

MEMORANDUM

To: City Council and Residents of Rogue River
From: John Krawczyk, City Engineer/Public Works Director
Date: July 9, 2013
Subject: Pavement Management



The City Council has scheduled two public meetings for citizens to review and comment on the proposed street improvements. Time for questions and public comment will be scheduled at the July 18 City Council/Staff Workshop at 10:00 am and at an Open House on July 25 from 6:30 to 7:00 pm.

Pavement Management Plan Summary

We have received a comprehensive Budget Options Report summarizing the current condition of the city's street network, detailing the current and future deferred maintenance dollars, forecasting future budget needs, and including four (4) funding scenarios to help prioritize projects under the street improvement bond money. The consultant utilized a program that is designed to maximize the cost-effectiveness of our maintenance plan. This report is intended to assist the City Council in choosing the most cost-effective maintenance strategies and which streets to treat when.

The City's street network consists of 9.74 centerline miles of streets. A detailed visual inspection of the City's streets resulted in a calculated average Pavement Condition Index (PCI) of 59. Using a 0-100 PCI scale, with 100 being the most favorable, a rating of 59 places the City's overall street network in the 'Fair' condition category.

Conventional wisdom has been to treat streets in a "worst-first" philosophy. Under this "worst-first" policy, streets are allowed to deteriorate to a nearly failed condition before any rehabilitation (such as Overlays or Reconstructions), are applied. Current Pavement Management Systems are designed with a more cost-effective, "Best-first" approach. The reasoning behind this philosophy is that it is better to treat streets with lower-cost, preventative maintenance treatments, such as Slurry Seals, Chip Seals, and Crack Seals, and extend their life cycle, before the street condition deteriorates to a state where it requires more costly rehabilitation and reconstruction treatments. One of the key elements of a pavement repair strategy is to keep streets that are in the 'Good' or 'Fair' condition from deteriorating to poor or very poor condition. This is particularly true for streets in the 'Fair' range, because they are at the point where pavement deterioration accelerates if left untreated. However, the deterioration rate for pavements in the 'Poor' to 'Very Poor' range is relatively flat and the condition of these streets will not decline significantly if repairs are delayed. As more 'Good' streets deteriorate into the 'Fair', 'Poor', and 'Very Poor' condition, the cost of deferred maintenance will continue to increase.

Two-fifths or 39.8% of the City's street network would benefit from these relatively inexpensive, life-extending treatments that usually cost less than \$1.90/sq. yd.

Approximately one-quarter or 22.5% of the City's street network falls into the 'Fair' condition category. At this stage, a street usually requires either a grind and overlay or reconstruction. These treatments typically range in cost from \$3.35 to \$10.55/sq. yd.

The remaining 37.7% or over one third of the City's street network falls into the 'Poor' or 'Very Poor' PCI ranges. These pavements are near the end of their service lives. The costs for these treatments range from \$13.45 to \$135.75/sq. yd.

The report presented four possible spending Scenarios.

Scenario 1 represents the ideal expenditure of \$5.5 million over the next five years in an attempt to bring all of the streets in the City to a 'good' condition, with the majority of the streets falling in the low to mid 80's PCI range. While unrealistic, it can be used as a base line for comparing other scenarios.

Scenario 2 approximates our current average annual expenditure for street rehabilitation of approximately \$35,000.

Scenario 3 is for an expenditure amount between Scenarios 2 and 4.

Scenario 4 represents the program's recommended optimal use of our bonding amount of approximately \$1.5 million.

The City Council and staff reviewed the information in the report to determine which projects will be proposed for funding under the \$1.5 million bond, keeping in mind that costs for large rehabilitation projects are extremely variable. The result is the modified Scenario 4 dated 6/23/2013. In order to stretch the budget, we are proposing to test less expensive options to full street reconstruction on some severely deteriorated residential streets. Alternatives including in-place grind with cement stabilization or fiberglass grid reinforcement, followed by an asphalt overlay will be evaluated on some severely deteriorated residential streets.

As demonstrated in the different scenarios, the City needs to invest a significant amount of money on expensive rehabilitation and reconstruction projects. This will reduce the deferred maintenance backlog, increase the network PCI, and allow future money to be spent for less capital-intensive treatments such as slurry seals, crack sealing, and thin overlays. Even with the expenditure of the \$1.5 million bond money followed by the current annual spending level, the overall street network will continue to deteriorate. In the long term, the City needs to find a reliable source of increased funding for annual street maintenance.