, this site could create/restore a minimum of 10,000 square feet of emergent, sedge dominated wetlands.

Mitigation Site #4 Sta. 260-270 - Stationing is approximate because the site is located off the new alignment. US 285 will be relocated away from the existing alignment in order to flatten a dangerous curve. Existing US 285 was constructed on a large fill that had a footprint of over 1 acre within the Roland Gulch floodplain. CDOT proposes to remove this fill and restore the wetlands to a mix of scrub/shrub and emergent wetlands using locally collected willows and herbaceous plugs. Removal of the fill and its replacement with a bridge, along with the wetland restoration, will open up a wildlife corridor that has been closed for decades.

Mitigation Site #5 Sta. 410 - This proposed site is located at the headwaters of West Elk Creek Tributary and would result in the removal of an existing dirt access road and its restoration to sedge meadow. Revegetation would be from sedge plugs taken from the adjacent sedge wetland. Construction of a new access road is a result of US 285 realignment and the need to improve the access onto US 285. Approximately 4,000 sq. ft. of emergent wetland could be reclaimed at this location.

Mitigation of Temporary and Indirect Wetland Impacts

It is estimated that approximately 1.130 acres of temporary impacts may occur as a result of the construction of this proposed project. Temporary impacts are those impacts associated with the construction activities required to build the proposed highway improvements and which only result in the short-term loss of a wetland and its functions. Temporary impacts include temporary access roads and temporary work areas (such as excavation for the construction of wall foundations and placement of berms to prevent surface water inundation of excavated areas). During design and construction every effort will be made to decrease these impacts.

All these areas will be restored as closely as possible to their original pre-construction condition. At designated temporary work areas or access roads, wetland trees and shrubs will be trimmed to ground line, but not grubbed. Trimmed vegetation will be covered with a geo-textile fabric and an additional layer of straw to define existing topographical elevations and protect wetland rootstocks and seed banks. These areas will be covered with a minimum of 2 feet of clean fill. All temporary fill will be removed to an upland location as quickly as possible to give the wetland plant communities a chance to regenerate. Ideally this work should occur when

the plants are dormant or at the end of the growing season. If necessary, any site temporarily disturbed may be re-vegetated with either transplants or locally grown nursery native species. Areas may also be over seeded with native wetland species if necessary.

All temporary fill placed in wetlands will be removed completely to upland locations. No wasting of material in wetlands will be allowed.

Water quality issues, both short and long-term, effect adjacent wetlands. CDOT addresses many of these concerns in the Water Quality Section of the EA. Stormwater basins will be required at many locations. No direct run-off will be allowed to enter any existing wetland without treatment. Preferably, run-off will be directed into stormwater basins. Slopes will be revegetated as soon as possible to stabilize fill slopes and cuts. Where possible, vegetative buffers will be planted between the roadway and wetlands or "other Waters of the US" to aid in water quality protection. CDOT is required to develop a construction related stormwater management plan as well as a long-term plan. These plans will be included in the 404 Public Notice for public review. CDOT has standard Best Management Practices that are routinely included in all highway plans. These BMPs will also be included any in construction plans.

Indirect impacts were addressed earlier and concerns expressed over the effects of the numerous walls used to minimize impacts to wetland and streams. CDOT is presently researching the possibility of placing these walls on footers that would allow subsurface water to pass freely. The effects of these walls, with or without adaptations, cannot be estimated at this time. CDOT commits to doing long term monitoring of these sites both before and after construction. This will include groundwater monitoring and vegetative surveys to determine any impacts that may occur to wetlands due to changes in hydrology as a result of the construction of retaining walls. If it does appear after construction, based on a reasonable monitoring period, that wetlands have been impacted, CDOT commits to working with the Corps of Engineers and the EPA to mitigate for these impacts.

"Based on the above finding, it is determined that there is no practicable alternative to the proposed new construction in wetlands and the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use."

Appendix G

Noise Analysis Report

Appendix G: Noise Analysis Report

1 Introduction

This report describes the results of the noise analysis for the US 285, Foxton Road to Bailey Environmental Assessment (Project NH 2854-093) located in Jefferson and Park Counties west of Denver, Colorado. The analysis area is approximately 13 miles long and covers the length of the project from Foxton Road (the western end of the existing 4-lane section of US 285) to west of the town of Bailey. The majority of this corridor consists of an undivided two-lane roadway with some three- and four-lane segments.

This noise analysis was conducted for the No-Action alternative and the preferred build alternative. The Preferred Alternative consists of widening US 285 to four through travel lanes with a divided median from west of Foxton Road to Crow Hill and adding several grade-separated intersections along the corridor. The No-Action alternative does include the addition of two through lanes from Foxton Road to Richmond Hill Road and the construction of a grade-separated intersection at Richmond Hill Road. Other than that or other minor safety improvements, no additional through lanes are planned along the corridor under the No-Action alternative.

Development along both sides of US 285 is generally dispersed or isolated but includes more concentrated residential development in the Green Valley Ranch area, the Kings Valley Area, Pine Junction, the planned The Villages at Sunset near Wandcrest Road, the Will O' Wisp Development, and the town of Bailey. Commercial development is also dispersed throughout the study area, but is more prevalent near major roadway intersections and the towns of Pine Junction and Bailey.

The primary purpose of the noise analysis was to determine if any of the existing residential or commercial receivers located adjacent to US 285 will be impacted by traffic noise, and if so, whether or not mitigation is feasible and reasonable to provide. The findings in this noise report are considered to be preliminary; further noise analysis may be warranted at final design when more detailed information concerning the project is available.

2 Noise Basics

Noise is usually described as unwanted sound. Sound is produced by the vibration of sound pressure waves in the air. These sound pressure levels can be used to measure the intensity of sound from a source, such as a car passing by on a highway. Since the sound pressure levels the human ear responds to can vary over several orders of magnitude, these levels are converted to a more compact and convenient logarithmic scale. This unit is referred to as the decibel (dB).

Given that the human ear responds differently to various frequencies, measured sound levels (in decibels) are generally "weighted" to equate to frequency response of humans and human perception of loudness. Weighted sound levels are expressed in units called A-weighted decibels (dBA). For orientation purposes, **Table 2-1** provides the relationship between decibels and loudness. **Table 2-2** gives the examples of typical noise levels. All noise levels are shown as dBA values.

Table 2-1: Relationship Between Decibels and Perceived Loudness

Sound Level Change	Relative Loudness
+10 dBA	Twice as Loud
+5 dBA	Readily Perceptible Change
+3 dBA	Barely Perceptible Change
0 dBA	Reference
-3 dBA	Barely Perceptible Change
-5 dBA	Readily Perceptible Change
-10 dBA	Half as Loud

Table 2-2: Typical Noise Levels

Noise Source	Noise Level, dBA
Amplified Rock Band	120
Diesel Truck at 50 feet	90
Noisy Urban Daytime	80
Commercial Area	65
Quiet Urban Daytime	50
Quiet Urban Nighttime	40
Quiet Suburban Nighttime	35
Whisper at 6 feet	20
Threshold of Hearing	0

Transportation related noise, mostly related to vehicular traffic, fluctuates over time. This fluctuation is a result of varying traffic operating conditions. Averaging sound levels produced by different activities over a period of time allows the average sound level to be represented by a single value. This resulting value describes the equivalent sound (or noise) level, or Leq. The time period used in highway noise analysis is one hour, so the resulting noise descriptor that is used to evaluate noise levels is the hourly equivalent sound level, depicted by Leq(h).

As shown in Table 2-1, noise level changes of 3 dBA are barely perceptible to the average human ear. A 10-dBA noise level increase is typically perceived as being twice as loud. For highway noise to achieve an increase of about 3 dBA the traffic volumes need to double, the traffic speeds need to double, or the distance between the traffic and a receiver (residence or other human use area) needs to be almost cut in half. For most situations involving highway noise, it is a combination of these parameters that result in increased noise levels at a particular location. All noise levels discussed in this report are A-weighted, hourly Leq decibel values representing the loudest traffic hour of the day.

The loudest hour of traffic is not necessarily the peak travel hour. The highest traffic noise levels will result when the highest number of vehicles are traveling at the highest possible speed. When traffic becomes congested to the point where the vehicles need to slow down, the noise levels from the highway will begin to decrease.

3 Noise Standards and Impact Criteria

Title 23, part 772, of the Code of Federal Regulations (23CFR772) describes the methods and process for the evaluation and mitigation of highway traffic noise in conjunction with major highway projects. This regulation, which is the Federal Highway Administration (FHWA) noise standard, defines the criteria for noise impacts and is detailed in the 1995 document Highway Traffic Noise Analysis and Abatement: Policy and Guidance. The Colorado Department of Transportation's (CDOT) criteria and analysis requirements for noise analyses on CDOT projects are defined in the CDOT Noise Analysis and Abatement Guidelines (December 1, 2002) document.

A highway traffic noise impact is considered to occur when any noise-sensitive receiver (residence, park, business, etc.) is subjected to either of the following:

- Existing or future noise levels that approach or exceed the FHWA noise abatement criteria (NAC), or
- Future noise levels that substantially exceed the existing noise levels.

The FHWA NAC are listed in **Table 3-1**. To define the "approach" level, CDOT has set a value of 1 dBA (A-weighted decibels) below the criteria listed in Table 3-1 as its threshold for determining noise impacts. Thus, a noise level of 66 dBA for residential receivers (category "B") is considered to be a noise impact. CDOT defines a "substantial increase" as future noise levels that are 10 dBA greater than existing noise levels. Both of the above impact criteria are based on the hourly equivalent noise level, or Leq(h) (the energy equivalent of a steady-state condition, over a period of one hour), and apply to the loudest hour of the day. Noise levels for future conditions are based on the design year, which for this project represents conditions in the year 2025.

Table 3-1: FHWA Noise Abatement Criteria

Activity Category	Leq(h), dB(A)*	Description of Activity Category
A	57 (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (exterior)	Developed lands, properties or activities not included in Categories A and B above.
D	-	Undeveloped lands. No NAC value unless development is planned, designed, and programmed, and is likely to be built. Then applicable A, B or C category NAC applies.
E	52 (interior)	Residences, hotels motels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums.

** Hourly Equivalent Noise Level in A-weighted Decibels for the noisiest hour of the day*

All noise sensitive receivers that are shown to be impacted by noise in conjunction with a major highway project must be considered for mitigation and undergo an analysis for feasibility and reasonableness. As a result of the analysis, any mitigation that is found to be feasible and reasonable must be incorporated into the highway project. The feasibility and reasonableness criteria used on this project are described in more detail in section 7 of this report (Mitigation Analysis).

4 Noise Analysis Methodology

Noise levels for existing and future conditions (No-Action and Preferred Alternative) were predicted using the STAMINA 2.0 highway traffic noise prediction model software package. This model, developed by the FHWA and approved for use on Federal-aid highway projects, calculates the noise levels at receiver locations based on roadway alignment and elevation, traffic volumes and speeds, vehicle types, receiver location and elevation, and terrain features (natural or man-made barriers). A brief description of each of these model inputs is given below.

- **Vehicle Emission Levels**

Vehicle emission levels refer to the noise level of vehicles measured at a reference distance and speed. STAMINA includes separate levels for automobiles, medium trucks (vehicles with 2 axles and 6 tires) and heavy trucks (vehicles with 3 or more axles). The Colorado-specific vehicle energy levels were used for all vehicle types in the prediction model.

- **Traffic Volumes and Speeds**

The traffic volumes in this study for both existing and future conditions and truck percentages were provided by Carter-Burgess, PBS&J, and the CDOT Division of Transportation Development (DTD). The noise analysis requires evaluation of free-flow traffic conditions, which generally reflect a level-of-service in the C or D range. As traffic conditions worsen, noise levels begin to decrease as vehicle speeds begin decreasing with congestion. Traffic conditions, including truck percentages and speeds, which were used in the model for both existing and future (Year 2025) conditions are shown in Attachment A. With the Preferred Alternative, all of the segments of the future US 285 are projected to be at level-of-service D or better. For the purposes of this analysis, traffic was modeled using a 50-50 split between the northbound and the southbound lanes of US 285. For the to-be-widened segments of US 285, the speed limit is projected to be 55 mph, while the segments of US 285 south of the Deer Creek intersection will retain the existing speed limit ranging from 40 to 50 mph.

Although local traffic at the new grade-separated intersections would produce some noise due to traf-

fic using the crossings and the frontage roads, the small overall volume of this traffic at speeds much lower than that on US 285 would not appreciably increase the overall hourly noise levels to adjacent receivers. As a result, US 285 throughout the study area will remain the dominant noise source. Local traffic was not included in the model.

- **Locations of Roadways and Receivers**

The locations and elevations of the existing and future alignments of US 285 and the adjacent noise-sensitive receivers were determined using 3-D AutoCAD drawings developed for this project. Figures C-1 to C-19 in Attachment C shows the general alignment of US 285 in the study area and the locations and identification of the receivers that were analyzed. For use in the STAMINA model, a height of 5 feet was added to the ground elevation of each receiver to approximate the height of a typical person's ear above the ground. Receivers within 500 feet of US 285 were carried through the noise analysis as receivers further away from US 285 are not likely to experience noise levels that will reach the impact criteria as described in Section 3.

- **Terrain Features and Terrain Type**

Existing terrain features such as rock cuts, earthen mounds, natural embankments, retaining walls, and structures can act as noise barriers to some extent. These features were identified using aerial photographs and the AutoCAD project drawings and were included in both the existing and future condition models, where appropriate (terrain features for the future condition were depicted using the plan sheets for the Preferred Alternative, which show the preliminary locations of terrain features and structures).

The STAMINA model allows input of one of two types of ground for each roadway-receiver pair. If the ground between the roadway and the receiver is vegetated, the terrain is considered "soft", which dissipates noise more than a "hard" surface, such as pavement or water, or through the air. For this project, many of the receivers are located high above the roadway and since there is little noise reduction due to the ground, those receiver-roadway pairs were modeled as a "hard" surface. All other receivers were modeled using a "soft" surface.

5 Noise Measurements and Model Validation

The procedures that were described in the previous section were used to perform a validation study to determine the overall accuracy of the STAMINA noise model. To validate the noise prediction model, fifteen noise measurements were taken at twelve locations along the project corridor (three measurements were taken in duplicate locations). The collection of noise measurements typically focused on residential and other anticipated noise-sensitive areas. Actual traffic counts were taken during the measurement period, including the number of medium and large trucks. This was done to allow the collection of noise measurements at any time of the day, rather than attempting to determine the worst-noise hour traffic in the field. The relevant data (roadway alignment, traffic, etc.) were input into the STAMINA model. The summary of the noise measurements and the corresponding modeling results are shown in **Table 5-1**.

Table 5-1: Comparison of Predicted and Measured Noise Levels

Meas. ID#	LOCATION	Sample Time	Measured Leq(h), dBA	Modeled Leq(h), dBA	Difference, dBA
M1	East Main Street, Bailey 7/16/02, 7:15 a.m.	10:00	64	60	-4
M2	Will O' Wisp Neighborhood, SW quadrant, appx. 150' south of US 285 7/16/02, 8:30 a.m.	10:00	57	61	+4
M3	West of Wandcrest Rd., appx. 180' south of US 285 5/9/02, 7:50 a.m.	9:50	53	54	+1

Table 5-1: Comparison of Predicted and Measured Noise Levels (Continued)

Meas. ID#	LOCATION	Sample Time	Measured Leq(h), dBA	Modeled Leq(h), dBA	Difference, dBA
M4	West of Wandcrest Road, appx. 40' south of US 285 5/9/02, 7:10 a.m.	10:10	70	69	-1
M5	West of Wandcrest Road, appx. 40' south of US 285 (duplicate of M4) 5/9/02, 7:30 a.m.	10:10	69	68	-1
M6	West of Wandcrest Road, appx. 40' north of US 285 5/9/02, 6:25 a.m.	10:00	68	67	-1
M7	West of Wandcrest Road, appx. 70' north of US 285, 20' above roadway 5/9/02, 6:40 a.m.	10:30	64	64	0
M8	Rangeview Road, appx. 400' north of US 285 5/5/03, 11:50 a.m.	9:50	58	57	-1
M9	Will O' Wisp Neighborhood, SE quadrant, appx. 60' south of US 285 5/5/03, 12:15 p.m.	10:30	64	64	0
M10	Will O' Wisp Neighborhood, NE quadrant, appx. 50' north of US 285 (east of R120) 5/5/03, 11:15 a.m.	15:00	65	64	-1
M11	Will O' Wisp Neighborhood, NE quadrant, appx. 50' north of US 285 (east of R120) 5/20/03, 9:15 a.m. (duplicate of M10)	12:00	67	68	+1
M12	Rangeview Road, appx. 400' north of US 285 5/20/03, 9:35 a.m. (duplicate of M8)	10:00	62	58	-4
M13	Deer Creek Library Parking Lot 5/20/03, 10:05 a.m.	10:00	61	59	-2
M14	KDL Ranch (north of R81) 5/20/03, 11:40 a.m.	10:00	64	65	+1
M15	West of Sunset Development Area 5/20/03, 11:05 a.m.	10:00	61	59	-2

In general, the noise model is expected to predict noise levels to within +/- 3 dBA. This was the case for twelve of the fifteen measurements that were taken. Thus, the existing conditions along US 285 were able to be captured by the model very well. Overall, the average difference between the measured and modeled noise levels was less than one decibel.

In the case of the measurement taken in Bailey (M1), several automobiles and one medium truck passed near the noise meter on local streets traveling through town or to/from US 285, thus resulting in overall higher noise levels than what was predicted from the major noise source, US 285, as the traffic on the local road was not modeled. The M12 measurement was taken at times of gusting winds, which would tend to yield higher measured results than if the wind was calm. Location M2, the only area which had measured results much lower than the model values, was located slightly down the slope from the highway. As such, the embankment in this area was slightly shielding portions of the westbound lane of US 285, which would result in slightly lower noise levels than if the terrain were flat and both lanes of US 285 were able to be seen.

6 Impact Assessment

Adjacent to the US 285 study area from Foxton Road to west of Bailey, noise levels were determined for the 319 Category B (residential) and 97 Category C (commercial) receivers located within 500 feet of the roadway. Due to the long study area length and rugged valley topography associated with much of the study area, multiple computer model runs were performed to better evaluate the large volume of data input needed to calculate indi-

vidual noise levels for various segments of the highway. Existing condition noise level values were compared to the predicted future noise levels indicative of the completed project geometry and future traffic conditions to determine noise impacts.

Table 6-1 lists the impacted receiver locations and their predicted noise levels for existing conditions and both the Preferred and No-Action Alternatives.

Table 6-1: Predicted Future Noise Levels for Impacted Receivers

Noise Receivers		Noise Levels, Leq(h), dBA		
ID*	Description	Existing Conditions	No-Action Alternative	Preferred Alternative
R2A	Foxton Road Residence	62	67	67
R7	Green Valley Ranch Residence	63	67	67
R10	Green Valley Ranch Residence	64	68	68
R11	Green Valley Ranch Residence	63	67	67
R16	11515 N. US 285 Frontage Road	61	65	66
R25	Green Valley Ranch Residence	58	65	66
R27A	Green Valley Ranch Residence	62	66	67
R30	Green Valley Ranch	61	66	66
R32	Green Valley Ranch Residence	64	70	70
R39	Sunny Acres Residence	61	64	66
R41	Sunny Acres Residence/(Skyline Recovery Systems)	64	67	68
R44	Broken Arrow Ranch Residence	63	65	66
R45	Broken Arrow Ranch Residence	64	66	67
R46	Broken Arrow Ranch Residence	66	67	68
R47	Broken Arrow Ranch Residence	64	66	67
R49	Broken Arrow Ranch Residence	64	66	66
R54	12134 S. US 285	62	65	66
R58	Kings Valley Residence	64	66	66
R60	Kings Valley Residence/Longs House	69	70	69
R61	Kings Valley Residence	67	68	67
R64**	Kings Valley Residence	65	67	67
R65	Kings Valley Residence	64	65	67
R66**	Kings Valley Residence	65	66	73
R67	Kings Valley Residence	60	62	68
R68	Kings Valley Residence	60	61	67
R69	Kings Valley Residence	60	62	67
R72	Kings Valley Residence	62	64	69
R75	12595 S. US 285	63	65	67

Table 6-1: Predicted Future Noise Levels for Impacted Receivers (Continued)

Noise Receivers		Noise Levels, Leq(h), dBA		
ID*	Description	Existing Conditions	No-Action Alternative	Preferred Alternative
R82	12824 S. US 285	65	66	67
R85	12894 S. US 285	63	65	66
R86	12835 S. US 285	64	65	68
R87	12935 S. US 285	65	66	69
R90	13035 S. US 285	64	67	68
R90A	Shaffers Crossing Residence	64	66	66
R95	13361 Douglas Ranch Drive	62	64	66
R98	13505 S. US 285	63	64	66
R100	13525 S. US 285	67	68	71
R105	Pine Junction Residence	63	66	66
R105B**	Pine Junction Residence	64	66	70
R118-P	Sunset Development (Planned)	63	65	70
R120	Rim Rock /McKinley Residence	64	66	68
R125	Rim Rock /McKinley Residence	62	64	66
R127	Will O' Wisp Residence	60	61	66
R129	Will O' Wisp Residence	59	60	66
R130	Will O' Wisp Residence	59	60	66
R131	Will O' Wisp Residence	61	62	66
R132	Will O' Wisp Residence	63	64	67
R173	Rim Rock /McKinley Residence	64	65	67
R182	Rim Rock /McKinley Residence	62	64	66
R184X	22 Roland Valley Drive	62	64	68
R185A	Horn Cemetery	65	68	69
R233	Bailey Residence	65	69	69
C12	Water Treatment Plant	66	67	71
C14**	Long Bros. Garage	67	68	73
C14B	Office Building (12424 Big Timber Drive)	65	66	71

** "R": Residential Receivers (Category B); "C": Commercial Receivers (Category C)*

***: Properties identified as right-of-way acquisitions are with the Preferred Alternative*

A total of 52 residential and 3 commercial receivers were found to be impacted by noise under the Preferred Alternative, and are shown in Figure 3-11. Note that all of the above receivers that are considered impacted are so because the future noise levels are predicted to be at or above the 66-dBA residential or 71-dBA commercial approach criteria. Although most receivers in the study area will experience, in general, noise level increases of 3 to 8 dBA between now and 2025, no impacts are due to

a substantial increase in future noise levels (10 dBA) over the existing noise levels. Overall noise levels will increase for most receivers due to a combination of traffic volume increases, realignment of roadway segments closer to homes and businesses, and alteration of existing terrain.

A complete listing of the noise levels that were determined for receivers adjacent to the project area is provided in Attachment B.

7 Mitigation Analysis

All receivers that are shown to be impacted by noise in conjunction with a major highway project must be considered for mitigation and undergo an analysis for feasibility and reasonableness of noise abatement. As a result of the analysis, any mitigation that is found to be feasible and reasonable must be incorporated into the highway project.

For the 55 impacted receptors under the Preferred Alternative, noise mitigation in the form of noise barriers (walls or earth berms) were considered and evaluated in accordance with the CDOT noise analysis guidelines. Measures such as traffic controls and lane restrictions would not effectively reduce noise levels over the long term, and additional alterations of the highway alignment within the available study area footprint to reduce overall noise levels would be marginal. Speed reductions also would not be effective, because it takes a 20 mph reduction in speed to result in a noticeable overall decrease in noise levels.

For a noise barrier to be feasible, it must be able to be constructed in a continuous manner so that a minimum noise reduction of 5 dBA is achieved for the first row of receivers without any potential safety or maintenance issues. A noise barrier is usually not effective if it needs to be constructed with gaps across access points (streets or driveways) or large drainage ditches. If a barrier appears to be feasible, reasonableness issues that need to be addressed are cost versus benefit, existing and future noise levels, increase in noise levels over existing, and development type. Any mitigation that is considered is designed to protect outdoor, ground floor areas of frequent human use. This is typically in the front or back yard of a residence, a common gathering area in a park, or an outside use area of a business, such as an eating or picnic area.

In general, it is neither feasible nor reasonable to provide mitigation for isolated or groups of very dispersed receivers or receivers on the hillside overlooking the highway. To properly mitigate these properties, a barrier, in effect, would need to be constructed surrounding each home, or a sufficient length of barrier would need to be constructed along the highway edge so that noise does not wrap around or flank the ends of the barrier. In many cases, access points prevent the barrier from being constructed in a continuous manner. Barriers such as these also are very unlikely to meet the cost-benefit criteria for reasonableness, as the wall is providing noise reduction to a very small number of homes or has to be constructed to excessive heights to properly mitigate hillside homes. This is the case for many of the impacted properties that are mostly located adjacent to the southbound lanes overlooking the highway.

To determine the benefit of the noise barrier, all receivers, whether they are considered impacted or not, are included in the analysis if the proposed noise barrier provides them at least a 3 dBA noise reduction. Thus, the number of benefited receivers for a proposed barrier may differ from the number of receivers that met the noise impact criteria. As is common prudent practice, barriers were analyzed for groups of homes and neighborhoods, where applicable. It is not considered feasible or reasonable to build a barrier to protect only one or two impacted home in a neighborhood setting without considering the adjacent properties or the discrete neighborhood itself.

For noise barriers analyzed, the STAMINA computer noise model was used to determine noise reductions based the length, height, and location of the barrier. All barriers were modeled on CDOT right-of-way property, ranging from the side of the road to the actual or future right-of-way property line. Potential feasible barriers (in the form of walls) were evaluated for cost-benefit based on a unit wall cost of $30 per square foot. This value is then divided by the total decibel benefit. Reasonable cost-benefit values for walls are in the range of

$3,750-$4,000 per decibel reduction provided to benefited receivers (all receiving at least 3 dBA reduction).

Based on the location of the receivers and configuration of the US 285 study area and its proposed improvements, 23 noise barriers containing 28 separate barrier segments, were evaluated. This takes into account 47 impacted receivers, 45 additional potentially benefited first-row receivers, and 81 additional potentially benefited second/third-row receivers. Four receivers (R2A, R118P, R185A, and R233) were not analyzed in detail; those receivers will be discussed below. This analysis did not take into account the four properties (R64, R66, R105B, and C14) identified as potential right-of-way acquisitions, as these properties will not exist with the construction of the Preferred Alternative. **Table 7-1** lists each barrier along with the receivers that could potentially benefit from the barrier and will be considered in the barrier benefit analysis (residential receivers are indicated by their ID number; commercial receivers are shown with a "C" prefix)

Table 7-1: Impacted Received Locating Analyzed for Mitigation

Barrier (# of sgmts.)	General Barrier Area	Receivers		
		Impacted	Other 1st Row	Other 2nd Row
1 (3)	Green Valley Ranch East	7,10,11,25,27A	3,4,6,12,20-22, 23A,24,27	5,8,9,9A,13-1519,23,26
2	North US 285 Frontage Road	16	16A,17,18,C2	
3	Green Valley Ranch	30		
4	Sunny Acres/Broken Arrow Acres	39,41,44-47,49	42,43,50A,C8C8A,C9	37,38,40,48,50,51
5	Green Valley Ranch West	32	31,31A,33,34	35,35A
6	Richmond Hill	54		53
7	Kings Valley (NE Quad)	C12		
8	Kings Valley (SE Quad)	58,60,61,64*		59,62,63
9	Kings Valley (SW Quad)	65		
10 (2)	Kings Valley (NW Quad)	66*,67-69, 72C14*,C14B		73,C14A
11	West of Kings Valley	75		
12	South US 285 Frontage Road	82,85	83	
13	Calfee Gulch Road	86		
14	Elk Haven Road	87		88
15	Shaffers Crossing (SW Quad)	90A	90C	90B,90D
16	Shaffers Crossing (NW Quad)	90		
17	Douglas Ranch	95		96,97
18 (2)	East of Pine Junction	98,100		99
19	Pine Junction	105,105B*	C32,C34	105A,110-115
20	Rim Rock East	120,125	124	123,C41
21 (2)	Will O' Wisp	127,129-132	126,128,134-143	144-153,154-171
22	Rim Rock /McKinley	173,182	172,174-181,183	172A,173A
23	Roland Valley	184X		C42,C42A

**: Properties identified as right-of-way acquisitions are with the Preferred Alternative*

Table 7-2 shows the barrier heights analyzed for each barrier, the number of benefited receivers and total noise reduction, and the calculated cost-benefit values.

Table 7-2: Noise Barrier Analysis

		Receiver Analysis		
Barrier	Barrier Height/ Approximate Length (ft)	Benefited Receivers	Total Noise Reduction (dBA)	Approximate Estimated Cost per dBA reduction
1**	8/2100 + 8/1400 + 10/550	25	169	$5900
2	20/1770	6	37	$28000
3	10/310	1	5	$18000
4	15/2440	13	75	$15000
5	10/1180	5	31	$12000
6	10/310	1	5	$18000
7	10/400	1	5	$23000
8	10/1500	6	39	$12000
9	10/220	1	6	$11000
10*	10/520 + 10/830	7	41	$10000
11	20/520	1	6	$50000
12	10/780	3	15	$16000
13	20/450	1	6	$44000
14	11/240	1	5	$15000
15	10/600	4	19	$9400
16	10/270	1	5	$16000
17	12/730	2	13	$21000
18	20/470 + 20/280	2	8	$57000
19	8/880	3	16	$13000
20	10/1300	5	28	$13000
21*	10/810 + 12/1060	41	201	$3100
22	16/2800	11	63	$21000
23	8/620	3	23	$6500

**: Barrier designed in 2 separate segments*
***: Barrier designed in 3 separate segments*

Of these analyzed barriers, Barrier 21 meets the CDOT criteria for both feasibility and reasonableness (see Figure C.11). Barrier 21, for the Will O' Wisp subdivision, is located south of US 285 at approximately MP 228.0 and consists of a western and eastern segment on either side of the subdivision access at Wisp Creek Road. This barrier is recommended as part of the Preferred Alternative and will be reanalyzed during final design to determine its ultimate feasibility and reasonableness factors, final location, and impacts to other environmental resources, particularly wildlife.

While most of the other barriers did show at least a 5-dBA reduction to at least one receiver, thus meeting the feasibility requirements, they far exceed the criteria for cost-reasonableness. For the most part, these barriers attempt to mitigate noise for isolated or dispersed groups of homes, which is very difficult to achieve given the acceptance criteria. It is also difficult to mitigation noise for the many homes along US 285 that are elevated relative to the highway.

Predicted noise levels for receivers R2A (near Foxton Road), R185A (Horn Cemetery) and R233 (a multi-family residence in Bailey) were above the 66-dBA-impact level. Noise barriers for these properties were not recommended. The cemetery has only sporadic use and a barrier at this location would constitute little recognizable benefit. The Foxton Road and Bailey residences do not qualify for mitigation consideration at this time as the Preferred Alternative involves no capacity improvements or major realignment (the only improvements in Bailey include minor intersection work) in the areas where these properties exist. If at some time in the future capacity or other major improvements are proposed for these areas, these receivers (as will all others in the adjacent areas) will need to be re-evaluated for noise impacts in accordance with the CDOT noise guidelines.

The proposed Villages at Sunset, analyzed in this project as receiver R118P, meets the requirements for "Planned, Designed, and Programmed" development as defined in the FHWA noise regulations. The analysis did show the potential for future noise levels to reach 66 dBA along the southern edge of the development, just north of the proposed Sunset Parkway. At this point in time, however, it is difficult to determine exactly where the proposed homes are going to be, and how many will be in existence in the future. For this reason, mitigation determination for the Sunset area will be deferred until the construction of the Preferred Alternative in this area. A noise analysis will be conducted concurrently with the design to determine impacts and, necessary mitigation strategies.

8 Construction Noise and Vibration

Construction of the project will result in noise generated by construction vehicles (such as graters, dump trucks, and bulldozers), back-up alarms, compressors, and pile drivers. Noise impacts are likely to be in isolated locations of short-term duration. Vibration caused by pile driving and compaction units is not expected to result in any structural damage for buildings that are at least 50 feet from the site of the activity.

While noise impacts from construction are temporary in nature, the following measures have the potential to reduce the effects caused by construction of the project:

- Proper use and maintenance of construction equipment, particularly mufflers;
- Use of quiet-use generators and noise blankets;
- Minimize construction duration in residential areas and limiting work to be performed at night, especially pile driving and other high-noise activities;
- Combining noisy operations to occur in the same time period;
- Using alternative construction methods when possible, such as sonic or vibratory pile driving in sensitive areas;
- Notifying the public in advance of high-noise construction activities.

9 Summary and Recommendations

Based on the results of this analysis, one noise barrier consisting of two segments, for the Will O' Wisp neighborhood south of US 285 just west of Pine Junction, is recommended for inclusion on the US 285 project as it meets the feasibility and reasonableness criteria as analyzed in this preliminary study. This barrier will be re-evaluated at the time of the final design of the Preferred Alternative.

Attachment A-Traffic Data

Table A-1: US 285 Existing Worst-Hour Traffic Volumes, Vehicles/Hour

US 285 Roadway Section	Autos	Medium Trucks	Heavy Trucks	Speed (mph)
East of Foxton Road	1842	56	49	45
Foxton Road to Wagon Trail	1836	58	53	45
Wagon Trail to Richmond Hill Rd.	1808	84	55	45
Richmond Hill Rd. to Elk Creek Rd.	1574	73	47	50
Elk Creek Rd. to JCR-126 (Pine Junction)	1432	73	48	50
JCR-126 to Wisp Creek Rd.	1236	44	48	55
Wisp Creek Rd. to Rosalie Rd.	884	31	34	50/55
Rosalie Rd. to PCR-43/72	663	23	26	50
PCR-43/72 to PCR-68	473	13	38	40/50
PCR-68 to PCR-64	463	15	46	40
PCR-64 to Glenisle	472	13	39	40/50
West of Glenisle	459	16	49	50

Table A-2: US 285 No Action (Year 2025) Worst-Hour Traffic Volumes, Vehicles/Hour

US 285 Roadway Section	Autos	Medium Trucks	Heavy Trucks	Speed (mph)
East of Foxton Road	3707	114	98	55
Foxton Road to Wagon Trail	3695	118	106	55
Wagon Trail to Richmond Hill Rd.	3640	169	110	55
Richmond Hill Rd. to Elk Creek Rd.	2556	118	77	40
Elk Creek Rd. to JCR-126 (Pine Junction)	2430	124	82	40
JCR-126 to Wisp Creek Rd.	2094	74	81	45
Wisp Creek Rd. to Rosalie Rd.	1608	57	62	50
Rosalie Rd. to PCR-43/72	1102	39	43	50
PCR-43/72 to PCR-68	1027	27	83	40/50
PCR-68 to PCR-64	1004	33	100	40
PCR-64 to Glenisle	1026	27	84	40/50
West of Glenisle	995	35	107	50

Table A-3: US 285 Preferred Alternative (Year 2025) Worst-Hour Traffic Volumes, Vehicles/Hour

US 285 Roadway Section	Autos	Medium Trucks	Heavy Trucks	Speed (mph)
East of Foxton Road	3643	112	96	55
Foxton Road to Wagon Trail	3631	116	104	55
Wagon Trail to Richmond Hill Rd.	3577	166	108	55
Richmond Hill Rd. to Elk Creek Rd.	3203	148	97	55
Elk Creek Rd. to JCR-126 (Pine Junction)	2804	143	94	55
JCR-126 to Wisp Creek Rd.	2426	86	94	55
Wisp Creek Rd. to Rosalie Rd.	1735	62	67	55
Rosalie Rd. to PCR-43/72	1308	46	51	50
PCR-43/72 to PCR-68	1008	27	82	40/50
PCR-68 to PCR-64	987	32	98	40
PCR-64 to Glenisle	1007	27	83	40/50
West of Glenisle	977	35	105	50

Attachment B-Receiver Noise Level Tables

Table B-1: Residential Receivers (L_{eq},dBA)

Receptor No.	Receptor Description	Existing	Preferred Alternative	No-Action Alternative
R1	Foxton Road Residence	59	63	63
R1A	Foxton Road Residence	59	64	64
R2	Foxton Road Residence	60	65	65
R2A	Foxton Road Residence	62	67	67
R3	Green Valley Ranch Residence	60	63	63
R4	Green Valley Ranch Residence	58	62	62
R5	Green Valley Ranch Residence	54	58	58
R6	Green Valley Ranch Residence	60	64	64
R7	Green Valley Ranch Residence	63	67	67
R8	Green Valley Ranch Residence	56	60	60
R9	Green Valley Ranch Residence	53	58	58
R9A	Green Valley Ranch Residence	53	57	57
R10	Green Valley Ranch Residence	64	68	68
R11	Green Valley Ranch Residence	63	67	67
R12	Green Valley Ranch Residence	60	64	64
R13	Green Valley Ranch Residence	54	59	59
R14	Green Valley Ranch Residence	54	59	58
R15	Green Valley Ranch Residence	54	59	59
R16	11515 N. US 285 Frontage Road	61	66	65
R16A	11555 N. US 285 Frontage Road	61	65	64
R17	11575 N. US 285 Frontage Road	60	65	63
R18	11585 N. US 285 Frontage Road	59	63	62
R19	Green Valley Ranch Residence	57	64	63
R20	Green Valley Ranch Residence	57	64	63
R21	Green Valley Ranch Residence	54	61	61
R22	Green Valley Ranch Residence	57	63	63
R23	Green Valley Ranch Residence	53	59	59
R23A	Green Valley Ranch Residence	56	62	61
R24	Green Valley Ranch Residence	59	64	64
R25	Green Valley Ranch Residence	58	66	65
R26	Green Valley Ranch Residence	55	61	61
R27	Green Valley Ranch Residence	56	61	61

Table B-1: Residential Receivers (L_{eq},dBA)

Receptor No.	Receptor Description	Existing	Preferred Alternative	No-Action Alternative
R27A	Green Valley Ranch Residence	62	67	66
R28	11655 N. US 285 Frontage Road	59	63	63
R30	Green Valley Ranch	61	66	66
R31	Green Valley Ranch Residence	60	65	65
R31A	Green Valley Ranch Residence	59	64	64
R32	Green Valley Ranch Residence	64	70	70
R33	Green Valley Ranch Residence	60	65	65
R34	Green Valley Ranch Residence	58	62	62
R35	Green Valley Ranch Residence	58	62	62
R35A	Green Valley Ranch Residence	56	60	60
R37	Sunny Acres Residence	60	64	63
R38	Sunny Acres Residence	59	63	62
R39	Sunny Acres Residence	61	66	64
R40	Sunny Acres Residence	59	63	62
R41	Sunny Acres Residence/(Skyline Recovery Systems)	64	68	67
R42	Sunny Acres Residence	62	65	66
R43	Sunny Acres Residence	60	62	62
R44	Broken Arrow Ranch Residence	63	66	65
R45	Broken Arrow Ranch Residence	64	67	66
R46	Broken Arrow Ranch Residence	66	68	67
R47	Broken Arrow Ranch Residence	64	67	66
R48	Broken Arrow Ranch Residence	60	63	62
R49	Broken Arrow Ranch Residence	64	66	66
R50	Broken Arrow Ranch Residence	61	64	64
R50A	Broken Arrow Ranch Residence	62	65	64
R51	Broken Arrow Ranch Residence	60	63	63
R52	Broken Arrow Ranch Residence	60	64	63
R53	29030 Richmond Hill Road	62	65	64
R54	12134 S. US 285	62	66	65
R55	12075 Blackfoot Road	59	64	64
R56	12125 S. US 285	62	65	63
R58	Kings Valley Residence	64	66	66
R59	Kings Valley Residence	60	62	61
R60	Kings Valley Residence/Longs House	69	69	70

Table B-1: Residential Receivers (L_{eq},dBA)

Receptor No.	Receptor Description	Existing	Preferred Alternative	No-Action Alternative
R61	Kings Valley Residence	67	67	68
R62	Kings Valley Residence	58	61	59
R63	Kings Valley Residence/Clifton House	59	61	60
R64*	Kings Valley Residence	65	67	67
R65	Kings Valley Residence	64	67	65
R66*	Kings Valley Residence	65	73	66
R67	Kings Valley Residence	60	68	62
R68	Kings Valley Residence	60	67	61
R69	Kings Valley Residence	60	67	62
R72	Kings Valley Residence	62	69	64
R73	12581 S. US 285	59	63	61
R74	12604 S. US 285	57	60	58
R75	12595 S. US 285	63	67	65
R77	12614 S. US 285	58	61	59
R78	12724 S. US 285	62	65	64
R79	12755 S. US 285	60	64	62
R80	12754 S. US 285	59	62	60
R81	12764 S. US 285	57	60	58
R82	12824 S. US 285	65	67	66
R83	12844 S. US 285	58	61	60
R85	12894 S. US 285	63	66	65
R86	12835 S. US 285	64	68	65
R87	12935 S. US 285	65	69	66
R88	12661 Elk Haven Lane	61	63	62
R89	12853 Elk Creek Road	60	64	62
R90	13035 S. US 285	64	68	67
R90A	Shaffers Crossing Residence	64	66	66
R90B	Shaffers Crossing Residence	59	62	61
R90C	Shaffers Crossing Residence	62	64	65
R90D	Shaffers Crossing Residence	58	61	60
R92	13034 S. US 285	57	60	60
R93	13019 Parker Avenue	61	65	62
R94	Elk Creek Elementary School	58	62	59
R94A	Elk Creek Elementary School	59	63	60

Table B-1: Residential Receivers (L_{eq},dBA)

Receptor No.	Receptor Description	Existing	Preferred Alternative	No-Action Alternative
R95	13361 Douglas Ranch Drive	62	66	64
R96	13342 Douglas Ranch Drive	56	60	58
R97	13514 S. US 285	57	60	58
R98	13505 S. US 285	63	66	64
R99	13545 S. US 285	62	64	64
R100	13525 S. US 285	67	71	68
R101	13556 S. US 285	61	64	63
R102	13565 S. US 285	63	64	64
R103	Pine Junction Residence	55	58	57
R104	Pine Junction Residence	63	64	65
R105	Pine Junction Residence	63	66	66
R105A	Pine Junction Residence	54	58	57
R105B*	Pine Junction Residence	64	70	66
R106	Pine Junction Residence	58	62	60
R107	Pine Junction Residence	58	61	60
R108	Pine Junction Residence	59	64	61
R110	Pine Junction Residence	56	59	58
R111	Pine Junction Residence	54	58	57
R112	Pine Junction Residence	54	57	56
R113	Pine Junction Residence	56	60	59
R114	Pine Junction Residence	55	59	58
R115	Pine Junction Residence	57	60	60
R116	Pine Junction Residence	59	62	62
R117	Pine Junction Residence	54	57	56
R118-P	Sunset Development (Planned)	63	70	65
R120	Rim Rock /McKinley Residence	64	68	66
R123	Rim Rock /McKinley Residence	58	61	60
R124	Friendship Baptist Church	62	65	64
R125	Rim Rock /McKinley Residence	62	66	64
R126	Will O' Wisp Residence	59	63	59
R127	Will O' Wisp Residence	60	66	61
R128	Will O' Wisp Residence	59	65	60
R129	Will O' Wisp Residence	59	66	60
R130	Will O' Wisp Residence	59	66	60

Table B-1: Residential Receivers (L_{eq},dBA)

Receptor No.	Receptor Description	Existing	Preferred Alternative	No-Action Alternative
R131	Will O' Wisp Residence	61	66	62
R132	Will O' Wisp Residence	63	67	64
R134	Will O' Wisp Residence	58	60	59
R135	Will O' Wisp Residence	57	60	58
R136	Will O' Wisp Residence	58	61	60
R137	Will O' Wisp Residence	58	60	59
R138	Will O' Wisp Residence	59	61	60
R139	Will O' Wisp Residence	59	61	61
R140	Will O' Wisp Residence	59	61	61
R141	Will O' Wisp Residence	59	61	60
R142	Will O' Wisp Residence	59	62	61
R143	Will O' Wisp Residence	59	62	61
R144	Will O' Wisp Residence	54	57	56
R145	Will O' Wisp Residence	54	57	56
R146	Will O' Wisp Residence	54	57	56
R147	Will O' Wisp Residence	54	57	56
R148	Will O' Wisp Residence	54	57	56
R149	Will O' Wisp Residence	54	57	56
R150	Will O' Wisp Residence	53	56	55
R151	Will O' Wisp Residence	55	57	56
R152	Will O' Wisp Residence	55	58	56
R153	Will O' Wisp Residence	56	59	57
R154	Will O' Wisp Residence	56	59	57
R155	Will O' Wisp Residence	59	62	60
R156	Will O' Wisp Residence	58	61	59
R157	Will O' Wisp Residence	57	61	58
R158	Will O' Wisp Residence	57	61	58
R159	Will O' Wisp Residence	56	59	57
R160	Will O' Wisp Residence	55	59	56
R161	Will O' Wisp Residence	56	59	56
R162	Will O' Wisp Residence	56	61	57
R163	Will O' Wisp Residence	54	57	55
R164	Will O' Wisp Residence	55	58	56
R165	Will O' Wisp Residence	55	59	56

Table B-1: Residential Receivers (L_{eq},dBA)

Receptor No.	Receptor Description	Existing	Preferred Alternative	No-Action Alternative
R194	Crow Hill Residence	57	60	60
R195	Crow Hill Residence	52	55	55
R196	Crow Hill Residence	53	56	56
R197	Crow Hill Residence	52	55	55
R198	Crow Hill Residence	59	62	62
R199	Crow Hill Residence	57	60	60
R200	Crow Hill Residence	52	55	55
R201	Crow Hill Residence	51	55	55
R202	Crow Hill Residence	52	55	55
R203	Crow Hill Residence	51	54	54
R204	Crow Hill Residence	55	59	59
R205	Crow Hill Residence	56	60	60
R206	Crow Hill Residence	51	54	54
R207	Crow Hill Residence	56	59	59
R208	Crow Hill Residence	50	54	54
R209	Crow Hill Residence	53	56	56
R210	Crow Hill Residence	52	55	56
R211	Crow Hill Residence	57	60	61
R212	Crow Hill Residence	56	58	59
R213	Crow Hill Residence	59	62	63
R214	Crow Hill Residence	56	59	59
R215	Crow Hill Residence	56	58	59
R216	Crow Hill Residence	61	63	64
R217	Crow Hill Residence	53	53	56
R218	Crow Hill Residence	52	54	55
R218A	Crow Hill Residence	56	59	59
R218B	Crow Hill Residence	54	57	58
R219	Crow Hill Residence	56	59	59
R220	Crow Hill Residence	52	55	55
R221	Crow Hill Residence	53	56	56
R222	Crow Hill Residence	57	57	60
R223	Crow Hill Residence	56	59	59
R224	Bailey Residence	55	59	59
R225	Bailey Residence	51	55	55

Table B-1: Residential Receivers (L_{eq}, dBA)

Receptor No.	Receptor Description*	Existing	Preferred Alternative	No-Action Alternative
R166	Will O' Wisp Residence	56	59	57
R167	Will O' Wisp Residence	54	56	55
R168	Will O' Wisp Residence	53	56	55
R169	Will O' Wisp Residence	53	56	55
R170	Will O' Wisp Residence	53	56	54
R171	Will O' Wisp Residence	53	55	54
R172	Rim Rock /McKinley Residence	62	65	64
R172A	Rim Rock /McKinley Residence	57	60	59
R173	Rim Rock /McKinley Residence	64	67	65
R173A	Rim Rock /McKinley Residence	57	60	59
R174	Rim Rock /McKinley Residence	58	62	60
R175	Rim Rock /McKinley Residence	58	62	60
R176	Rim Rock /McKinley Residence	56	60	58
R177	Rim Rock /McKinley Residence	57	60	59
R178	Rim Rock /McKinley Residence	58	60	60
R179	Rim Rock /McKinley Residence	61	63	62
R180	Rim Rock /McKinley Residence	58	61	60
R181	Rim Rock /McKinley Residence	61	64	63
R182	Rim Rock /McKinley Residence	62	66	64
R183	Rim Rock /McKinley Residence	58	59	60
R184	65050 S. US 285	52	55	54
R184X	22 Roland Valley Drive	62	68	64
R184Y	170 Roland Valley Drive	51	56	53
R185	Deer Creek Valley Residence	59	62	61
R185A	Horn Cemetery	65	69	68
R186	Deer Creek Valley Ranch	53	57	56
R187	Park County Library	59	62	61
R188	Crow Hill Bible Church	56	62	59
R188A	Rosalie Rd. Residence	50	54	53
R189	Ball Field	56	59	59
R190	Crow Hill Residence	55	58	59
R191	Crow Hill Residence	55	58	58
R192	Crow Hill Residence	56	60	60
R193	Crow Hill Residence	53	56	56

Table B-1: Residential Receivers (L_{eq},dBA)

Receptor No.	Receptor Description	Existing	Preferred Alternative	No-Action Alternative
R226	Bailey Residence	54	57	57
R227	Bailey Residence	52	55	55
R228	Bailey Residence	57	60	60
R229	Bailey Residence	56	60	60
R231	Bailey Residence	54	57	57
R232	Bailey Residence	52	55	55
R233	Bailey Residence	65	69	69
R234	Bailey Residence	60	63	63
R235	Bailey Residence	59	63	62
R236	Bailey Residence	57	61	61
R239	Bailey Residence	54	57	57
R240	Bailey Residence	52	55	55
R241	Bailey Residence	52	55	56
R242	Bailey Residence	53	56	56
R243	Bailey Residence	52	55	56
R244	Bailey Residence	54	57	57
R245	Bailey Residence	55	58	58
R246	Bailey Residence	57	60	60
R246A	Bailey Residence	61	64	65
R247	Bailey Residence	56	59	60
R248	Bailey Residence	58	61	61
R249	Bailey Residence	55	59	59
R250	Bailey Residence	56	59	59
R251	Bailey Residence	57	61	61
R252	Bailey Residence	56	59	59
R253	Bailey Residence	56	59	59
R254	Bailey Residence	54	57	57
R255	Bailey Residence	49	53	53
R255A	Bailey Residence	50	54	54
R255B	Bailey Residence	50	54	54
R255C	Bailey Residence	51	54	55
R256	Bailey Residence	51	54	54
R257	Bailey Residence	57	60	60
R258	Bailey Residence	53	56	56

Table B-1: Residential Receivers (L_{eq},dBA)

Receptor No.	Receptor Description	Existing	Preferred Alternative	No-Action Alternative
R259	Bailey Residence	52	55	55
R260	Bailey Residence	58	61	62
R261	Bailey Residence	58	62	62
R263	Bailey Residence	51	55	55
R264	Bailey Residence	51	54	54
R265	Bailey Residence	51	54	55
R266	Platte Canyon Community Church	52	55	55
R267	Bailey Residence	50	54	54
R268	Bailey Residence	50	54	54
R269	Bailey Residence	57	61	61
R270	Bailey Residence	53	57	57
R271	Bailey Residence	54	57	57
R272	Bailey Residence	54	58	58
R273	Bailey Residence	51	54	54
R274	Bailey Residence	51	55	55
R275	Bailey Residence	51	54	54
R276	Bailey Residence	54	58	58
R277	Bailey Residence	55	59	59
R278	Bailey Residence	52	55	55
R279	Bailey Residence	53	56	56
R280	Bailey Residence	59	62	62
R281	Bailey Residence	60	64	64
R282	Bailey Residence	56	60	60
R283	Bailey Residence	59	62	62
R284	Bailey Residence	51	54	54
R285	Bailey Residence	53	56	56
R286	Bailey Residence	55	58	58
R287	Glenisle Resort Cabin	58	61	61
R288	Glenisle Resort Cabin	56	59	59
R289	Glenisle Resort Lodge	61	65	65
R290	Glenisle Resort Cabin	58	61	61
R291	Glenisle Resort Cabin	58	61	61
R292	Glenisle Resort Cabin	58	62	62
R293	Glenisle Resort Cabin	59	62	62

Table B-2: Commercial Receivers (L_{eq}, dBA)

Receptor No.	Receptor Description	Existing	Preferred Alternative	No Action Alternative
C75	Deer Creek Heating	64	69	67
C76	Transnation Title	56	60	60
C77	Bailey Business	56	60	60
C78	Post Office	56	60	60
C79	Deer Creek Realty	56	59	60
C80	Bailey Business	52	56	56
C81	Bailey Business	51	54	54
C82	Park County Republican/Fairplay Flume	51	54	54
C84	Ace Hardware/Moore Lumber and Hardware	57	61	61
C89	Probation Office	51	55	55
C90	Platte Canyon Fire Station #1/Park Co. Health	60	63	63
C91	El Rio Mexican Restaurant	62	65	66
C92	Pet Clinic	59	62	62
C93	Park County Government Center	58	61	61
C94	Park County Animal Control	58	62	62

*: *Properties identified as right-of-way acquisitions are with the Preferred Alternative*

Table B-2: Commercial Receivers (L_{eq},dBA)

Receptor No.	Receptor Description	Existing	Preferred Alternative	No Action Alternative
C45	Kelly Automotive	55	59	57
C46	Hog Heaven	53	57	56
C47-P	Deer Creek Commercial Development (Planned)	63	64	65
C48	Loaf 'N Jug	61	65	63
C49	Home Buyers Realty	59	62	61
C50	Colorado Mountain Flowers	57	61	59
C51	Shell	56	60	58
C52	Platte Canyon Fire Station #2	57	61	60
C53	Hill Top Garage	52	56	55
C54	Retail Center	53	57	56
C55	Warehouse	57	60	61
C55A	TJ's Wood Products	54	58	58
C56	Bailey Massage & Fitness	61	64	65
C57	Office	59	61	62
C58	CDOT Maintenance Yard	56	56	59
C59	Alpine Mickey's	55	58	58
C60	Bailey Business Center	52	56	55
C61	White Construction	54	58	57
C62	Log Brokers	53	57	56
C62A	Bailey Sales & Service	61	64	64
C63	Bailey Propane Company	61	65	65
C64	Tom's Bailey Station	60	64	64
C65	Rustic Square	58	61	61
C66	Alpine Machine & Welding/Invader Technologies	58	61	61
C67	Platte River Automotive	63	66	66
C68	Rustic Square	54	57	57
C69	Cutthroat Café	57	61	61
C70	Bailey Country Store	56	60	60
C70A	China Village	61	64	64
C71	Knotty Pine	64	68	67
C72	Park Plaza	60	63	63
C73	REX Oil	61	65	65
C74	Conoco Station	64	68	67
C74A	Bailey Garden Center	56	60	60

Table B-2: Commercial Receivers (L_{eq},dBA)

Receptor No.	Receptor Description	Existing	Preferred Alternative	No Action Alternative
C14A	Kings Valley Storage	64	69	65
C14B	Office Building (12424 Big Timber Drive)	65	71	66
C15	Mountain Club Ltd.	63	67	64
C16	The Gym	58	61	60
C17	Mountain Toy Parts	54	58	56
C18	Rainbow Roundup Trout Ranch	56	60	58
C18A	Brockman Engineering	59	63	61
C19	Elk Creek Child Development Center	59	63	61
C21	IREA	62	65	63
C23	Pine Co. Feed Store	66	67	68
C24	U-Stor-It	62	62	63
C25	Pine Junction Country Store Complex	64	65	66
C26	Crossroads Restaurant	60	62	62
C27	Choice Real Estate	63	65	65
C28	Bear Country Glass	55	58	57
C29	Warehouse	62	66	64
C32	Qwest	58	62	60
C33	Sunrise Disposal	60	64	62
C34	Parkview Plaza	62	65	64
C34A	Cruz-In	65	67	67
C35	Woodside Inn	62	64	64
C36	Log Building	62	65	64
C37	Independent Propane	62	65	64
C38	TLC Automotive	56	60	58
C39	Warehouse	56	60	58
C39-P	Sunset Commercial Development (Planned)	60	64	62
C40	Will O' Wisp Restaurant	64	67	65
C41	Lone Rock Veterinary Hospital	62	64	63
C42	O'Malley's Auto Service	65	64	67
C42A	A Touch of Irish	63	66	65
C42B	Warehouse	57	64	60
C43	Coffee Shack	56	60	59
C43A	Dynamic Properties	58	61	60
C44	Storage	57	60	59

Table B-1: Residential Receivers (L_{eq},dBA)

Receptor No.	Receptor Description	Existing	Preferred Alternative	No-Action Alternative
R294	Glenisle Resort Cabin	60	63	63
R295	Glenisle Resort Cabin	58	62	62
R296	Glenisle Resort Cabin	58	62	62
R297	Glenisle Resort Cabin	59	62	63
R298	Glenisle Resort Cabin	55	58	59
R299	Glenisle Resort Cabin	54	57	57
R300	Glenisle Resort Cabin	56	59	59
R301	Glenisle Resort Cabin	53	57	57
R302	Glenisle Resort Cabin	56	59	59
R303	Glenisle Resort Cabin	54	57	58
R304	Glenisle Resort Cabin	56	59	59
R305	Glenisle Resort Cabin	54	57	58
R306	Glenisle Resort Cabin	51	54	54
R307	Bailey Residence	61	64	64
R308	Bailey Residence	62	65	65

*: Properties identified as right-of-way acquisitions are with the Preferred Alternative

Table B-2: Commercial Receivers (L_{eq},dBA)

Receptor No.	Receptor Description	Existing	Preferred Alternative	No Action Alternative
C1	Ferrell Gas	61	65	63
C1A	Office Building (Under Construction)	66	69	68
C2	Green Valley Autobody	61	67	66
C3A	4-H Trail Dusters	65	68	68
C3B	Olde Glory Antiques (Under Construction)	67	70	69
C4	Green Valley Center	63	68	68
C5	Green Valley Center	62	67	67
C8	Alpine Center	64	69	67
C8A	Geo Water	62	64	64
C9	Conifer Automotive	64	69	67
C10	Elk Creek Fire Station	63	67	66
C12	Water Treatment Plant	66	71	67
C13-P	Kings Valley Business Area (Planned)	65	70	66
C14*	Long Bros. Garage	67	73	68

Attachment C-Receiver/Barrier Locations (Figures)

The following figures show the general location of the alignment of the US 285 Preferred Alternative, the locations of the receivers that were analyzed, and the locations of the noise barriers that were evaluated for feasibility and reasonableness in the course of the study. Of these evaluated barriers, Barrier 21 (Figure C.11) was found to meet the feasibility and reasonableness criteria and is recommended to be included as part of the Preferred Alternative and will be re-evaluated at final design. None of the other barriers are recommended as a result of this analysis.

The barriers that were evaluated are labeled on the figures with their corresponding barrier number (described in Tables 7-1 and 7-2 on pages 13 and 14) and are shown in thick blue lines. Other features of note also shown on these figures include the existing right-of-way line (shown in red), existing local roads and driveways (gray), proposed US 285 center line (red) proposed lane lines (blue), proposed shoulders (green), proposed roadway cut lines (purple), proposed roadway fill lines (orange), and potential locations for retaining walls (black).