



Transportation Concept Report
State Route 158
District 9
September 2014



Looking south along SR 158 0.5 mile north of the Rush Creek Substation driveway

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California Department of Transportation

*Provide a safe, sustainable, integrated, and efficient transportation system
to enhance California's economy and livability*

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**State Route 158
Transportation Concept Report**

Prepared
by
Caltrans District 9
System Planning Division

September 2014

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Location of State Route 158 in Caltrans District 9

ABOUT THE TRANSPORTATION CONCEPT REPORT

System Planning is the long-range transportation planning process for the California Department of Transportation (Caltrans). The System Planning process fulfills Caltrans' statutory responsibility as owner/operator of the State Highway System (SHS) (Gov. Code §65086) by evaluating conditions and proposing enhancements to the SHS. Through System Planning, Caltrans focuses on developing an integrated multimodal transportation system that meets Caltrans' goals of safety, mobility, delivery, stewardship, and service.

The System Planning process is primarily composed of four parts: the District System Management Plan (DSMP), the Transportation Concept Report (TCR), the Corridor System Management Plan (CSMP), and the DSMP Project List. The district-wide **DSMP** is a strategic policy and planning document that focuses on maintaining, operating, managing, and developing the transportation system. The **TCR** is a planning document that identifies the existing and future route conditions as well as future needs for each route on the SHS. The **CSMP** is a complex, multi-jurisdictional planning document that identifies future needs within corridors experiencing or expected to experience high levels of congestion. The CSMP serves as a TCR for segments covered by the CSMP. The **DSMP Project List** is a list of planned and partially programmed transportation projects used to recommend projects for funding. These System Planning products are also intended as resources for stakeholders, the public, and partner, regional, and local agencies.

TCR Purpose

California's State Highway System needs long range planning documents to guide the logical development of transportation systems as required by CA Gov. Code §65086 and as necessitated by the public, stakeholders, and system users. The purpose of the TCR is to evaluate current and projected conditions along the route and communicate the vision for the development of each route in each Caltrans District during a 20-25 year planning horizon. The TCR is developed with the goals of increasing safety, improving mobility, providing excellent stewardship, and meeting community and environmental needs along the corridor through integrated management of the transportation network, including the highway, transit, pedestrian, bicycle, freight, operational improvements and travel demand management components of the corridor.

STAKEHOLDER PARTICIPATION

Internal and external stakeholder participation was sought throughout the development of the State Route (SR) 158 TCR. Prior to document finalization, stakeholders were asked to review the document for consistency with existing plans, policies, and procedures. The process of working with stakeholders adds to the value of the TCR, allows for external input and ideas to be included in the document, increases credibility, and helps strengthen public support and confidence.

Stakeholders in the SR 158 planning area are community members and agencies including:

- Bureau of Land Management, Bishop Field Office
- California Department of Transportation (Caltrans)
- Great Basin Unified Air Pollution Control District
- Inyo National Forest
- June Lake Citizens Advisory Committee
- June Lake Trails Committee
- Mono County Community Development Planning Division
- Mono County Local Transportation Commission

EXECUTIVE SUMMARY

SR 158 is a two-lane conventional highway traversing the Glass Mountain Spur of the Sierra Nevada Range and the southern part of the Pumice Valley. The road begins and ends at US 395, the most heavily travelled north-south route in District 9. The southern end of SR 158 is at June Lake Junction; the northern end is at Grant Lake Junction. The route provides the only paved connections from US 395 to June Lake, the only community along SR158. From end to end SR 158 is known locally as the June Lake Loop; much of the southern part of the highway has been designated by Mono County as Boulder Drive.

The environment along the highway is noted for its scenery and recreational opportunities. Because elevations on SR 158 range from 6,800 to 7,700 feet, snow is prevalent during many winters. A small part of the southern section may be closed typically for one day, but may be closed for up to a week to enable maintenance personnel to remove avalanche snow covering the roadbed. During closures of the southern section, access from June Lake Junction to the June Lake area is available via Northshore Drive, a Mono County maintained paved road that intersects SR 158 on both sides of the avalanche area. Also during many winters, all of the northern section of the route may be closed from the first significant snowfall until as late as early spring due to snow and avalanche issues from mountain slopes along the western side of the route.

Concept Summary

Segment ID	Segment Description	Existing Facility	20-year System Operations and Management Concept	20-year Facility Concept
1	June Lake Junction to Inyo National Forest Road 02S12, PM 0.00/R2.46	Two-lane conventional	Maintain only; PM 0.00/1.08 Shoulder pavement and clear areas widened and turnouts added where feasible for clear-zone recovery and to better accommodate pedestrians and bicyclists; PM 1.08/R2.46	Two-lane conventional
2	Inyo National Forest Road 02S12 to Gull Lake Road, PM R2.46/R2.85	Two-lane conventional	Clear areas and shoulder pavement in non-curbed locations widened where feasible for clear-zone recovery and to better accommodate pedestrians and bicyclists	Two-lane conventional
3	Gull Lake Road to the winter closure gate 0.11 mile northwest of the Rush Creek Substation driveway, PM R2.85/5.97	Two-lane conventional	Shoulder pavement and clear areas widened where feasible for clear-zone recovery and to better accommodate pedestrians and bicyclists	Two-lane conventional
4	Winter closure gate 0.11 mile northwest of the Rush Creek Substation driveway to Grant Lake Junction, PM 5.97/15.83	Two-lane conventional	Shoulder pavement and clear areas widened where feasible for clear-zone recovery and to better accommodate pedestrians and bicyclists Crossing of Alger Creek, PM 6.99/7.00 presently on Bridge 47-0041 widened from 26 feet to allow shoulder and lane widths to be increased sufficiently to better accommodate pedestrians and bicyclists or the construction of a new or dual pedestrian and bicyclist crossings adjacent to SR 158 in collaboration with Mono County and the Inyo National Forest	Two-lane conventional

Concept Rationale

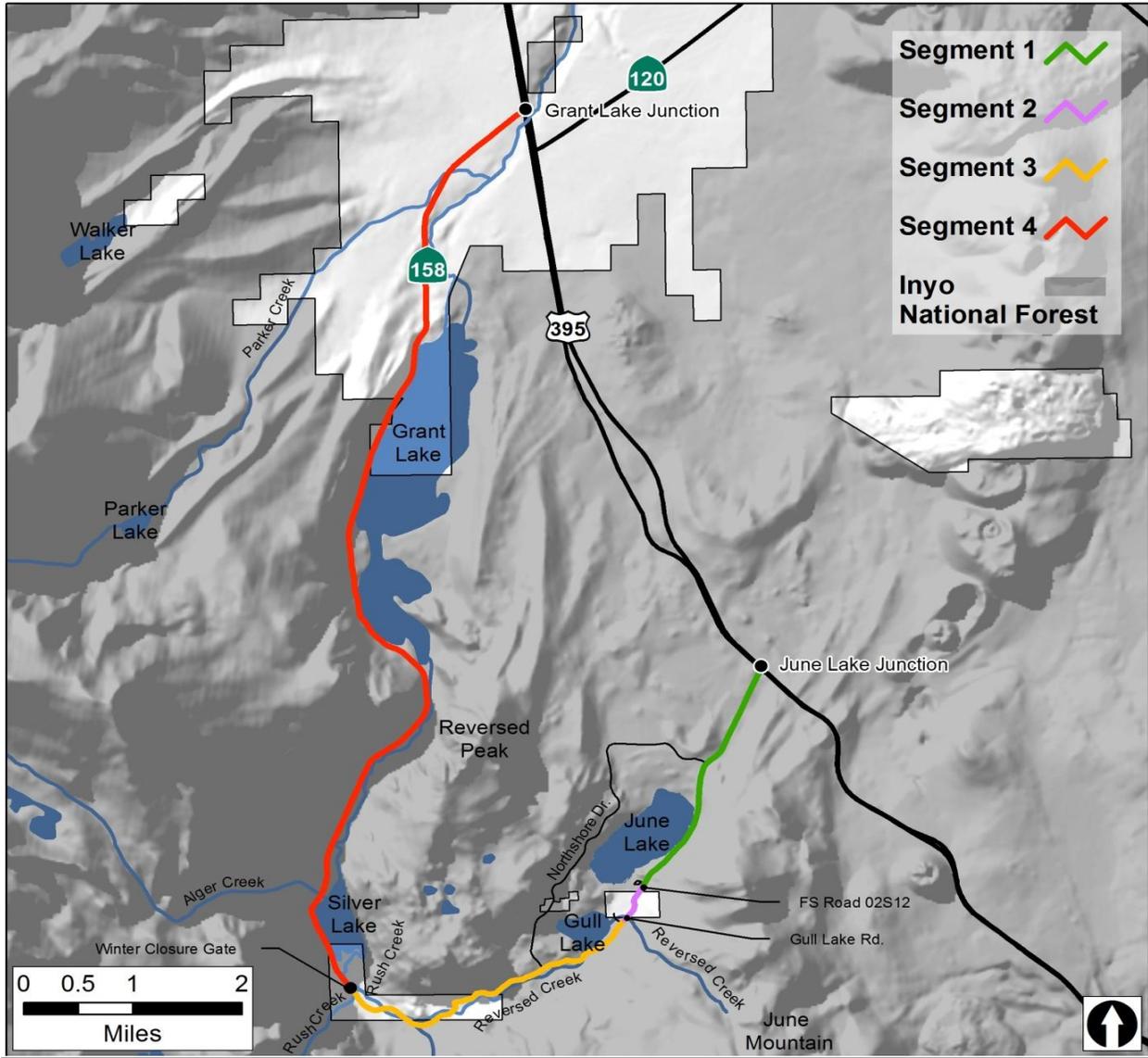
Minimal growth and development is expected in the June Lake and adjoining Pumice Valley areas. However, lane and shoulder widths should be increased, including at water course crossings, where feasible. Also where feasible, clear recovery zone widths should be increased and turnouts added.

Proposed Projects and Strategies

Presently, District 9 has one project programmed for SR 158, the replacement of two aging culverts, but no studies are programmed; however, a study detailing the history of the Segment 4 winter closure as well as examining the possibility of year-round operation of the segment is recommended.

CORRIDOR OVERVIEW

ROUTE SEGMENTATION



Segment ID	Location Description	County-Route-Beginning Post Mile	County-Route-Ending Post Mile
1	June Lake Junction, south junction with US 395, to Inyo National Forest Road 02S12, entrance to June Lake Campground, in June Lake	Mno-158-0.00	Mno-158-R2.46
2	Inyo National Forest Road 02S12, entrance to June Lake Campground, to Gull Lake Road in June Lake	Mno-158-R2.46	Mno-158-R2.85
3	Gull Lake Road to the winter closure gate 0.11 mile northwest of the Rush Creek Substation driveway in June Lake	Mno-158-R2.85	Mno-158-5.97
4	Winter closure gate 0.11 mile northwest of the Rush Creek Substation driveway in June Lake to Grant Lake Junction, the north junction with US 395	Mno-158-5.97	Mno-158-15.83

Segmentation of SR 158

ROUTE DESCRIPTION

Route Location: SR 158 begins at June Lake Junction, the south junction with US 395 atop the Glass Mountain Spur of the Sierra Nevada Range, approximately eleven miles south of Lee Vining; it ends at Grant Lake Junction, the north junction with US 395 in the Pumice Valley, approximately five miles south of Lee Vining. SR 158 leaves June Lake Junction in a southwesterly direction and continues in that direction for approximately four miles, passing through the central business area and residential areas of the unincorporated community of June Lake and adjacent to June and Gull lakes as well as a skiing area, several trail heads, and several campgrounds, both private and public. Both June and Gull lakes are open to the public for boating and fishing; additionally, June Lake is open for swimming.

For the next two miles, the route continues in a westerly direction through the Down Canyon section of the June Lake area that is mainly residential, mostly adjacent to the highway, as well as a trail head and few businesses along the highway.

The remainder of the route continues in a northerly direction passing:

- A hydro-electric power generating plant;
- Silver and Grant lakes, open to the public for boating and fishing;
- Campgrounds, hiking and equestrian trails;
- A picnic area; and
- A pack station.

Major Route Features:

- Segment 1
 - ◆ June Lake, within 100 feet of the northwest side of the highway between Post Miles 1.54 and 2.06, is open to recreational use. The most direct access to the recreational facilities at the lake is via Northshore Drive at post mile 1.08. Summer recreational traffic at the intersection with Northshore Drive may be a significant traffic generator. During avalanche-control operations, Northshore Drive, a Mono County road, intersecting SR 158 at Post Mile 1.08 in Segment 1 and at Post Mile 3.85 in Segment 3 is used as a bypass of the closed part of SR 158 between Post Miles 1.25 and 2.38 northeast of the central business area of the community of June Lake.
- Segment 2
 - ◆ The segment covers the central business area of the community of June Lake. Segment 2 is the only part of SR 158 having sidewalks, curb and gutter, ADA-compliant access ramps, and Portland Cement Concrete (PCC) driveway approaches.
- Segment 3
 - ◆ Provides access to boating and fishing at Gull Lake accessed via Gull Lake Road intersecting SR 158 at Post Mile R2.85.
 - ◆ Provides access to the June Mountain Ski Area, a regional facility, accessed from SR 158 at Post Miles 3.81 and 3.95. Since the winter of 2005/2006, the ski lift has attracted a median between 600 and 700 persons/day and 66,000 persons through the ski season. As such, the ski lift may seasonally be considered a significant traffic generator on SR 158.

- Segment 4
 - ◆ Provides access, in combination with Inyo National Forest roads, to recreational opportunities adjacent to the highway from PM 6.37 to PM 11.05 (between Silver and Grant lakes).
 - ◆ Unlike the other segments of SR 158 which remain open throughout the year, Segment 4 is closed at or immediately after the first significant snowfall and remains closed until the likelihood of more snowfall is minimal.

Route Designations and Characteristics:

Affiliation/Designation/ Characteristic	Segment ID			
	1	2	3	4
Freeway & Expressway System	No	No	No	No
National Highway System	No	No	No	No
Strategic Highway Network	No	No	No	No
Scenic Highway Designation	Eligible	Eligible	Eligible	Eligible
Interregional Road System	No	No	No	No
High Emphasis	No	No	No	No
Focus Route	No	No	No	No
Federal Functional Classification	Major Collector	Major Collector	Major Collector	Major Collector
Goods Movement Route	No	No	No	No
Truck Designation	California Legal Network	California Legal Network	California Legal Network: PM ≤ 3.85; California Legal Advisory Route: PM > 3.85	California Legal Advisory Route
Rural/Urban/Urbanized	Rural	Rural	Rural	Rural
Regional Transportation Planning Agency	Mono County LTC	Mono County LTC	Mono County LTC	Mono County LTC
County Transportation Commission	Mono County LTC	Mono County LTC	Mono County LTC	Mono County LTC
Local Agency	Mono County	Mono County	Mono County	Mono County
Air District	Great Basin Unified Air Pollution Control District	Great Basin Unified Air Pollution Control District	Great Basin Unified Air Pollution Control District	Great Basin Unified Air Pollution Control District
Terrain	Mountainous	Rolling	Mountainous	Rolling

COMMUNITY CHARACTERISTICS

The only community that SR 158 traverses is June Lake. It is an unincorporated community named for one of the two lakes adjacent to its central business area. As defined by the U. S. Census Bureau, the community of June Lake extends along SR 158 from Post Mile 1.08, its northeast intersection with Northshore Drive, to Post Mile 7.58, 0.42 mile north of the entrance to the Silver Lake campground. The 2010 population of June Lake is 629. The approximate elevation along SR 158 in the community of June Lake varies from 7,250 to 7,800 feet above mean sea level. The U. S. Forest Service reported that in 1988 users of the part of the Inyo National Forest in and surrounding the June Lake community accumulated approximately one million visitor days.

June Lake’s economy is driven primarily by recreational tourism. In the summer, recreational opportunities include:

- Water activities at four area lakes (June, Gull, and Silver in the community of June Lake and Grant Lake a few miles north);
- Hiking on trails intersecting Segments 1, 3, and 4;
- Camping at area campgrounds adjacent to all four segments of SR 158; and
- Bicycling along the entire length of SR 158.

In the winter when snow is on the ground, recreational opportunities include:

- Down-hill skiing adjacent to the highway between Post Miles 3.81 and 3.95; and
- Cross-country skiing and snowshoeing near the south end of the route at June Lake Junction.

Land Use

Segment ID	Present Land Use/Zoning Designation
1	Commercial lodging, public facility, recreation, single-family residence, open space
2	Commercial, commercial lodging, manufacturing, recreation, single family residence, mixed use, and open space
3	Commercial, commercial lodging, natural habitat protection, manufacturing, public facility, recreation, rural residential, single family residence
4	Natural habitat protection, public facility, recreation, open space

The June Lake Ski Area and adjacent Rodeo Grounds property is under consideration for development. Development at this location may require improvements to accommodate most modes of travel and should be considered in partnership with Mono County.

SYSTEM CHARACTERISTICS

System Characteristic/Parameter	Segment ID			
	1	2	3	4
Existing Facility				
Facility Type	Conventional	Conventional	Conventional	Conventional
General Purpose Lanes	2	2	2	2
Lane Miles	4.92	0.78	6.21	19.73
Centerline Miles	2.46	0.39	3.10	9.86
Auxiliary Lanes, percent of centerline miles	2	0	0	0
Distressed Pavement, percent of centerline miles	0	0	0	0
Current ROW width, feet	90-132	60-90	50-174	70-200
Concept Facility				
Facility Type	Conventional	Conventional	Conventional	Conventional
General Purpose Lanes	2	2	2	2
Lane Miles	4.92	0.78	6.21	19.73
Centerline Miles	2.46	0.39	3.10	9.86
Auxiliary Lanes, percent of centerline miles	2	0	0	0
Post 20-year facility				
Facility Type	Conventional	Conventional	Conventional	Conventional
General Purpose Lanes	2	2	2	2
Lane Miles	4.92	0.78	6.21	19.73
Centerline Miles	2.46	0.39	3.10	9.86
Auxiliary Lanes, percent of centerline miles	2	0	0	0
ROW width, feet	90-132	60-90	50-174	70-200
TMS Elements				
TMS Elements, base year	Mainline metering at PM 0.21, existing	(none)	(none)	Mainline metering at PM 15.72, existing
TMS Elements, horizon year	Mainline metering at PM 0.21, continuing	(none)	Mainline metering near PM 3.85, conceptual	Mainline metering at PM 15.72, continuing

From end to end, SR 158 is a facility with two through mixed-flow lanes. Because traffic volumes are less than twenty percent of capacity and have remained so for at least the last twenty years, an increase in traffic volume capacity appears unnecessary. Although two of the segments, 1 and 3, are described as mountainous, the addition of passing and/or truck climbing lanes appears unnecessary considering that the hourly traffic volume does not exceed 200 and the total hourly truck volume does not exceed twenty.

BICYCLE FACILITY

Parameter	Value/Characteristic for Highway Segment:				
	1	2	3	4	
	Bicycle Segment:				
	A	B	C	D	E
On-highway Bicycle Accommodation					
Post Mile Limits	0.00/1.08	1.08/R2.46	R2.46/R2.85	R2.85/5.97	5.97/15.83
Location Description	S junction with US 395 to the NE intersection with Northshore Drive	NE intersection with Northshore Drive to Inyo National Forest Road 02S12	Inyo National Forest Road 02S12 to Gull Lake Road	Gull Lake Road to the winter closure gate 0.11 mi. N of the Rush Creek Substation driveway	Winter closure gate 0.11 mi. N of the Rush Creek Substation driveway to the N junction with US 395
Bicycle Access Prohibited?	No	No	No	No	No
Facility Type	No bikeway designation	No bikeway designation	No bikeway designation	No bikeway designation	No bikeway designation
Outside Paved Shoulder Width, feet	5	1-4	4-10	1-5 typical, 20 maximum at spot locations	1-2 typical, 12 maximum at spot locations
Facility Description	Continuous width paved shoulder	Varying width paved shoulder	Paved shoulder adjacent to curb on right (NW) side; adjacent to curb on left (SE) side from PM R2.56 to PM R2.82 only; varying width paved shoulder elsewhere on left side	Varying width paved shoulder	Varying width paved shoulder
Posted Speed Limit, miles/hour	55	55, 45, and 35	35 and 25	25, 35, and 45	25, 35, 45, and 55

Alternate Bicycle Accommodation					
Parameter	Value/Characteristic for Highway Segment:				
	1	2	3	4	
	Bicycle Segment:				
	A	B	C	D	E
Alternate Bicycle Accommodation Present?	No	Yes	Yes	Yes; PM ≤ 3.85	No
Alternate Bicycle Segment ID	Not applicable	1	1	1	Not applicable
Name	Not applicable	Northshore Drive	Northshore Drive	Northshore Drive	Not applicable
Location Description	Not applicable	NE intersection to SW intersection with SR 158	Part of Segment 1-B-1	Part of Segment 1-B-1	Not applicable
Facility Type	Not applicable	Shared: shoulder width ≤ 4 feet	Shared: shoulder width ≤ 4 feet	Shared: shoulder width ≤ 4 feet	Not applicable

Although the route does not have a State defined bicycle facility classification, bicycles are allowed on SR 158 from end to end.

PEDESTRIAN FACILITY

Parameter	Value/Characteristic for Highway Segment:			
	1	2	3	4
	Pedestrian Segment:			
	F	G	H	I
Post Mile Limits	0.00/R2.46	R2.46/R2.85	R2.85/5.97	5.97/15.83
Location Description	S junction with US 395 to Inyo National Forest Road 02S12	Inyo National Forest Road 02S12 to Gull Lake Road	Gull Lake Road to winter closure gate 0.11 mi. N of the Rush Creek Substation driveway	Winter closure gate 0.11 mi. N of the Rush Creek Substation driveway to N junction with US 395
Pedestrian Access Prohibited?	No	No	No	No
Sidewalk Present?	No	Yes	No	No
Sidewalk Width, feet	Not applicable	4 to 7	Not applicable	Not applicable
Crossing Distance, feet	34	32 to 44	27 to 40	26 to 40
Facility Description	Continuous width paved shoulder, PM ≤ 1.08 ; varying width paved shoulder, PM > 1.08	Sidewalk, incorporating ADA-compliant curb ramps, along full length of segment on right (NW) side and from PM R2.56 to R2.82 on left (SE) side; remainder of SE side on varying-width paved shoulder	Varying width paved shoulder	Varying width paved shoulder

Pedestrians may walk along SR 158 in its entirety.

TRANSIT FACILITY

Transit Parameter	SR 158 Segment ID				
	1	2	3	4	
Route					
Mode & Collateral Facility	Traditional bus	Traditional bus			
Name	Eastern Sierra Transit Authority (ESTA) 395 Route	Yosemite Area Regional Transit System (YARTS) Highway 120E/395 Route			
Route End Points	Lone Pine, CA and Reno, NV	Mammoth Mountain Inn, Mammoth Lakes and Yosemite Visitor Center, Yosemite Valley, CA			
Ridership	3,109 in the 2012-2013 fiscal year	5,028 in the summer of 2013 (the route operates during summer only)			
Bikes Allowed on Transit	Yes; can accommodate two or three	Yes; can accommodate two			
Headway	One to three days	One to six days--Jun and Sept; two hours 45 minutes to one day--Jul & Aug			
Operating Period	One trip each way on Monday, Tuesday, Thursday, and Friday throughout entire year	One end-to-end trip each way Sat & Sun Jun & Sep and Sun thru Sat, Jul & Aug; two additional two-way trips Sun thru Sat, Jul & Aug Mammoth Mtn. Inn to Tuolumne Meadows Visitor Center			
ITS & Technology	Next Bus: an on-line application that tracks bus movements giving potential bus riders with internet access time-of-arrival estimates and bus locations	None at this time			
Transit Stop/Station					
Cities	Adjacent to June Lake	Not applicable; no station in Segment 1	Not applicable; no station in Segment 2	June Lake	June Lake
Segment Post miles	0.02	Not applicable	Not applicable	3.81-3.95	7.19
Amenities	None	Not applicable	Not applicable	None	None

Transit Parameter	SR 158 Segment ID				
	1	2	3	4	
Transit Station/Stop, continued					
Location Description	Gas station-convenience store at northwest corner of June Lake Junction (the south junction with US 395)	Not applicable	Not applicable	June Mountain Ski Area parking lot	Rush Creek Trailhead parking area
Number of Parking Spaces	Three on the gas station-convenience store property, 18 adjacent to the USFS kiosk 0.05 mile beyond the gas station/convenience store on the same side of SR 158	Not applicable	Not applicable	Very large parking lot; approximately 200	30

Presently, the only public transit mode available along SR 158 is bus service provided by two transit organizations: the Eastern Sierra Transit Authority (ESTA) and the Yosemite Area Regional Transportation Service (YARTS).

ESTA's 395 Route provides direct (no-transfer) service to/from communities along US 395 from Lone Pine to Reno (Nevada) on Monday, Tuesday, Thursday, and Friday. Northbound service reaches June Lake Junction in mid morning arriving in Reno during the noon hour; southbound service reaches June Lake Junction in late afternoon, arriving in Lone Pine in early evening. ESTA's 395 Route service is available throughout the year.

YARTS' Highway 120E/395 Route provides direct (no-transfer) service to two destinations in Yosemite National Park: Tuolumne Meadows and Yosemite Valley. YARTS busses may be boarded at the June Mountain Ski Area parking lot and at the Rush Creek Trailhead parking area. In July and August, YARTS' Highway 120E/395 service is available every day of the week; in June and September, service is available only on weekends. Service is not available from October through May. Connection to San Joaquin Valley destinations via other YARTS lines is possible at the Yosemite Valley Visitor Center.

FREIGHT

Facility Type/Freight Generator	Location	Mode	Name	Major Commodity/ Industry	Comments/Issues
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Freight generators, terminals, and/or inter-modal facilities are not present on SR 158.

ENVIRONMENTAL CONSIDERATIONS

The purpose of this environmental scan is to identify environmental factors that may require future analysis in the project development process. The information in this scan does not represent all possible environmental considerations that may exist within the area surrounding the route. Any SR 158 project being considered for programming would require environmental clearance in compliance with all federal, state, and local environmental laws and regulations. The environmental impact factors identified are scaled (high ≡ red, medium ≡ yellow, and low ≡ green) by District-9 staff based on the probability of encountering such issues.

The following environmental factors were identified:

- **Waters and Wetlands:** Most of SR 158 (PM 0.98/15.83) runs through the South Lahontan Hydrologic Region's Rush Creek Watershed. Runoff within this watershed derives primarily from melted snowpack that drains into the June Lake area's four basin lakes via two perennial creeks, Parker and Rush, and three ephemeral creeks. The four basin lakes, all drinking water reservoirs, are considered in the Caltrans Stormwater Management Program as being at high risk from contamination from spills or other releases from roadways or other facilities within SR 158 right-of-way.
- **Air Quality:** Mono County is designated as an unclassified/attainment area for ozone, particulate-matter 2.5, and carbon monoxide. However, SR 158 is located within the Mono Basin Planning Area which is designated as a nonattainment area for particulate matter 10 due primarily to the fine-grained sand exposed from nearby Mono Lake's low water level.
- **Community Impacts/Environmental Justice:** SR 158 provides the only paved access from US 395 into the community of June Lake. Access should be maintained at all times during highway construction.
- **Visual Aesthetics:** SR 158 is a county-designated scenic highway and is eligible for state scenic highway designation under Caltrans' California Scenic Highway Mapping System. Most of the land surrounding the highway falls within the Inyo National Forest.
- **Cultural Resources:** There is a moderate level of cultural sensitivity along SR 158.
- **Geology/Soils/Seismic/Topography:** SR 158 traverses across the base of a horseshoe-shaped, glaciated canyon within the Mono Basin. The majority of the canyon is composed of Martis-Euer-Inville soil.
- **Species Considerations:** Five special status fauna and two special status flora species have been identified within a 2,000-foot-wide corridor centered along SR 158:
 - Gray-headed pika, *Ochotona princeps schisticeps*;
 - California Endangered Species Act (CESA): Candidate Threatened,
 - Department of Fish and Wildlife (DFW): Species of Special Concern
 - Greater Sage-Grouse *Centrocercus urophasianus*
 - U. S. Fish and Wildlife Service (USFWS): Proposed Threatened

- Mono Lake lupine, *Lupinus duranii*;
 - California Native Plant Society (CNPS) List: 1B.2
 - Mono milk-vetch, *Astragalus monoensis*;
 - CESA: Rare
 - CNPS: 1B.2
 - Pacific fisher, *Martes pennant (pacifica) DPS*
 - Federal Endangered Species Act (ESA): Candidate
 - CESA: Candidate Threatened
 - DFW: SSC
 - Sierra Nevada yellow-legged frog, *Rana sierrae*;
 - ESA: Proposed Endangered
 - CESA: Threatened
 - DFW: Species of Special Concern
 - USFWS: Proposed Endangered
 - Swainson's hawk, *Buteo swainsoni*;
 - CESA: Threatened
 - Willow flycatcher, *Empidonax traillii*;
 - CESA: Endangered
- **Habitat Connectivity:** June Lake Loop's north junction with US 395 falls within close proximity to a "Road Fragmentation Area" connection between two natural landscape blocks, one located within Yosemite National Park and the other within the Mono Craters volcanic field. Mitigation prescriptions set out within the 2010 *California Essential Habitat Connectivity Project* report should be followed when necessary in order to reduce any potential burden on local habitats.
 - **Floodplain:** The water bodies and tributaries adjacent to and flowing beneath the highway fall within a 100-year storm event as defined by the Federal Emergency Management Agency's (FEMA's) National Flood Insurance Program dataset. This includes Grant, Gull, Silver, and June lakes as well as their interconnecting tributaries: Rush and Reversed creeks. Additionally, land adjacent to the highway from PM 13.58 to PM 15.83 is subject to moderate or minimal flooding due to severe storm activity or local drainage problems.

Characteristic	Environmental Impact/Classification, SR 158 Segment:			
	1	2	3	4
Environmental Justice	Medium	Low		Medium
Cultural Resources	Medium			
Visual Aesthetics	Medium			
Geology/Soils/Seismic	Medium			Low
Floodplain	Medium			
Air Quality				
Ozone (O ₃)	Unclassified/Attainment			
Particulate Material	[Cross-hatched pattern]			
	2.5 micrometer	Unclassified/Attainment		
10 micrometer	Non-attainment			
Carbon Monoxide (CO)	Unclassified/Attainment			
Waters and Wetlands	Medium			
Special Status Species	Medium	Low		
Habitat Connectivity	Low			Medium

CORRIDOR PERFORMANCE

Performance Parameter	Segment ID			
	1	2	3	4
Basic System Operations				
AADT _{BY} (Base year–2012)	1,387	1,290	1,172	733
AADT _{HY} (Horizon Year–2032)	1,532	1,425	1,295	810
AADT Growth/Year, percent	0.50	0.50	0.50	0.50
LOS Evaluation Method	Highway Capacity Software 2010, two-lane program	Highway Capacity Manual 2010, Section 15	Highway Capacity Software 2010, two-lane program	Highway Capacity Software 2010, two-lane program
LOS _{BY}	C	B	B	B
LOS _{HY}	C	B	B	B
LOS _{Concept} (minimum acceptable through 2032)	C	C	C	C
VMT _{BY}	3,416	508	3,639	7,231
VMT _{HY}	3,773	561	4,021	7,991
Truck Traffic				
Total Average Annual Daily Truck Traffic, AADTT _{BY}	23	22	20	14
Truck Fraction of AADT _{BY} , percent	1.7	1.7	1.7	2.0
5+ Axle Average Annual Daily Truck Traffic, AADTT _{BY}	2	2	2	3
5+ Axle Trucks _{BY} /AADT _{BY} , percent	0.1	0.2	0.2	0.4
Peak Hour Traffic Data				
Peak Period Length, hours	1	1	1	1
Peak Hour Direction	South	South	South	South
Peak Hour/Time of Day	AM	AM	AM	AM
Peak Hour Directional Split _{BY}	65/35	64/36	62/38	54/46
Peak Hour Directional Split _{HY}	65/35	64/36	62/38	54/46
Peak Hour VMT _{BY}	573	86.6	633	1,606
Peak Hour VMT _{HY}	634	95.7	699	1,774
Peak Hour V/C _{BY}	0.14	0.08	0.12	0.11
Peak Hour V/C _{HY}	0.15	0.09	0.13	0.12

As the traffic volume on SR 158 has been less than twenty percent of capacity since at least 2004 (including 2012, the base year) and is expected to remain less than twenty percent through 2032, the horizon year, the number of through lanes, two, appears adequate for the next twenty years. Also, since the hourly traffic volume does not exceed 200 and the total hourly truck volume does not exceed twenty and the volumes are expected to remain below 200 and 20 respectively through the horizon year, there does not appear to be a future need for passing or truck climbing lanes.

KEY CORRIDOR ISSUE

At some locations, the shoulder width may not be adequate to provide sufficient clear-zone recovery and to accommodate bicycle and pedestrian travel.

CORRIDOR CONCEPT

CONCEPT RATIONALE

After comparing 2000 and 2010 U. S. Census data and comparing the 2003 and 2012 vehicle/capacity ratio data, it appears that the present two-through-lane configuration of SR 158 as well as increasing shoulder and clear space widths, where feasible, will provide adequate capacity through 2032, the horizon year for this TCR.

PLANNED AND PROGRAMMED PROJECTS AND STRATEGIES

Segment ID	Description	Planned or Programmed	Location	Source	Purpose
3	Replace aging culverts	Programmed	PM 3.39, 0.02 mile SW of INF Road 02S14, entrance to Gull Lake Campground; and PM 3.81, 0.04 mile NE of the SW intersection with Northshore Drive	2013-2014 Fiscal Year Highway maintenance funds	Ensure continued drainage system effectiveness

PROJECTS AND STRATEGIES TO ACHIEVE CONCEPT

Segment ID	Description	Location	Source	Purpose
1	Widen paved shoulders and clear areas; provide additional turn-outs	PM 1.08/ R2.43	District 9	Better accommodate pedestrians and bicyclists; allow scenic viewer and disabled vehicles to park at least partially off of the travelled way
2	In non-curbed areas on left-hand (NW) side, widen paved shoulders where feasible	PM R2.43/R2.54 and PM R2.56/R2.85	District 9	Better accommodate pedestrians and bicyclists; allow scenic viewer and disabled vehicles to park at least partially off of the travelled way
3	Widen paved shoulders and provide paved turn-outs where feasible	PM R2.85/5.97	District 9	Better accommodate pedestrians and bicyclists; allow scenic viewer and disabled vehicles to park at least partially off of the travelled way
	Merge the intersections with Northshore Drive and the June Mountain Ski Area NE driveway into a single right-angle crossing	PM 3.81/3.85	District 9, Inyo National Forest, Mono Co., June Mtn. Ski Area	Minimize turning movements, increase intersection efficiency
	Conduct study to determine best method to improve eastbound bicyclist travel	PM 4.57/4.60	District 9	Better accommodate eastbound bicyclists climbing 4 to 8-percent grade partially on a 60-foot radius curve

Segment ID	Description	Location	Source	Purpose
4	Widen paved shoulders where feasible; provide additional turn-outs	PM 5.97/ 15.83	District 9	Better accommodate pedestrians and bicyclists; allow scenic viewer and disabled vehicles to park at least partially off of the travelled way
	Examine the cost of widening the present 26-foot usable roadbed width crossing of Alger Creek as well as discuss with Mono County Community Planning Division staff and Inyo National Forest management the possibility of a joint effort to provide a pedestrian and bicycle crossing or crossings of Alger Creek adjacent to SR 158	PM 6.99/7.00	District 9, Mono County, and Inyo National Forest	Better accommodate pedestrians and bicyclists
	Conduct study detailing the history of the winter closure as well as the issues involved if the segment were to be open throughout the year	PM 6.16/6.80 and PM 10.05/10.63	District 9	Provide sufficient information to decide if year-round operation of the segment is feasible

APPENDIX

APPENDIX A

GLOSSARY OF TERMS AND ACRONYMS

Acronyms and Abbreviations

AADT – Annual Average Daily Traffic
ADA – Americans with Disabilities Act of 1990
ADT – Average Daily Traffic
APCD – Air Pollution Control District
BY–Base Year
Caltrans – California Department of Transportation
CEQA – California Environmental Quality Act
CSS – Context Sensitive Solutions
ESTA – Eastern Sierra Transit Authority
FEMA –Federal Emergency Management Agency
FHWA – Federal Highway Administration
HY–Horizon Year
INF – Inyo National Forest
ITS – Intelligent Transportation System
LOS – Level of Service
LTC – Local Transportation Commission
Mno – Mono (County)
N – North
NE – Northeast
NF – National Forest
NW – Northwest
PCC – Portland Cement Concrete
PID – Project Initiation Document
PM – Post Mile
PSR – Project Study Report
RTP – Regional Transportation Plan
RTIP – Regional Transportation Improvement Program
RTPA – Regional Transportation Planning Agencies
SAFETEA – Safe, Accountable, Flexible and Efficient Transportation Equity Act of 2005
S – South
SE – Southeast
SHOPP – State Highway Operation Protection Program
SR – California State Sign Route
STIP – State Transportation Improvement Program
SW – Southwest
TCR – Transportation Concept Report
TEA-21 – Transportation Equity Act for the 21st Century
TMS – Transportation Management System
US – United States Highway Route
TSN – Transportation System Network
YARTS – Yosemite Area Regional Transit System

Glossary

AADT – Annual Average Daily Traffic is the total bi-directional traffic volume on a route or route segment for a year divided by 365 days. The traffic count year is from October 1st through September 30th. Traffic counting is generally performed by electronic counting instruments moved from location throughout the State in a program of continuous traffic count sampling. The resulting counts are adjusted to an estimate of annual average daily traffic by compensating for seasonal influence, weekly variation and other variables, when present. Annual ADT is necessary for presenting a statewide picture of traffic flow, evaluating traffic trends, computing accident rates, planning and designing highways, and other purposes.

Base year – The year that the most current data is available to the districts is the base year. In this report, the year is 2012.

Bikeway Class I (Bike Path) – One or a series of intersection-separated segments of a facility on a state highway designed for the exclusive use of bicyclists and pedestrians. Class-I bikeways are completely separated from motor vehicle traffic on the same state highway. Typically, the length of a Class I segment is longer than the length of the paralleling motor-vehicle segment of the facility to increase safety by minimizing the number of stops required for bicyclists/pedestrians to accommodate traffic cross flow.

Bikeway Class II (Bike Lane) – A striped lane for one-way bike travel on a street or highway

Bikeway Class III (Bike Route) – The travelled way and shoulders shared by bicyclists, pedestrians, and motor vehicles when designated by “Bike Route” signs or permanent markings

Capacity – The maximum sustainable hourly flow rate at which persons or vehicles reasonably can be expected to traverse a point or a uniform section of a lane or roadway during a given time period under prevailing roadway, environmental, traffic, and control conditions

Capital Facility Concept – The twenty-year (Horizon Year), vision of future development on the route to the capital facility. The capital facility can include capacity increasing, State Highway, bicycle facility, pedestrian facility, transit facility (intercity passenger rail, mass-transit guideway etc.), grade separation, and new managed lanes

Class I two-lane highway – Generally, Class I is assigned to two-lane highways that are major intercity routes, primary connectors or major traffic generators, daily commuter routes, or major links in state and national highway networks. Motorists are expected to travel at relatively high speeds on Class I highways. Class I facilities serve mostly long-distance trips or provide the connections between facilities that serve long-distance trips.

Class II two-lane highway – Class II is assigned to two-lane highways functioning as access routes to Class I facilities; serve as scenic or recreational routes, and not as primary arterials, or pass through rugged terrain where high-speed operation would be impossible. Motorists do not necessarily expect to travel at relatively high speeds on Class II highways. Class II facilities serve short trips mostly as well as the beginning or ending portions of longer trips, or trips on which sightseeing plays a significant role.

Class III two-lane highway – Class III two-lane highways serve moderately developed areas. Class III may be a segment of a highway that passes through small towns or developed recreational areas and is surrounded by Class I and/or Class II segments. On Class III segments, local traffic often mixes with through traffic, and the density of non-signalized roadside access points is noticeably higher than in a purely rural area. Also, Class III highways may be longer segments passing through more spread-out recreational areas having increased roadside traffic and access points. Such segments are often accompanied by reduced speed limits that reflect the highway activity level.

Concept LOS – The minimum acceptable LOS over the next 20 years

Conceptual Project – A conceptual improvement or action is a project that is needed to maintain mobility or serve multimodal users, but is not currently included in a fiscally constrained plan and is not currently programmed. It could be included in a general plan or in the unconstrained section of a long-term plan.

Corridor – A corridor is a broad geographical band that follows a general directional flow connecting major sources of trips that may contain a number of streets, highways, bicycle, pedestrian, and transit route alignments. Off system facilities are included as informational purposes and not analyzed in the TCR.

Facility Concept – The description of a State highway facility that may be modified to ensure adequate or improved performance over the next 20 years; strategies to achieve the concept description may include:

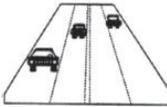
- increasing capacity;
- improving or adding
 - ◆ A bicycle facility,
 - ◆ A pedestrian facility,
 - ◆ A transit facility,
 - ◆ New managed lanes, and/or
 - ◆ TMS field elements;
- converting managed lanes from an existing configuration or characteristic to another managed lane configuration or characteristic; and/or
- improving management of transportation demand and incidents.

Facility Type – The facility type describes a State Highway in terms of design classification and right-of-way restrictions. The facility could be a freeway, expressway, conventional, or couplet, i. e., two one-way city streets conveying traffic in opposite directions.

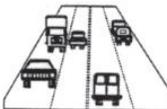
Freight Generator – Any facility, business, manufacturing plant, distribution center, industrial development, or other location (convergence of commodity and transportation system) that produces significant commodity flow, measured in load handling capacity, weight, carloads, or truck volumes.

Horizon Year – The furthest year beyond the present, 20 years, that planning believes it necessary to take into consideration in developing projects to meet future concerns and believes the projection of traffic volume data is sufficiently accurate.

Level of Service – A qualitative measure describing operational conditions within a traffic stream and their perception by motorists is the level of service. Level of service (LOS) is a function of speed, travel time, freedom to maneuver, traffic interruption, comfort, and convenience. Currently there are six levels of service. The levels of LOS, including patterns specific to two-lane highways, are categorized as follows:



LOS A describes free flowing conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by the geometric features of the highway.



LOS B, like LOS A, is indicative of free-flow conditions. Average travel speeds are the same as in LOS A, but because the traffic density is greater than for LOS A, drivers have slightly less freedom to maneuver.

On two-lane highways, passing demand and opportunities are balanced. On both Class I and Class II facilities, queuing (platooning) becomes noticeable; on Class III facilities it becomes difficult to maintain free-flow speed, but speed reduction is small.

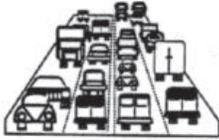


LOS C represents a range in which the influence of traffic density on operations becomes marked. The ability to maneuver with the traffic stream is clearly affected by the presence of other vehicles, but traffic speeds remain the same as in LOS A and LOS B and most vehicles are travelling in queues (platoons).



LOS D demonstrates a range in which the ability to maneuver is severely restricted because of the traffic congestion. Travel speed begins to be reduced as traffic volume increases.

On two-lane Class I and II highways, passing demand is high, but passing capacity approaches zero; a larger fraction of total vehicles than in Class C is travelling in queues; the percent time spent following (in a queue) is quite discernible. On two-lane Class III highways, the reduction in speed below free-flow is significant.



LOS E reflects operations at or near capacity and is quite unstable. Because the limits of the level of service are approached, service disruptions cannot be damped or readily dissipated.

On two-lane Class I and II roads, passing is almost impossible. On two-lane Class III highways, speed is less than $2/3$ the free-flow speed.



LOS F is a stop and go, low-speed condition with little or poor maneuverability. Speed and traffic flow may drop to zero and considerable delays occur. For intersections, LOS F describes operations with delays in excess of 60 seconds per vehicle. This level, considered by most drivers unacceptable often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection.

Mode – A mode is the means or structure used for movement or delivery of people or goods from one location to another over land or the sea and through the air and/or space. When a moving vehicle is responsible for transporting over land, those modes include but are not limited to automobiles, subways, buses, and rail. When other than a moving vehicle is responsible for overland transportation, the guiding surface/structure often is identified as a mode; such modes include pipelines and cables.

Multi-modal – Transportation options using different modes within a system or corridor

System Operations and Management Concept – The system operations and management concept describes the system operations and management elements that may be needed within 20 years. The elements can include non-capacity-increasing operational improvements (auxiliary lanes, channelization, turnouts, etc.), conversion of existing managed lanes to another managed lane type or characteristic (e.g. an HOV lane to a HOT lane), transportation demand management (TMS) including TMS field elements, and incident management.

Peak Hour – The hour of a day in which the maximum volume passes a point on the highway in a given direction

Peak Hour Volume – The peak hourly volume is the hourly volume during the highest hour traffic volume of the day traversing a point on a highway segment in a given direction. The volume is generally between six percent and ten percent of the ADT. Lower peak values are generally found on roadways with lower average volumes.

Peak Period – Is a part of the day during which traffic congestion on the road is at its highest. Typically, peak congestion occurs once in the morning and once in the evening at the time when most people commute. Peak Period is defined for a particular point along an individual route or route segment; it is not applicable to all routes within a Caltrans district nor to all routes within the State of California.

Planned Project– A planned improvement or action is a project in a fiscally constrained section of a long-term plan, such as an approved regional or metropolitan transportation plan (RTP or MTP), capital Improvement plan, or measure.

Post 20-year Concept – In general, a post 20-year concept is a perception of the maximum reasonable and foreseeable roadway needed on a State highway route beyond a 20-year horizon. The post 20-year concept can be used to identify potential widening, realignments, future facilities, and rights-of-way required to complete the development of each corridor.

Post Mile – Within each county along a given route, a post mile along with the county and route officially identifies each point on the State Highway System. A milepost is composed of a numeric value that may be preceded by a prefix and/or followed by a suffix. Numeric values increase from the beginning of a route within a county to the next county line, assuming the route continues into another county. Except in certain situations where a highway crosses a meandering county line or meanders across a county line multiple times, the milepost numeric values start over at each county line. Numeric values usually increase from south to north or west to east depending upon the general end-to-end direction the route follows within California. Assuming that the location of the construction centerline has not changed, the milepost at a given location will remain the same year after year. When a section of road is relocated, new mileposts (usually noted by an alphabetical prefix such as "R" or "M") are established for it. If relocation results in a change in length, a "milepost equation" is introduced at one or both ends of each relocated portion allowing the true length of a segment crossing one or both equation points to be easily determined.

Programmed Project– A programmed improvement or action is a project in a near-term programming document identifying funding amounts by year, such as the State Transportation Improvement Program or the State Highway Operations and Protection Program.

Route Designation – A route's designation/affiliation is adopted through legislation and identifies the system or systems that the route is associated with on the State Highway System. A designation denotes the design standards that apply during project development and design. Typical designations include but not limited to the:

- California Freeway and Expressway System,
- California Interregional Route System (IRRS),
- California Lifeline system,
- California Scenic Highway System,
- Federal Highway Administration Forest Highway system,
- Federal Highway Administration National Scenic Byway system,
- National Highway System (NHS),
- National Network
- US Department of Defense Strategic Highway Network (STRAHNET), and
- US Forest Service Scenic Byway system

Rural Area– Fewer than 5,000 in population defines a rural area. Limits are based upon population density as determined by the U.S. Census Bureau.

Segment – A numerically or alpha-numerically identified length of a facility between two points

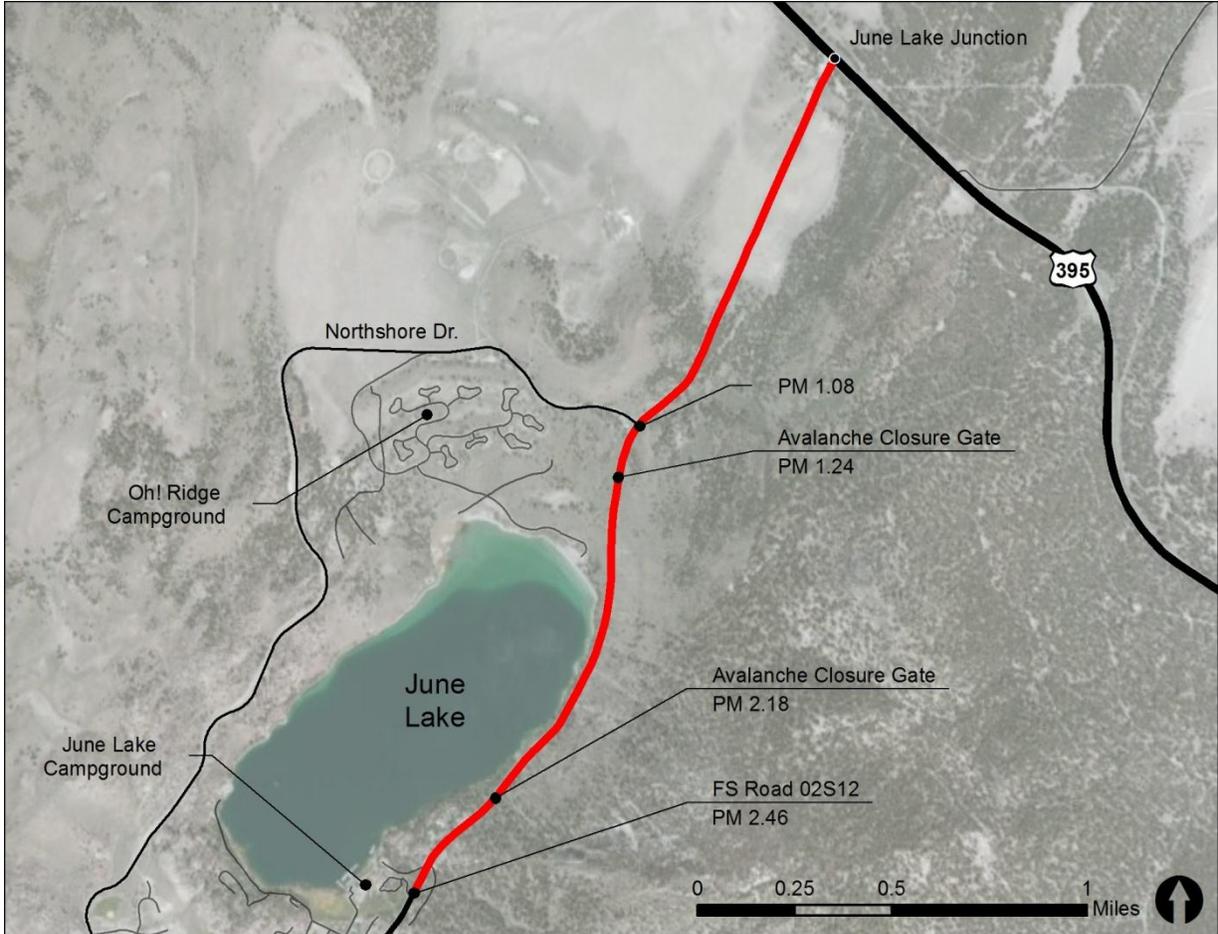
Snow Chute – An avalanche snow path

Transportation Management System—Business processes and associated tools, field elements and communications systems that help maximize the productivity of the transportation system are defined as a transportation management system (TMS). A TMS includes, but is not limited to, advanced operational hardware, software, communications systems and infrastructure, for integrated advanced transportation management systems and information systems, and for electronic toll-collection systems.

Vehicle Miles Travelled – The sum of miles travelled by motor vehicles in all traffic lanes between two points on a road segment is defined as vehicle miles travelled.

Visitor Day – One person visiting a national forest in a twelve-hour period

APPENDIX B
FACTSHEETS
SEGMENT 1: POST MILES 0.00 TO R2.46



Segment 1 begins at June Lake Junction, the south junction with US 395 at PM 0.00, and ends at PM R2.46, Inyo National Forest (INF) Road 02S12 (the entrance to the June Lake Campground). Segment 1 is on the Glass Mountain Spur of the Sierra Nevada Range approximately 15 miles north of Mammoth Lakes in north-central Mono County. Almost all of the land along SR 158 is within the boundary of the Inyo National Forest. The travelled way of Segment 1 as is all of SR 158, is undivided two-lane conventional.

Description	Location	Source	Purpose
Widen paved shoulders where feasible; provide additional turn-outs	PM 1.08 to R2.46	District 9	Better accommodate pedestrians and bicyclists; allow scenic viewer and disabled vehicles to park at least partially off of the travelled way

ROUTE AFFILIATION, DESIGNATION, AND CHARACTERISTICS	
Freeway and Expressway System	No
National Highway System	No
Strategic Highway Network	No
Scenic Highway Designation	Eligible
Interregional Road System	No
High Emphasis	No
Focus Route	No
Federal Functional Classification	Major Collector
Goods Movement Route	No
Truck Designation	California Legal Network
Rural/Urban/Urbanized	Rural
Regional Transportation Planning Agency	Mono County Local Transportation Commission
County Transportation Commission	Mono County Local Transportation Commission
Local Agency	Mono County
Air District	Great Basin Unified Air Pollution Control District
Terrain	Mountainous

ENVIRONMENTAL CONSIDERATIONS	
Characteristic	Impact/Classification
Environmental Justice	Medium
Cultural Resources	Medium
Visual Aesthetics	Medium
Geology/Soils/Seismic	Medium
Floodplain	Medium

Air Quality	
Ozone (O ₃)	Unclassified/Attainment
Particulate Material 2.5 micrometer 10 micrometer	Unclassified/Attainment
	Non-attainment
Carbon Monoxide (CO)	Unclassified/Attainment

Waters and Wetlands	Medium
Special Status Species	Medium
Habitat Connectivity	Low

SYSTEM CHARACTERISTICS	
Parameter/Characteristic	Category/Value
Existing Facility	
Facility Type	Conventional
General Purpose Lanes	2
Lane Miles	4.92
Centerline Miles	2.46
Auxiliary Lanes, percent of centerline miles	2
Distressed Pavement, percent of centerline miles	0
Current ROW width, feet	90-132

Concept Facility	
Facility Type	Conventional
General Purpose Lanes	2
Lane Miles	4.926
Centerline Miles	2.463
Auxiliary Lanes, percent of centerline miles	2

TMS Elements	
TMS Elements, base year	Mainline metering at PM 0.21, existing
TMS Elements, horizon year	Mainline metering at PM 0.21, continuing

CORRIDOR PERFORMANCE	
Parameter/Characteristic	Category/Value
Basic System Operations	
AADT _{BY} (Base year-2012)	1,387
AADT _{HY} (Horizon year-2032)	1,532
AADT Growth/Year, percent	0.50
LOS _{BY}	C
LOS _{HY}	C
LOS _{Concept} (minimum acceptable thru 2032)	C
VMT _{BY}	3,416
VMT _{HY}	3,773
Truck Traffic	
Total Average Annual Daily Truck Traffic, AADTT _{BY}	14
Truck Fraction of AADT _{BY} , percent	2.0
5+ Axle Average Annual Daily Truck Traffic, AADTT _{BY}	3
5+ Axle Trucks _{BY} /AADT _{BY} , percent	0.4

Peak Hour Traffic Data	
Peak Period Length, hours	1
Peak Hour Direction	South
Peak Hour Time of Day	AM
Peak Hour Directional Split _{BY}	54/46
Peak Hour Directional Split _{HY}	54/46
Peak Hour VMT _{BY}	1,606
Peak Hour VMT _{HY}	1,774
Peak Hour V/C _{BY}	0.11
Peak Hour V/C _{HY}	0.12

BICYCLE FACILITY		
Parameter	Value/Characteristic for Bicycle Segment:	
	A	B

On-highway Bicycle Accommodation		
Post Mile Limits	0.00/1.08	1.08/R2.46
Location Description	S. junction with US 395 to NE intersection with Northshore Dr.	NE intersection with Northshore Dr. to Inyo National Forest Road 02S12
Bicycle Access Prohibited?	No	No
Facility Type	No bikeway designation	No bikeway designation
Outside paved shoulder width, ft	5	1 to 4
Facility Description.	Continuous width paved shoulder	Varying-width paved shoulder
Posted Speed Limit, mi/h	55	55, 45, and 35

Alternate Bicycle Accommodation		
Alternate Bicycle Accommodation Present?	No	Yes
Alternate bicycle segment ID	Not applicable	1
Name	Not applicable	Northshore Drive
Location Description	Not applicable	NE intersection to SW intersection with SR 158
Facility Type	Not applicable	Shared: shoulder width \leq 4 ft

PEDESTRIAN FACILITY	
Pedestrian Segment F	
Parameter	Value/Characteristic

Post Mile Limits	0.00/R2.46
Location Description	S. junction with US 395 to Inyo National Forest Road 02S12
Pedestrian Access Prohibited?	No
Sidewalk Present?	No
Sidewalk Width, feet	No sidewalk, not applicable
Crossing distance, feet	34
Facility description	Paved shoulder: continuous width, PM \leq 1.08; variable width, sightseer vehicles frequently on NW paved shoulder, PM > 1.08

SEGMENT 2: POST MILES R2.46 TO R2.85



Segment 2 begins at Inyo National Forest (INF) Road 02S12 (the entrance to the June Lake Campground) at PM R2.46 and ends at PM R2.85, Gull Lake Road. Segment 2 traverses the central business area of the community of June Lake. A small fraction of the land surrounding SR 158 is within the boundary of the Inyo National Forest; almost all of the remainder is privately or local-government owned. The travelled way of Segment 2 as is all of SR 158, is undivided two-lane conventional.

Description	Location	Source	Purpose
Widen paved shoulders where feasible in non-curbed areas on left-hand, southeast, side	from PM R2.43 to PM R2.54 and from PM R2.56 to PM R2.85	District 9	Better accommodate pedestrians and bicyclists; allow scenic viewer and disabled vehicles to park at least partially off of the travelled way

ROUTE AFFILIATION, DESIGNATION, AND CHARACTERISTICS	
Freeway and Expressway System	No
National Highway System	No
Strategic Highway Network	No
Scenic Highway Designation	Eligible
Interregional Road System	No
High Emphasis	No
Focus Route	No
Federal Functional Classification	Major Collector
Goods Movement Route	No
Truck Designation	California Legal Network
Rural/Urban/Urbanized	Rural
Regional Transportation Planning Agency	Mono County Local Transportation Commission
County Transportation Commission	Mono County Local Transportation Commission
Local Agency	Mono County
Air District	Great Basin Unified Air Pollution Control District
Terrain	Rolling

ENVIRONMENTAL CONSIDERATIONS	
Characteristic	Impact/Classification
Environmental Justice	Low
Cultural Resources	Medium
Visual Aesthetics	Medium
Geology/Soils/Seismic	Medium
Floodplain	Medium

Air Quality	
Ozone (O ₃)	Unclassified/Attainment
Particulate Material	
2.5 micrometer	Unclassified/Attainment
10 micrometer	Non-attainment
Carbon Monoxide (CO)	Unclassified/Attainment

Waters and Wetlands	Medium
Special Status Species	Medium
Habitat Connectivity	Low

SYSTEM CHARACTERISTICS	
Parameter/Characteristic	Category/Value

Existing Facility	
Facility Type	Conventional
General Purpose Lanes	2
Lane Miles	0.78
Centerline Miles	0.39
Auxiliary Lanes, percent of centerline miles	0
Distressed Pavement, percent of centerline miles	0
Current ROW width, feet	60-90

Concept Facility	
Facility Type	Conventional
General Purpose Lanes	Conventional
Lane Miles	2
Centerline Miles	0.788
Auxiliary Lanes, percent of centerline miles	0.394

TMS Elements	
TMS Elements, base year	None
TMS Elements, horizon year	None proposed

CORRIDOR PERFORMANCE	
Parameter/Characteristic	Category/Value

Basic System Operations	
AADT _{BY} (Base year-2012)	1,290
AADT _{HY} (Horizon year-2032)	1,425
AADT Growth/Year, percent	0.50
LOS _{BY}	C
LOS _{HY}	C
LOS _{Concept} (minimum acceptable thru 2032)	C
VMT _{BY}	508
VMT _{HY}	561

Truck Traffic	
Total Average Annual Daily Truck Traffic, AADTT _{BY}	22
Truck Fraction of AADT _{BY} , percent	1.7
5+ Axle Average Annual Daily Truck Traffic, AADTT _{BY}	2
5+ Axle Trucks _{BY} /AADT _{BY} , percent	0.2

Peak Hour Traffic Data	
Peak Period Length, hours	1
Peak Hour Direction	South
Peak Hour Time of Day	AM
Peak Hour Directional Split _{BY}	64/36
Peak Hour Directional Split _{HY}	64/36
Peak Hour VMT _{BY}	86.6
Peak Hour VMT _{HY}	95.7
Peak Hour V/C _{BY}	0.08
Peak Hour V/C _{HY}	0.09

BICYCLE FACILITY	
Bicycle Segment C	
Parameter	Value/Characteristic

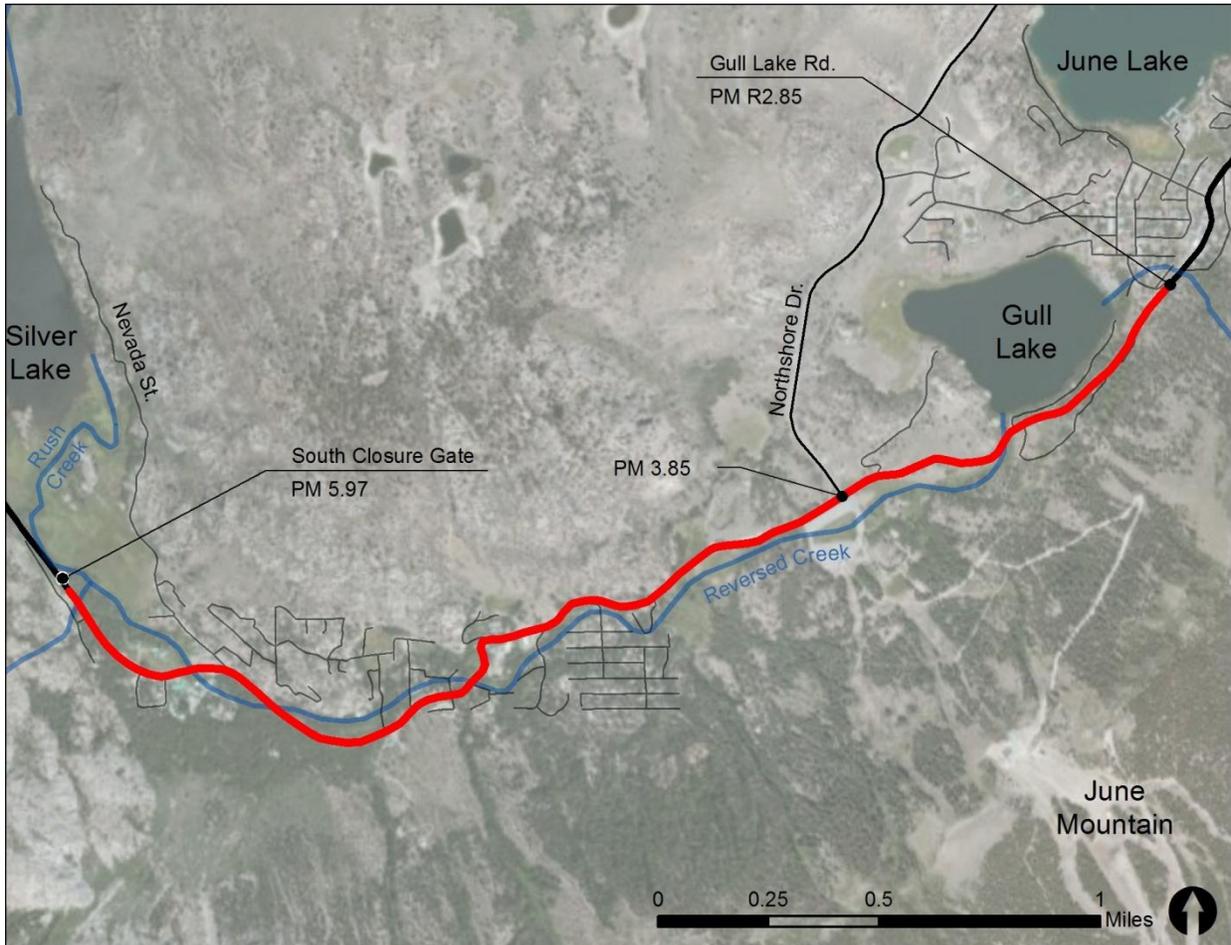
On-highway Bicycle Accommodation	
Post Mile Limits	R2.46/R2.85
Location Description	INF Road 02S12 to Gull Lake Road
Bicycle Access Prohibited?	No
Facility Type	No bikeway designation
Outside paved shoulder width, ft	4 to 10
Facility Description.	Paved shoulder adjacent to curb on right (NW) side; adjacent to curb on left (SE) side from PM R2.565 to PM R2.820 only; varying width paved shoulder elsewhere on left side
Posted Speed Limit, mi/h	35 and 25

Alternate Bicycle Accommodation	
Alternate Bicycle Accommodation Present?	Yes
Alternate Bicycle segment ID	1
Name	Northshore Drive
Location Description	Part of Segment 1-B-1
Facility Type	Shared shoulder, width ≤ 4 ft

PEDESTRIAN FACILITY	
Pedestrian Segment G	
Parameter	Value/Characteristic

Post Mile Limits	R2.46/R2.85
Location Description	INF Road 02S12 to Gull Lake Road
Pedestrian Access Prohibited?	No
Sidewalk Present?	Yes
Sidewalk Width, feet	4 to 7
Crossing distance, feet	32 to 44
Facility description	Sidewalk incorporating ADA-compliant curb ramps along full length of segment on right (NW) side and from PM R2.565 to R2.820 on left (SE) side; remainder of SE side on varying-width paved shoulder

SEGMENT 3: POST MILES R2.85 TO 5.97



Segment 3 begins at Gull Lake Road at PM R2.85 and ends at the winter closure gate 0.11 mile north of the Rush Creek Substation driveway at PM 5.97 in June Lake. Because of many small radius curves, tractor-semitrailer combinations with kingpin to rear-axle spacing exceeding 30 feet are advised not to travel beyond PM 3.85; also, busses and house trailers exceeding 45 feet in length are prohibited beyond PM 3.85. The travelled way of Segment 3 as is all of SR 158, is undivided two-lane conventional.

Description	Location	Source	Purpose
Widen paved shoulders and provide paved turn-outs where feasible	PM R2.85 to 5.97	District 9	Better accommodate pedestrians and bicyclists; allow scenic viewer and disabled vehicles to park at least partially off of the travelled way
Merge the intersections with Northshore Drive and the June Mountain Ski Area NE driveway into a single right-angle crossing	PM 3.81 to 3.85	District 9, Inyo National Forest, Mono Co., June Mtn. Ski Area	Minimize turning movements to increase intersection efficiency

Description	Location	Source	Purpose
Conduct study to determine best method to improve eastbound bicyclist travel	PM 4.57/4.60	District 9	Better accommodate eastbound bicyclists climbing 4 to 8-percent grade partially on a 60-foot radius curve

ROUTE AFFILIATION, DESIGNATION, AND CHARACTERISTICS	
Freeway and Expressway System	No
National Highway System	No
Strategic Highway Network	No
Scenic Highway Designation	Eligible
Interregional Road System	No
High Emphasis	No
Focus Route	No
Federal Functional Classification	Major Collector
Goods Movement Route	No
Truck Designation	California Legal Network: PM ≤ 3.85; California Legal Advisory Route: PM > 3.85
Rural/Urban/Urbanized	Rural
Regional Transportation Planning Agency	Mono County Local Transportation Commission
County Transportation Commission	Mono County Local Transportation Commission
Local Agency	Mono County
Air District	Great Basin Unified Air Pollution Control District
Terrain	Mountainous

ENVIRONMENTAL CONSIDERATIONS	
Characteristic	Impact/Classification
Environmental Justice	Low
Cultural Resources	Medium
Visual Aesthetics	Medium
Geology/Soils/Seismic	Medium
Floodplain	Medium

Air Quality	
Ozone (O ₃)	Unclassified/Attainment
Particulate Material	[Cross-hatched pattern]
2.5 micrometer	Unclassified/Attainment
10 micrometer	Non-attainment
Carbon Monoxide (CO)	Unclassified/Attainment

Waters and Wetlands	Medium
Special Status Species	Low
Habitat Connectivity	Low

SYSTEM CHARACTERISTICS	
Parameter/Characteristic	Category/Value

Existing Facility	
Facility Type	Conventional
General Purpose Lanes	2
Lane Miles	6.21
Centerline Miles	3.10
Auxiliary Lanes, percent of centerline miles	0
Distressed Pavement, percent of centerline miles	0
Current ROW width, feet	50-174

Concept Facility	
Facility Type	Conventional
General Purpose Lanes	2
Lane Miles	6.210
Centerline Miles	3.105
Auxiliary Lanes, percent of centerline miles	0

TMS Elements	
TMS Elements, base year	None
TMS Elements, horizon year	Mainline metering near PM 3.85, conceptual

CORRIDOR PERFORMANCE	
Parameter/Characteristic	Category/Value

Basic System Operations	
AADT _{BY} (Base year-2012)	1,172
AADT _{HY} (Horizon year-2032)	1,295
AADT Growth/Year, percent	0.50
LOS _{BY}	B
LOS _{HY}	B
LOS _{Concept} (minimum acceptable thru 2032)	C
VMT _{BY}	3,629
VMT _{HY}	4,021

Truck Traffic	
Total Average Annual Daily Truck Traffic, AADTT _{BY}	20
Truck Fraction of AADT _{BY} , percent	1.7
5+ Axle Average Annual Daily Truck Traffic, AADTT _{BY}	2
5+ Axle Trucks _{BY} /AADT _{BY} , percent	0.2

Peak Hour Traffic Data	
Peak Period Length, hours	1
Peak Hour Direction	South
Peak Hour Time of Day	AM
Peak Hour Directional Split _{BY}	62/38
Peak Hour Directional Split _{HY}	62/38
Peak Hour VMT _{BY}	633
Peak Hour VMT _{HY}	699
Peak Hour V/C _{BY}	0.12
Peak Hour V/C _{HY}	0.13

BICYCLE FACILITY	
Bicycle Segment D	
Parameter	Value/Characteristic

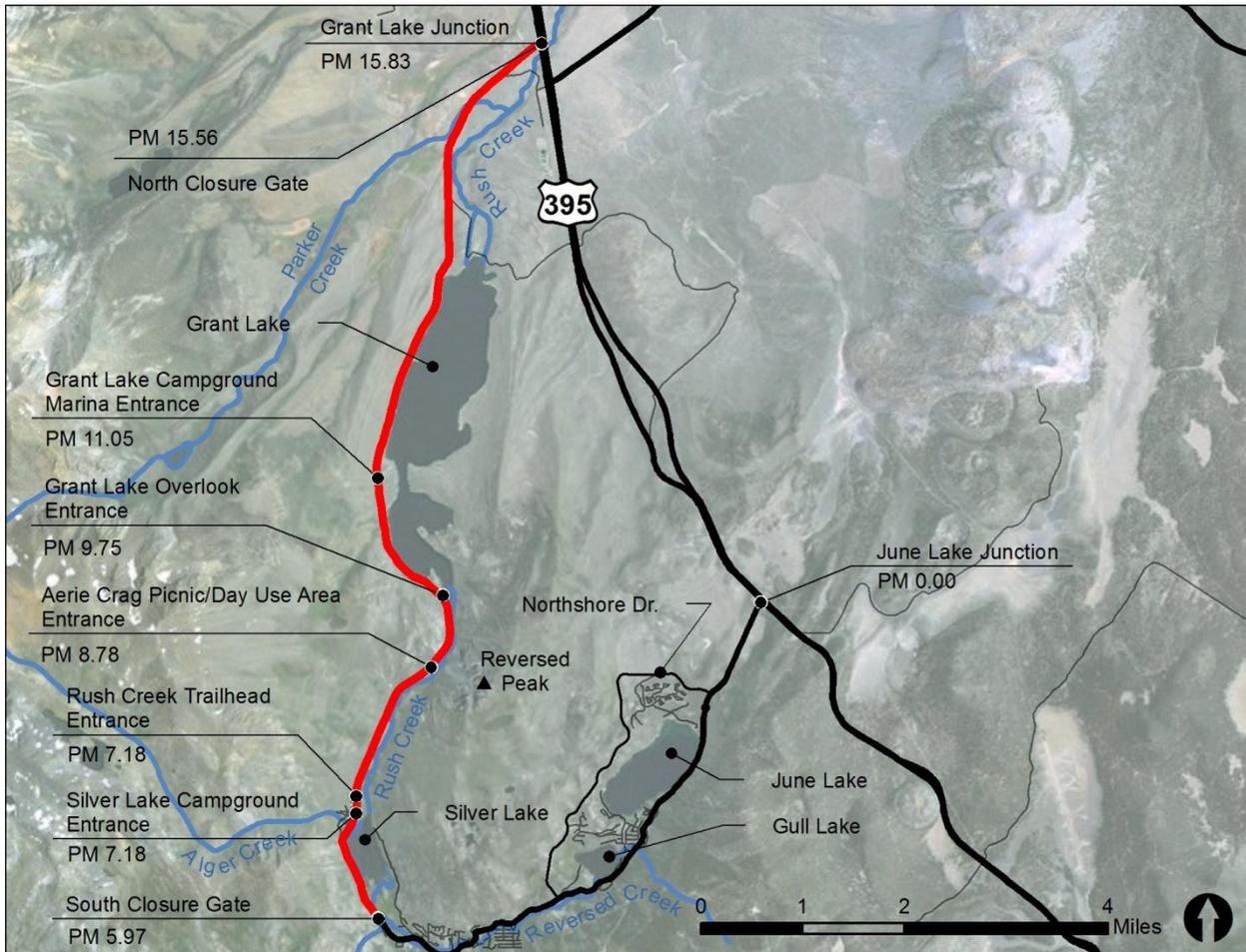
On-highway Bicycle Accommodation	
Post Mile Limits	R2.85/5.97
Location Description	Gull Lake Road to winter closure gate 0.11 mile north of the Rush Creek Substation driveway
Bicycle Access Prohibited?	No
Facility Type	No bikeway designation
Outside paved shoulder width, ft	1 to 20
Facility Description.	Paved varying-width shoulder
Posted Speed Limit, mi/h	25, 35 and 45

Alternate Bicycle Accommodation	
Alternate Bicycle Accommodation Present?	Yes; PM ≤ 3.85
Alternate Bicycle Segment ID	1
Name	Northshore Drive
Location Description	Part of Segment 1-B-1
Facility Type	Shared shoulder, width ≤ 4 ft

PEDESTRIAN FACILITY	
Pedestrian Segment H	
Parameter	Value/Characteristic

Post Mile Limits	R2.85/5.97
Location Description	Gull Lake Road to winter closure gate 0.11 mile north of the Rush Creek Substation driveway
Pedestrian Access Prohibited?	no
Sidewalk Present?	no
Sidewalk Width, feet	None; not applicable
Crossing distance, feet	27 to 40
Facility description	Paved varying-width shoulder

SEGMENT 4: POST MILES 5.97 TO 15.83



Segment 4 begins at the winter closure gate 0.11 mile north of the Rush Creek Substation driveway at PM 5.97 in June Lake and ends at Grant Lake Junction, the north junction with US 395 at PM 15.83 in the Pumice Valley. Tractor-semitrailer combinations with kingpin to rear-axle spacing exceeding 30 feet are advised not to travel in Segment 4; also, busses and house trailers exceeding 45 feet in length are prohibited in Segment 4. The travelled way of Segment 4 as is all of SR 158, is undivided two-lane conventional.

Description	Location	Source	Purpose
Widen paved shoulders where feasible; provide additional turn-outs	PM 5.97 to 15.83	District 9	Better accommodate pedestrians and bicyclists; allow scenic viewer and disabled vehicles to park at least partially off of the travelled way
Conduct study detailing the history of the winter closure as well as the issues involved if the segment were open to year-round operation	PM 6.16 to 6.80 and PM 10.05 to 10.63	District 9	Provide sufficient information to decide if year-round operation of the segment is feasible

Description	Location	Source	Purpose
Examine the cost of widening the present 26-foot usable roadbed width crossing of Alger Creek as well as discuss with Mono County Community Planning Division staff, Inyo National Forest management, the possibility of a joint effort to provide a pedestrian and bicycle crossing or crossings of Alger Creek adjacent to SR 158	PM 6.99 to 7.00	District 9, Mono County, Inyo National Forest	Better accommodate pedestrians and bicyclists

ROUTE AFFILIATION, DESIGNATION, AND CHARACTERISTICS	
Freeway and Expressway System	No
National Highway System	No
Strategic Highway Network	No
Scenic Highway Designation	Eligible
Interregional Road System	No
High Emphasis	No
Focus Route	No
Federal Functional Classification	Major Collector
Goods Movement Route	No
Truck Designation	California Legal Advisory Route
Rural/Urban/Urbanized	Rural
Regional Transportation Planning Agency	Mono County Local Transportation Commission
County Transportation Commission	Mono County Local Transportation Commission
Local Agency	Mono County
Air District	Great Basin Unified Air Pollution Control District
Terrain	Rolling

ENVIRONMENTAL CONSIDERATIONS	
Characteristic	Impact/Classification
Environmental Justice	Medium
Cultural Resources	Medium
Visual Aesthetics	Medium
Geology/Soils/Seismic	Low
Floodplain	Medium

Air Quality	
Ozone (O ₃)	Unclassified/Attainment
Particulate Material	2.5 micrometer
	Unclassified/Attainment
10 micrometer	Non-attainment
Carbon Monoxide (CO)	Unclassified/Attainment

Waters and Wetlands	Medium
Special Status Species	Low
Habitat Connectivity	Medium

SYSTEM CHARACTERISTICS	
Parameter/Characteristic	Category/Value

Existing Facility	
Facility Type	Conventional
General Purpose Lanes	2
Lane Miles	19.73
Centerline Miles	9.86
Auxiliary Lanes, percent of centerline miles	0
Distressed Pavement, percent of centerline miles	0
Current ROW width, feet	70-200

Concept Facility	
Facility Type	Conventional
General Purpose Lanes	2
Lane Miles	19.732
Centerline Miles	9.866
Auxiliary Lanes, percent of centerline miles	0

TMS Elements	
TMS Elements, base year	Mainline metering at PM 15.72, existing
TMS Elements, horizon year	Mainline metering at PM 15.72, continuing

CORRIDOR PERFORMANCE	
Parameter/Characteristic	Category/Value

Basic System Operations	
AADT _{BY} (Base year-2012)	733
AADT _{HY} (Horizon year-2032)	810
AADT Growth/Year, percent	0.50
LOS _{BY}	B
LOS _{HY}	B
LOS _{Concept} (minimum acceptable thru 2032)	C
VMT _{BY}	7,231
VMT _{HY}	7,991

Truck Traffic	
Total Average Annual Daily Truck Traffic, AADTT _{BY}	14
Truck Fraction of AADT _{BY} , percent	2.0
5+ Axle Average Annual Daily Truck Traffic, AADTT _{BY}	3
5+ Axle Trucks _{BY} /AADT _{BY} , percent	0.4

Peak Hour Traffic Data	
Peak Period Length, hours	1
Peak Hour Direction	South
Peak Hour Time of Day	AM
Peak Hour Directional Split _{BY}	54/46
Peak Hour Directional Split _{HY}	54/46
Peak Hour VMT _{BY}	1,606
Peak Hour VMT _{HY}	1,774
Peak Hour V/C _{BY}	0.11
Peak Hour V/C _{HY}	0.12

BICYCLE FACILITY	
Bicycle Segment E	
Parameter	Value/Characteristic

On-highway Bicycle Accommodation	
Post Mile limits	5.97/15.83
Location description	Winter closure gate 0.11 mile north of the Rush Creek Substation driveway to the N junction with US 395
Bicycle access prohibited?	No
Facility type	no bikeway designation
Outside paved shoulder width, ft	2 to 12
Facility description.	Paved varying-width shoulder
Posted speed limit, mi/h	25, 35, 45, and 55

Alternate Bicycle Accommodation	
Alternate bicycle accommodation present?	No

PEDESTRIAN FACILITY	
Pedestrian Segment I	
Parameter	Value/Characteristic
Post Mile Limits	5.97/15.83
Location Description	Winter closure gate 0.11 mile north of the Rush Creek Substation driveway to the N junction With US 395
Pedestrian Access Prohibited?	No
Sidewalk Present?	No
Sidewalk Width, feet	None; not applicable
Crossing distance, feet	26 to 40
Facility description	Paved varying-width shoulder

APPENDIX C
RESOURCES

Caltrans Bridge Inspection Records Information System (BIRIS): Bridge 47-0041 *Reconstruct Railing, ALGER CREEK, General Plan 10-18-1996*

Caltrans Bridge Inspection Records Information System (BIRIS): 47-0041 ALGER CREEK 09-Mno-158-6.99 100-PHOTO-Routine Roadway View, 07-10-2007

Caltrans Bridge Inspection Records Information System (BIRIS): 47-0041 ALGER CREEK 09-Mno-158-6.99 100-PHOTO-Routine Roadway View, 08-18-2009

Community Development Planning Division of Mono County: *June Lake 2010: June Lake Area Plan, Tourism Element, Table 12*

Mary Walker: *Mammoth Mountain and June Lake Skiing Area Visitation Data, January 19, 2014*

Inyo National Forest: *Land & Resource Management Plan, 1988, pages 164 through 169*

Community Development Planning Division of Mono County: *June Lake 2010: June Lake Area Plan, Community Development Element, Figure 5B;*

Community Development Planning Division of Mono County: *Mono County General Plan Land Use Designation, 1992, Map Figure 68*

Community Development Planning Division of Mono County: *June Lake 2010: June Lake Area Plan, Community Development Element, Figures 5C, 5D, and 5E*

Community Development Planning Division of Mono County: *Mono County General Plan Land Use Designation, 1992, Maps Figures 69, 70, and 71*

Community Development Planning Division of Mono County: *June Lake 2010: June Lake Area Plan, Community Development Element, Figure 5F*

Community Development Planning Division of Mono County: *Mono County General Plan Land Use Designation, 1992, Map Figure 66*

U. S. Census Bureau *American Fact Finder 2: June Lake CDP, California, General Population and Housing Characteristics*

Jill Batchelder of the Eastern Sierra Transit Authority (ESTA), e-mail memorandum on December 13, 2013 to Robert Rubinstein in Caltrans District 9 Planning

Richard Whittington of the Yosemite Area Regional Transportation System (YARTS) e-mail memorandum on January 16, 2014 to Robert Rubinstein in Caltrans District 9 Planning

Eastern Sierra Transit Authority website of US 395 bus service:
<http://www.estransit.com/CMS/content/395-routes>

Yosemite Area Regional Transportation System website for 2013 Summer Highway 120E/395 Schedule, Fares, and Rider Information: <http://www.yarts.com/schedules.html>

U. S. Census Bureau *American Fact Finder 2: Reference Map, June Lake CDP, California*

Caltrans Digital Highway Inventory Photography Program (DHIPP), March 23, 2003 (data collected between August, 2001 and September, 2003)

Caltrans District 9, Office of System Planning, *State Route 158 Transportation Concept Report, 03-17-2004*

Transportation Research Board, *Highway Capacity Manual 2010, Directional Segments with Climbing Lanes on Upgrades*

Truck Size Unit, California Department of Transportation, *45' BUS & MOTORHOME MAP on California State Highways, DISTRICT 9, Map 9 of 12*, revised July 13, 2011

Truck Size Unit, California Department of Transportation *TRUCK NETWORKS on California State Highways, District 9, Map 9 of 12* revised May 25, 2011

Caltrans District 9, GIS Data Library

Mono Basic Clearinghouse, *Map of the LA Aqueduct facilities from Lee Vining Intake to West Portal*, , <http://www.monobasinresearch.org/historical/>

California Environmental Protection Agency, Air Resources Board, Air Quality Data Branch, Planning and Technical Support Division, *National Ambient Air Quality Area Designations Maps for CO; Ozone, PM 2.5, PM 10*

United States Geological Survey, *Seismic Design Maps for International Residential Code (2006 & 2009), Conterminous US*

California Department of Fish and Wildlife, *California Natural Diversity Database*, <http://www.dfg.ca.gov/biogeodata/cnddb>, 2013

California Department of Fish and Wildlife, Habitat Conservation Planning Branch, *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California*

California Department of Fish and Wildlife, Biogeographic Data Branch, *STATE AND FEDERALLY LISTED ENDANGERED & THREATENED ANIMALS OF CALIFORNIA March 2014*
<https://www.dfg.ca.gov/biogeodata/cnddb/pdfs/TEAnimals.pdf>

Jill Batchelder of the Eastern Sierra Transit Authority (ESTA) e-mail memorandum on June 10, 2014 to Ryan Dermody, Caltrans District 9 Transportation Planning and Local Assistance

Inyo National Forest, Recreation Areas, Water Activities, Swimming Areas:
<http://www.fs.usda.gov/activity/inyo/recreation/wateractivities/?recid=20228&actid=82>

Caltrans Stormwater Management Program, Fiscal Year 2015-2016, Section 4: *Drinking Water Reservoirs and Recharge Facilities*