

FINAL

Existing Conditions Report Executive Summary US 34 PEL

Prepared for

Colorado Department of Transportation

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Executive Summary

Introduction

This report provides a summary of the roadway characteristics, multimodal facilities, and traffic and safety conditions; identifies infrastructure deficiencies; and summarizes important existing environmental resources in the U.S. Highway 34 (US 34) Planning and Environmental Linkages (PEL) Study Area. This information will be used to determine if obtaining additional data is required, to assess improvement needs, and to guide the development of corridor alternatives. The existing conditions presented in this report represent a snapshot in time current to September 15, 2017, and will be used to determine additional data collection needs for the PEL.

Study Area

As shown in Figure ES-1, the 34.6-mile-long Study Area is bounded by Larimer County Road (LCR) 29 on the west, State Highway (SH) 402 and Freedom Parkway on the south, Weld County Road (WCR) 53 on the east, and O Street on the north. The extent of this Study Area was carefully considered to incorporate key corridor influences such as changes in state highway access categories, speed limits, existing and future land uses, major trip generators, parallel routes, and adjacent studies. Defining a broader Study Area will help to understand the overall transportation system needs and the potential effects of proposed improvements on US 34 on adjacent corridors and surrounding communities. The project limits from LCR 27 to WCR 49, where proposed US 34 improvements are focused, comprises 31.7 miles.

Project Segments

Because of the size of the Study Area, varying physical and operational corridor characteristics, and the context of adjacent communities, the US 34 corridor was divided into the eight segments shown in Table ES-1. Figures ES-2 and ES-3 show the corridor segments graphically.

Table ES-1. Project Segments

Segment	Length (miles)	Limits
The Foothills	3.2	LCR 27 to Morning Drive
Loveland Urban	3.1	Morning Drive to North Garfield
Loveland 6-lane	3.8	North Garfield to West of Rocky Mountain Avenue
I-25 ^a	1.2	West of Rocky Mountain Avenue to Centerra/Thompson Parkway
Johnstown-Greeley	6.1	Centerra/Thompson Parkway to east of SH 257
Greeley Expressway	9.2	East of SH 257 to 11th Avenue near the US 85 interchange
US 34/US 85 Interchange ^a	1.3	11th Avenue to East of 1st Avenue
The East End	3.8	East of 1st Avenue to the Project limits at WCR 49

^a Being evaluated in separate studies. Existing plans and recommendations from these studies will be incorporated into the US 34 PEL, but no new or additional improvements will be recommended within these limits.

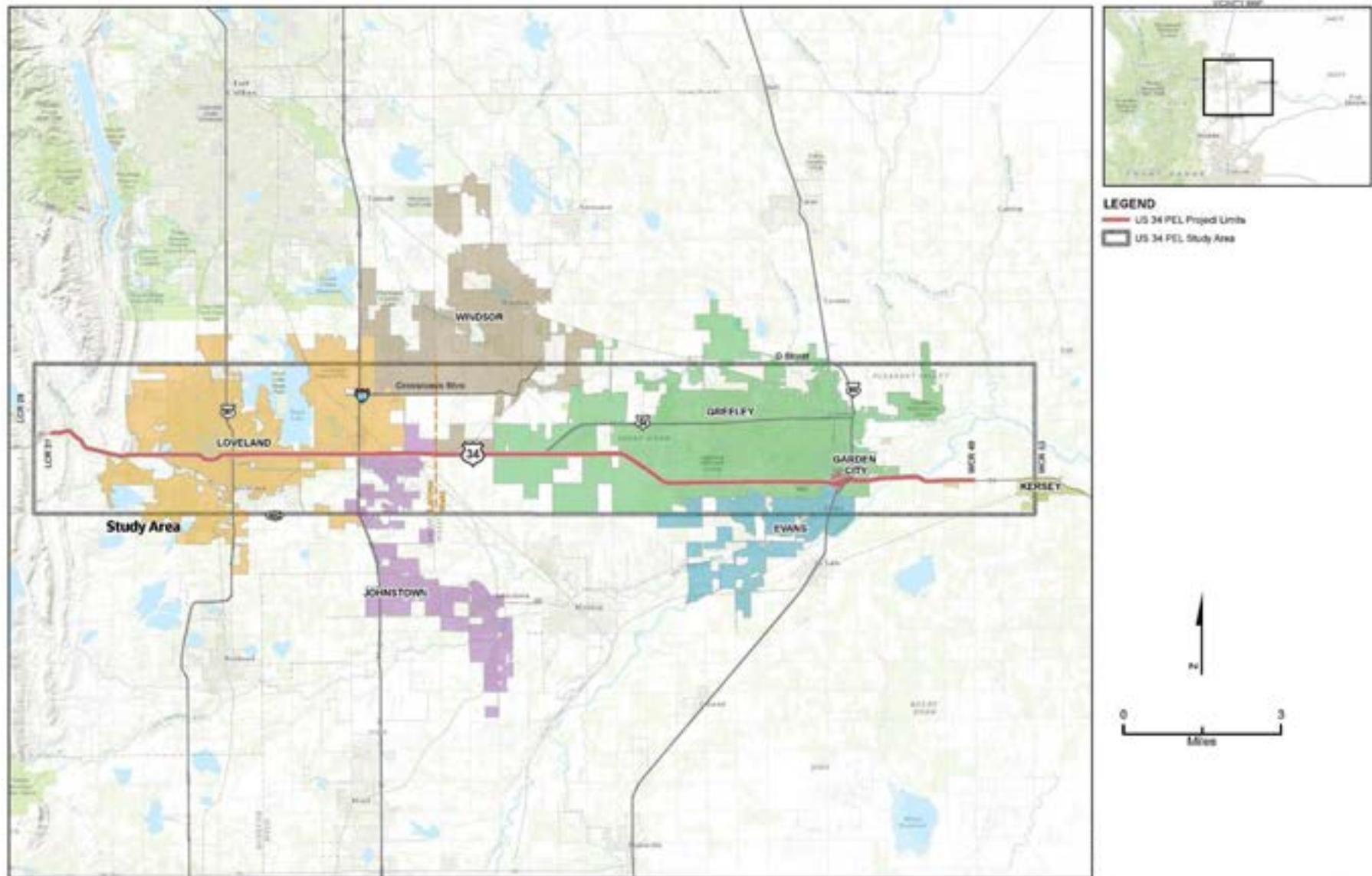


Figure ES-1. Project Location
Corridor Existing Conditions Report US 34 PEL

Existing Conditions

US 34 is part of the National Highway System and serves as a major east-west thoroughfare and main highway connection to I-25 for numerous northern Colorado communities. The following subsections highlight the assessment of existing conditions by category: roadway and infrastructure, bicycle and pedestrian, transit, safety, traffic volumes, access, land use and socioeconomics, and environmental.

Roadway and Infrastructure

US 34 is designated as a Principal Arterial with a primary function of carrying through-traffic with medium to high speeds over medium to long distances in a safe and efficient manner. Direct access to the roadway is secondary to servicing the through traffic. As development has occurred, the once rural context of the corridor has evolved to be more urban landscape and thus, some areas have traffic signals, multiple turn lanes, and raised medians to accommodate local access. Table ES-2 summarizes the typical roadway and infrastructure elements. This table is meant to generally represent known corridor conditions. Consult the *Corridor Existing Conditions Report US 34 PEL* for more specifics.

Table ES-2. Roadway and Infrastructure Elements

Element	West of I-25	East of I-25
Characteristics	Varies widely	Almost no variation
Context	Urban ¹	
Classification	Principal Arterial – Other ²	Principal Arterial – Freeway and Expressway ³
Speed limit	35 – 55 mph	45 – 65 mph
Terrain	Rolling ⁴	
Truck route	Yes	
Shoulders	Varies considerably with curb and gutter in urban areas and roadside ditch in rural areas	
Railroads	One grade separated crossing west of Cleveland (BNSF Railway Company)	One grade separated crossing at the US 85/US 34 interchange (Union Pacific Railroad) Two at-grade crossings, 1.3 miles apart. One west of LCR 3 (Union Pacific Railroad) and one east of LCR 1/WCR 13 (Genesee & Wyoming Railroad)
Right-of-way	Typically 80 feet in urban areas and up to 400 feet in developing areas ⁵	Varies, up to 400 feet in developing areas ⁶
Structures (SD or FO) ⁷	3	None
US 34 Frontage Roads	None	Not continuous, several segments less than 1 mile
Utilities	Typical parallel and transverse utility conflicts ⁸	

¹ Rural in the westernmost 0.75 mile

² From west study limit (LCR 29) to WCR 17 (16.1 miles) and eastern-most 0.8 mile near Kersey

³ From WCR 17 to Kersey (17.7 miles)

⁴ Mountainous west of Cascade Avenue

⁵ Constrained right-of-way and topographic restrictions on US 34 in the City of Loveland.

⁶ Right-of-way has been reserved for future interchanges at 35th Avenue and 47th Avenue

⁷ Three major structures considered either structurally deficient (SD) or functionally obsolete (FO): C-16-W, Barnes Inlet Canal (SD); C-16-T, Loveland- Greeley Canal (FO); and C-16-AX, Loveland-Greeley Canal

⁸ Full utility mapping has not been conducted at this stage of the project. Information on major utilities will be collected to help determine if utilities influence alternative alignments, screen alternatives, or raise cost estimates.

Bicycle and Pedestrian

Within the US 34 corridor, bicycle infrastructure includes bike lanes, designated bike routes/shared use paths, and street trails. Expansion of the bicycle network, strategic intersection improvements, and major non-motorized regional corridors are planned by others. Pedestrian infrastructure varies from areas with no sidewalks to areas with detached sidewalks, attached sidewalks, or shared-use paths. The majority of the bicycle and pedestrian infrastructure along the corridor is located within the Cities of Loveland and Greeley. Existing and proposed bicycle infrastructure is shown in Figure ES-4, and Figure ES-5 shows existing and proposed pedestrian infrastructure.

Transit

Existing transit service within the corridor consists of local and regional bus routes that intersect US 34 rather than traverse US 34. Most of the existing transit facilities are concentrated within the Loveland and Greeley city limits.

The Study Area is currently served by CDOT and three separate transit agencies:

- City of Loveland Transit provides fixed routes in Loveland.
- Greeley Evans Transit (GET) operates fixed-route service through portions of the Study Area and one demand-response service.
- Transfort provides public transportation programs and services in Fort Collins, the Northern I-25 corridor, and the Northern Colorado region.
- CDOT currently operates the Bustang service, connecting Fort Collins and Loveland to Denver, and stopping at the US 34/I-25 Park-n-Ride.
- Transfort operates FLEX Routes in partnership with Fort Collins, Loveland, Berthoud, and Longmont.

Proposed transit facilities, future service expansion, and enhancements are recommended by the following planning agencies:

- The North Front Range Metropolitan Planning Organization (NFRMPO) *2040 Regional Transit Plan (2015)*
 - Nine regional transit corridors as priorities for transit investment over the next 25 years. These corridors enhance intra- and interregional connections, creating a network of east-west and north-south routes. Many of the routes would complement existing infrastructure, such as connecting cities to the Bustang service, while others would enhance the mobility of residents by connecting them to education, employment, medical, and social destinations.
- The City of Greeley *2035 Comprehensive Transportation Plan (2011)*
 - Increased frequencies of GET, moderate increases in the length of the service day, and increased coverage and regional service
- The City of Loveland *2035 Transportation Plan (2012)*
 - Proposed Route 51 that travels along US 287 and intersects US 34
 - Proposed Route 56 that travels along US 34, starting at US 287, and going east
 - Proposed Route 52 travels along I-25
 - Proposed Route 53 travels along I-25
 - Proposed transit center along US 34 west of I-25
- The Greeley Evans Transit Strategic Plan (2016)
 - Increased frequencies, moderate increases in the length of the service day, and increased coverage and regional service. The increase transit coverage could be extended to include the high-growth areas to the west, and some north and south coverage.

Existing and proposed transit is shown in Figure ES-6.

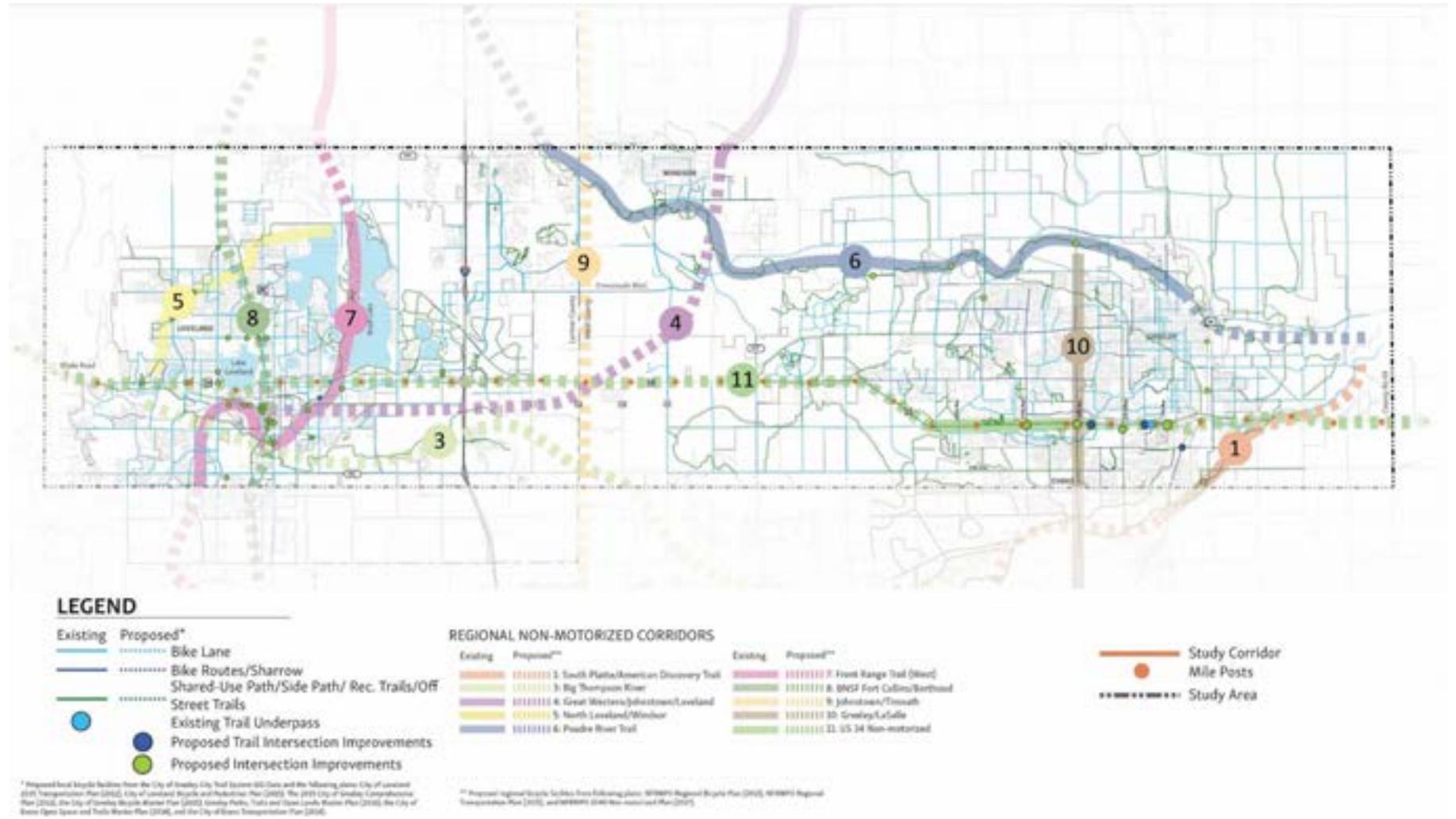


Figure ES-4. Existing and Proposed Bicycle Facilities
Corridor Existing Conditions Report US 34 PEL

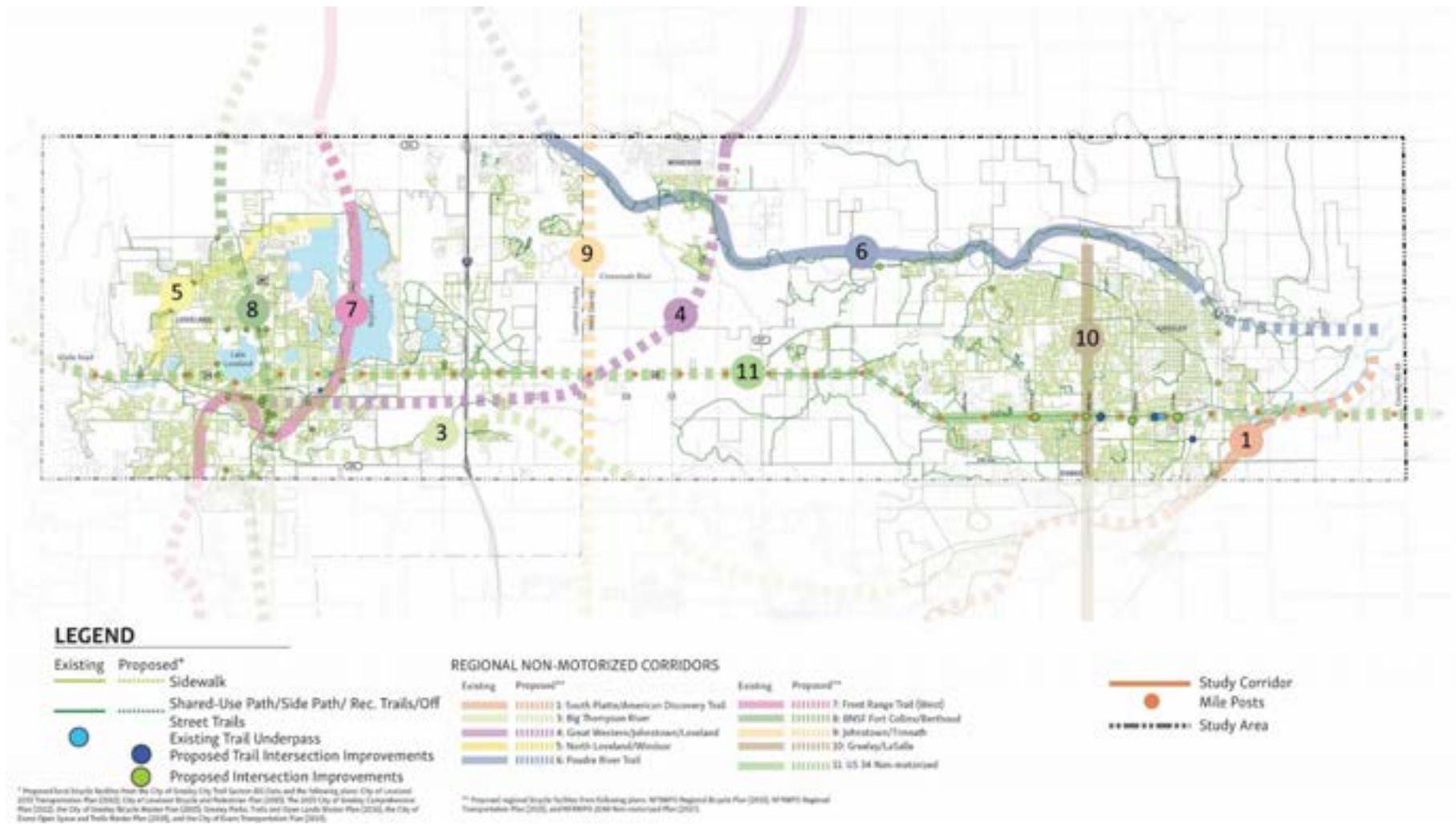


Figure ES-5. Existing and Proposed Pedestrian Facilities
 Corridor Existing Conditions Report US 34 PEL

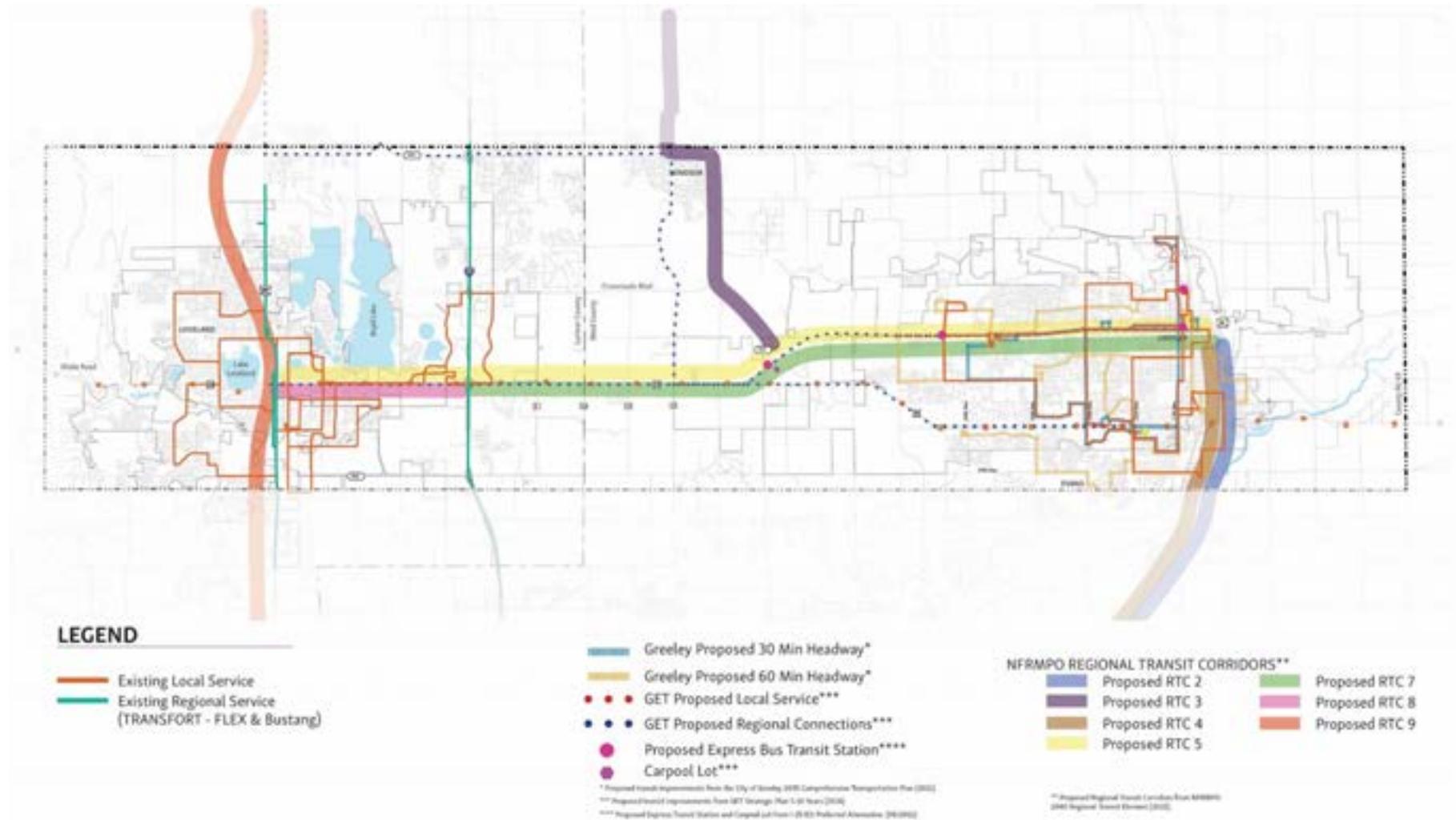


Figure ES-6. Existing and Proposed Transit Corridor Existing Conditions Report US 34 PEL

Safety

Along US 34 in the Study Area, 2,650 crashes were recorded over the 5-year period from 2011 through 2015, including 12 fatal crashes and 861 involving injuries. The total crashes, injury crashes, and fatal crashes by 1/10-mile segments and the relationship to daily traffic volume on US 34 are shown in Figure ES-7.

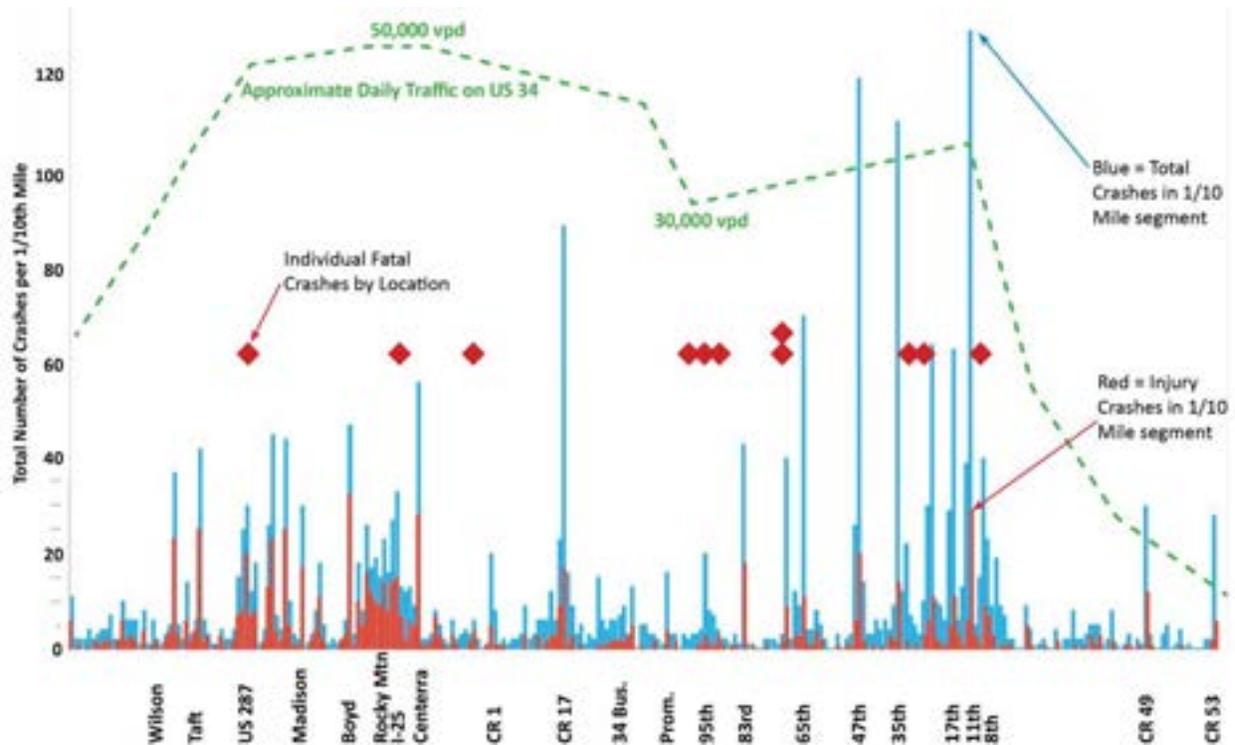


Figure ES-7. Summary of US 34 Crash Data
Corridor Existing Conditions Report US 34 PEL

In reviewing the crash types and likely causes, some notable trends were observed:

- Rear-end crashes are the most prevalent type of crash in the corridor. This is not unexpected in the context of the corridor because the long stretches of highway with 65mph speed limits are interrupted by infrequent traffic signals which tend to surprise drivers.
- While not explicitly calculated because of incomplete traffic data, the crash rates at intersections east of I-25 and in the higher-speed segments of US 34 are anticipated to be higher than in the more urban western portion of the corridor in Loveland.
- The proportion of crashes that have injuries is higher in the Loveland area compared to crashes in the eastern end of the corridor. This is somewhat counter-intuitive, as crashes in the Loveland area should occur at lower speeds than those at the eastern end of the corridor, and lower speed crashes generally have lower rates of injuries.
- Other than crashes associated with signalized intersections, there is no notable pattern or concentration of crashes in the remainder of the corridor. The crashes with fatalities are in dispersed locations and appear to occur because of a wide range of causes.

Traffic Volumes

Within the Study Area, the existing US 34 average daily traffic volumes range from a low of 8,900 vehicles per day to a high of 52,000 vehicles per day. Figure ES-8 illustrates how traffic volumes vary along the US 34 corridor.

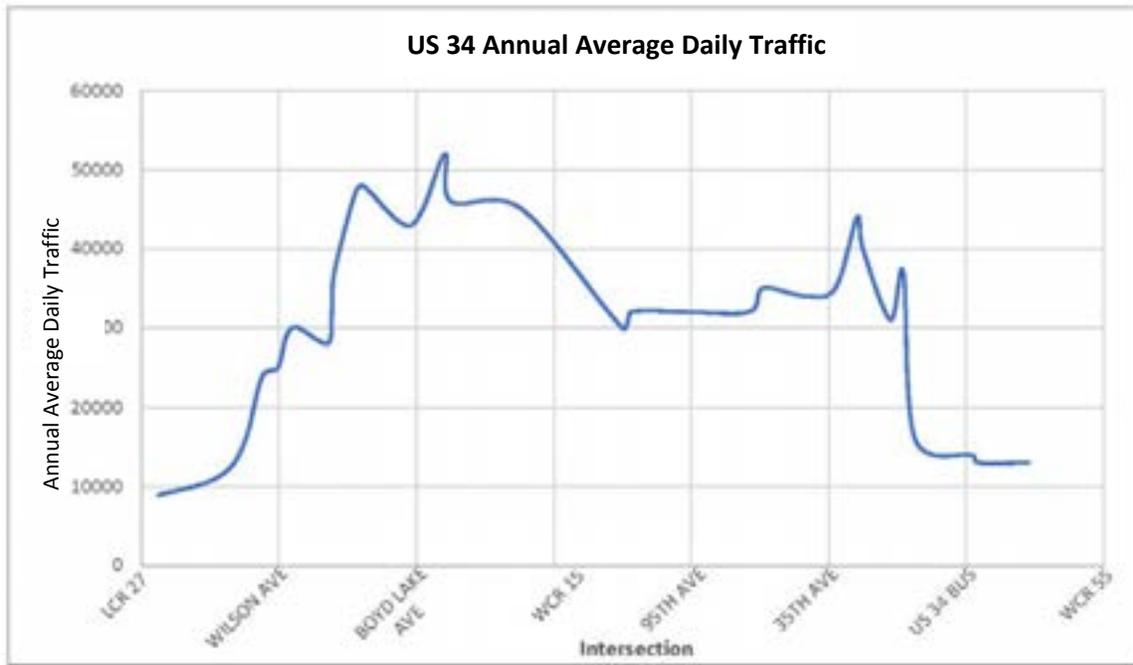


Figure ES-8. Annual Average Daily Traffic Volume (2016)
Corridor Existing Conditions Report US 34 PEL

As shown on Figure ES-9, weekday traffic volumes on US 34 at the automated traffic recorder located at the Larimer-Weld County Line (between WCR 13 and WCR 15) experience a distinct morning and afternoon peak that coincides with commuter traffic. Traffic volumes along US 34 during the AM and PM peak hours are between 1,700 and 2,100 vehicles per hour. The off-peak and weekends are lower than during these typical weekday commuter periods. Midday volumes during the week are comparable to the peak volumes experienced on a weekend, which generally range from 1,400 to 1,700 vehicles per hour.

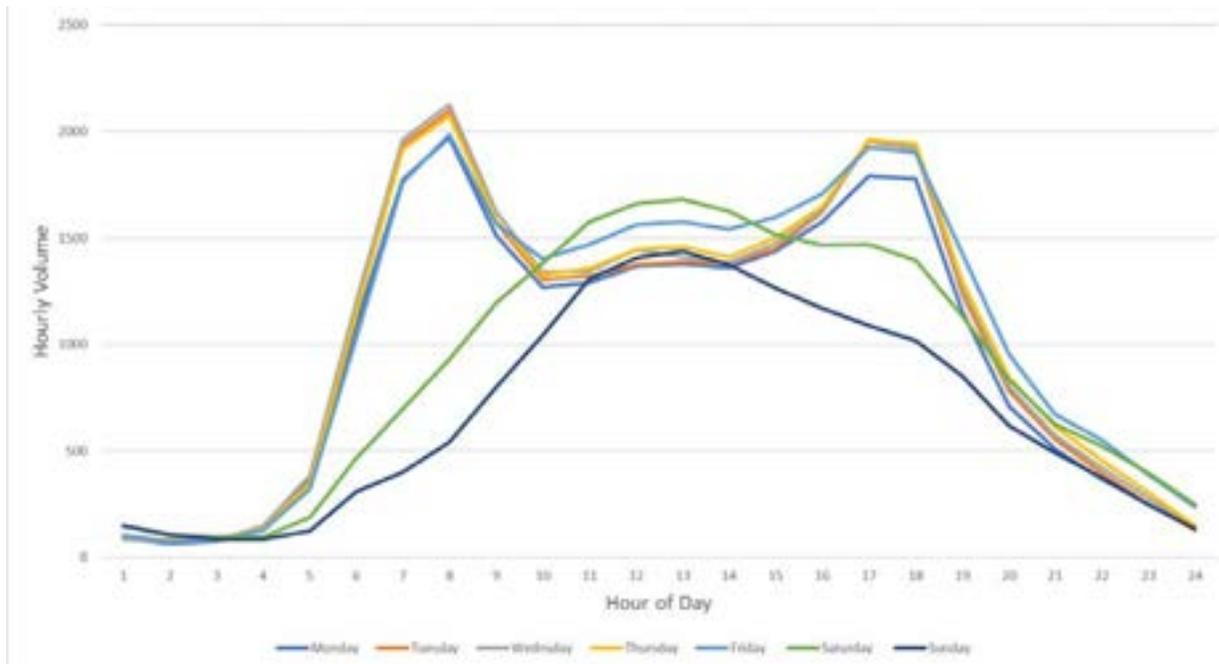


Figure ES-9. Average Hourly Traffic Volume by Day of Week (2016)
Corridor Existing Conditions Report US 34 PEL

Table ES-3 shows the average annual growth in traffic on US 34. The automatic traffic recorder indicates steadily increasing volumes over the past 15 years, averaging a growth rate of approximately 3 percent per year. When compared to 1988 traffic conditions, the traffic along US 34 has experienced an average annual growth rate of approximately 4.5 percent over the past 30 years. Traffic projections from the NFRMPO Travel Demand Model¹ suggest an anticipated 1.9 percent per year rate of growth from 2012 through 2040 (NFRMPO, 2015).

Table ES-3. Average Annual Growth in Traffic (approximate)

1988 to 2016	2001 to 2016	2012 to 2040
4.5% per year	3.0% per year	1.9% per year ¹

¹ From the NFRMPO Travel Demand Model

The rate in traffic volume growth has also varied based on location along the corridor. Volumes within developed areas, such as Loveland and Greeley, have experienced less rapid growth in volume than have undeveloped areas, which is expected because the capacity of the roadway to support growth is also less in developed areas where traffic is denser. The largest growth in volume along the corridor has occurred between SH 287 and SH 257, where traffic volumes are growing at more than 5 percent per year.

The quality of traffic flow can be approximated by a corridor volume-to-capacity ratio. About 35 percent of the corridor currently experiences unstable traffic conditions with high delay at intersections, low average speeds, and decreased travel times. The average annual traffic growth and associated congestion levels are shown in Figure ES-10.

¹ <http://nfrmpo.org/modeling/>

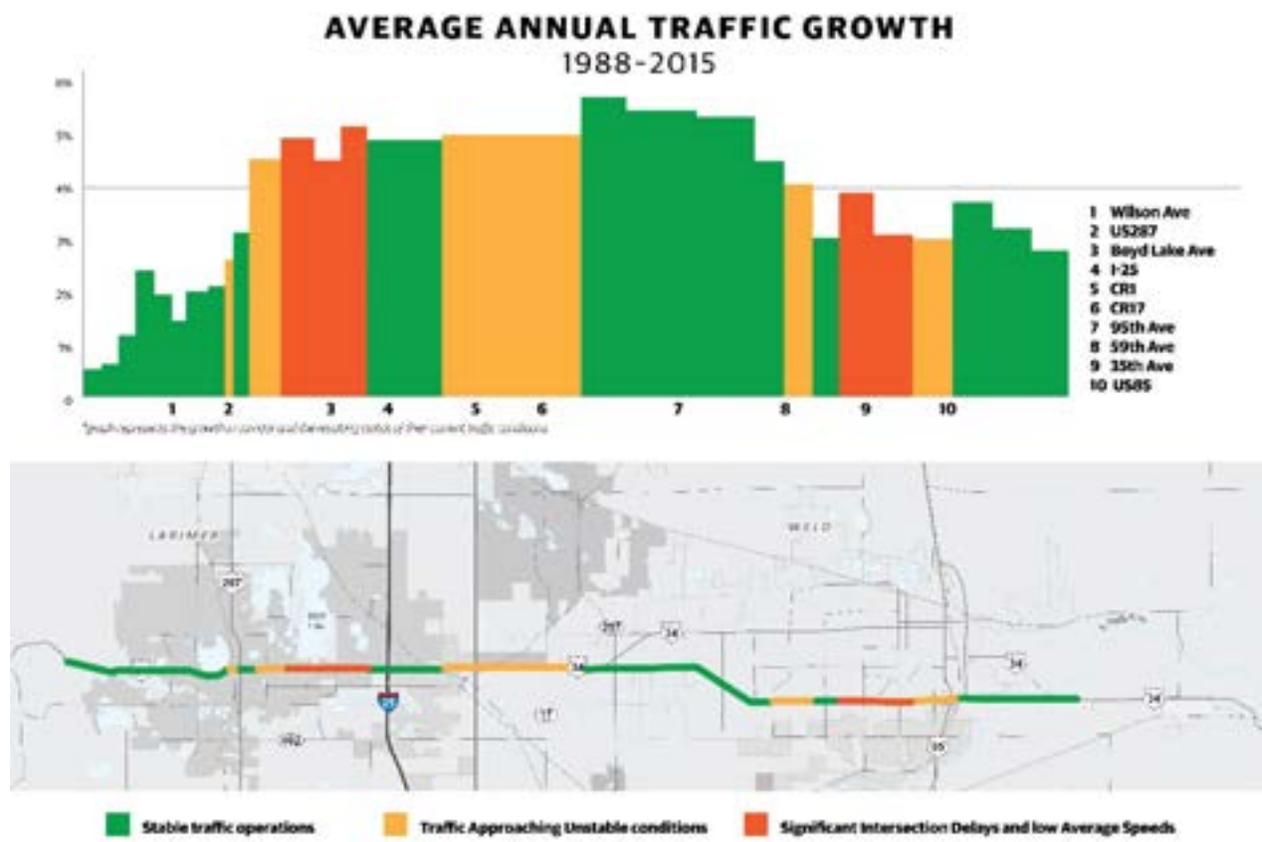


Figure ES-10. Traffic Growth on US 34
 Corridor Existing Conditions Report US 34 PEL

Access

Access management is a tool that can be used to improve safety, better accommodate travel demand, and structure access for local land uses. In conjunction with the recommendations from the PEL, a new access control plan for US 34 west of I-25 will provide a long-term vision for the corridors with respect to vehicular access and circulation, and will assist in understanding future operational needs and opportunities for partnership.

An access control plan west of I-25 will be developed to include CDOT, City of Loveland, and Larimer County as signatories for the intergovernmental agreement. East of I-25, the existing *Access Control Plan* (CDOT, 2003) will remain as is with no changes.

West of I-25, most of US 34 is within Loveland city limits, with small portions located within unincorporated Larimer County. The adjacent land uses are generally urban to suburban. These land uses have resulted in additional access points that tends to slow traffic speeds and limit highway capacity. Except for the first 2 miles of US 34 beginning at LCR 27, this portion of US 34 is entirely located within the City of Loveland Growth Management Area. There are just over 80 public road access points and roughly 250 private access points.

East of I-25, US 34 traverses through Larimer and Weld Counties. The adjacent land uses are generally rural to suburban with expressway characteristics on US 34. This portion of US 34 travels through several municipalities and/or their urban growth boundaries, including Loveland, Johnstown, Windsor, Greeley, Evans, Garden City, and Kersey. There are over 60 public road access points and roughly 50 private access points. The existing *Access Control Plan* (CDOT, 2003) was adopted in 2003 for US 34 between I-25 and WCR 55, this plan will not be modified as part of the US 34 PEL study and will remain as is.

Land Use and Socioeconomics

From 2015 to 2040, the NFRMPO region is forecasted to grow by 360,000 people (2.1 percent annually) and nearly 145,000 households (2.1 percent annually), with about 35 percent of that growth forecast to come from within the Study Area. The region also has a strong jobs outlook through 2040, with a growth forecast of almost 150,000 jobs (1.7 percent annually), of which over 40 percent are forecast to occur in the Study Area (NFRMPO, 2013).

The intensity of commercial activity along US 34 is likely to continue to increase given these growth forecasts and the fact that future land uses envisioned for the corridor are primarily commercial- and employment-based. This will undoubtedly increase US 34 annual average daily traffic (AADT), freight traffic, and the need for capacity and/or transportation options.

Central Loveland and central Greeley may change less than the cities' outskirt areas, where vacant lands are planned for development and other areas are forecasted for redevelopment. Key areas of change from current conditions include:

- Area between La Quinta Inn and Rist Benson Reservoir
- Land east of Denver Avenue
- Land adjacent to Centerra
- Development at the I-25/US 34 interchange
- Land at US 34 and WCR 13
- Area between 71st and 65th Avenues in Greeley
- Land adjacent to Weld County Parkway near Kersey

Environmental

As shown in Table ES-4, the environmental scan identifies environmental resources and particularly environmentally-sensitive areas within the US 34 Study Area. Some resources were identified in more detail (such as wetlands), to better characterize constraints within the corridor. Other resource areas including air quality, farmlands, paleontology, and water quality are not discussed because they are unlikely to influence outcomes of the PEL process. However, these resources may require National Environmental Policy Act evaluation for future US 34 projects in compliance with applicable regulations. The purpose of the environmental scan is to identify resources early in the planning process and highlight resources of high sensitivity for use in the alternatives evaluation.

Table ES-4. Environmental Scan

Resource	Description
Aquatic Resources	<ul style="list-style-type: none"> • 58 aquatic resources: 9 wetlands, 1 lake, 7 ponds, 42 individual linear surface water crossings, and additional field irrigation ditches. • 5 broad vegetative communities: industrial, landscape, farmland, wetland/riparian, and disturbed/barren. • More than 60 different soil types crossing three watersheds: Big Thompson, Cache La Poudre, and Middle South Platte – Cherry Creek. • Receiving waters: Big Thompson River, Cache la Poudre, South Platte River, and Platte River.
Biological Resources	<ul style="list-style-type: none"> • 14 federal- and 22 state-listed species with the potential to occur within or downstream of the Study Area¹.
Cultural Resources	<ul style="list-style-type: none"> • Office of Archaeology & Historic Preservation (Colorado) data indicate that 25 historical resources including both architectural properties and linear sites have been evaluated as National Register of Historic Places-eligible or -contributing and are therefore entitled to the same protections as listed resources under the National Register of Historic Places. An additional 24 properties are known to have been found potentially eligible as part of a local survey conducted by the City of Loveland.²

Table ES-4. Environmental Scan

Resource	Description
Floodplains	<ul style="list-style-type: none"> The Study Area crosses 3 floodways: Big Thompsons River, Sheep Draw, and South Platte River. <ul style="list-style-type: none"> The Big Thompson floodplain fringe encroaches into 215 feet of the Study Area on the southern side of US 34. Sheep Draw floodway and floodplain is approximately 0.4-mile-wide within the Study Area. South Platte River floodway and floodplain crosses the Study Area for approximately 1.7 miles. The Study Area also parallels Lake Loveland, which is classified as a 100-year floodplain (Zone AE) for approximately 0.7 mile (FEMA, 2017).
Hazardous Materials	<ul style="list-style-type: none"> There are 9 potential hazardous materials sites in the Study Area; 4 near Loveland, 2 at I-25, and 3 in Greeley. I-25 is a designated preferred highway route for controlled quantities of radioactive materials. Routes for non-radioactive hazardous materials within the Study Area include US 34 from I-25 east, I-25, and US 85 (FMCSA, 2017). Within 500 feet of the US 34 centerline there are 15 water wells and 114 oil/gas wells.
Noise ³	<ul style="list-style-type: none"> Sensitive noise receptors identified include residential land uses (activity category B uses), town parks and playgrounds, schools, churches, trails, and pools (activity category C uses), and commercial land uses (activity category E uses) (CDOT, 2015).
Recreational Resources	<ul style="list-style-type: none"> 9 recreational resources adjacent to the US 34 ROW include the Reservoir Trail, Josephine Jones Park, the Bypass Trail, the Gateway Lakes Natural Area/Homestead Park, Dwayne Webster Veteran's Park, the South Shore Parkway/Lake Loveland, the Loveland Recreational Trail, Loudon Ditch Trail, and the Loveland and Greeley Canal (All Trails, 2017).
Environmental Justice	<ul style="list-style-type: none"> Both minority and low-income populations are present within the Study Area for the US 34 PEL. These populations appear to be concentrated within central Loveland, Greeley, and Evans, although there are a few outlying block groups within low-income populations. 68 of the 139 Census Block Groups within the Study Area contain larger minority populations compared to the respective county average (17 percent in Larimer County and 33 percent in Weld County). 67 Census Block Groups contain larger low-income populations than the respective county average (15 percent in Larimer County and 14 percent in Weld County).
Visual Resources	<ul style="list-style-type: none"> Distinctive landscape character units are described as residential (urban, suburban, rural) uses; commercial, industrial, and municipal uses; parks, recreational areas, and trails; water and natural resources; agricultural open space, and undeveloped lands; Rocky Mountain backdrops Key visual features include Devil's Backbone Open Space, Lake Loveland, Mariana Butte Golf Course, Big Thompson River, South Platte River, Dwayne Webster Veteran's Park, protected agricultural lands, National Register of Historic Places-eligible historic properties (with concentrations in the City of Loveland), and a variety of recreational trails that cross US 34. Sensitive viewers include residences, motorists, and recreational users.

¹ Federally listed species were identified using U.S. Fish and Wildlife Service Information for Planning and Consultation system, while state-listed species using data from CPW and Colorado Natural Heritage Program databases. Habitat preferences for state-listed species were reviewed along with overall species range and documented occurrences using geographic information system data from CPW Natural Diversity Information Source (CPW, 2016).

² Data on file at the Office of Archaeology & Historic Preservation (Colorado) show that most of this corridor has either not been inventoried for cultural resources or the inventories were conducted over 10 years ago, and therefore may be out of date. There is a potential for previously undocumented archaeological properties, both prehistoric and historic in age along US 34.

³ Sensitive noise receptors: No activity category A land uses that require quietness were observed within the Study Area. Interior noise readings, activity category D uses, will not be considered as part of this PEL study. Activity category E uses, including restaurants, offices, hotels, and other commercial uses, have been identified within the Study Area. This activity category requires meeting a threshold of 71 A-weighted decibels, to consider mitigation. No activity category F or large operation facilities uses were observed within the Study Area. Undeveloped lands that do not have permitted development are activity category G and will be identified in the Noise Technical Report in a subsequent National Environmental Policy Act noise analyses.

Information from this report serves as the baseline for existing conditions in the US 34 corridor. The identified environmental resources, roadway characteristics, multimodal facilities, traffic and safety conditions, and infrastructure deficiencies will be useful in assessing the mobility and access needs in the corridor and guiding the development of corridor alternatives. For the complete Existing Condition Report visit the Project Website at <https://www.codot.gov/library/studies/us-34-planning-and-environmental-linkages-pel-study>

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