



## Maintenance Costs of Tahoe EIP Projects

Department of Transportation

Prepared for the Board of Supervisors  
January 19, 2010

Legistar Item #09-1295



### Purpose:

- On March 2, 2009, DOT was asked by the Board to research maintenance costs associated with EIP projects in Tahoe.

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### Agenda

- • Background/Summary
- Examples
- Conclusions and Recommendations

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### El Dorado County Roads - Background

Road Classification	MILES		
	West Slope	Tahoe	Total
Regional	345.8	24.5	370.3
Local	569.8	134.5	704.3
<b>TOTAL</b>	<b>915.6</b>	<b>159.0</b>	<b>1074.6</b>

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### Background

- DOT Maintenance:**
  - Required irrespective of location
  - Required irrespective of condition of facilities
    - New facilities are less costly to maintain
- DOT obligation is to maintain all facilities pursuant to standard maintenance practices**
- DOT obligation to maintain facilities funded by EIP grants is less than the obligation to maintain under the "Basin Plans"**
- The regulatory environment at Lake Tahoe requires a higher level of maintenance**

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### EIP Projects help reduce the costs of maintaining DOT infrastructure:

- Without EIP projects, the County would still need to maintain its infrastructure, much of which is aging and in need of repair/replacement/retrofit.
- The EIP projects help reduce costs to the County in two ways:
  - The projects are funded by grants
  - The new facilities cost less to maintain versus our current roadway infrastructure because they are modern projects which replace/retrofit the old system.
- EIP projects done in conjunction with routine maintenance projects assist DOT with maintenance costs.
- The EIP helps to fund capital equipment to maintain the County's infrastructure (e.g., vactoring, sweeping vehicles) which also reduces County equipment replacement costs.

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*Examples illustrate the difference in maintenance costs before and after EIP projects.*

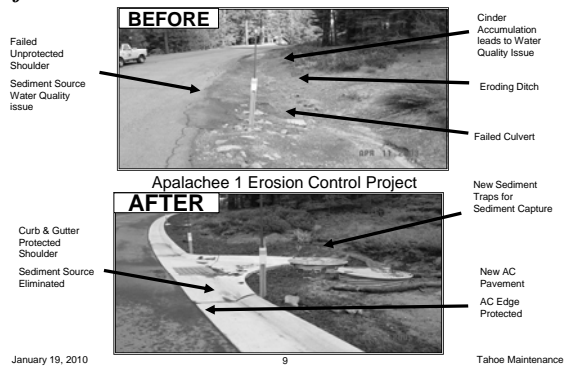
- Road Side Ditch and Drainage Easement Ditch Work
- Culvert & Drainage Structure Replacement
- Street Sweeping and Vactoring

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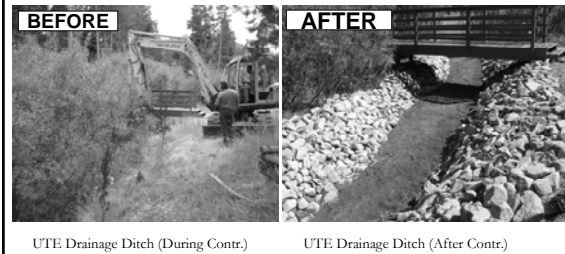
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*It is easier/less expensive to maintain road ditches/drainage improved with EIP Project infrastructure:*



*Example: UTE Drainage Ditch Improvement*

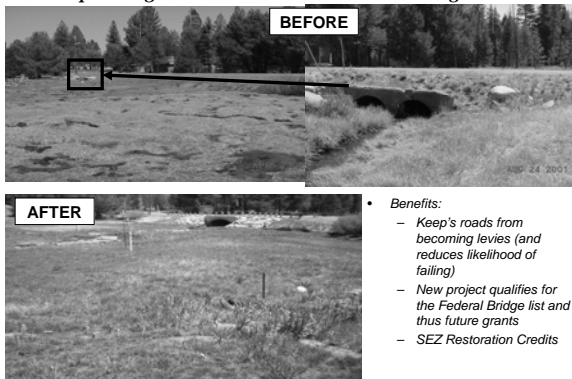


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*Example: Angora Creek at View Circle – Failing Culvert*



*Sweeping is required with or without EIP project grants. Grants help buy sweepers and vactor trucks.*

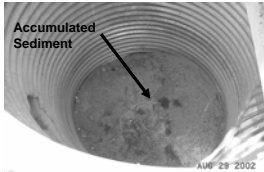


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**Culvert/Drainage Structure Cleaning: Labor is reduced by 75% with state of the art infrastructure.**



Vactoring at Key locations identified by SDA

Sediment Dipping Assessment (SDA) (pre-Vactoring)

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**Maintenance Impacts Summary**

Maintenance (O&M) Categories	Standard Practice	Regulatory O&M Cost Impacts	O&M Cost Impacts Imposed by Grant Programs
Shoulder and Ditch	Baseline	Increase	Decrease
Culvert & Drainage Replacement	Baseline	Increase	Decrease (66,000 ft replaced)
Street Sweeping	Baseline	Increase	Decrease (capital equip purchases)
Vactoring	Baseline	Increase	Decrease (capital equip purchases)
Sediment Basins	Baseline (None)	Increase	Minimal (10 yrs)
Stormwater Filters	Baseline	Increase	Increase
Landscaping/Revegetation	Baseline	Increase	Increase (Maint. funded for 2 yrs)

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**Bicycle/Pedestrian/Multi-modal facilities**

- Bicycle/multi-modal facilities are planned throughout the County (e.g., El Dorado Trail)
- Bicycle/multi-modal facilities help the Basin achieve its other 9 thresholds including air quality, recreation, and transportation
- Bicycle/multi-modal facilities help the County/State achieve Federal Clean Air goals.
- Should DOT continue to build bicycle/multi-modal facilities in accordance with the Regional Bike/Ped Master Plan?

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**Bike Paths and Lanes**



Sawmill 1 (JN 95148)



15th Street (JN 95167)

Typical O&M – Sweeping/Striping

Estimated - \$5,000/mile

O&M Funding – Measure S in Tahoe

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**Shoulder Treatment With Bike Lane**

Failed Unprotected Shoulder  
Sediment Source Water Quality issue



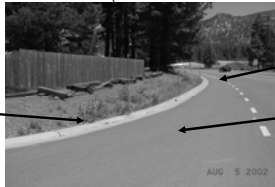
Pioneer III ECP (Before Shoulder Treatment)

Cinder Accumulation  
Water Quality Issue

Failed AC Pavement

Water Quality and Safety issue

C&G Protected Shoulder  
Sediment Source Eliminated



Pioneer III ECP (After Shoulder Treatment)

New Bike Lane  
New AC Pavement  
AC Edge Protected  
New Bike Lane (Measures for Maintenance)

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### ***Conclusions***

- DOT is obligated to maintain all existing facilities, whether constructed through the EIP or by other sources
- EIP Projects (grants) help DOT upgrade aging infrastructure with facilities that are easier to maintain than the existing facilities
- EIP Projects (grants) help the County comply with the Regional (TRPA) and Basin Plan (Lahontan) requirements

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### ***DOT Recommends:***

- DOT will continue to coordinate with our partner agencies to meet the regulatory requirements in the Tahoe Basin through the delivery of Tahoe EIP projects
- DOT will continue to analyze EIP projects for their impacts to future maintenance costs
- DOT will continue to seek additional funding through continued participation in the EIP and other associated grant programs

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