

## 3.4 Construction Impacts

### 3.4.1 Introduction

Construction and its disruption will occur along Woodmen Road over the next 25 years with either the No Action Alternative or Proposed Action Alternative. This section describes the construction impacts associated with each alternative.

Final construction methods and mitigation for both the No Action and Proposed Action Alternatives for specific construction activities will be identified during the preparation of final construction plans and also during construction. Issues that will be considered include:

- sequencing and duration of construction activities;
- location of construction material staging;
- coordination with local neighborhoods and businesses; and
- use of recycled building materials to make the project more “green” (i.e., less wasteful of resources).

Federal funding for construction will only be available after completion of the NEPA process. Construction would occur in phases as funding becomes available because, as of this writing, there are insufficient funds to complete construction of the Proposed Action along the entire project length. Please see Table 3.4-1 for a summary of construction-related impacts of the No Action Alternative and Proposed Action Alternative, and mitigation measures for the Proposed Action Alternative.

#### Content of this Section

This section addresses construction impacts to nearby residents and businesses, as well as commuters. Measures to mitigate impacts that may result from the Proposed Action are presented at the end of this section.



**Table 3.4-1  
Construction Impacts and Mitigations**

Topic	No Action Alternative Impacts	Proposed Action Impacts	Proposed Action Mitigation
Transportation Related Issues	<p>Intersection improvements, construction traffic delays, changes in traffic circulation, and congestion.</p> <p>Businesses' and residents' access adjacent to Woodmen Road will be rerouted or restricted during construction activities.</p> <p>Temporary displacements of one bus stop during construction may interfere with transit service.</p>	<p>Reconstruction efforts would result in traffic delays, changes in traffic circulation, and congestion.</p> <p>Businesses' and residents' access would be rerouted or restricted during construction activities.</p> <p>Emergency service providers could experience temporary response time delays due to detours and access changes during construction.</p> <p>Temporary displacements of bus stops during construction may interfere with transit service.</p> <p>Construction activities near local businesses could result in temporary loss of customers for affected businesses due to potential access difficulties.</p>	<p>A Traffic Management Plan and Public Notification Plan will be developed and implemented.</p> <p>Access to residences and businesses will be maintained to the extent possible.</p> <p>Emergency service providers would be notified of construction activities to ensure that emergency services are maintained at all times.</p> <p>Coordination with the transit services staff to ensure that bus service near the construction site is maintained.</p> <p>Construction activities and effects on local businesses would be minimized and mitigated using Best Management Practices.</p>
Noise	Noise increases due to construction equipment.	Noise increases due to construction equipment. The duration of elevated noise levels would be longer, and the area affected would be larger than under the No Action Alternative due to the extent of the construction area and the increased magnitude of the effort.	<p>Local noise ordinances will be followed.</p> <p>When appropriate, sound walls will be constructed in the early phases of work.</p> <p>Noise blankets or other muffling devices, as well as quiet-use generators, will be used.</p>
Air Quality	Increased particulate matter (dust) in the air raised by demolition of portions of the existing roadway and by hauling, filling, and grading.	Increased particulate matter (dust) in the air raised by demolition of portions of the existing roadway and by hauling, filling, and grading.	Follow requirements of the Fugitive Particulate Emissions Control Plan, developed and implemented during construction, to minimize particulate matter in the air.
Conservation of Resources	Consumption of natural materials.	Consumption of natural materials. This use of natural materials will be higher than that anticipated in the No Action Alternative.	Conservation of natural materials and recycling of locally-available materials will be implemented to the degree that is possible and practical.



### 3.4.2 No Action Alternative Impacts

As described in Chapter 2, *Alternatives Considered*, the No Action Alternative would include minor improvements to five intersections west of Powers Boulevard. These activities would result in construction-related short-term impacts in the area. Construction impacts include:

- traffic detours,
- interruptions and delays,
- access restrictions,
- increased noise levels,
- decreased air quality,
- consumption of natural resources, and
- temporary effects to recreational trails and water resources.

Construction impacts to recreational trails are discussed in detail in Section 3.9, *Recreational Trails and Natural Areas*. Water quality related construction impacts and mitigation are discussed in detail in Section 3.5, *Water Resources and Issues* and Section 3.7, *Prairie Ecosystem Wildlife*.

#### Transportation Impacts

Intersection improvements would disrupt traffic flow and create construction traffic delays, changes in traffic circulation, and congestion. The length and severity of these disruptions would vary by location, type of work, and duration of activity. Construction, for example, at the intersections will require temporary lane closures, short-term travel on unpaved surfaces, and reduced speed limits. This will slow traffic, including emergency response vehicles. These impacts are expected to be of short duration and confined to areas near the intersection improvements for the No Action Alternative.

Access to businesses directly adjacent to Woodmen Road, particularly at the Academy Boulevard and Woodmen Road intersection, will be rerouted or restricted during certain construction activities.

There are two existing bus routes that operate near Woodmen Road. One route turns onto Woodmen Road for approximately a mile between I-25 and Academy Blvd. The other route crosses Woodmen Road.



The site of the bus stop at the southeast corner of Woodmen and Academy Boulevard would be reconstructed by the No Action Alternative. As a result, there would be a temporary displacement of this stop during construction that may interfere with transit service.

### **Noise**

Construction would generate temporary noise impacts from diesel-powered earth moving equipment, such as dump trucks and bulldozers, back-up alarms on certain equipment, and compressors. Construction noises at off-site locations along Woodmen Road would be dependent on the loudest one or two pieces of equipment operating. The duration of construction related noise impacts for the No Action Alternative would be short.

### **Air Quality**

The most noticeable effect of construction would be the dust raised by demolition of portions of the existing roadway and by the hauling, filling, and grading needed to construct intersection turn lanes. Particulate matter (PM<sub>10</sub>), resulting from construction activities is a concern. Typically, 50 to 100 pounds of fine dust could be raised for each mile of roadway under construction each day. For these intersection improvements, the amount of fine dust will be considerably less than this, and would be controlled through Best Management Practices as mandated by Federal, State, and Local agencies. Construction vehicles and gasoline- or diesel-powered equipment will also emit carbon monoxide, hydrocarbons, oxides of nitrogen, and other contaminants. Traffic delays could increase vehicle emissions near construction activities due to lower traffic speed. These impacts are considered to be short-term and are not anticipated to violate air quality standards.

### **Conservation of Resources**

The No Action Alternative will require the consumption of natural resources. Since the extent of construction is limited to intersection improvements, the consumption of natural resources, such as local aggregate, will be smaller than in the Proposed Action.



### 3.4.3 Proposed Action Impacts

The Proposed Action is described in Chapter 2, *Alternatives Considered*. The following subsections present the construction impacts resulting from the Proposed Action. These activities would result in construction-related short-term impacts in the area.

Construction impacts include:

- traffic detours, interruptions, delays, and access restrictions;
- increased noise levels;
- decreased air quality;
- consumption of resources; and
- temporary effects to recreational trails, water resources, and wildlife.

Construction impacts to recreational trails are discussed in detail in Section 3.9, *Recreational Trails and Natural Areas*. Water quality related construction impacts and mitigation are discussed in detail in Section 3.5, *Water Resources and Issues*. Wildlife related construction impacts and mitigation are discussed in Section 3.7, *Prairie Ecosystem Wildlife*.

### Transportation Issues

The reconstruction efforts for Woodmen Road would result in traffic impacts such as construction delays, changes in traffic circulation, and congestion. The length and severity of disruption to traffic flow would vary by location, type of work, and duration of activity. Construction delays are generally anticipated to be short term and may cause motorists to use alternative routes. Disruption of traffic flow would be the greatest where Woodmen Road intersects Academy Boulevard and Union Boulevard, due to the high volume of traffic at these intersections, and the more complicated construction activities required at those intersections. At these locations, the changes in traffic circulation and congestion are likely to extend from 18 to 36 months, and possibly beyond if problems are encountered that cannot be anticipated at this time. Construction activities will be conducted primarily during daylight hours during the weekdays.



However, nighttime and weekend day construction activities may be required, and include activities such as utility relocation, milling, paving, and construction of bridges and decks. The traffic congestion may also increase “cut-through” traffic in neighborhoods such as Falcon Estates and Columbine Estates. This would result in more traffic and higher speeds on neighborhood streets. However, these impacts will be temporary and traffic patterns will return to normal once construction is complete.

Construction activities will reconstruct and modify existing accesses for both businesses and residents. As a result, access to businesses and residents adjacent to Woodmen Road, particularly at the Academy Boulevard/Woodmen Road intersection, will be rerouted or restricted during certain construction activities. Some temporary closures are also likely to be required.

Emergency service providers could experience short response time delays due to detours and access changes as a result of construction. Temporary lane closures, short-term travel on unpaved surfaces, and reduced speed limits are also anticipated during construction. The emergency service response will not be an issue once construction is completed.

There are two existing bus routes that operate near Woodmen Road as described earlier on page 81. The site of the bus stops for these two routes would be temporarily adjusted during construction. As a result, there may be interference with transit service as the intersection is reconstructed.

Construction activities near local businesses may result in the temporary loss of customers for affected businesses due to traffic congestion and potential access difficulties.

## Noise

Construction-related noise as a result of the Proposed Action would be similar to that discussed under the No Action Alternative. Temporary noise from diesel-powered earth moving equipment, such as dump trucks and bulldozers, back-up alarms on certain equipment, compressors, and pile drivers would be expected with construction. Noises at off-site locations, due to construction along Woodmen Road, would be dependent on the loudest one or two pieces of equipment operating. Most of the construction would be during the day. However, it is likely that night construction will also be necessary.

### Noise Levels

Noise levels from diesel-powered equipment range from 80 to 95 db(a) at a distance of 50 feet.



The duration of elevated noise levels would be longer, and the area affected would be larger than under the No Action Alternative due to the extent of the construction area and the increased magnitude of the effort. Impacts are considered short term and would depend on construction phasing, duration, and sequencing.

### **Air Quality**

Construction-related impacts to air quality resulting from the Proposed Action would be similar to those discussed under the No Action Alternative; however, they would be of longer duration. Impacts are considered to be short-term directly related to the duration of construction and are not anticipated to violate air quality standards.

### **Conservation of Resources**

The Proposed Action Alternative will require the consumption of natural resources, such as aggregate. Though greater than the No Action Alternative this natural resource consumption will be moderate, because the construction will be limited to expanding an existing roadway and not creating a new road.

## **3.4.4 Cumulative Impacts**

As discussed in the study, *Sustaining Nature and Community in the Pikes Peak Region*, a regional cumulative effects analysis (RCEA), construction activities associated with growth and land development are consuming large quantities of materials, energy, and other natural resources, including vacant land and important habitat, in the Pikes Peak Region.

Rock products alone are being consumed at a rate of about 4 million tons per year for the construction of roads and streets, homes and other buildings, driveways, and parking lots. In a recent study by El Paso County (*Updated Master Plan for the Extraction of Commercial Mineral Deposits*, July 2003), it is estimated that currently permitted quarry operations have the capacity to meet local demand for only about the next 12 to 20 years. New sources will then be needed, which is likely to be difficult given the environmental impacts usually associated with mining, such as habitat loss, highly visible scars on the land, air and water pollution, and noise. Other construction materials like lumber, cement, and oil for fuels and asphalt are produced far from the Pikes Peak Region, and the environmental impacts and cumulative effects from production are not borne locally and are not locally apparent.



Construction activities also produce solid wastes such as scrap lumber and other bulky building debris, broken concrete, and used asphalt. Many of these building wastes must be trucked to landfills for disposal. Since there are few permitted landfills in the Pikes Peak Region, the depletion of landfill space -- and the need to construct and permit new landfills at greater distances from populated areas -- is an important local issue.

The majority of the construction impacts associated with the Proposed Action, such as increased noise from heavy equipment, dust, traffic interruptions and delays, and access restrictions will be temporary and are discussed in other sections of this EA. However, the consumption of certain materials for construction of the Proposed Action, primarily aggregates and landfill space, will have long-term consequences and a small but negative effect on these local resources.

It is very likely that currently permitted aggregate sources will be depleted within the next decade or two. The same may be true for currently operating landfills in the reasonably foreseeable future. The consumption and use of these resources for construction of the Proposed Action, when added to other reasonably foreseeable actions, will contribute to their depletion and may accelerate the need to open new quarries and landfills.

### 3.4.5 Mitigation for the Proposed Action

As required, construction of the Proposed Action will comply with all Federal, State, and Local regulations pertaining to air, noise, and other resources. Standard Operating Procedures for construction are included in the Soils and Groundwater portion of Section 3.11 *Other Resources*. In addition, Best Management Practices (BMPs) and standard operating procedures to minimize construction impacts are detailed below.

#### Transportation Issues

- A Traffic Management Plan will be developed to maintain safe traffic flow and maintain access throughout construction. The traffic management plan will include the following:
  - a) Traffic flow will be maintained during peak travel times by minimizing lane closures where possible. In both the City and County portions of the project the existing number of lanes will be maintained during construction whenever possible.



- b) Traffic flow plan development will take into consideration the access needs of property owners during construction and will be designed to minimize construction-related delays.
  - c) Measures, such as signage and media releases, will be used to announce and advertise road closures, detours, and the construction schedule. See the Public Notification discussion below for additional information.
  - d) Alternate travel routes and continued access to properties will be coordinated with emergency service providers to minimize delays and ensure efficient service.
  - e) The City of Colorado Springs will request increased enforcement of speed limits in the neighborhoods and use traffic-calming methods where they are practical.
- Develop a Public Notification Plan to inform residents, businesses, and roadway users of construction activities that will affect traffic flow and other transportation issues.
    - a) Depending upon jurisdiction, the contractor will use a City of Colorado Springs or El Paso County contract specification for conducting public involvement activities.
    - b) The contractor will work closely with community stakeholders in the project area through a public information program during the project development phase, and continue through construction.
    - c) The public will be notified when high-impact construction activities, such as pile driving, are to occur, and of the strategies being implemented to minimize the effect of these activities.
    - d) The public will be notified of closure of traffic lanes and the complete closure of roadways, and will be provided with appropriate detours.
    - e) The public will be notified through media releases, newspaper articles, signage at central locations, mailings, or other distribution measures, as appropriate.



*Construction signs managing traffic.*

- Access to residences and businesses will be maintained to the extent possible during construction. Proper notification will be made to residents and businesses if access is rerouted or detoured. Access will be coordinated directly with the property owners during construction and designed to minimize construction-related issues.
- Maintaining adequate travel routes and minimizing delay for emergency service providers during construction is paramount along the corridor. As a result, emergency service providers will be notified of temporary detours and access changes and informed of alternative routes, to ensure that emergency services are maintained.
- The City of Colorado Springs will coordinate construction with the transit services staff to ensure that bus service near the construction site is maintained.

In addition, the public will be notified of changes to bus routes and temporary relocation of stops. Appropriate detours and an adequate number of bus stops will be provided.

- Construction activities and effects on local businesses would be minimized and mitigated using Best Management Practices. These practices include implementation of the Public Notification and Coordination Plan discussed above and maintaining access.

## Noise

- Local noise ordinances will be obeyed to the greatest extent possible during construction. In the City portion of the project area, construction noise mitigation will adhere to City Code (Chapter 3, Article 8, Part 1, Section 9.8.107), in addition to Ordinances 96-41 and 01-42. These ordinances include:
  - a) Maximum allowable noise levels
  - b) Noise level limits for night work in residential areas
- When appropriate, sound walls will be constructed as part of the first phase of work.
- Noise blankets or other muffling devices on equipment, as well as quiet-use generators, will be used.



## Air Quality

- A Fugitive Particulate Emissions Control Plan will be developed and implemented and a Dust Abatement Permit will be obtained during construction in accordance with the Colorado Air Quality Control Commission Regulation No. 1, Part 3D, and Regulation No. 3, “Applicable Permit Requirements.” The requirements of the Fugitive Particulate Emissions Control Plan will include the following:
  - a) Contractors will be required to use dust suppression techniques (such as wetting or dust palliative compounds) to control fugitive dust emissions to within permitted levels. Trucks carrying fill material will be either wetted down or covered with tarps to prevent the blowing of dirt and dust from the trucks.
  - b) The disturbed area for haul roads will be minimized, and haul roads will be wetted to suppress dust.
  - c) Fills, cuts, slopes, and other exposed areas will be revegetated and mulched within a reasonable time after disturbance. For effective revegetation, planting season will be met.
  - d) Off-site tracking of mud and debris will be minimized by washing construction equipment in contained areas.

## Conservation of Resources

- Conservation of natural resources and recycling of locally-available materials will be implemented to the degree that is possible and practical. Recycling practices will not only reduce the amount of new material used in construction, but will also reduce the amount of waste materials hauled to a landfill. In accordance with the policies and programs of the City of Colorado Springs and El Paso County, the use of recycled materials will be encouraged. Furthermore, waste materials that are generated on-site during construction, such as broken concrete and asphalt, steel, and plant materials, are appropriate for recycling, and their reuse will also be encouraged. As discussed in Section 3.2.5, residential structures that are to be removed will be evaluated on a case-by-case basis to determine whether relocation of these buildings, rather than demolition, is practical. If this type of “recycling” is possible, it would reduce the volume of waste materials sent to a landfill while preserving homes for reuse.



## **Other Requirements**

There is a number of additional requirements that manage the effects of construction. For example, the City of Colorado Springs and El Paso County will require permits for construction of the Proposed Action within the city and county. These permits include those for construction and excavation, stormwater, erosion control, floodplain management, or other environmental issues. The result of these requirements is that environmental damage is avoided or minimized.

