

4.10 PUBLIC SAFETY AND SECURITY

Summary

This section describes the existing safety and security resources in the United States Highway 36 (US 36) corridor and considers the effect of the proposed packages on:

- Transit station area safety
- Police, fire, and emergency response times

Public safety and security were addressed for both transportation system users and non-users.

Transit station area crime is representative of the surrounding neighborhood crime rates, and crime at transit stations would be the same for Package 2 and Package 4 and similar for the Combined Alternative Package (Preferred Alternative). Those transit stations with anticipated higher crime rates have been identified and would be monitored upon implementation. More aggressive security measures may be needed at these locations.

Emergency response times in the general-purpose lanes on US 36 would be degraded under Package 1 due to increased congestion. Response times would be faster with Package 2 than Package 1 because congestion would be less. Package 4 would have the most rapid response times of the three packages because it would have the least congestion. The response times under the Combined Alternative Package (Preferred Alternative) would be similar to Package 2. Under Package 2, the concrete barriers separating the managed lanes and bus rapid transit (BRT) facilities from the general-purpose lanes would reduce emergency access. All of the build packages are expected to have similar construction phasing plans and, consequently, similar impacts to access and emergency services during construction.

Affected Environment

This section summarizes existing Regional Transportation District (RTD) security measures, the results of an assessment of existing municipal crime statistics, and public safety services including police, fire, and emergency medical service providers. Also summarized are crime statistics at transit facilities and on transit vehicles.

All Segments

Existing Regional Transportation District Security Measures

RTD has a well-established security force and program in place for ensuring the safety of its patrons and those indirectly affected by their operations. The RTD security force works with local police to control crime at park-n-Ride facilities. Some existing park-n-Ride facilities/stations are equipped with video surveillance. Security forces are increased with the expansion of service and as new projects are implemented.

RTD follows all Federal Transit Administration (FTA) safety and security measures and guidelines in the design and operation of transit stations and service. RTD also follows FTA's *Transit Threat Level Response Recommendation* (USDOT 2006), which provides recommended transit protective measures for each of the threat levels used by the Office of Homeland Security.

The *RTD Bus Transit Facility Design Guidelines and Criteria* (RTD 2006) includes design strategies for transit user safety and crime protection. These guidelines include video surveillance cameras and emergency telephones at transit stations, and "Crime Prevention Through Environmental Design" strategies, which minimize threats through engineering and design. These strategies include measures

such as landscaping to maximize visibility, minimizing the number of access points to parking structures and lots, and constructing stairwells and elevators with transparent walls.

RTD employs other design standards to help deter crime, including:

- The use of transit station area circulation elements (such as color, texture, and sight distances) that increase visual pleasure, guidance, patron safety, and security.
- Incorporation of well-lighted pedestrian walkways.
- Avoidance of cross flows, dead ends, and turns greater than 90 degrees.
- The provision of shelter elements that allow for sufficient transparency for visual surveillance of the transit station area, which discourages vandalism and enhances patron safety.
- Incorporation of adequate site distance and visibility along pedestrian routes.
- The design of all public security systems to be usable by children, the disabled, and senior citizens.

Transit Station Area Crime

To evaluate the impact of the packages on public safety, and specifically on how crime may change with the implementation of a build package, it is important to determine a baseline so that packages can be measured against benchmark data. This baseline was identified through the analysis of existing crime statistics.

Table 4.10-1, Existing Annual Crime Statistics by Segment, summarizes existing annual crime statistics for each agency according to the National Uniform Crime Reporting Program, which is used to standardize and track the reporting of crime. In general, those areas of more intense urban use experience higher crime. Evaluating the change in crime is important because the crime occurring in and around transit stations is similar to the crime of the surrounding area and more intense security measures can be implemented there, if necessary.

Table 4.10-1: Existing Annual Crime Statistics by Segment

Segment	Agency	Homicide	Rape	Robbery	Burglary	Auto Theft
Denver	City and County of Denver Police Department (2002)	51	N/A	1,151	6,068	7,356
Adams	Adams County Sheriff's Department (1998)	3	48	55	917	629
Westminster	City of Westminster Police Department (2003)	0	26	49	745	813
Broomfield	City and County of Broomfield Police Department (2003)	0	3	7	155	96
Superior/Louisville	City of Louisville Police Department (2003)	0	2	0	23	20
Boulder	City of Boulder Police Department (2003)	0	52	37	549	197

Source: National Uniform Crime Reporting Program, 2004.

Note:

N/A = not applicable

The urban areas of the City and County of Denver and the City of Westminster experience the highest occurrence of crime, and the City of Louisville has the lowest incidence of crime in the corridor.

Table 4.10-2, Summary of Crime Rates Relative to Population, displays crime rates relative to population.

Table 4.10-2: Summary of Crime Rates Relative to Population

Agency	Total Serious Crimes ¹	2000 Population	Crimes Per 1,000 People
City and County of Denver Police Department ²	14,626	555,781	26
Adams County Sheriff's Department ³	1,652	350,642	5
Westminster Police Department ⁴	1,633	100,940	16
City and County of Broomfield Police Department ³	261	38,272	7
City of Louisville Police Department ³	45	18,937	2
City of Boulder Police Department ³	835	94,673	9

Source: US 36 Mobility Partnership, 2004.

Notes:

¹ Serious crimes consist of murder, rape, robbery, burglary, and automobile theft.

² 1998 Data

³ 2002 Data

⁴ 2003 Data

The Final Environmental Impact Statement (FEIS) examines crime statistics at the existing park-n-Rides to help assess potential safety problems in the US 36 corridor. The majority of crime at park-n-Rides involves auto burglary and vandalism. The total number of crimes at park-n-Rides is minimal. Thefts occur primarily from automobiles, and some crimes involve automobile thefts. Vandalism also relates primarily to automobiles (broken windows, etc.). Park-n-Ride crime rates are presented by segment in Table 4.10-3, Existing park-n-Ride Crime Rates by Segment.

Table 4.10-3: Existing park-n-Ride Crime Rates by Segment

Segment	Existing park-n-Ride	2004		2005	
		Thefts	Vandalism	Thefts	Vandalism
Adams	Broadway	0	0	0	0
Westminster	Westminster Center	13	0	10	2
Broomfield	Broomfield	1	0	0	0
Superior/Louisville	McCaslin	1	1	0	0
Boulder	Table Mesa	2	1	1	0

Source: As reported to RTD, 2006.

Public Services—Police, Fire, and Emergency Services

Police, fire, and emergency services are provided from a number of different agencies, districts, and companies throughout the corridor, as summarized in Table 4.10-4, Police, Fire, and Emergency Services by Segment.

Table 4.10-4: Police, Fire, and Emergency Services by Segment

Segment	Police Services	Fire Services	Emergency Services
Adams	450 South 4 th Avenue	Individual fire districts provide protection to areas of unincorporated Adams County and overlap into some of the incorporated cities. The districts that provide fire services include: <ul style="list-style-type: none"> • South Adams County District 2 • North Washington Fire District • Southwest Adams County District 2 • Federal Heights Fire Department • Thornton Fire Department • North Metro Fire District • Westminster Fire Department 	No hospitals were identified in this segment.

Table 4.10-4: Police, Fire, and Emergency Services by Segment

Segment	Police Services	Fire Services	Emergency Services
Westminster	9110 Yates Street	Westminster Public Safety Center at 9110 Yates Street. Four stations are located near the US 36 corridor at: <ul style="list-style-type: none"> • 3948 West 73rd Avenue • 9099 Lowell Boulevard • 9110 Yates Street • 7702 West 90th Avenue 	St. Anthony Hospital North at 84 th Avenue and Bryant Street.
Broomfield	7 DesCombes Drive, with a field office at FlatIron Crossing	Provided by the North Metro Fire District	No hospitals were identified in this segment.
Superior/ Louisville	Cherryvale Fire Protection District and the Boulder County Sheriff's Department provide fire and police services for the Town of Superior. Locations: <ul style="list-style-type: none"> • Station 5 is at 2700 South Indiana • Station 3 is on Coal Creek • The Louisville Police Department is on Via Appia Road 	In addition to the Cherryvale Fire Protection District, two Louisville Fire Protection District stations provide fire protection service: <ul style="list-style-type: none"> • Station 1 is at Main and Lafayette • Station 2 is at 895 West Via Appia 	Louisville: Charter Centennial Peaks Behavior Health Systems Offices, and Centura Health Avista Adventist Hospital are located at 88 th Street and Health Park Drive.
Boulder	The Boulder Police Department is at 1805-33 rd Street; however, there are no stations near the US 36 corridor	Boulder Fire Stations Numbers 2 and 4 provide fire protection services near the corridor: <ul style="list-style-type: none"> • Station Number 2 is located at 2225 Baseline Road • Station Number 4 is located at 4100 Darley Street 	No hospitals were identified in this segment.

Source: US 36 Mobility Partnership, 2004.

Note:

US 36 = United States Highway 36

The Colorado State Patrol provides emergency response services and traffic enforcement throughout the corridor. The Boulder Regional Communications Center handles emergency dispatch services for most agencies in Boulder County, including the cities of Boulder, Lafayette, Louisville, and Longmont. City of Boulder Open Space and Mountain Parks (OSMP) rangers are on call 24-hours a day, 7-days a week, and respond to emergencies on OSMP property and have responded to incidents along US 36 in areas near OSMP property.

Impact Evaluation

Impacts to public safety and security are discussed below.

Available information suggests that transit stations are as safe as the surrounding commercial activity centers or anywhere that people congregate.

Methodology

Transit Station Area Safety

Available information suggests that transit stations are as safe as the surrounding commercial activity centers or anywhere that people congregate. Also, the observed frequency of crime at transit stations tends to mirror the crime of the surrounding area. The majority of these crimes are non-violent acts such as vandalism and theft.

For purposes of this analysis, the transit station area safety category was evaluated by comparing the weighted average of crimes based on the total number of existing and proposed parking spaces for the package. This was accomplished by calculating a crime index for each of the transit stations based on the number of parking spaces and crime rates of the surrounding areas. A transit station with a crime index above 1.0 would be considered higher than the corridor-wide average, and a crime index less than 1.0 would indicate a transit station below the corridor-wide average.

A composite crime index for the packages was then determined by adding the individual crime indices for transit stations that would be serviced by BRT under the build packages. Because similar types of crime at transit stations can be anticipated with new transit service, evaluating crime by using parking spaces as a surrogate for the potential exposure to crime allowed the transit stations to be compared. For example, a transit station with less overall spaces but in higher crime areas would reflect a higher potential exposure to crime than one with more spaces in lower crime areas. By evaluating transit stations in this manner, more aggressive crime prevention measures can be considered at transit stations with higher crime indices.

The crime index or potential exposure to crime was determined using the crime rate per thousand persons (see Table 4.10-2, Summary of Crime Rates Relative to Population), and the anticipated number of parking spaces at each transit station. This information is presented in Table 4.10-5, Transit Station Crime Indices.

Table 4.10-5: Transit Station Crime Indices

Transit Station	Package 1 Number of Parking Spaces	Package 1 Crime Index	Packages 2 and 4 Additional Number of Parking Spaces	Packages 2 and 4 Crime Index	Combined Alternative Package (Preferred Alternative) Additional Number of Parking Spaces	Combined Alternative Package (Preferred Alternative) Crime Index
Westminster Center	1,225	1.97	149	2.01	149	2.01
Church Ranch/104 th Avenue	626	1.01	0	0.92	0	0.92
116 th Avenue	1,300	0.92	870	1.39	870	1.39
Flatiron	250	0.18	0	0.16	0	0.16
McCaslin	466	0.09	-224	0.04	-278	0.03
Table Mesa	825	0.75	0	0.68	0	0.68

Source: US 36 Mobility Partnership, 2009.

Note:

- = loss of

Table 4.10-5, Transit Station Crime Indices, shows that the transit stations with the highest potential exposure to crime are the Westminster Center Station and the 116th Avenue Station. The transit stations with the lowest potential exposure to crime include the McCaslin and Flatiron stations.

Police, Fire, and Emergency Response

Impacts to police, fire, and emergency services can result during construction if major roadways are closed due to bridge or other major facility improvements, or if extensive detours result that require substantial out-of-direction travel and increased response times. To determine the impacts to police, fire, and emergency services, this analysis qualitatively evaluates the proposed short-term construction phasing plans and long-term impacts to the roadway system, such as street closures.

Impacts to police, fire, and emergency services can result during construction if major roadways are closed due to bridge or other major facility improvements.

Package 1: No Action

Direct Impacts

All Segments

Transit Station Safety Impacts

Increases in transit station area crime would occur at transit stations that would be constructed under Package 1. Refer to Table 4.10-5, Transit Station Crime Indices, for specific transit stations and safety information.

Police, Fire, and Emergency Response Time Impacts

Police, fire, and emergency services may be adversely affected by increased response times during peak hours due to increased congestion on US 36, as well as increased demands for emergency services due to additional traffic accidents.

Indirect Impacts

All Segments

As the population grows by 28 percent in the project area, crime statistics would also increase in absolute numbers. The City and County of Denver has the highest crime rate and the highest population. Conversely, Adams County has the second highest population but one of the lowest crime rates. Consequently, it is not possible to predict proportionately higher crime rates resulting from increased urbanization.

Package 2: Managed Lanes/Bus Rapid Transit

Direct Impacts

All Segments

Transit Station Safety Impacts

The composite crime index for Packages 2 and 4 would be identical because both packages would service the same transit stations with the same number of parking spaces. (Refer to Table 4.10-5, Transit Station Crime Indices, for specific transit stations and safety information.) The composite crime index would be 8.0 for all of the packages, which equates to about 12.3 potential crimes per 1,000 people. Compared to the crime rates for the cities along the corridor (see Table 4.10-2, Summary of Crime Rates Relative to Population), this is slightly higher than the average of 10.8.

Police, Fire, and Emergency Response Time Impacts

Operational Impacts

The amount of congestion in the corridor would directly impact emergency response times to incidents on the highway. Overall, in Package 2 and Package 4, police, fire, and emergency service response times would be faster to highway incidents than Package 1. Under Package 2 and the Combined Alternative Package (Preferred Alternative), emergency response times in the general-purpose lanes would be faster than Package 1, and slower than Package 4. The concrete barriers for the managed lanes would not substantially affect emergency vehicle access to crashes on this facility because periodic breaks in the barrier would be provided.

In addition, emergency vehicles that cross the highway to respond to incidents would benefit from widened and improved arterials at interchanges. In Package 2, a new overpass at Midway Boulevard would improve connections for emergency vehicles over the highway. Reduction of access at Broadway from southbound Interstate 25 (I-25) is not expected to change emergency response routes. This area would continue to be served from facilities west of Broadway via local streets. In rare cases, emergency vehicles return from calls via US 36 or I-25, and receive a new call requiring emergency response. In those cases, if Broadway would have been the closest access, the responders would use a different access route and could experience increased response times.

Construction Impacts

Emergency response times during construction would be somewhat affected compared to Package 1. In cases where it would be necessary to reduce traffic capacity during construction, delays can be expected along US 36 and along major surface arterial streets due to lane closures, lane-narrowing configurations, as well as constricted tie-in points during construction. Response times could be impacted based on the relative complication of the construction required for each build package. For comparative purposes, the number of new structures and the number of existing structures to be widened or replaced are presented on Table 4.10-6, New or Widened Transportation Facilities by Package.

Table 4.10-6: New or Widened Transportation Facilities by Package

Element	Package 1 ¹	Package 2	Package 4	Combined Alternative Package (Preferred Alternative)
Number of new roadway structures	0	14	10	10
Number of widening or replacements of existing structures	0	28	27	25

Source: US 36 Mobility Partnership, 2009.

Note:

¹ There will be 384 acres of pavement replaced for maintenance purposes in Package 1 at some time; however, this activity is not currently scheduled.

Indirect Impacts

All Segments

Implementation of Package 2 is not anticipated to indirectly affect crime rates any differently than Package 1.

Package 4: General-Purpose Lanes, High-Occupancy Vehicle, and Bus Rapid Transit

Direct Impacts

All Segments

Transit Station Safety Impacts

For Package 4, the exposure to crime at transit station areas would be the same as Package 2. (Refer to Table 4.10-5, Transit Station Crime Indices, for specific transit stations and safety information.)

Police, Fire, and Emergency Response Time Impacts

Operational Impacts

The amount of congestion in the corridor would directly impact emergency response times to incidents on the highway. Overall, in any of the build packages, police, fire, and emergency service response times would be faster to highway incidents than Package 1. Emergency response times to incidents on the highway in the general-purpose lanes would be faster in Package 4 than in Packages 1 and 2, because Package 4 would have less congestion in the general-purpose lanes.

In addition, emergency vehicles that cross the highway to respond to incidents would benefit from widened and improved arterials at interchanges. Reduction of access at Broadway from southbound I-25 is not expected to change emergency response routes and impacts would be similar to those discussed under Package 2.

Construction Impacts

Package 4 would involve construction that is less complicated than Package 2 when comparing the number of structures and the size of the footprint (Table 4.10-6, New or Widened Transportation Facilities by Package). The impact on emergency vehicle mobility is considered proportionate to the amount of complicated construction as discussed above.

Indirect Impacts

All Segments

The implementation of Package 4 is not anticipated to indirectly affect crime rates any differently than Package 1.

Combined Alternative Package (Preferred Alternative): Managed Lanes, Auxiliary Lanes, and Bus Rapid Transit

Direct Impacts

All Segments

Transit Station Safety Impacts

For the Combined Alternative Package (Preferred Alternative), the exposure to crime at transit station areas would be similar to Packages 2 and 4. (Refer to Table 4.10-5, Transit Station Crime Indices, for specific transit station and safety information.) As with Packages 2 and 4, the composite crime index under the Combined Alternative Package (Preferred Alternative) would be 8.0, which equates to about 12.3 potential crimes per 1,000 people.

Police, Fire, and Emergency Response Time Impacts

Operational Impacts

The amount of congestion in the corridor would directly impact emergency response times to incidents on the highway. As discussed previously, with the Combined Alternative Package (Preferred Alternative), police, fire, and emergency service response times would be similar to Package 2, faster than Package 1, and slower than Package 4.

In addition, emergency vehicles that cross the highway to respond to incidents would benefit from widened and improved arterials at interchanges. Reduction of access at Broadway from southbound I-25

is not expected to change emergency response routes and impacts would be similar to those discussed under Package 2.

Construction Impacts

The Combined Alternative Package (Preferred Alternative) would involve construction that is less complicated than Packages 2 and 4, when comparing the number of structures and the size of the footprint (see Table 4.10-6, New or Widened Transportation Facilities by Package). The impact on emergency vehicle mobility would be considered proportionate to the amount of complicated construction as discussed above.

Indirect Impacts

All Segments

Implementation of the Combined Alternative Package (Preferred Alternative) is not anticipated to indirectly affect crime rates any differently than Package 1.

Mitigation

As part of the FEIS, the construction phasing and sequencing for all of the build packages has been conceptually configured to minimize impacts to police, fire, and other emergency services. As an example, two consecutive interchanges that are not mutually supportive and are relatively far apart will not undergo construction at the same time. Rather, each interchange construction will be phased so that one will be finished prior to beginning the next interchange. Likewise, consideration would be given to the proximity of local hospitals, fire stations, and police stations when phasing construction. Boundaries and rescue routes will be carefully evaluated prior to construction. In addition, due to financial constraints, construction would occur in phases which would reduce the impacts in the region (see Chapter 8, Phased Project Implementation).

In regard to a loss of capacity on US 36 during construction, construction phasing for each of the build packages will be implemented to carry construction traffic along existing alignments and on temporary pavement with the least possible impact to travel by the use of lane shifting, lane narrowing, and at-grade construction crossings. The use of major detours will be avoided.

Table 4.10-7, Mitigation Measures – Public Safety and Security, summarizes proposed mitigation measures for public safety and security impacts.

Table 4.10-7: Mitigation Measures — Public Safety and Security

Impact	Impact Type	Mitigation Measures
Crime at transit stations	Operations	<ul style="list-style-type: none"> RTD will hire additional transit security personnel to inspect transit station areas as needed.
Fire at transit stations	Operations	<ul style="list-style-type: none"> RTD will provide training to local fire departments to address the special needs of transit fires as needed.
Crime at the Westminster Center and 116 th Avenue transit stations	Operations	<ul style="list-style-type: none"> RTD will monitor these transit stations and implement more aggressive security measures as needed. CCTV/video surveillance will be incorporated into the plans at all transit stations. Surveillance will include both personal and video surveillance. Video surveillance systems will be capable of transmitting real-time video to RTD via a fiber optic transmission backbone or other suitable transmission network. Personal surveillance will include uniformed officers who sporadically inspect transit stations.

Table 4.10-7: Mitigation Measures — Public Safety and Security

Impact	Impact Type	Mitigation Measures
Crime at the Westminster Center and 116 th Avenue transit stations (continued)	Operations (continued)	<p>CPTED strategies will be incorporated in the entire design. The purpose of CPTED is to minimize potential threats and vulnerabilities to the transit system, facilities, and patrons, and maximize safety and security through engineering and design. CPTED strategies that will be included are:</p> <ul style="list-style-type: none"> • Maximizing the visibility of people, parking areas, patron flow areas and building/structure areas. • Providing adequate lighting to minimize shadows. • Installing graffiti guards and removing graffiti when discovered. • Using Mylar shatter guard protection for glass windows. • Installing landscape plantings that maximize visibility. • Installing gateway treatments, decorative fencing, perimeter control, and a minimum number of parking structures access points. • Coordinating and cooperating with municipalities to promote transit friendly land uses, and avoiding land uses that have links to crime (e.g., liquor stores, taverns, pawnshops, pool halls, vacant lots, and abandoning buildings). • Establishing maintenance programs that provide for the repair of broken windows, the pick up litter, and the management of streetscapes and public spaces.
Safety issues at transit platforms	Operations	<p>Design elements and electronic technology may be used to ensure the transit platform area is safe and free of hazards. Representative measures may include:</p> <ul style="list-style-type: none"> • Active and passive warning devices that alert persons of risks and hazards. • LED flashing pedestrian warning signs that warn of approaching transit vehicles. • Pavement coloring and texturing to notify pedestrians of hazards and/or risk areas. • On platforms with poor sight distance, pedestrian barriers such as swing gates, automatic pedestrian gates, or Z-crossings to prevent pedestrians from entering the transit guideway, will be installed.
Limiting of emergency access/egress at transit stations	Operations	<ul style="list-style-type: none"> • Transit stations will be designed to meet the requirements for stations as identified in NFPA 130 guidelines. All stations will have a minimum of two access/egress points. Access/egress will be in a manner that facilitates safe and efficient evacuation from the station platform in 4 minutes or less.
Decrease in emergency response times due to roadway closures and detours	Construction	<ul style="list-style-type: none"> • The construction phasing and sequencing will be carefully designed to minimize potential impacts to public services. The effectiveness of the phasing and sequencing plan will be monitored and adjusted as necessary. • RTD will coordinate with emergency response groups regarding local closures, changes in circulation, and detour routes both during and after construction. See Section 4.22, Construction-Related Impacts, for more information.

Source: US 36 Mobility Partnership, 2006.

Notes:

- CCTV = closed circuit television
- CPTED = Crime Prevention through Environmental Design
- LED = light emitting diode
- NFPA = National Fire Protection Association
- RTD = Regional Transportation District