

Engineering Report:

Lassen National Forest

Hat Creek Ranger District

Analysis of

National Forest System Road (NFSR)

32N13

for Motorized Mixed Use Designation

Forest: Lassen

District: Hat Creek

Road Number: 32N13

Road Name: Emigrant Road

Introduction: This report documents the engineering analysis for 3 segments of 32N13 – Emigrant Road, totaling 1.4 miles in length. The study segments are southwest of Old Station, near the northern boundary of Lassen Volcanic National Park (LVNP). The route connects highway 44/89 to NFSR 32N12 which has two segments that are also recommended for engineering analysis of motorized mixed use. The route is entered onto by NFSR 32N75Y at the approximate midpoint. By past field observations it is apparent that the northwest portion to highway 44/89 carries more traffic volume from 32N75Y and thus has more ADT than the northeast portion to NFSR 32N12. Only a short portion of segment one is to the northwest of NFSR 32N75Y, the rest plus segments two and three are within the northeast portion of the route. Lassen National Forest (LNF) currently manages this road as open only to highway-legal vehicles.

The study segments were recommended in the LNF Travel Analysis (2008) for an engineering analysis of motorized mixed use. The purpose of this engineering analysis is to investigate the potentials, and associated risks, for transporting both highway-legal vehicles (motor vehicles, including the operators, that are licensed or certified for general operation on public roads within the State) and non-highway-legal vehicles (motor vehicles, including the operators,

that are not licensed or certified for general operation on public roads within the State) from the beginning termini to the end termini.

The LNF Travel Analysis identified these road sections as potential connections for recreational off-highway vehicle (OHV) loop opportunities on the adjacent road network, which is currently managed as open to non-highway-legal vehicle use. In the vicinity segments of 32N12 were also recommended for an engineering analysis of motorized mixed use. The results can be found in a separate engineering report.

Study Segment road data from the forest transportation atlas:

Segment 1: Beginning Mile Post: 3.6 Ending Mile Post: 4.6

Segment 2: Beginning Mile Post: 1.2 Ending Mile Post: 1.5

Segment 3: Beginning Mile Post: 0.0 Ending Mile Post: 0.1

Traffic Service Level: A B C D

Objective Maintenance Level: 1 2 3 4 5

Operational Maintenance Level: 1 2 3 4 5

Maintenance by: **Forest Service (FS)**

Non-Forest Service ROW or jurisdiction? Yes No

Any road use agreements, maintenance agreements, or other encumbrances?

Yes No (not within study areas)

Description of agreements or encumbrances:

The northeast portion of the route passes through private land. The forest Service has a full public easement with jurisdiction. The three study areas are completely on NFSL.

Subject to Highway Safety Act? Yes No

Non-highway-legal vehicles currently permitted? Yes No

Would motorized mixed use be consistent with State and local laws?

Yes

The proposed segment would be consistent with California Vehicle Code (CVC), Combined Use Highways Designation (CVC Division 16.5, Chapter 2, Article 1, Section 38026) if limited to less than 3 consecutive miles on maintenance level 3+ roadways. Based on the CVC and Forest Service Region 5 guidelines, the designation of motorized mixed use requires California Highway Patrol notification prior to designation. Based on the response from the CHP commissioner, the Forest may reconsider the decision to designate MMU and/or may adjust mitigation measures needed for implementation.

Description of road management objectives (RMOs), existing use, and proposed use:

The road currently serves as a collector road and provides through access from California State Highway Route 44/89 to the NFSR 32N12. The road is a single-lane road with turnouts.

NFSR 32N13 has traditionally served administration of the LNF, including fuels and vegetation management, commodity extraction, fire suppression, and recreation. It also provides access to private land inholdings.

The road is considered a highway by the Forest Service and is managed in accordance with the Highway Safety Act. The road is managed for passenger car vehicles and is appropriately posted with horizontal route identification markers. Most of the year it is currently managed as open only to highway-legal vehicles; however, when snow-covered the road is managed for winter use—open to ATVs, 4WDs, skiers and OSVs (including snowmobiles).

The study segment is proposed for designation of motorized mixed use to allow both highway-legal and non-highway-legal vehicles to utilize the roadway.

Operators of any motor vehicle would be required to be in possession of a valid state driver's license.

General Considerations:

All motor vehicle operators need to be cognizant of the applicable state laws, and how they pertain to each age group, vehicle type, and national forest system road classification (see next bullet).

Through authorities delegated by the Secretary, the Forest Service may restrict or control use to meet road management objectives (36 CFR 212.5). The LNF currently manages this road as a highway, in accordance with the Highway Safety Act. The road is therefore subject to the provisions of the California Vehicle Code (CVC) for highways.

State OHV Regulations: any motor vehicle must have a street-legal license plate to operate on highways. To operate on public lands, off of highways, motor vehicles must have either a street-legal license plate or a red sticker or a green sticker. For more information, see the CA State Parks Off-Highway Motor Vehicle Recreation site, available @ <http://ohv.parks.ca.gov/>

California has:

- requirements for ATV safety
- conditions for operating ATVs
- OHV equipment requirements
- OHV operation requirements

Summary of Findings:

Implementing the universal mitigation measures, especially improving sight distance by removing brush, maintaining proper signing, and providing better communication, will reduce crash probability.

Road hazard mitigation should be prioritized regardless of mixed use, along with implementing a comprehensive communication, management, and enforcement plan. Associated implementation costs will depend on the designated allowed use.

The road is maintained to a standard allowing efficient passenger car through traffic at speeds up to 40 mph for reasonable and prudent drivers on straightaways. Based on speeds and their associated risk for crash severity, designating the road as open only to highway-legal vehicles will provide the lowest crash probability and severity.

Factors Considered:

1. Operator considerations:

- Based on engineering judgment and experience/observation on other national forest management units, the LNF has an above average standard of road. Culverts are common drainage features on maintenance level 2 roads and standard on maintenance level 4 roads. Often roads on this national forest could be classified one maintenance level higher.
- Allowing non-highway-legal vehicles to use the road segments can involve both non-highway-legal equipment and non-licensed operators, including children.
- In California, children under the age of 18 must take a prescribed safety course, be under direct supervision of an adult possessing appropriate safety certificate, or possess the appropriate safety certificate in order to operate an ATV. In addition, children under the age of 14 cannot operate an ATV without direct supervision by parent, guardian, or authorized adult.
- The current use on NFSR 32N13 appears to be consistent with State law and Forest Service policy for operational maintenance level 3 roads.
- The roadbed is raised and appears to provide for sufficient drainage and passenger car travel.
- Commercial, recreational, and administrative traffic is expected along this segment.

2. Crash history:

No record of accidents

3. Observed Traffic volume and type:

Non-highway-legal vehicles:

< 12 inch tread width < 50 inch tread width >50 inch tread width

Highway-legal vehicles:

< 12 inch tread width < 50 inch tread width >50 inch tread width

Passenger cars Commercial vehicles Recreation vehicles (RV's)

None was observed during field investigation to the site.

4. Speed - Anticipated average speed (85th percentile):

The road segments were driven at various speeds to simulate conditions encountered by a reasonable and prudent driver in a passenger car.

Segment 1:

15 - 25 mph based on observation and engineering judgment.

Segment 2:

35 mph based on observation and engineering judgment.

Segment 3:

35 - 40 mph based on observation and engineering judgment.

5. Road surface type: coordinate

All segments have cinder surfacing and single lane traveled ways with turnouts. Segment 1 and 2 are approximately 14' wide. Segment 3 is approximately 14 – 16 feet wide.

6. Intersections with other roads and trails:

The sight distances at the managed intersections are rated good. The intersection with NFSR 32N75Y allows for higher merging speeds since the road lacks the proper entrance treatment. Within the first study segment, there are multiple unauthorized routes accessing 32N13 that exist in association with uncontrolled dispersed camping along Lost Creek.

7. Other roadway factors:

- None

8. Roadside conditions:

- On segment one and two the design prism is typical of side hill construction with inboard ditch plus x-drain relief
- Raised route typical of turnpike construction (1 foot average fill) on segment three

9. Risk without mitigation if designating the roadway “open to all motor vehicles”:

Segment one

Crash probability: High Med Low

Crash severity: High Med Low

Segment two

Crash probability: High Med Low

Crash severity: High Med Low

Segment three

Crash probability: High Med Low

Crash severity: High Med Low

Crash probability was assessed based on factors including:

- **Operator considerations, traffic volume, rates of speed, alignment, sight distance, traveled way surface and width, drainage, roadside conditions.**

Crash severity was assessed based on factors including:

- **Roadway geometry (embankments, slopes, horizontal and vertical alignments), speed, traffic types and difference in vehicle sizes, difference in speeds of OHVs and full-size passenger vehicles, potential path and objects encountered if a vehicle left the traveled way.**

Alternatives and Mitigation Measures:

Alternatives and mitigation measures are presented to assist with safe road management. They are to be considered, should the agency have the appropriate time, workload, and funding based on competing priorities.

For all situations, the following mitigation measures apply:

- Clear communication and education to the visitors on allowed uses, safe motor vehicle use, and natural resources (informational signing and kiosks, maps, website, etc.).
- Improved route identification signing. Repair and replace devices as needed.
- Clear brush and trees, especially along curves and at intersections, to improve sight distance.
warning: improved sight distance may result in higher speeds
- Removal of roadside hazards such as boulders, trees, and debris.
- Combine the appropriate enforcement measures with the allowed uses for the road.
- Coordinate with other agencies to improve enforcement consistency.
- Utilize a monitoring program to better determine the appropriate management strategy for the types of use, new technologies, changes in visitor demands, and resource protection measures.

In addition, these mitigation measures would apply to the following alternatives. Although the following alternatives are not comprehensive for the situation, they represent the most likely and/or practical options based on engineering judgment.

Alternative 1: Designate the road segments as “open to highway-legal vehicles only”. Continue to manage the road in accordance with maintenance level 3 standards.

- Maintain all roadway signing to MUTCD standards.
- Approximate Implementation Cost: \$ 0
- Expected risk:
Segment one
Crash probability: High Med Low
Crash severity: High Med Low
Segment two
Crash probability: High Med Low
Crash severity: High Med Low

Segment three

Crash probability: High Med Low

Crash severity: High Med Low

Alternative 2: Designate the road segment as "open to all motor vehicles", including highway legal and non-highway-legal vehicles. Continue to maintain the road in accordance with maintenance level 3 standards.

- Improve education and enforcement communication to explain the complexities of various allowed uses on the road.
- Install appropriate signs of a type approved by the Department of Transportation on and along the highway to identify and communicate the potential hazards related to motorized mixed use.
- Coordinate with the State and revise existing agreements with Caltrans as applicable.
- Notify the Commissioner of the California Highway Patrol and review their opinion.
- Approximate Implementation Cost: \$ 6500
This does not account for the additional long-term annual maintenance cost increase associated with maintaining these critical safety corridors.

• Expected risk:

Segment one

Crash probability: High Med Low

Crash severity: High Med Low

Segment two

Crash probability: High Med Low

Crash severity: High Med Low

Segment three

Crash probability: High Med Low

Crash severity: High Med Low

Alternative 3: Designate the road as "open to all motor vehicles", including highway-legal and non-highway-legal vehicles. Downgrade the road segments in accordance with maintenance level 2 standards. This would require removing culverts and ditches, reconstructing the template and narrowing the roadway.

- Based on the quality of the road, the amount of thru traffic, the distinctive

- Approximate Implementation Cost: \$ 95,000
- Expected risk on both segments

Crash probability: High Med Low

Crash severity: High Med Low

Alternative 4: Construct trail segments to allow non-highway-legal vehicles to bypass the road and access adjacent maintenance level 2 roads.

Segment one

- The terrain in this area is on moderate slopes and would provide for a parallel trail system.
- Approximate implementation cost: \$8000 *per mile*
This does not include the planning, agreements, and long term maintenance costs associated with a new NFS trail.

Crash probability: High Med Low

Crash severity: High Med Low

Segment two

- The terrain in this area is on moderate slopes and would provide for a parallel trail system.
- Approximate implementation cost: \$8000 *per mile*
This does not include the planning, agreements, and long term maintenance costs associated with a new NFS trail.

Crash probability: High Med Low

Crash severity: High Med Low

Segment three

- The terrain in this area is on flat slopes and would provide for a parallel trail system.
- Approximate implementation cost: \$8000 *per mile*
This does not include the planning, agreements, and long term maintenance costs associated with a new NFS trail.

Crash probability: High Med Low

Crash severity: High Med Low

Final Comments:

Signing on national forest system roads will conform to the standards presented in the FS sign and poster guidelines (available @ http://fsweb.wo.fs.fed.us/eng/roads_trails/signs_05/index.htm).

In addition, roads managed under the Highway Safety Act, including the study segments here, must comply with the standards in the MUTCD (available @ <http://mutcd.fhwa.dot.gov/>).

According to the Sign and Poster Guidelines for the Forest Service (2005):

The following priorities are to be used to minimize the potential conflicts of mixed use:

- **Provide separate facilities.**
- **Separate use periods. Roads may be designated for separate use periods such as season, weekday/weekend, or day/night. Notify the public of the locations, effective dates, times, and duration that the roads may or may not be used. Provide appropriate signs as shown in Chapter 3A.**
- **Manage concurrent use.**

Upon designation and prior to allowing any mixed use, the Forest Supervisor is responsible for appropriately signing and mapping the route such that the dual traffic use is clear to all users.

Maps & Photos:

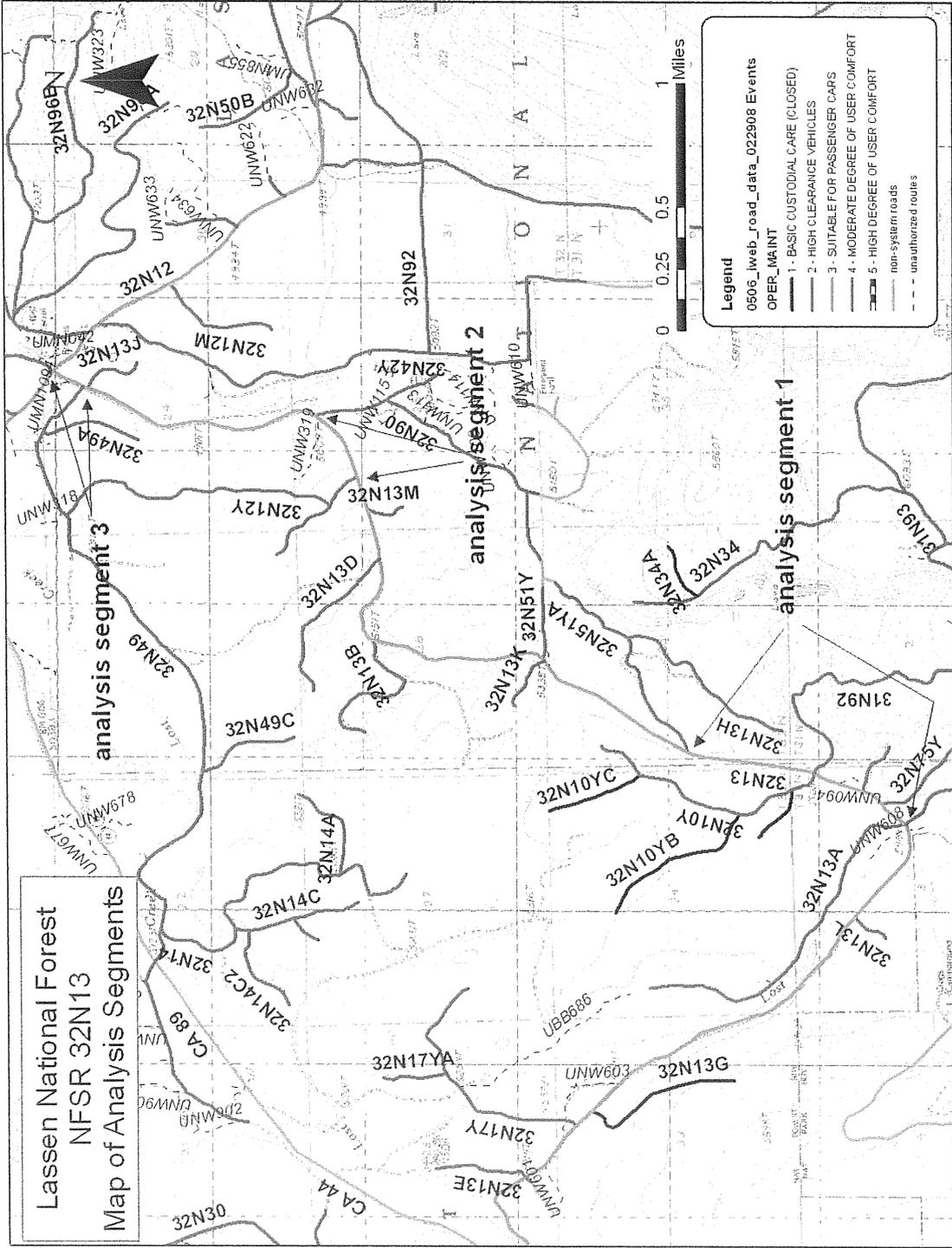


Figure 1: Map of road segments analyzed.

Chris Bielecki

Prepared by:
Chris Bielecki, Supervisory Civil Engineer

Engineering Report:

Lassen National Forest

Eagle Lake & Hat Creek Ranger Districts

Analysis of

National Forest System Road (NFSR)

32N21

for Motorized Mixed Use Designation

Forest: Lassen

District: Eagle Lake and Hat Creek

Road Number: 32N21

Road Name: Butte Lake

Introduction: The Butte Lake Road connects California State Highway Route 44 with Lassen National Park. The study segment is currently managed by LNF as open only to highway-legal vehicles.

The road segment was recommended in the LNF Travel Analysis (2008) for an engineering analysis of motorized mixed use. The purpose of this engineering analysis is to investigate the potentials, and associated risks, for transporting both highway-legal vehicles (motor vehicles, including the operators, that are licensed or certified for general operation on public roads within the State) and non-highway-legal vehicles (motor vehicles, including the operators, that are not licensed or certified for general operation on public roads within the State) from the beginning termini to the end termini. The LNF Travel Analysis (June 2008) identified this road section as a connection for recreational off-highway vehicle (OHV) loop opportunities on the adjacent road network, of which a portion is currently managed as open to non-highway-legal vehicle use.

Study Segment road data from the forest transportation atlas:

Beginning Mile Post: 3.4 Ending Mile Post: 3.8

The following is applicable to both study segments:

Traffic Service Level: A B C D

Objective Maintenance Level: 1 2 3 4 5

Operational Maintenance Level: 1 2 3 4 5

Maintenance by: **Forest Service (FS)**

Non-Forest Service ROW or jurisdiction? Yes No

Any road use agreements, maintenance agreements, or other encumbrances?

Yes No

Description of agreements or encumbrances:

None on this segment

Subject to Highway Safety Act? Yes No

Non-highway-legal vehicles currently permitted? Yes No

Would motorized mixed use be consistent with State and local laws? Yes
 No

The proposed segment would be consistent with California Vehicle Code (CVC), Combined Use Highways Designation (CVC Division 16.5, Chapter 2, Article 1, Section 38026) if limited to less than 3 consecutive miles on maintenance level 3+ roadways. Based on the CVC and Forest Service Region 5 guidelines, the designation of motorized mixed use requires California Highway Patrol notification prior to designation. Based on the response from the CHP commissioner, the Forest may reconsider the decision to designate MMU and/or may adjust mitigation measures needed for implementation.

Description of road management objectives (RMOs), existing use, and proposed use:

The road currently serves as a collector road and provides access to NFS lands on two ranger districts, as well as National Park Service lands within Lassen Volcanic National Park (LVNP).

The road has traditionally served as the main recreational and administrative access to Butte Lake Campground (within LVNP), as well as NFS functions including commodity extraction, fire suppression, and recreation.

The road was previously selected by the Pacific Southwest Regional Forester for funding support to improve the road as a "Public Forest Service Road" (PFSR). Initial survey and design work has been completed; however, the environmental analysis has yet to be completed. This effort would improve the roadway to a paved, double lane facility for management as a "Public Road".

Most of the year it is currently managed as open only to highway-legal traffic; however, when snow-covered the road serves as a winter recreation route open to skiers and over-snow vehicles (including snowmobiles). The study segment portion of the road is considered a highway by the Forest Service and is managed in accordance with the Highway Safety Act.

The study segment is proposed for designation of motorized mixed use to allow both highway-legal and non-highway-legal vehicles to utilize the roadway. Operators of any motor vehicle would be required to be in possession of a valid state driver's license.

General Considerations:

All motor vehicle operators need to be cognizant of the applicable state laws, and how they pertain to each age group, vehicle type, and national forest system road classification (see next bullet).

Through authorities delegated by the Secretary, the Forest Service may restrict or control use to meet road management objectives (36 CFR 212.5). The LNF currently manages this road as a highway, in accordance with the Highway Safety Act. The road is therefore subject to the provisions of the California Vehicle Code (CVC) for highways.

State OHV Regulations: any motor vehicle must have a street-legal license plate to operate on highways. To operate on public lands, off of highways, motor vehicles must have either a street-legal license plate or a red sticker or a green sticker. For more information, see the CA State Parks Off-Highway Motor Vehicle Recreation site, available @ <http://ohv.parks.ca.gov/>

California has:

- requirements for ATV safety
- conditions for operating ATVs
- OHV equipment requirements
- OHV operation requirements

Summary of Findings:

Implementing the universal mitigation measures, especially improved signing and better communication, will reduce crash probability.

Road mitigation should be prioritized regardless of mixed use, along with implementing a comprehensive communication, management, and enforcement plan. Associated implementation costs will depend on the designated allowed use for the road.

The study segment is managed in accordance with the assigned operational maintenance level 3 standards.

The surfacing is generally reconditioned on an annual basis. The road is maintained to a standard allowing efficient passenger car through traffic at speeds of 45 mph for reasonable and prudent drivers. Based on speeds and their associated risk for crash severity, designating the road as open only to highway-legal vehicles will provide the lowest crash probability and severity.

Factors Considered:

1. Operator considerations:

- Based on engineering judgment and experience/observation on other national forest management units, the LNF has an above average standard of road. Culverts are common drainage features on maintenance level 2 roads and standard on maintenance level 3 roads. Often roads on this national forest could be classified one maintenance level higher.
- Allowing non-highway-legal vehicles to use the road segments can involve both non-highway-legal equipment and non-licensed operators, including children.
- In California, children under the age of 18 must take a prescribed safety course, be under direct supervision of an adult possessing appropriate safety certificate, or possess the appropriate safety certificate in order to operate an ATV. In addition, children under the age of 14 cannot operate an ATV without direct supervision by parent, guardian, or authorized adult.

- The Lassen National Forest currently manages this road as a highway, in accordance with the Highway Safety Act. The road is subject to the provisions of the California Vehicle Code (CVC) for highways.
- The current use appears to be consistent with state law and forest policy for operational maintenance level 3 roads.
- During the summer season, operators can expect recreational vehicles, trailers, and passenger car vehicle traffic traveling to and from the Butte Lake Campground.

2. Crash history:

At the time of this analysis, there are no records of vehicle crashes on this road.

3. Traffic volume and type:

Non-highway-legal vehicles:

< 12 inch tread width < 50 inch tread width >50 inch tread width

Highway-legal vehicles:

< 12 inch tread width < 50 inch tread width >50 inch tread width

Passenger cars Commercial vehicles Recreation vehicles (RV's)

Vehicle distribution from a 3 hour observation, beginning Saturday 6/28/08 @ 1730 and ending @ 2030.

4 passenger car vehicles (including 3 SUVs)

4. Speed - Anticipated average speed (85th percentile):

The speed varies, depending on the roadway conditions. The 85th percentile would be estimated at:

45 mph

Speeds are based on observation, vehicular operation, and engineering judgment. Straightaways allow for higher speeds.

5. Road surface type:

The traveled way was surfaced with aggregate and had a width of approximately 22 feet. The road surface was well graded and appeared recently reconditioned.

6. Intersections with other roads and trails:

The study segment begins at the intersection with NFSR 32N92Y and connects to the next inventoried intersection to the south with NFSR 32N61.

These maintenance level 2 roads lack the appropriate entrance treatments needed to provide for the appropriate traffic management strategies (discourage or prohibit passenger cars – *or* – accept or discourage high-clearance vehicles). The current intersections may result in higher traffic merging speeds.

7. Other roadway factors:

- Roadway alignment was adequate for the assigned maintenance level.
- Summer and fall seasons will experience peak use, winter and spring can bring snowy and icy conditions along with skier and snowmobile traffic.

8. Roadside conditions:

- The roadway utilized an insloped template with an inside ditch for drainage.

9. Risk without mitigation:

Crash probability: High Med Low

Crash severity: High Med Low

Crash probability was assessed based on factors including:

- Operator considerations, traffic volume, rates of speed, alignment, sight distance, traveled way surface and width, drainage, roadside conditions.

Crash severity was assessed based on factors including:

- Roadway geometry (embankments, slopes, horizontal and vertical alignments), speed, traffic types and difference in vehicle sizes, difference in speeds of OHVs and full-size passenger vehicles, potential path and objects encountered if a vehicle left the traveled way.

Alternatives and Mitigation Measures:

Alternatives and mitigation measures are presented to assist with safe road management. They are to be considered, should the agency have the appropriate time, workload, and funding based on competing priorities.

For all situations, the following mitigation measures apply:

- Clear communication and education to the visitors on allowed uses, safe motor vehicle use, and natural resources (informational signing and kiosks, maps, website, etc.).
- Improved route identification signing. Repair and replace devices as needed; replace inappropriate signs.
- Clear brush, especially along curves, to improve sight distance.
- Combine the appropriate enforcement measures with the allowed uses for the road.

- Coordinate with other agencies to improve enforcement consistency.
- Utilize a monitoring program to better determine the appropriate management strategy for the types of use, new technologies, changes in visitor demands, and resource protection measures.

In addition, these mitigation measures would apply to the following alternatives. Although the following alternatives are not comprehensive for the situation, they represent the most likely and/or practical options based on engineering judgment.

Alternative 1: Designate the road segment as “open to highway-legal vehicles only”. Manage the road in accordance with maintenance level 3 standards.

- Maintain all roadway signing to MUTCD standards.
- Consider designing new trails, a new trailhead, and/or a new camping area to provide better opportunities for non-highway-legal motor vehicle traffic to access the area and the adjacent maintenance level 2 roads.
- Approximate Implementation Cost: \$ 0
- Expected risk:

Crash probability: High Med Low

Crash severity: High Med Low

Alternative 2: Designate the road segment as “open to all motor vehicles”, including highway-legal and non-highway-legal vehicles.

- Recognize that this situation would involve different allowed uses and would complicate communication and enforcement.
- Improve education and enforcement communication to explain the complexities of various allowed uses on the road.
- Install appropriate signs of a type approved by the Department of Transportation (i.e., ‘Share the Road’) on and along the highway to identify and communicate the potential hazards related to motorized mixed use.
- Notify the Commissioner of the California Highway Patrol and review their opinion.
- Approximate Implementation Cost: \$ 4500

- Expected risk:

Crash probability: High Med Low

Crash severity: High Med Low

Alternative 3: Designate the road as “open to all motor vehicles”, including highway-legal and non-highway-legal vehicles. Downgrade the road segment in accordance with maintenance level 2 standards. This would require removing culverts and ditches, reconstructing the template and narrowing the roadway.

- Install appropriate route identification signing (vertical fiberglass type)
- Coordinate with the Regional Forester staff to explain reasoning why moving away from PFSR management.
- Coordinate with LVNP staff, explaining expected implications with park visitors and administration.
- Approximate Implementation Cost: \$ 35,000
- Expected risk

Crash probability: High Med Low

Crash severity: High Med Low

Alternative 4: Construct trail segments to allow non-highway-legal vehicles to bypass the road and access adjacent maintenance level 2 roads.

- Due to the high volume of maintenance level 2 roads in the vicinity, the amount of new construction would be limited and would provide extensive contiguous OHV opportunities with minimal effort.
- Gentle terrain on the west side of the road would allow for a feasible trail location.
- Approximate Implementation Cost: \$10,000.

Crash probability: High Med Low

Crash severity: High Med Low

Final Comments:

Signing on national forest system roads should conform to the standards presented in the FS sign and poster guidelines (available @ http://fsweb.wo.fs.fed.us/eng/roads_trails/signs_05/index.htm).

In addition, roads managed under the highway safety act, including the study segments here, must comply with the standards in the MUTCD (available @ <http://mutcd.fhwa.dot.gov/>).

According to the Sign and Poster Guidelines for the Forest Service (2005):

The following priorities are to be used to minimize the potential conflicts of mixed use:

- Provide separate facilities.
- Separate use periods. Roads may be designated for separate use periods such as season, weekday/weekend, or day/night. Notify the public of the locations, effective dates, times, and duration that the roads may or may not be used. Provide appropriate signs as shown in Chapter 3A.
- Manage concurrent use.

Upon designation and prior to allowing any mixed use, the Forest Supervisor is responsible for appropriately signing and mapping the route such that the dual traffic use is clear to all users.

Maps & Photos:

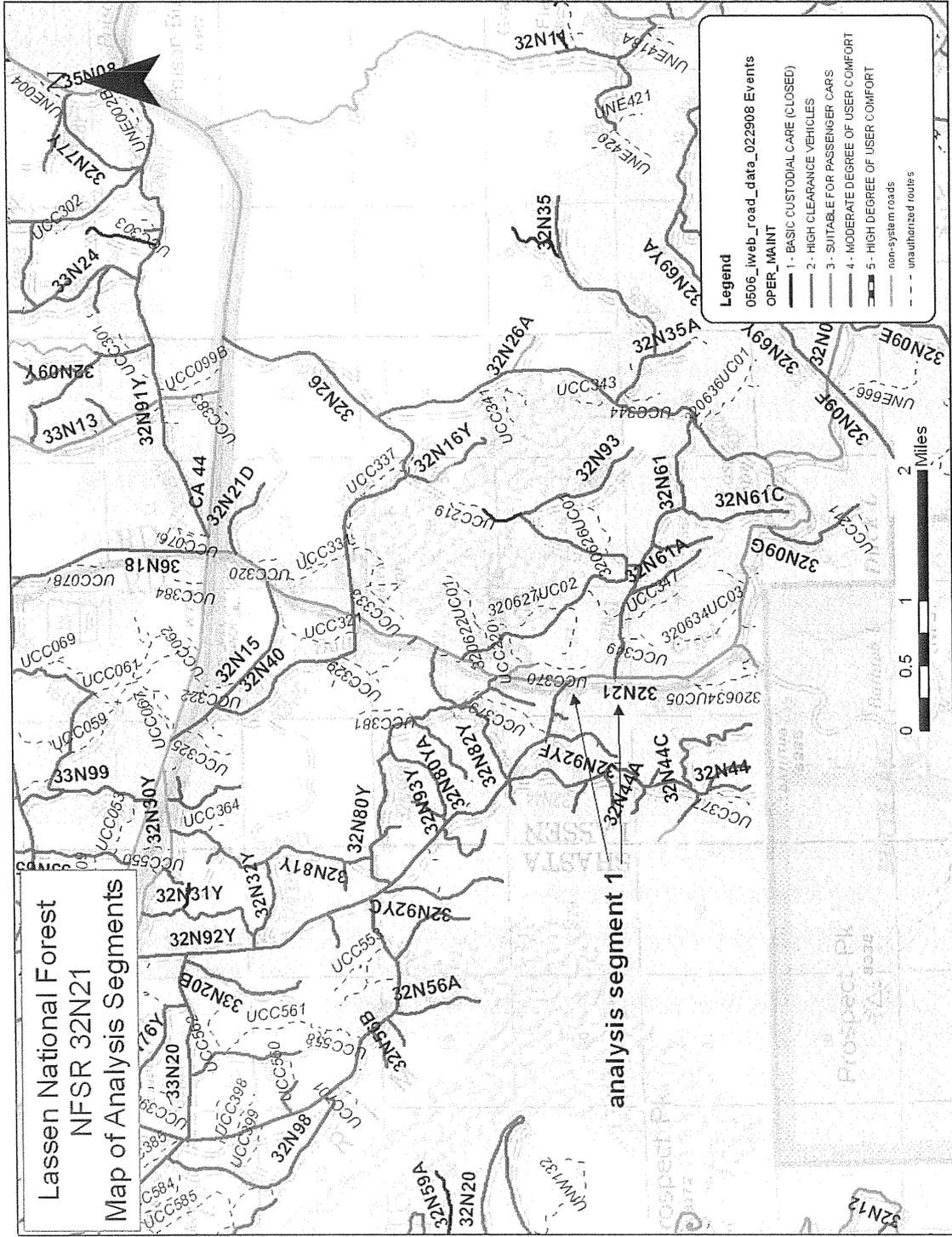


Figure 1: Map of road segments analyzed.



Figure 2: Proper route identification along NFSR 32N21.



Figure 3: Intersection with NFSR 32N92Y.



Figure 4: Gentle curve within the study segment.



Figure 5: Looking at the study segment from the intersection with NFSR 32N61.



Figure 6: Intersection with NFSR 32N61.

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