

I. Purpose and Need

A. INTRODUCTION

Guanella Pass Road is approximately 72 kilometers (45 miles) west of the Denver metropolitan area. It begins at U.S. Highway 285 in Grant, Colorado, and proceeds in a northerly direction over Guanella Pass, ending at the south edge of Georgetown, Colorado. Figure I-1 is a map showing the location of Guanella Pass Road with respect to the City of Denver, Colorado. The roadway is 38.2 kilometers (23.7 miles) in length with the southern 17.2 kilometers (10.7 miles) in Park County and the northern 21.0 kilometers (13.0 miles) in Clear Creek County (0.7 kilometer [0.4 mile] of this portion is within Georgetown town limits). The road passes through the Pike and Arapaho NFs and is used primarily (90 percent of traffic) for recreational purposes. Figure I-2 shows the Guanella Pass roadway corridor.

Guanella Pass Road, as it exists today, is an accumulation of the construction and maintenance efforts of five entities including Park County, Clear Creek County, the FS, the Town of Georgetown, and the former Geneva Basin Ski Area. The last major construction work was completed in the early 1960s. The proposed project is included in the Colorado State Transportation Improvement Program. Currently, 48 percent of the road is surfaced with aged pavement or chip seal. The remaining 52 percent of the road has a dirt or gravel surface. Guanella Pass Road is maintained by Park County, Clear Creek County, and Georgetown. In 1990, Guanella Pass Road was designated a Colorado Scenic and Historic Byway by the CDOT, and in 1991 Guanella Pass Road was designated a National Forest Scenic Byway.

B. PROJECT HISTORY

1. Project Development

The development of this Guanella Pass Road project began approximately 15 years ago, when Clear Creek County officials began seeking federal funding assistance for improving the road's condition and began attending the annual Forest Highway Program meetings in 1987. Park County became involved in the process in 1990. Through those meetings the two counties requested that the Guanella Pass Road receive consideration for improvements under the Forest Highway Program.

The Forest Highway Program provides federal funding for capital improvements of a special category of public roads that directly serve NF lands nationwide. This roadway system is designated as the Forest Highway road system. The Forest Highway Program is administered by a three-agency group known as the Program Agencies. The function of the Program Agencies is to maintain a continuing Public Lands Highway (PLH) Program and to make major decisions concerning projects in the program. The Program Agencies in Colorado are the FHWA, the FS, and the CDOT. The three Program Agencies share the stewardship responsibilities for the Forest Highway road system and accountability for the program accomplishment. Highways designated for reconstruction and rehabilitation under the PLH Program are selected at an annual Program Agency meeting. The routes selected are those that serve both the NFs and the State (or Counties where appropriate) and have the greatest need for improvement. Forest Highway

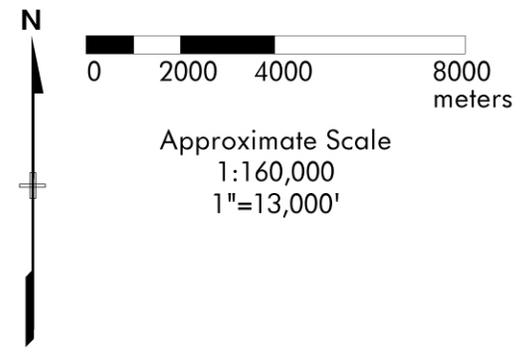
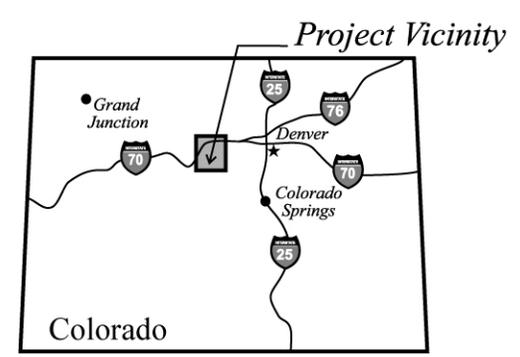
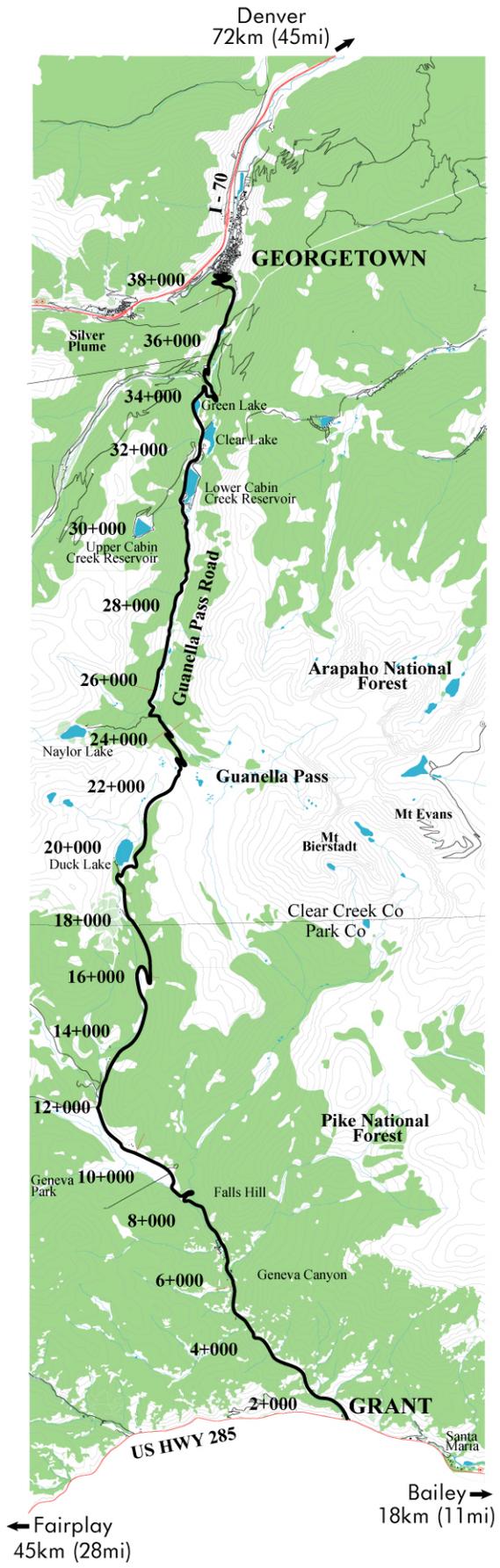


Figure I-1
Regional Context Map



- Mount Evans Wilderness Boundary
- Pike-San Isabel/ Arapaho-Roosevelt National Forest Boundary
- Picnic Area
- Campground

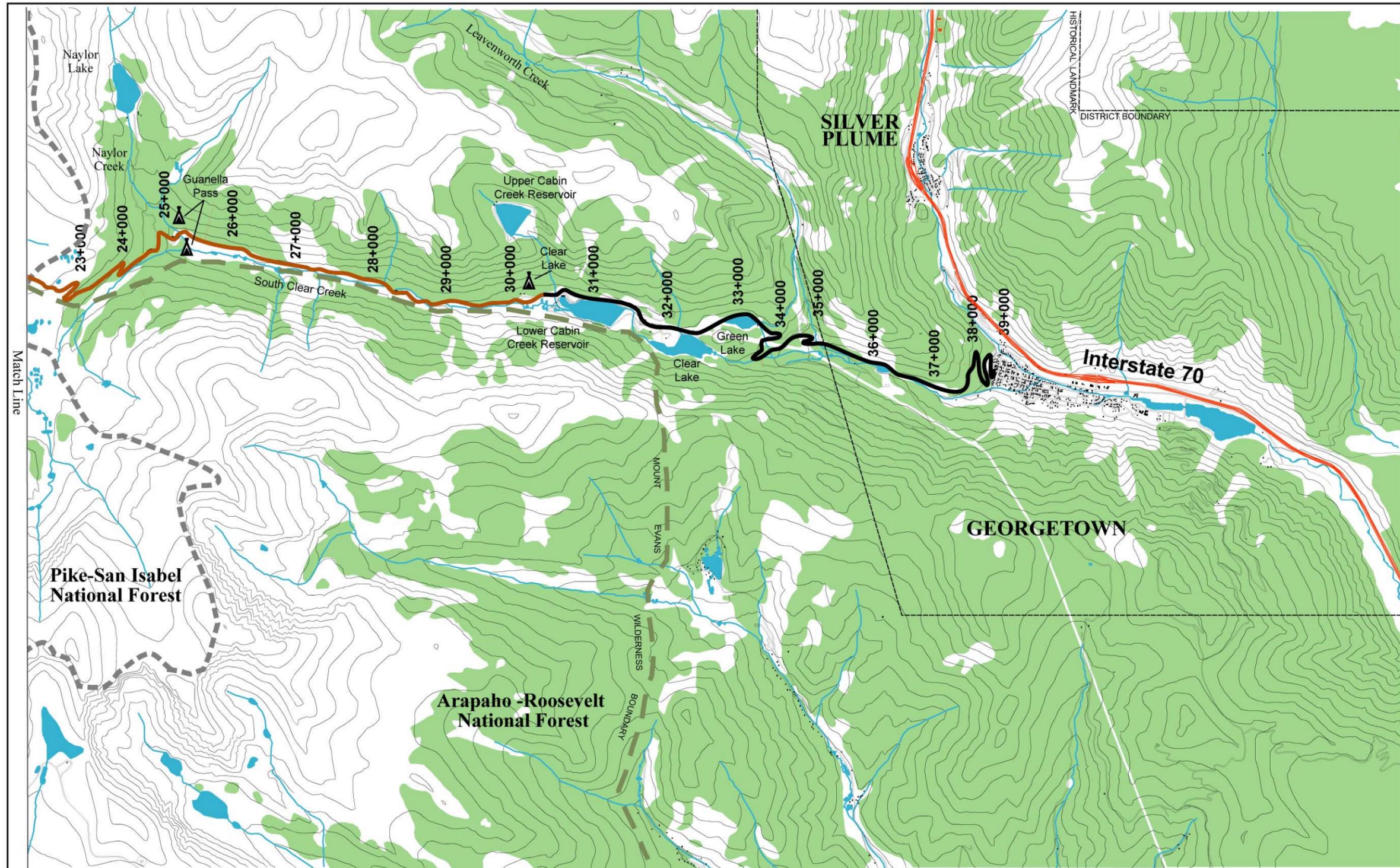
- Existing Road Surface
- Gravel/Dirt
 - Paved

0 750 1500 3000 meters

Approximate Scale
1:60,000
1" = 5000'

Contour Interval
12 meters (40 feet)

Figure I-2
Guanella Pass Road
Corridor



Georgetown - Silver Plume National Historical Landmark District Boundary

Mount Evans Wilderness Boundary

Pike-San Isabel/ Arapaho-Roosevelt National Forest Boundary

Picnic Area

Campground

Existing Road Surface

Gravel/Dirt

Paved

0 750 1500 3000 meters

Approximate Scale
1:60,000
1" = 5000'

Contour Interval
12 meters (40 feet)

**Figure I-2 (cont.)
Guanella Pass Road
Corridor**

Program meetings are held annually to review the program accomplishment, current project status, and to assign priorities for use of anticipated future allocations of the federal funding.

Although federal funds are used for the projects, the maintenance and control of the roads as well as the joint approval of the project details remain with the FS and the State or local entity having jurisdiction - in this case Clear Creek County, Park County, and the Town of Georgetown. The annual program meetings have involved the Program Agencies as well as Clear Creek County, Park County, and the Town of Georgetown.

Guanella Pass Road was recommended for reconnaissance and scoping at the March 1992 PLH Program meeting. Initial field reconnaissance studies began with representatives from the Program Agencies, Clear Creek County, and Park County to assess the condition of the road and identify needed improvements. Guanella Pass Road was approved for Forest Highway funding in 1993, after an evaluation of the FHWA *Reconnaissance and Scoping Report*, the FS's transportation needs, and a presentation by the Town of Georgetown, Clear Creek County, and Park County in support of improvements to Guanella Pass. Due to the complexity of the project, a seven-year development time was anticipated and the route was tentatively programmed for construction funding beginning in 2000.

A Social, Economic, and Environment (SEE) Study Team was established to aid in the coordination and project development. The SEE Team is composed of one or more members from each of the Program Agencies. The function of the SEE Team is to guide the proposal through the project development process and to provide a point of contact within each agency through which other disciplines and individuals may be accessed. Coordination included interagency meetings, field reviews, and correspondence.

2. Project Scoping and Public Involvement

The FHWA *Reconnaissance and Scoping Report*, completed in 1993, recommended a 7.8-meter (26-foot) roadway width and reconstruction of the entire route. This was followed by meetings and correspondence with the cooperating agencies and the public as follows:

- Interagency scoping meetings were held in late 1993 to discuss the proposal with other government agencies.
- Public scoping meetings were held in early 1994 in Shawnee and Georgetown.
- A newsletter was mailed to the public in May 1994.
- Public scoping workshops were held in early 1995 in Georgetown and Shawnee.
- Additional interagency meetings were held in the spring and summer of 1995.
- A second newsletter was mailed in July 1995.
- In August 1995, options for the Georgetown terminus were discussed in meetings attended by the Georgetown Planning Commission, Georgetown Board of Selectmen, and the Clear Creek County Commissioners.

- Additional public information meetings were held in Georgetown and Shawnee in July 1996.
- An interagency meeting with the Georgetown Planning Commission was held in the fall of 1996.

As a result of the initial studies and scoping meetings, the proposed roadway width was reduced to 7.2 meters (24 feet) to minimize impacts and construction costs.

3. Draft Environmental Impact Statement

The Colorado Forest Highway 80 - Guanella Pass Road - DEIS was prepared in 1997 and early 1998. The DEIS identified a No-Action Alternative and four build alternatives as potential solutions to the need for road improvements. The FHWA released the DEIS in June 1999 with the comment period originally scheduled to end August 30, 1999. Public and local government comments were received in the following ways:

- Public hearings were held on August 3, 4, and 5, 1999, to receive public input on the DEIS.
- Comments from the Town of Georgetown were received by letter, dated August 11, 1999, from Janet Claus, Mayor, and in a letter dated August 25, 1999, from Edward Caswall, the Town of Georgetown Attorney. The letter from Mr. Caswall clarified the Town of Georgetown jurisdiction of the northerly 0.7 kilometers (0.4 miles) of the route in Georgetown.
- At the request of the public and congressional representatives, the comment period for the document was extended to October 15, 1999.
- A series of additional public meetings, sponsored by Clear Creek County and Park County, were held in September 1999 to obtain comments on the DEIS.
- Comments were received from Clear Creek County in a letter dated October 13, 1999.
- Approximately 890 comments were received during the DEIS comment period. The comments received include unique written comments, form letters, telephone conversations, petition signatures, and verbal comments recorded at the public hearings.

4. Development of New Alternative – Supplemental DEIS

During the comment period for the DEIS, several major issues of concern were identified, including the need to develop a new alternative. The majority of commentors agreed with the need for repair or maintenance of the road, but not to the extent described by the build alternatives in the DEIS. The commentors indicated that a new alternative should be developed that emphasizes rehabilitation or minimal improvements to Guanella Pass Road.

A new alternative was developed by the FHWA in cooperation with Clear Creek County, the Town of Georgetown, Park County, the FS, and the CDOT. These agencies participated in numerous work group sessions to coordinate a response to public comments and develop a new alternative for public consideration. The work group sessions focused on addressing the major issues identified during a review of the DEIS comments. These work group sessions were held

from early February through early May 2000 and were open to the public for observation.

The work groups addressed major issues that were identified in the public and agency comments on the DEIS. The major issues pointed to the need for the development of a new alternative that is more responsive than the DEIS build alternatives to the environmental setting and the rustic and rural character of the road.

The new alternative, Alternative 6, was presented in the SDEIS released to the public in November 2000 with the comment period ending January 16, 2001. Alternative 6 includes a change in the functional classification of the roadway from a rural collector road, as proposed in the DEIS, to a rural local road. The change in functional classification allows a lower design speed with sharper roadway curves and a narrower roadway width than the DEIS build alternatives. In addition, a smaller design vehicle is used which allows a sharper switchback curvature. Each of these changes in the design criteria allows Alternative 6 to follow more closely the existing roadway. These changes include additional management responsibilities for Clear Creek County, Park County, and the Town of Georgetown. In the SDEIS, Alternative 6 divides the road into 36 segments in a combination of surface types and extent of construction (rehabilitation, light reconstruction, and full reconstruction)¹. The rehabilitation sections constitute 63 percent of the roadway, light reconstruction 18 percent, and full reconstruction 19 percent.²

Other issues discussed in the SDEIS that were not specific to Alternative 6 included the potential for winter closure of Guanella Pass Road, alternative surface types for both paved and gravel road sections, retaining wall design and materials, drainage structures, and guardrail design and materials. These issues apply to Alternatives 2-5 as well as Alternative 6.

The FHWA, in conjunction with the cooperating and local agencies, held public hearings to present the new alternative and to receive public comments on the SDEIS on December 4, 2000 (in Bailey), December 5 and 7, 2000 (in Georgetown), and December 6, 2000 (in Lakewood). The hearings consisted of presentations made by FHWA personnel and members of the cooperating and local agencies, followed by a comment/question and answer session involving the audience. An official transcript of each hearing was recorded by a court reporter.

Again, at the request of the public and congressional representatives, the FHWA extended the comment period to February 2, 2001. The FHWA received approximately 810 comments during the SDEIS comment period. The comments received include unique written comments, form letters, telephone conversations, petition signatures, and verbal comments recorded at the public hearings. The FHWA issued the *SDEIS Summary of Comments* report in April of 2001. This report included copies of each written comment received and transcripts of each public hearing. The report also categorized each comment according to the topic that it addressed. Several comments addressed more than one topic, and thus were assigned to multiple categories. A list of all comments received on both the DEIS and SDEIS and a response for each comment category is given in **Appendix B**.

¹ The number of segments has since changed due to recent decisions made regarding surface types.

² These percentages have changed slightly (one percent or less) due to adjustments made during a recent (2002) field review.

5. Alternative Surface Test Strips

Guanella Pass Road currently consists of several stretches of road with gravel surfaces that require frequent maintenance and, thus, are more costly over the life cycle of the road than the paved sections. The increased sedimentation into nearby streams and wetlands resulting from these gravel sections is also of concern. The FHWA is considering several gravel alternative surface options as part of the Guanella Pass Road Improvement Project in an effort to provide a low-maintenance, durable roadway that retains its current rustic character.

As part of the continuing effort to address public concerns regarding the Guanella Pass Road Improvement Project, the FHWA constructed road surfacing test strips on Guanella Pass Road south of the Cabin Creek hydroelectric power plant. Construction of the test strips was completed on August 9, 2001. The purpose of the test strip construction was to provide the agencies and the public the opportunity to experience the look and feel of the five different gravel alternative surface types being considered for use on most of the existing gravel portions of the road. The five gravel alternative surface types demonstrated were a PennzSuppress D/magnesium chloride combination, macadam, Road Oyl, Perma-Zyme, and recycled asphalt. In addition to the five gravel alternatives, an asphalt with chip seal test strip was constructed. This surface is being considered for use on the paved sections of the road. Roadway users were asked to complete a comment sheet, indicating their preferred surface type and any additional comments they may have.

One hundred and one comment sheets were received during the official test strip survey period, which ended on October 15, 2001. Respondents indicated their surface type preferences in several ways: some ranked each surface from one to six, with one being the most preferred surface; some indicated only one preferred surface; some marked several equally preferred choices; and others gave no preference at all. A review of all test strip comment sheets submitted indicated that the most popular test strip surface was the asphalt with chip seal overlay treatment, which was indicated as preferred by 28 respondents. Of the gravel alternative test strips, the PennzSuppress D/magnesium chloride and the recycled asphalt surfaces were preferred by 22 respondents apiece.

6. New Considerations

The FHWA has investigated several measures to reduce the effects of the project on surrounding communities. Two measures that will reduce the impacts of construction hauling on the towns of Grant and Georgetown are the use of material source sites within the project area and the creation of a construction traffic bypass bridge. The use of material source sites within the project corridor at the Geneva Basin Ski Area and on FS land near Duck Lake will reduce the amount of construction material that must be hauled through the towns of Grant and Georgetown. A permanent bypass bridge over Clear Creek on 7th Street from Brownell Street to Argentine Street in Georgetown will direct construction traffic away from residential areas and will reduce the number of bridge crossings by construction traffic to one. This bridge will continue to be used following project completion to facilitate traffic flow in Georgetown.

In addition to building the 7th Street bridge, after construction the FHWA will mill and resurface Argentine and Brownell Streets while shifting the road one roadway width to the west into a previously disturbed area from 15th Street to 11th Street. This will repair any damages made to the streets during hauling activities and will relocate the streets to match the existing right of way boundaries. For a more detailed description of impact minimization efforts for the proposed project, refer to **Chapter III.B.6i: Reducing Construction Impacts**.

C. PURPOSE OF AND NEED FOR THE PROJECT

The purpose of the Guanella Pass Road improvement project is based on the need to balance transportation requirements (including recreational access to FS lands) and roadway maintenance requirements with the sensitive nature of the environment.

The following sections describe the need for improvements to Guanella Pass Road. The need for improvements is based on current and future traffic demand, roadway deficiencies, safety concerns, environmental problems, and other issues raised by the cooperating agencies. The needs are separated into three categories: transportation, environmental, and maintenance.

1. Transportation Needs

1a. Increased Traffic Volumes

Traffic volumes on Guanella Pass Road have increased over the last several years and this trend is expected to continue. The rapid population growth in the front range area and increased per capita recreation activity contribute to the traffic growth on Guanella Pass Road. According to the state demographer, the population of the Denver metropolitan area is expected to grow between 35 and 40 percent by the year 2025 (over the year 2000 population). Because Guanella Pass Road is approximately 60 kilometers (35 miles) from the Denver metropolitan area, the roadway will continue to receive recreational traffic whether or not it is improved. Table I-1 shows the year 1995 and year 2025 (projected) No-Action (no improvement) weekend seasonal average daily traffic (SADT) for the peak season from June-September, as well as the annual average daily traffic (AADT) at four locations along the road. The year 2015 traffic volumes used in the DEIS and SDEIS were updated using new data to generate year 2025 traffic volumes for the 20-year forecast from anticipated date of construction.

Table I-1: Guanella Pass Road Traffic Volumes

Count Location	Weekend SADT		AADT	
	1995 Volume	2025 Projected No-Action Volume	1995 Volume	2025 Projected No-Action Volume
Just North of Grant	730	1,140	220	340
South of Guanella Pass (Near Duck Lake)	340	530	100	160
Just North of Guanella Pass	690	1,080	160	240
2 kilometers (1.2 miles) South of Georgetown	1,100	1,720	330	510

Source: Guanella Pass Road Traffic Study Traffic Volume Projections, MK Centennial, September 2002.

Without structural improvements as proposed in the build alternatives, the future traffic volumes shown in Table I-1 will result in an increased rate of road surface deterioration.

1b. Inadequate Surface Condition

Three sections of Guanella Pass Road are currently paved or are chip sealed (tar and gravel). The first section begins at Grant, is approximately 0.8 kilometers (0.5 miles) long, and is chip sealed. The second section is located around Geneva Park, is 8.7 kilometers (5.4 miles) long, and is paved. The third section begins at the Lower Cabin Creek Reservoir and continues to Georgetown. This section is 8.8 kilometers (5.5 miles) long and is paved. The remainder of the road has a dirt/gravel surface.

The existing roadway surface is not strong enough to withstand current traffic volume loads. Since the existing roadway does not include paved shoulders, substantial raveling (break up and cracking) of the pavement edge occurs. The current deteriorated pavement condition is illustrated in Figure I-3. The problems on the gravel-surfaced portions include dust, washboarding, pot-holing, rutting, mud, and loss of surface material (Figure I-4).



*Figure I-3
Distressed Pavement Conditions*

The proposed improvements to the roadway and shoulders on all or part of the road will reduce both the rate of deterioration and maintenance costs.



*Figure I-4
Pot-holes and Ruts on a Gravel Section*

1c. Safety

Forty-four accidents have been reported on Guanella Pass Road since 1991, as shown in Table I-2.

As with many rural roadways, not all accidents that occur on Guanella Pass Road are reported. Figure I-5 shows the approximate locations of the reported accidents between the years 1991 and 2001. As shown in the figure, accidents have occurred throughout the project corridor.

The majority of the reported accidents involved vehicles that rolled over after leaving the roadway. Steep terrain and the lack of guardrail contributes to the high potential for rollovers. Roadway conditions including lack of pavement markings also contribute to the potential for accidents.

Table I-2: Accidents Reported on Guanella Pass Road

Year	Number of Accidents
1991	2
1992	4
1993	5
1994	2
1995	5
1996	3
1997	5 (one fatal)
1998	2
1999	7
2000	6
2001	3

Accident rates on Guanella Pass Road are notably higher than the accident rates on similar hard-surface recreational roads. Information available shows that the accident rates occurring on Guanella Pass Road are higher than two other paved mountain roads. These paved recreational roads are State Highway 133 south of Carbondale (McClure Pass) and State Highway 149 south of Spring Creek Pass. Table I-3 shows the relative accident rates.

**Table I-3: Comparison of Annual Accident Rates
(Per Million Vehicle-Miles) on Similar Roadways**

Roadway	Year					
	1995	1996	1997	1998	1999	Average
Guanella Pass Road	3.19	1.89	3.10	1.22	4.21	2.72
State Highway 133	0.49	0.97	0.45	0.82	1.23	0.79
State Highway 149	1.73	0.86	1.11	2.01	2.70	1.68
Accident rate = (#Accidents x 10 ⁶) / (length x 365 x ADT)						

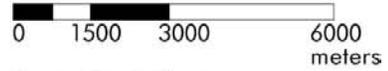
The accident potential on Guanella Pass Road is high due to the following safety deficiencies:

- The existing roadway was not built to a consistent standard and there are many abrupt, sharp horizontal curves that limit sight distance.
- The existing roadway closely follows the irregularities of the surrounding terrain, resulting in numerous vertical dips, steep sections, and sharp crests, all of which restrict sight distance and create operational problems.
- The width of the roadway is inconsistent, varying between 5.5 and 7.2 meters (18 and 24 feet).



Legend

☆ Accident Location



Approximate Scale
 1: 120,000
 1" = 10,000'

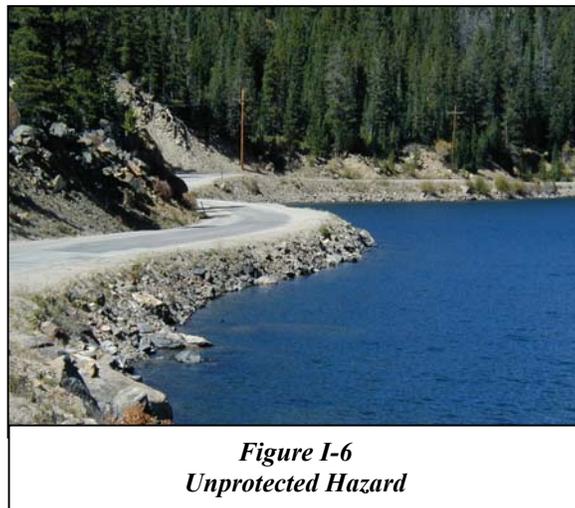
Contour Interval
 12 meters (40 feet)

Figure I-5
Accident Locations on
Guanella Pass Road
1991-2001

- The switchbacks are very sharp and narrow. Larger vehicles use the entire roadway to negotiate a turn around these switchbacks, often blocking the path of oncoming traffic.
- The narrow roadway width requires vehicles of all sizes to encroach on the oncoming lane.
- Inconsistent geometries result in a roadway that does not meet driver expectancy.
- Three very short sections of the existing road provide guardrail protection, but much more is warranted to protect drivers from steep drop-offs and roadside hazards (Figure I-6).

The hazards created by these safety deficiencies will become an increasing problem as traffic volumes increase.

To improve safety, the roadway design needs to be corrected in accordance with established guidelines that call for increased sight distance, a consistent width, a consistent design speed, and the inclusion of guardrail where severe hazards occur.



1d. Local Access

Guanella Pass Road functions as a rural local roadway, primarily providing access to adjacent land and supporting travel over relatively short distances. The roadway provides access to the NF Lands and FS recreation facilities, the Cabin Creek Power Plant owned by Xcel Energy, several residences, and one dude ranch. In addition, three forest development roads and one county road connect to Guanella Pass Road.

Guanella Pass Road provides primary access to the Pike and Arapaho NFs. The area is used for sightseeing, hiking, hunting, fishing, camping, wildlife viewing, cross country skiing, snowmobiling, bicycling, and other recreational activities. Guanella Pass Road serves numerous trailheads, which include the Silver Dollar Lake, Guanella Pass, Abyss Lake, and Threemile Creek trails. These trailheads provide access to the Mount Evans Wilderness and other remote areas.

Part of the need for the proposed improvements to the road is to both accommodate and control access to the recreational uses the FS provides. Improvements to the roadway provide an opportunity for the FS to better manage the locations used for parking by anglers and picnickers; limit the number of vehicles parked in a specific area; eliminate off-road camping, parking, and travel in areas where it is not desired; and install interpretive pullouts and signs where appropriate. Representatives of local businesses and organizations, officials of nearby towns, and Park and Clear Creek County residents make up the Guanella Pass Scenic Byway Committee (SBC). The SBC has prepared a Corridor Management Strategy (CMS) for the Guanella Pass Scenic and Historic Byway. This strategy provides a vision for the future management of the byway corridor. It also provides detailed descriptions for management efforts to rehabilitate and/or upgrade FS recreation facilities including campgrounds, picnic areas, trailheads, parking areas, and interpretive stations. Guanella Pass Road is maintained for passenger vehicle use year-round in Clear Creek County. The road in Park County, however, is not snow plowed on a year-round basis. Through travel from Georgetown to Grant is not always possible during the winter months.

Guanella Pass Road is not meant to be a commercial link or through route between Interstate 70 and US Highway 285, nor is it the purpose of the proposed improvements to make it one. The primary purpose of the road is, and will continue to be, to provide recreational access to the forests and access to the developments listed above.

A reduction in travel time between Grant and Georgetown results if Guanella Pass Road is paved. An exception to this reduction is for heavy trucks. The geometric characteristics of the proposed improvements to Guanella Pass Road still include switchback curves and steep grades (nine percent or more). While the improvements make the existing curves and grades more easily negotiable for the average vehicle, larger vehicles (heavy trucks) will continue to find it slow-going to negotiate the curves and steep grades.

2. Environmental Needs

2a. Sensitive Environmental Setting

The Guanella Pass Road corridor passes through an environment that is sensitive to the presence of residents and visitors alike. The corridor consists of alpine and montane forests with meadows and wetlands. It passes through rock and talus slopes, and areas rich in wildlife. Parts of the corridor serve as a winter range for elk, deer, and bighorn sheep and home to many other smaller mammals and birds. The scenic views are readily visible from Guanella Pass Road and enjoyed by the area residents and visitors.

The sensitivity of the area to impacts created by the project must be considered. As part of this project, an extensive information gathering effort was aimed at identifying key environmental issues to receive special attention during the course of project development. The process included numerous agency meetings and public meetings, surveys, and interviews. This effort yielded six key issues: the social environment, water resources, visual quality/character of the area, recreational resources, wildlife resources, and construction impacts. These issues were felt to be of utmost importance with respect to avoiding, minimizing, and mitigating impacts.

2b. Soil Erosion and Sedimentation

Many sections of the existing road are adjacent to or located very close to creeks or areas where substantial runoff occurs (Figure I-7). During high runoff years, roadside creeks overflow their banks, undermining the roadbed and damaging the road surface. Other sections of the road, particularly along South Clear Creek, are at stream level or slightly below. Fill slopes from the road encroach into the creek in several locations. Numerous locations experience substantial runoff from adjacent hillsides and nearby springs. These conditions allow dirt particles from the roadway and unvegetated slopes to be carried into nearby streams.



*Figure I-7
Stream Encroachment*

As part of the proposed improvements, drainage facilities (ditches and culverts) along the road will be improved to keep roadway surface runoff from directly entering the creeks. In areas where sedimentation from the road is a concern, the proposed improvements provide sediment traps where needed and, where possible, sedimentation buffers between the road and nearby creeks. In addition, revegetation of barren slopes will reduce the amount of available dirt particles contributing to siltation.



*Figure I-8
Steep Cut Slopes and Heavy Rockfall*

The steep mountainous terrain, the original methods of road building, and current maintenance practices have created numerous steep and unvegetated cut slopes along the road. Large rocks embedded in these cut slopes occasionally erode onto the roadway. Boulders and rockfall debris on the roadway pose a potential threat to driver safety until they are detected and removed by county maintenance crews (see Figure I-8). Wider ditches could be provided in appropriate locations along the road to catch these rocks before they roll into the roadway.

Soil erosion also results in the loss of important topsoil and destruction of mature vegetation. As shown in Figure I-8, many of the cut slopes are too steep and unstable to establish or retain vegetation. These unvegetated areas are highly visible and detract from the aesthetic value of this Scenic and Historic Byway.

3. Maintenance Needs

3a. Roadway Maintenance Cost

Park and Clear Creek Counties have expended a great deal of time and money trying to maintain Guanella Pass Road. Even with their efforts, the counties have been unable to maintain the roadway to acceptable safety and driving standards. The counties agree that additional maintenance of the roadway is desirable, but budget restrictions prohibit this.

As traffic volumes increase and the roadway continues to age, the necessary maintenance will require the counties to spend an increased amount of time and money. However, the counties anticipate that so long as they lack monetary resources the increased maintenance cannot occur. As a result, this will accelerate the deterioration of the road. Lack of maintenance will also contribute to further environmental degradation of the area through dust, erosion, and sedimentation. Safety is compromised, and the recreational driving experience is diminished by the dust, rutting, washboarding, and potholes. Additional detailed discussion of roadway maintenance needs and costs is presented in **Chapter III.C.11: Maintenance Costs**.

An improved roadway requires less time and money to maintain. Better maintenance results in a safer road, an enhanced recreational driving experience, and less dust, erosion, and sedimentation.

3b. Drainage

Existing stream crossing culverts are generally undersized, constricting stream flow and fish passage. Roadway drainage-ditch culverts are inadequately spaced, resulting in concentrated flow along the roadway and subsequent erosion. An example of the inadequate drainage is shown in Figure I-9. This drain culvert has been deformed due to the erosion of the roadway surface, and this deformation has prevented proper runoff drainage. These inadequacies often cause drainage to run on top of the roadway surface, causing erosion and road surface distress. In winter, this results in ice flows forming across the road in several areas creating added safety issues and increased accident potential.



*Figure I-9
Inadequate drainage*

3c. Untreated Roadway Surface Conditions

The 19.7 kilometers (12.2 miles) of roadway that are dirt/gravel surfaced cause substantial dust problems, especially during high traffic periods. Year-round homes and summer cottages are affected, as well as creeks, plants, wildlife, and campgrounds adjacent to the road. The enjoyment of driving the road suffers when preceding vehicles fill the air with dust. Dust also contributes to local degradation of scenic vistas and air quality in the Mt. Evans Wilderness Area. Clear Creek County has applied magnesium chloride ($MgCl_2$), a partially effective dust suppressant, for dust control on the dirt/gravel portions of the road within the county. $MgCl_2$ helps control dust particulate scattering and sedimentation, but it is expensive and the effects only last for one to two years. Dust is worse on the Park County portion of the route because Park County does not have the budget to apply $MgCl_2$.

The traffic and maintenance activities on Guanella Pass Road casts off much of the loose gravel surface into adjacent roadside areas that include creeks and streams, wetlands, riparian areas, and ditches (Figure I-10). The gravel that is cast off the road chokes sensitive habitats and fills in drainage ditches. As the ditches become filled, the drainage from the road becomes less manageable and results in increased runoff across the road. The use of a hardened surface in critical areas would substantially reduce the amount of sediment that ends up in ditches and environmentally sensitive areas. Neither county has the budget to keep the existing surface well-graded and the existing ditches clear of surface materials.



Figure I-10
Spreading and erosion of road materials into sensitive habitats

D. PROJECT OBJECTIVES

The objectives of the project are based on the needs identified in the previous section of this chapter. The project alternatives (described in detail in **Chapter II: Alternatives**) are compared against the project objectives in **Chapter III.E: Comparison of the Preferred Alternative and the DEIS/SDEIS Alternatives to the Project Objectives**. The eight project objectives are outlined in Table I-4. Each project objective carries equal weight when considered in the alternatives analysis.

*Table I-4
Objectives of the Guanella Pass Road Improvement Project*

Transportation	
I.	Provide a roadway width and surface capable of accommodating year 2025* traffic volumes.
II.	Improve safety by providing consistent roadway geometry and providing reasonable protection from unsafe conditions.
III.	Accommodate and control access to Forest Service facilities located along the road.
Maintenance	
IV.	Reduce the anticipated maintenance costs to the counties (and town**) maintaining the road.
V.	Repair roadway drainage problems.
Environmental	
VI.	Repair existing unvegetated slopes.
VII.	Avoid, minimize, or mitigate adverse impacts to the environment by considering key issues identified through the public and agency involvement process.***
VIII.	Maintain the rural and scenic character of the road.
* Year 2015 traffic volumes (used in the DEIS) have been revised to year 2025 traffic volumes to show the 20-year traffic projections, based on the estimated project completion date.	
** Added after issuance of DEIS.	
*** Key Issues for this project were identified as: Social Environment, Water Resources, Visual Quality, Recreational Resources, Plants and Animals, and Construction Impacts.	