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November 15, 2012

Board of Supervisors
330 Fair Lane
Placerville, CA 95667

**Agenda Title: DOT Presentation on Roadway Maintenance, Pavement Management, and One-Time Infrastructure Investment Opportunities
Legistar # 12-1274**

Meeting Date: December 11, 2012

Dear Members of the Board:

Department of Transportation providing the Board of Supervisors with information regarding the following:

- 1) Presentation of the cost required to perform certain maintenance and pavement management activities on County roads on a reasonable, cyclical basis;
- 2) Identification of potential asphalt concrete overlay projects for consideration and discussion by the Board of Supervisors. (Est. Time: 30 Min.) (Refer 10/23/12, Item 17)

Background

On October 23, 2012, the Department of Transportation presented the Board of Supervisors an overview of the Department’s Road Maintenance Program and Pavement Management Program. The Board expressed interest in possibly investing in the County road system. The Department is returning to the Board with road system investment options for the Board’s consideration.

Cost of Annual Maintenance Activities

The Department has identified 22 categories of roadway maintenance activities that receive funding each year. 17 of these categories are funded at a level that allows the Department to perform work on a reasonable, cyclical basis. The five following categories are significantly underfunded each year:

- Brushing – Ideally, every area is brushed every 5 years (80 miles/year)
 - Total Annual Funding required for 5 year cycle: \$1.7 million
 - Average annual funding: \$830,000
 - Average annual shortfall: \$870,000
- Ditching – 5 year cycle (65 miles/year)
 - Total Annual Funding required for 5 year cycle: \$790,000
 - Average annual funding: \$360,000

- Average annual shortfall: \$430,000
- Surface Treatment – 10 year cycle (100 miles/year)
 - Total Annual Funding required for 10 year cycle: \$2.4 million
 - Average annual funding: \$960,000
 - Average annual shortfall: \$1,440,000
- Vegetation Control – 5 year cycle (1200 miles/year)
 - Total Annual Funding required for 5 year cycle: \$280,000
 - Average annual funding: \$140,000
 - Average annual shortfall: \$140,000
- Sign Maintenance – 10 year cycle (2400 signs/year)
 - Total Annual Funding required for 10 year cycle: \$1.16 million
 - Average annual funding: \$430,000
 - Average annual shortfall: \$730,000

These annual budget shortfalls are ongoing, so while a one-time budget increase will allow the Department to catch up on work not recently performed, it will have limited long term positive impact on the cyclical nature of the annual work.

Page 7 of the attached PowerPoint presentation shows the impacts of road fund increases of \$500,000, \$1,000,000, and \$1,500,000. The distribution of the additional funds to the underfunded categories was performed in a discretionary manner by the Department. If the Board wishes to increase the Road Fund, the Board could state where it wants the increased funding spent, or the Board could direct the Department to use the increased budget at the Department's discretion.

One-Time Investments

The Department has also prepared a list of asphalt concrete overlay projects for the Board's consideration.

When making a one-time investment in the County's roadway infrastructure, the Department has determined that the most cost effective application is asphalt concrete overlays. This is due to the following:

- Limited planning and environmental costs when compared to other types of projects (bridges, road widenings, etc.).
- Much lower design costs than other types of projects.
- Ability to get overlay projects "on the ground" very quickly.
- Very visible improvements that have positive impacts on many County residents.
- Long useful life.
- Permanent increase to roadway section depth.

The Department selected the proposed projects by first using StreetSaver to find all roadways with heavy traffic (ADT > 2,000) on poor pavement (PCI < 60). Then, any roadway that was planned for chip seal in 2013 was removed from the

list (chip seal work includes replacement of sections of failed pavement). Roadways already identified in the 2012 Capital Improvement Program (CIP) as funded projects were also removed from consideration. The following roads have high traffic and poor pavement, but were eliminated as potential overlay projects because of their presence on the 2013 chip seal list or their inclusion in the 2012 CIP:

- Francisco Drive
- Green Valley Road
- Cambridge Road
- Middletown Road
- Motherlode Drive
- Shingle Springs Drive

From the remaining roads with heavy traffic on poor pavement, the Department performed a subjective analysis that resulted in the proposed projects. This analysis considered less quantitative factors such as location, commute impacts, and proximity to commercial areas. For example, Black Bart, Martin, and Barbara Avenues are not well known County thoroughfares, but their high ADT and their location indicate heavy use as an alternative corridor between Pioneer Trail and U.S. 50 near South Lake Tahoe. This was confirmed by Tom Halvorson, DOT Highway Superintendent in Lake Tahoe.

The estimated cost of \$300,000 per mile of overlay is derived from the average cost per mile of the following ten recent overlay projects:

- Pony Express Trail
- Lotus Road
- Newtown Road
- North Upper Truckee Road
- North Shingle Road
- Malcom Dixon Road
- Forni Road
- Cold Springs Road
- Latrobe Road
- Gold Hill Road

The total costs evaluated include areas such as planning, environmental, design, maintenance prep work (section replacement), construction, and construction management. Despite this analysis, some of the proposed projects with roads in exceedingly poor condition might cost more than the estimated \$300,000 per mile to overlay.

Reason for Recommendation

This is an informational item being provided to assist the Board of Supervisors in making decisions about whether or not to increase funding for the Department of Transportation's roadway maintenance activities and/or proposed asphalt

concrete overlay projects. There is no recommendation associated with this agenda item.

Action(s) to be taken following Board approval

Should the Board decide to fund more annual maintenance work by increasing the General Fund contribution to the Road Fund, the Department will return to the Board on December 18, 2012 with a budget transfer request. The Department will then modify the 2013 maintenance work plan accordingly.

Should the Board decide to implement any of the proposed overlay projects, the Department will return to the Board on December 18, 2012 with more refined project estimates and a budget transfer request. In order to get the projects on the ground in the 2013 construction season, the Department will need to begin environmental analysis work in early January.

Sincerely,



John Kahling, Deputy Director, Engineering
Department of Transportation



Don Spear, Acting Deputy Director, Maintenance
Department of Transportation

Attachments