

Tahoe Basin Road Management

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Road Upgrading and Decommissioning



Overview

- Definitions
- Road Upgrade
- Road Decommission
- Implementation

Definitions: Road Upgrade



Definitions: BMP Upgrade



Definitions: Decommission



Definitions: Restoration



Process for upgrading or decommissioning a road

- Forest Plan
- Travel Analysis (TAP)
- NEPA
- Economic Analysis

GEE, HOW COULD ANY-
BODY BE OPPOSED TO
BUILDING MORE ROADS?



EVERY TIME I SEE
HIGHWAY CONSTRUCTION ...

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S. Adams



... SOME PROTESTER
HAS ALREADY PUT UP
A SIGN.



Road Maintenance Levels

- Passenger Clearance (PC)
 - Level 5
 - Level 4
 - Level 3
- High Clearance (HC)
 - Level 2
 - Level 1

Road Maintenance Levels

LTBMU Mileage

- Level 5 – 0.0 miles
- Level 4 – 19.2 miles
- Level 3 – 60.8 miles
- Level 2 – 132.3 miles
- Level 1 – 34.2 miles

Maintenance Level 5

USDA FOREST SERVICE ROAD MAINTENANCE LEVELS (5 through 1)

Road Maintenance Level 5

Road maintenance level 5 is defined in the FSH 7709.58,10,12.3 as:

Assigned to roads that provide a high degree of user comfort and convenience. These roads are normally double-lane, paved facilities. Some may be aggregate surfaced and dust abated. The appropriate traffic management strategy is “encourage.”

These roads have the following attributes:

- Subject to the requirements of Highway Safety Act and Manual of Uniform Traffic Control Devices (MUTCD).
- Highest traffic volume and speeds.
- Typically connect to State and county roads.
- Culverts provide drainage.
- Usually arterial and collector.
- May include some developed recreation roads.
- Usually paved or chip-sealed.

Maintenance Level 5



Figure 1—Maintenance level 5 road with double lanes, hot-mix asphalt surface, and asphalt- and rock-stabilized shoulders.

Maintenance Level 5



Maintenance Level 5



Figure 4—Maintenance level 5 road with double lanes, asphalt surface, and grass on asphalt shoulder.

Maintenance Level 5



Maintenance Level 4

Road Maintenance Level 4

Road maintenance level 4 is defined in the FSH 7709.58,10,12.3 as:

Assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds. Most roads are double lane and aggregate surfaced. However, some roads may be single lane. Some roads may be paved and/or dust abated. The most appropriate traffic management strategy is “encourage.” However, the “prohibit” strategy may apply to specific classes of vehicles or users at certain times.

These roads have the following attributes:

- Subject to the requirements of the Highway Safety Act and MUTCD.
- Roads have moderate traffic volume and speeds.
- May connect to county roads.
- Culverts provide drainage.
- Usually a collector.
- May include some developed recreation roads.

Maintenance Level 4



Figure 10—Maintenance level 4 road with single lane, chip-seal surface, and chip-seal shoulders.

Maintenance Level 4



Figure 9—Maintenance level 4 road with single lane, gravel surface, and gravel shoulders.

Maintenance Level 4

Road Maintenance Level 3

Road maintenance level 3 is defined in the FSH 7709.58,10,12.3 as:

Assigned to roads open and maintained for travel by prudent drivers in a standard passenger cars. User comfort and convenience are low priorities.

Roads in this maintenance level are typically low speed, single lane with turnouts, and spot surfacing. Some roads may be fully surfaced with either native or processed material. Appropriate traffic management strategies are either “encourage” or “accept.” “Discourage” or “prohibit” strategies may be employed for certain classes of vehicles or users.

These roads have the following attributes:

- Subject to the requirements of Highway Safety Act and MUTCD.
- Roads have low- to moderate-traffic volume.
- Typically connect to arterial and collectors roads.
- A combination of dips and culverts provide drainage.
- May include some dispersed recreation roads.
- Potholing or washboarding may occur.

Maintenance Level 3



Figure 16—Maintenance level 3 road with single lane, gravel surface, no shoulders, and a cross drain dip.

Maintenance Level 3



Figure 18—Maintenance level 3 road with double lanes and native road surface with shoulders.

Maintenance Level 2

Road Maintenance Level 2

Road maintenance level 2 is defined in the FSH 7709.58,10,12.3 as:

Assigned to roads open for use by high-clearance vehicles . Passenger car traffic is not a consideration. Traffic is normally minor, usually consisting of one or a combination of administrative, permitted, dispersed recreation, or other specialized uses. Log haul may occur at this level. Appropriate traffic management strategies are either to (1) discourage or prohibit passenger cars or (2) accept or discourage high-clearance vehicles.

These roads have the following attributes:

- Roads have low traffic volume and low speed.
- Typically local roads.
- Typically connect collectors or other local roads.
- Dips are the preferred drainage treatment.
- Not subject to the requirements of the Highway Safety Act.
- Surface smoothness is not a consideration.
- Not suitable for passenger cars.

Maintenance Level 2



Figure 25—Maintenance level 2 road with single lane, native surface, no shoulders, and suitable for high-clearance vehicles only.

Maintenance Level 2



Maintenance Level 2



Maintenance Level 1

Road Management Level 1

Road management level 1 is defined in the FSH 7709.58,10,12.3 as:

Assigned to intermittent service roads during the time they are closed to vehicular traffic. The closure period must exceed 1 year. Basic custodial maintenance is performed to keep damage to adjacent resources to an acceptable level and to perpetuate the road to facilitate future management activities. Emphasis is normally given to maintaining drainage facilities and runoff patterns. Planned road deterioration may occur at this level. Appropriate traffic management strategies are "prohibit" and "eliminate."

Roads receiving level 1 maintenance may be of any type, class or construction standard, and may be managed at any other maintenance level during the time they are open for traffic. However, while being maintained at level 1, they are closed to vehicular traffic, but may be open and suitable for nonmotorized uses.

These roads have the following attributes:

- Vehicular traffic is eliminated, including administrative traffic.
- Physically blocked or entrance is disguised.
- Not subject to the requirements of the Highway Safety Act.
- Maintenance is done only to minimize resource impacts.
- No maintenance other than a condition survey may be required so long as no potential exists for resource damage.

Maintenance Level 1



Figure 28 —Maintenance level 1 road that has been blocked to highway vehicle traffic by an earth mound.

Maintenance Level 1



Figure 30—Maintenance level 1 road that has been blocked to highway vehicle traffic by boulders.

Maintenance Level 1



Costs – New Construction

- Paved Surface:
\$1 million per lane-mile
- Chip Seal...
- Hardened Aggregate Surface
\$200,000 per lane-mile
- Native Surface...

Costs – Native Surface



Costs – Native Surface



Costs – Maintenance

- Paved Surface
- Chip Seal
- Hardened Aggregate Surface
- Native Surface

Costs



Costs





Implementation

<http://www.youtube.com/watch?v=-Prgc8-463k>

Recreation & Access Control



Recreation & Access Control



Recreation & Access Control



Recreation & Access Control



Recreation & Access Control



Recreation & Access Control



Recreation & Access Control



Recreation & Access Control



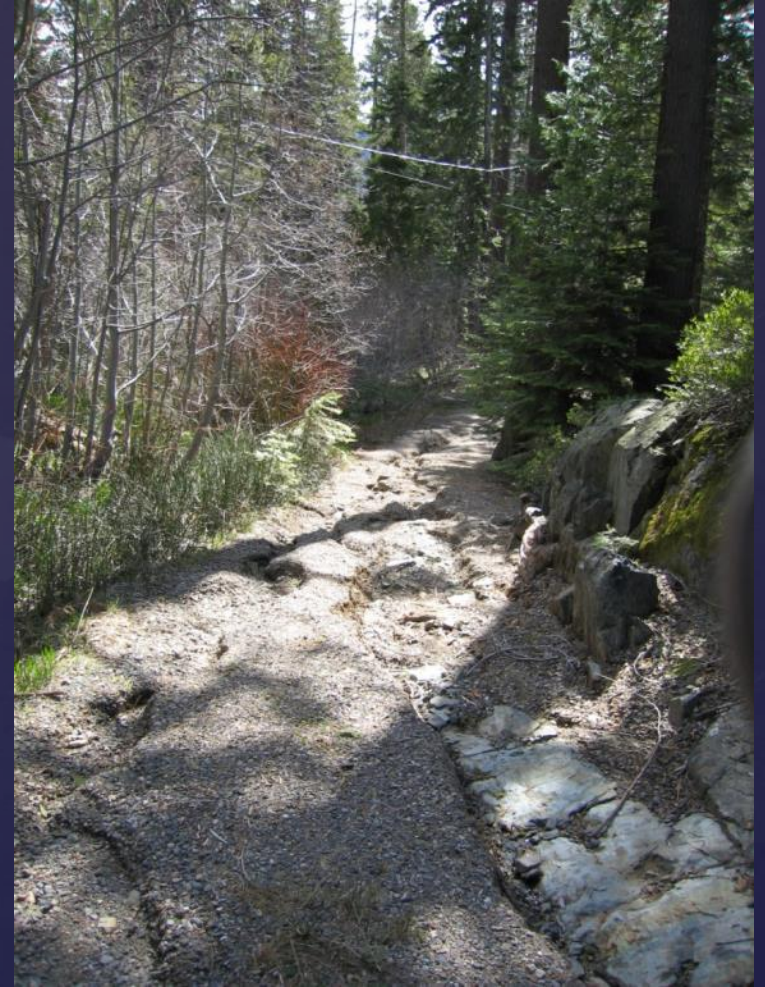
BMP Upgrades



Water and Drainage



Water and Drainage



Water and Drainage



Water and Drainage



Water and Drainage



Water and Drainage



Water and Drainage



Water and Drainage



Water and Drainage



Water and Drainage



Bridge Replacement



Bridge Replacement



Bridge Replacement



Bridge Replacement



Bridge Replacement



Bridge Replacement



Bridge Replacement



Bridge Replacement - Tallac



Bridge Replacement - Tallac



Bridge Replacement - Tallac



Bridge Replacement - Tallac



Bridge Replacement - Tallac



Bridge Replacement - Tallac



Bridge Replacement



Bridge Replacement - Barker



Bridge Replacement - Barker



Bridge Replacement - Barker



Bridge Replacement - Barker



Bridge Replacement - Barker



Bridge Replacement – Trout



Bridge Replacement - Trout



Bridge Replacement - Trout



Bridge Replacement - Trout



Bridge Replacement - Trout



Bridge Tract Road



Bridge Tract Road



Bridge Tract Road



Bridge Tract Road



Bridge Tract Road



Road Decommissioning



08/08/2012

Road Decommissioning



Road Decommissioning



Road Decommissioning



Road Decommissioning



Road Decommissioning



Road Decommissioning



Road Decommissioning



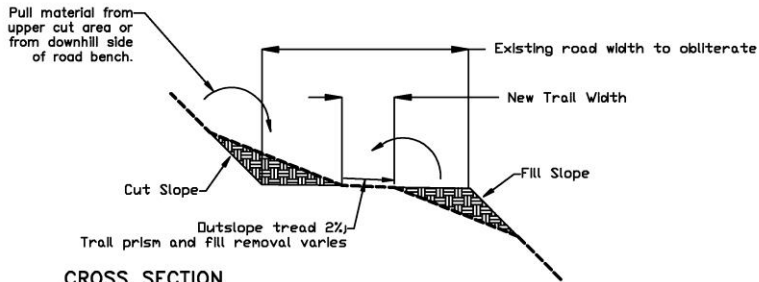
Road Decommissioning



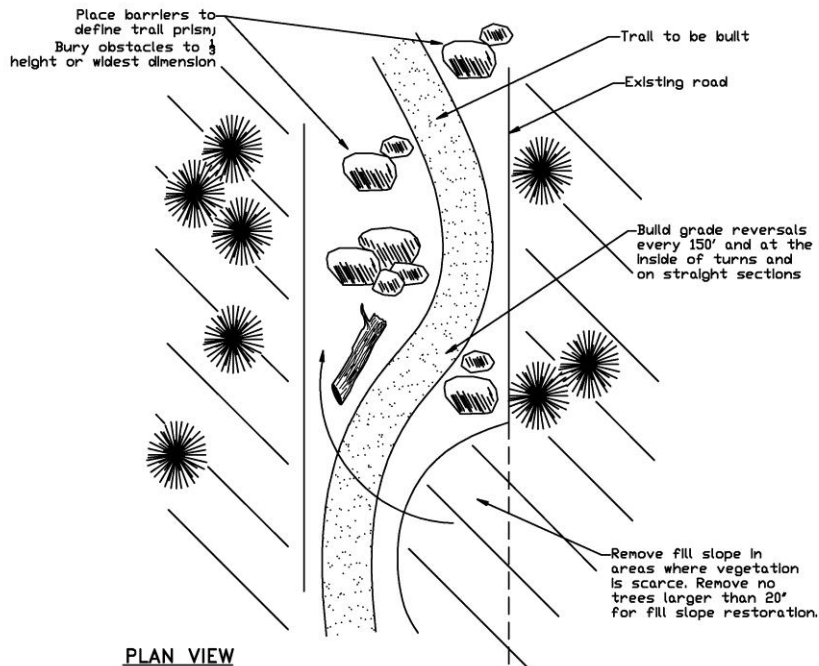
Road to Trail Conversion

ROAD TO TRAIL CONVERSION

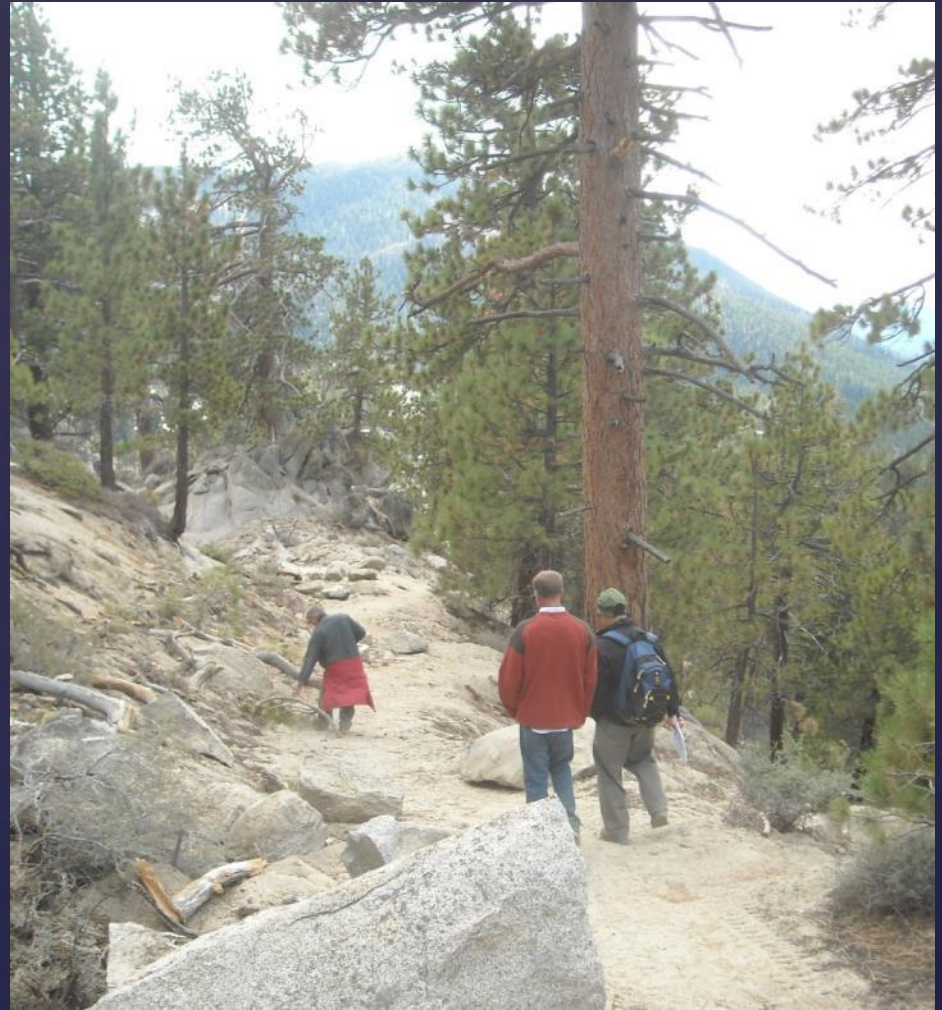
NOT TO SCALE



CROSS SECTION



PLAN VIEW



Questions?

