



CITY OF SALINAS COUNCIL STAFF REPORT

DATE: MARCH 6, 2018
DEPARTMENT: PUBLIC WORKS
FROM: DON REYNOLDS, ACTING PUBLIC WORKS DIRECTOR
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TITLE: PAVEMENT MANAGEMENT SYSTEM; CIP NO. 9672

RECOMMENDED MOTION:

No motion is required for this item. This item is an Administrative Report presented to the City Council for information only.

RECOMMENDATION:

No recommendation is made at this time.

EXECUTIVE SUMMARY:

The update of the City's Pavement Management System (PMS) has been completed. The PMS was developed by Metropolitan Transportation Commission (MTC), and its sub-consultant, Adhara Systems, Inc. Adhara's Reports stated that as of November 4, 2017, the City's overall Pavement Condition Index (PCI) is 54. The PCI is a numerical index between 0 and 100 which is used to indicate the general condition of a pavement, with 100 representing the best possible condition and 0 representing the worst possible condition. The PCI rating of 54 places the City's street network condition in low position of "Good" category.

The Budget Report states that the City's current roadway maintenance backlog is \$137.9 million. If no maintenance is applied over the next five years, roads already distressed will continue to deteriorate and the network PCI will drop to 43. To maintain the current network PCI of 54, an annual budget of \$7.0 million is needed. The maintenance backlog will increase to \$263.5 million at the end of the five-year period in this scenario. To increase the current PCI by 2 points in five years, an average annual budget of \$9 million is needed. With this scenario, the maintenance backlog will increase to \$255.4 million at the end of the five-year period. Other budget scenarios are also shown on the report.

BACKGROUND:

The City of Salinas has 290.2 centerline miles (664.7 lane miles or about 57.3 million square feet) of streets/roadways network to maintain. The process to plan the maintenance and repair of this network of streets/roadways to improve its pavement conditions over the entire network is known

as Pavement Management. It includes the many aspects and tasks needed to maintain a quality pavement inventory, including maintaining pavement inspection database, and ensuring that the overall condition of the road network can be sustained at desired quality levels. The Pavement Management System (PMS) is a planning tool use to help staff with pavement management decisions. PMS Software programs model future pavement deterioration due to traffic and weather, and recommend maintenance and repairs to the road's pavement based on the type and age of the pavement and various measures of existing pavement quality.

On January 24, 2017, City Council approved a Technical Support Services Agreement between the City of Salinas and Metropolitan Transportation Commission (MTC) for services related to developing a computer-based PMS for the City utilizing MTC's PMS Software known as StreetSaver. As part of MTC's contract, the City's network of streets were surveyed to determine its pavement condition. The actual street surveys, and technical support was provided by MTC's sub-consultant, Adhara Systems, Inc. To date, MTC and Adhara's completed work included the following: roadway evaluation and documentation, field survey, analysis of current pavement conditions, development of quality control plan, data entry, and generation of pavement condition and budget analysis report. The last item of MTC's scope of work is the training of City staff on the use of the PMS Software, and will also include the delivery of an updated PMS database and GIS layer that will be integrated into the City's GIS system. The training and database delivery is tentatively scheduled for this month of March.

The completed Pavement Condition Assessment Report and Budget Options Report are attached to this administrative report for information and reference. In summary, the Assessment Report stated that as of November 4, 2017, the City's overall Pavement Condition Index (PCI) is 54. The PCI is a numerical index between 0 and 100 which is used to indicate the general condition of a pavement, with 100 representing the best possible condition and 0 representing the worst possible condition. The PCI rating of 54 places the City's street network condition in low position of "Good" category. This PCI was calculated based on the recent maintenance and rehabilitation (M&R) activities and/or inspection data, and it also projects PCI based on deterioration curves where no recent M&R and/or inspection data are entered. In this case, the calculation date is important, as it provides the base to calculate the "current" PCI. The PCI ranges and their respective meanings from the StreetSaver Software are as follows:

Category:	Very Poor	Poor	Good	Very Good
PCI Range:	0 - 25	26 - 50	51 - 70	71 +

The report shows a breakdown of the PCI points by street functional classifications. The table below shows a summary of the breakdown:

Functional Class	Centerline Miles	Weighted Average PCI
Arterial	71.6	56
Collector	42.6	46
Residential	175.8	54
Other	0.2	40
Total/Average	290.2	54

Pavement condition will be degraded by 2 to 3 PCI points every year without any M&R activities. It is important to apply M&R to maintain or raise the PCI and not fall into “Poor” condition that requires major rehabilitation work with higher construction costs. Attachment “A” shows the November 4, 2017 PCI Condition of the City on a map view.

Based on the principle that it costs less to maintain roads in good condition than bad, the MTC’s PMS strives to develop a maintenance strategy that will first improve the overall condition of the network, and then sustain it at that level.

The Budget Options Report shows various budget scenarios based on an assumed annual budget for M&R and Preventive Maintenance (PM). PM is defined as any treatment that extends pavement life for more than five years, and is applied to roads with PCI of 71 or above. Common examples of PM include slurry seal, chip seal, cape seal, etc. The following Criteria were used in identifying the recommended budget scenarios:

- *PCI value:* Maintain network average PCI at the current value or higher
- *Cost-effectiveness:* Allocate more funds to arterial/collector roads than residential roads with appropriate PM ratio
- *Affordability:* Provide a realistic expenditure plan that can stabilize deferred maintenance or minimize increase.

The City’s maintenance needs were first calculated with the assumption of unlimited resources. With this assumption, the City’s maintenance needs over the next five years were estimated at \$291 million. If the City follows the strategy developed by the program, the average network PCI will increase to 84 in fiscal year (FY) 2023. However, if no maintenance is applied over the next five years, roads already distressed will continue to deteriorate and the network PCI will drop to 43. The StreetSaver Software calculated/estimated the City’s current maintenance backlog to be \$137.9 million. The Software calculates various budget scenarios based on a set of assumptions. Budget scenarios were calculated assuming an inflation rate of 3.5%, and an interest rate of 0%. The budget scenarios shown on the Budget Options Report are as follows:

Scenario 1 – Unconstrained Budget: The results indicated that an estimated annual budget of \$58.2 million will improve the City’s roadway network condition by increasing the network PCI from 54 to 84, and reducing the maintenance backlog to \$8.7 million at the end of FY 2023. To completely eliminate the maintenance backlog, an annual budget of over \$60 million for the next five years would be needed.

Scenario 2 – Current Budget Level: With the current budget of \$1.50 million per year over the next five years, the network PCI will decrease from 54 to 45, and the maintenance backlog will increase to \$278.3 million at the end of FY 2023.

Scenario 3 – Maintaining PCI: To maintain the current network PCI of 54, an annual budget of \$7.0 million is needed. The maintenance backlog will increase to \$263.5 million at the end of FY 2023.

Scenario 4 – Increasing PCI: To increase the current PCI from 54 to 59 in the next five years, an average annual budget of \$12 million is needed. The maintenance backlog will increase to \$246.6 million at the end of FY 2023.

A recommended scenario of improving the current PCI by 2 PCI points is also stated on the Report. With this scenario, an average annual budget of \$9 million is needed to increase the current PCI from 54 to 56 in the next five years. The maintenance backlog will increase to \$255.4 million at the end of FY 2023.

CEQA CONSIDERATION:

The City of Salinas has determined that the proposed action is not a project as defined by the California Environmental Quality Act (CEQA) (CEQA Guidelines Section 15378). In addition, CEQA Guidelines Section 15061 includes the general rule that CEQA applies only to activities which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA. Because the proposed action and this matter have no potential to cause any effect on the environment, or because it falls within a category of activities excluded as projects pursuant to CEQA Guidelines section 15378, this matter is not a project. Because the matter does not cause a direct or foreseeable indirect physical change on or in the environment, this matter is not a project. Any subsequent discretionary projects resulting from this action will be assessed for CEQA applicability.

STRATEGIC PLAN INITIATIVE:

The data generated from the Pavement Management System will be used in prioritizing roadway repair projects to address the current City Council Goals of Excellent Infrastructure; Safe, Livable Community; and Quality of Life by providing improved network of roadways for Salinas residents and travelers.

FISCAL AND SUSTAINABILITY IMPACT:

By July 1, 2018, it is estimated that the City will have more than 38 street improvement projects in its Capital Improvement Budget with a total estimated cost of more than \$70 million over the next three years. If “grants” are counted as one source, the proposed funding for these projects comes from 8 different sources including the required \$3.4 million a year of the Maintenance of Effort required by SB1 and Measure X, and the bond proceeds from Measure X (Council approved \$33 million January 9, 2018). The “StreetSaver” software that accompanies the PMS report will calculate how each individual project works toward improving the PCI. The cost therefore of \$9 million per year to maintain the PCI has to be put into this context because it is shared amongst these resources and projects.

ATTACHMENTS:

Attachment “A” – November 4, 2017 PCI Condition of the City
Pavement Condition Assessment Report
Budget Options Report