



## **STAFF REPORT**

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### **Update and Recommended Action Plan for the Pavement Management Program**

January 13, 2004

Honorable Mayor and City Council:

#### **Summary**

There is only \$400,000 of funds available for roadway resurfacing projects. There is uncertainty about the reauthorization of federal and state funds for roadway projects. No significant project can be implemented without the availability of federal and state funds. Therefore, it is difficult to develop a meaningful Pavement Management Plan until it is known what the total funding available for roadway resurfacing will be.

Staff recommends rolling FY04 roadway improvement funds over to FY05 and return to Council in December 2004, when the federal and state funding picture is clearer with a proposed Pavement Management Plan.

#### **Background and Discussion**

The City is responsible for the repair and maintenance of 68 centerline miles of asphalt concrete pavements. The pavement condition index, or PCI, is a measure of condition that has a range from 0 to 100. A newly constructed road would have a PCI of 100, while a failed road would have a PCI of 10 or less. The City's current Pavement Condition Index is 66, or in the "FAIR" condition category. Table 1 summarizes the condition of the road network in the City:

**Table 1**  
**City of Belmont Road Network Pavement Condition Index Summary**

<u>Condition Category</u>	<u>PCI Range</u>	<u>Percent of the Network</u>
<b>Excellent</b>	<b>85-100</b>	<b>18%</b>
<b>Good</b>	<b>70-84</b>	<b>38%</b>
<b>Fair</b>	<b>50-69</b>	<b>16%</b>
<b>Poor</b>	<b>25-49</b>	<b>18%</b>
<b>Very Poor</b>	<b>10-24</b>	<b>7%</b>
<b>Failed</b>	<b>0-9</b>	<b>3%</b>

Present Cost to Repair Roadways

When roadways are in the Good category it costs very little to apply preventive maintenance treatments such as crack and surface seals to extend the life of a pavement by correcting minor faults and reducing further deterioration. Approximately fifty-six (56) percent of Belmont's roadways would benefit from these relatively inexpensive, life-extending treatments. The City's most recent experience indicates the cost of these types of treatment cost \$3 per square yard.

Approximately thirty-four (34) percent of Belmont's roadways fall into the "fair" or "poor" condition category. Pavements in this range show some form of distress or wear that require more than a life-extending treatment. By this point, a well-designed pavement will have served at least 75 percent of its life, and the quality of the pavement has dropped by about 40 percent. The road surface may require an overlay. Our recent experience with overlays indicates a cost of \$30 per square yard.

The remaining ten (10) percent of the roadways fall into the "very poor" or "failed" condition index. These pavements are near the end of their service lives and often exhibit major forms of distress such as potholes and extensive cracking. These roads require reconstruction. Our experience indicates the cost of reconstruction is \$90 per square yard.

City Council provided direction to City staff that the desired Pavement Management Program should maintain the arterials and collector streets at a PCI of 85 and to make a recommendation based upon actual funding available for the appropriate PCI for local streets. The only funding currently available for roadway improvements is the \$400,000 the City annually receives from Measure A. There are currently no State or Federal funds available for roadway improvements. It is estimated that federal funds will not be available for at least two years.

Arterial and Collector Streets

The Pavement Condition Index for arterial and collector streets, respectively, are currently 85 for arterials and 58 for collectors. The arterial network meets the desired PCI. The collector network is significantly less than the desired PCI. Table 2 identifies the collector network by condition category less than Good and provides an estimated construction cost to bring each roadway segment up to the desired level.

**Table 2  
 Collectors by Condition Index**

<u>Condition Index</u>	<u>PCI</u>	<u>Street</u>	<u>Est. Cost</u>
<b>Failed</b>	<b>2</b>	<b>Sixth Avenue bet Waltermire and O'Neil</b>	<b>\$ 78,000</b>
<b>Very Poor</b>	<b>16</b>	<b>O'Neil bet El Camino and Sixth</b>	<b>\$204,000</b>
	<b>21</b>	<b>Notre Dame bet Miller and Alameda</b>	<b>\$351,000</b>
	<b>23</b>	<b>Middle bet Davey Glen and ECR</b>	<b>\$612,000</b>
<b>Poor</b>	<b>25</b>	<b>Middle bet Davey Glen and Notre Dame</b>	<b>\$216,000</b>
	<b>31</b>	<b>Notre Dame bet Hillman and Alameda</b>	<b>\$117,000</b>
	<b>36</b>	<b>Notre Dame bet Ralston and Arbor</b>	<b>\$105,000</b>
	<b>38</b>	<b>Sixth bet O'Neil and Harbor</b>	<b>\$142,000</b>
	<b>40</b>	<b>Elmer bet Ralston and O'Neil</b>	<b>\$ 74,000</b>
	<b>49</b>	<b>Hiller bet Masonic and Ralston</b>	<b>\$ 16,000</b>
<b>Fair</b>	<b>53</b>	<b>Cipriani bet Alameda and Newland</b>	<b>\$134,000</b>
	<b>54</b>	<b>Hallmark bet 2747 Hallmark and Ralston</b>	<b>\$1,673,000</b>
	<b>56</b>	<b>Sixth bet Ralston and Emmett</b>	<b>\$ 53,000</b>
	<b>57</b>	<b>Carlmont bet Lake and Dead End</b>	<b>\$170,000</b>
	<b>69</b>	<b>Sixth bet Emmett and Waltermire</b>	<b>\$ 53,000</b>

The total cost to upgrade all of the collector streets is approximately \$4 million. It should be noted that the cost estimate does not include the design and construction management costs. Typically, the design and construction management costs are 20 percent of the construction costs, or in this case, \$800,000.

Local Streets

The overall PCI for the local streets is 66. However, the street segments that are in the worst condition are local streets. There are 17 street segments that have a PCI index less than 10 or are

in Failed Condition and 20 street segments that have a PCI between 10 and 24 or Very Poor Condition. All of these street segments required extensive reconstruction of the street. The cost to reconstruct the Failed street segments is \$2.5 million and to reconstruct the Very Poor is \$3.7 million or a total of \$6.2 million. Table 3 identifies the street segments that are in a Failed Condition (they have a PCI of less than 10) with the estimated construction cost to reconstruct the respective segment.

**Table 3  
 Street Segments in Failed Condition**

<b><u>PCI</u></b>	<b><u>Street</u></b>	<b><u>Reconstruction Cost</u></b>
<b>0</b>	<b>Arbor bet Notre Dame and Fairway</b>	<b>\$171,000</b>
<b>0</b>	<b>Buena Vista bet Cipriani and 2511 BV</b>	<b>\$116,000</b>
<b>0</b>	<b>Laurel bet Cypress and Hill</b>	<b>\$124,000</b>
<b>0</b>	<b>Lyll bet Ralston and Lake</b>	<b>\$261,000</b>
<b>0</b>	<b>Virginia bet Middle and Dead End</b>	<b>\$120,000</b>
<b>2</b>	<b>Masonic bet Hiller and 610 Masonic</b>	<b>\$128,000</b>
<b>2</b>	<b>Desvio bet Solana and End of cul de sac</b>	<b>\$163,000</b>
<b>2</b>	<b>East Laurel Creek bet 3114 and 3138 East Laurel</b>	<b>\$ 90,000</b>
<b>3</b>	<b>Talbryn bet Arden and 1320 Talbryn</b>	<b>\$ 70,000</b>
<b>4</b>	<b>Merry Moppett Lane bet Carlmont and Lyall</b>	<b>\$ 90,000</b>
<b>5</b>	<b>Francis bet Notre Dame and Fairway</b>	<b>\$120,000</b>
<b>6</b>	<b>Prindle bet Coronet and Ponce</b>	<b>\$265,000</b>
<b>7</b>	<b>Hillman bet North and Mills</b>	<b>\$168,000</b>
<b>9</b>	<b>Masonic bet 610 Masonic and OCR</b>	<b>\$208,000</b>
<b>9</b>	<b>Alomar bet Ladera and El Verano</b>	<b>\$175,000</b>

These are the estimated construction costs and do not reflect the cost of design and construction management of the capital construction costs.

Ten Year Budget Scenarios

The impacts of various budget “scenarios” can be evaluated using the Pavement Management System. The program projects the effects of the different scenarios on pavement condition (PCI) and deferred maintenance (backlog). By examining the effects on these indicators, the advantages and disadvantages of different funding levels and maintenance strategies becomes clear.

*Scenario 1: Unlimited Budget:* In the unlimited budget, pavement needs identified by the program is used. The pavement needs are approximately \$30.5 million with \$12.5 million in the first year. In this scenario, the network PCI will increase to 85 from its current level of 65. By the

year 2012, 100% of the network will fall into the good condition category and the maintenance backlog will be eliminated.

Scenario 2: City's Original Projection based upon Grants (\$17.35 million over 10 years): The City's original budget projections included all the state and federal grants that were anticipated over a ten year period based upon past budgeting experience. The results indicate that the network PCI will increase to 70 from its current level of 65. By the year 2012, 83% of the network will fall into the good condition category. However, the backlog of work will grow from \$10.9 million in 2003 to \$16.9 million in 2012.

Scenario 3: City's Actual Funding (\$400,000 per year): The City currently receives \$400,000 per year from Measure A for street improvements. Measure A will expire in 2008. However, it is assumed that Measure A will be renewed at the current level as part of this scenario. The results indicate that the network PCI will decrease from its current level of 65 to 53 in 2012. The backlog of work will increase from \$12.1 million to \$35.2 million.

#### Development of Pavement Management Program

The uncertainty of the reauthorization of the federal transportation funding bill and the current fiscal condition of the State of California makes it difficult to develop a meaningful Pavement Management Plan. Both State and Federal funds require a Local match. The Federal Funding picture should be resolved by 2005. The State funding picture is less clear. The City has been using Measure A funds to provide the Local Match. The use of Measure A funds as a Local match to State and Federal funds has the potential to realize between \$2 million and \$3 million dollars for roadway reconstruction.

The current \$400,000 per year of Measure A funds will not fund a significant amount of projects listed in Tables 2 and 3. The cost for the design and construction administration of any roadway projects further reduces the number of projects that could be implemented during this fiscal year. The existing staff vacancy in Public Works further reduces the potential of having specific projects designed and ready to go to bid this spring and construction this summer.

The following outlines several alternatives of which the City Council may take in regards to the Pavement Management Plan.

Alternative 1: Spend the \$400,000 on roadway resurfacing project(s) this year. The funds could be used solely on the collector streets or be used for reconstructing the worst local streets in the City. A combination of collector streets and local streets could also be implemented.

Alternative 2: Roll over the current \$400,000 to the next fiscal year. The Federal Transportation Bill should be authorized by next year and staff will have a better idea as to the funding available. The City could go out to bid on \$800,000 of roadway projects if there are no Federal funds available. . This alternative will free up staff time to address the Priority Calendar items of Parking Issues during this fiscal year.

Alternative 3: Increase the funding available for roadway projects through the use of Redevelopment Agency Funds or the establishment of Benefit Assessment Districts. RDA funds can be used to resurface roadways within the Redevelopment Area. Benefit Assessment Districts can be established for a particular street, a neighborhood, or citywide for the purposes of resurfacing roadways.

### **Fiscal Impact**

There is no fiscal impact as the result of any action the Council may take.

### **Recommendation**

Staff recommends Alternative 2, that is, rolling FY04 roadway improvement funds over to FY05 and return to Council in December 2004, when the federal and state funding picture is clearer, with a proposed Pavement Management Plan.

Respectfully submitted,

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