

August 29, 2002
Minutes
Public Safety & Transportation Committee

Attendees: Chairman Richard Benjamin, Councilmember Scott Thomasson, Councilmember Gary Petersen, Public Works Director Tim Heydon, Assistant City Engineer Maiya Andrews, Paul Sachs of Nichols Consulting Engineers

Paul Sachs gave a presentation on pavement management and the City's street system. His presentation stressed the cost effectiveness of maintaining pavements while they are in good condition. The City's system currently has an average Pavement Condition Index (PCI) of 75, which on a letter grading system would be similar to a B+. The optimum average PCI would be 85 because this means there is very little deferred maintenance. The cost to maintain the PCI at 85 is low because the needs are primarily "preventative maintenance" measures such as chip seals.

The City has 93 paved centerline miles of asphalt pavement, with a replacement cost estimated at \$90,225,000 (for only the pavement). At PCI 75, the City's streets are in good to fair condition. However, they are at the location on pavement deterioration curves where the remaining life of the roads decreases rapidly and the cost to maintain increases rapidly.

Paul presented scenarios that describe how different levels of funding effect the average PCI. The first scenario shows how much it would take to get the average PCI to the optimum level of 85 and maintain it over the six year period. This scenario requires \$12 million in six years. Another scenario shows that it would take \$4.8 million over the six year period to maintain the current PCI of 75. Our existing CIP budget includes \$3.8 million over the six year period.

Some questions answered by Paul included:

- How many times can you perform a chip seal before having to mill? About every 3 to 4 seals, or 7 to 10 years.
- How do the visual ratings of streets (by walking) and automated rating of streets (by camera) compare? Studies have shown the walking method to be more repeatable and accurate. There tends to be more errors in the camera method when there are shadows across the roads.
- Can rutting be repaired through a chip seal? No.
- Are gravel roads included in this analysis? They were not rated (a different rating system is used for gravel), however, they were inventoried and lengths are in the database.

- Do pavements age at different rates? Yes, there are different deterioration rates over time for different roads. The deterioration varies with weather, loading and presence of water. The database assigns deterioration rates based on the functional class of the road, which in turn is related to the loading. As the roads are rated in the future, the database "learns" how the pavement is performing and adjusts the rates to reflect actual experience.
- How long has this rating system been in use? This rating system, which calculates a PCI by measuring and applying values to the various types of pavement distresses, has been in use about 30 years and is now an ASTM (American Society for Testing and Materials) standard.
- What is the difference between preventative maintenance and rehabilitation? Preventative maintenance includes low cost treatments such as chip seals or crack sealing that can be applied to pavements in good condition with higher PCI's. Rehabilitation includes overlays or full depth replacements of pavements in poorer condition.

For the next meeting, the committee asked to have additional scenarios created to show funding needed to achieve a PCI of 80 in six years, and a PCI of 85 in 12 years, and further to show funds required to maintain the PCI between the 6th and 20th year. They also requested additional information on the sources for the arterial streets budget and the expectations for increases to this budget in future years.

Mr. Benjamin concluded the meeting at 7:20pm by stressing the importance of having well maintained roads to encourage economic development, and of minimizing future maintenance costs.