



CITY OF SALINAS COUNCIL STAFF REPORT

DATE: MARCH 16, 2021

DEPARTMENT: PUBLIC WORKS DEPARTMENT

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TITLE: PAVEMENT MANAGEMENT SYSTEM UPDATE

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 the City's consultant Pavement Engineering Inc. (PEI) provided a survey of the City's 292 miles of roads in Fall of 2020. PEI evaluated all Salinas streets, by visiting the streets and measuring the deterioration of the street and then entering the information into the StreetSaver program to calculate the condition of the streets. The City's overall Pavement Condition Index (PCI) was calculated at 55. 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 55 places the City's street network condition in "Fair" condition category.

The Budget Report states that the City's current roadway maintenance backlog is \$169 million, as calculated by StreetSaver. If no maintenance is applied over the next five years, roads already distressed will continue to deteriorate and the network PCI will drop to 44. To maintain the current network PCI of 55, an annual budget of \$23.5 million is needed. The maintenance backlog will increase to \$341 million at the end of the five-year period in this scenario. To increase the current PCI by 5 points in five years, an average annual budget of \$36.4 million per year is needed. With this scenario, the maintenance backlog will increase to \$241 million at the end of the five-year period. Other budget scenarios are also shown in the report.

BACKGROUND:

The City of Salinas has 292 centerline miles of streets/roadways network to maintain which equates to a distance from Salinas, CA to Calabasas, CA. 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 used 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 August 18, 2020, City Council approved a Master Service Agreement for on-call Pavement Management Analysis, and Technical Support Services Agreement between the City of Salinas and PEI for services related to updating a computer-based PMS Software known as StreetSaver. As part of PEI's contract, the City's network of streets were surveyed to determine its pavement condition. To date, PEI completed the following work: 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 PEI'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. They will also continue to provide road survey to meet TAMC's Measure X requirements for the next three years.

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 December 30, 2020, the City's overall Pavement Condition Index (PCI) is 55. 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 55, places the City's street network condition in low position of "Fair" category. This PCI was calculated based on the recent maintenance and rehabilitation (M&R) activities and inspection data, and it also projects PCI based on deterioration curves where 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:	Failed	Poor	Fair	Good	Excellent
PCI Range:	0-30	31-50	51-70	71-90	91-100

Refer to Attachment B for a look at City of Salinas streets that fall in this category.

The PMS report, attached in report, shows a breakdown of the City's PCI points by street functional classifications. The table below shows a summary of the breakdown:

Functional Class	Centerline Miles	Percent of System	Weighted Average PCI
Arterial	54.26	27%	60
Collector	62.16	21.8%	51
Residential	174.69	51.2%	54
Total/Average	291.1	100%	55

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 City Map of the Current Pavement Condition and another map showing what is currently in the Good and Fair Condition.

Based on the principle that it costs less to maintain roads in good condition than bad, 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 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 \$76.5 million per year for five years. If the City follows the strategy developed by the program, the average network PCI will increase to 75 in fiscal year (FY) 2025. 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 44. The StreetSaver Software calculated/estimated the City’s current maintenance backlog to be \$169 million. The Software calculates various budget scenarios based on a set of assumptions. The budget scenarios shown on the Budget Options Report are as follows:

Scenario 1 – Increase PCI to strong a Good Condition: The results indicated that an estimated annual budget of \$76.5 million per year for 5 years will improve the City’s roadway network condition by increasing the network PCI from 55 to 75, and reducing the maintenance backlog to \$72.4 million at the end of FY 2025. To completely eliminate the maintenance backlog, an annual budget of over \$93.5 million for the next five years would be needed.

Scenario 2 – Increasing PCI: To increase the current PCI from 55 to 60 in the next five years, an average annual budget of \$36.4 million is needed. The maintenance backlog will increase to \$241 million at the end of FY 2025.

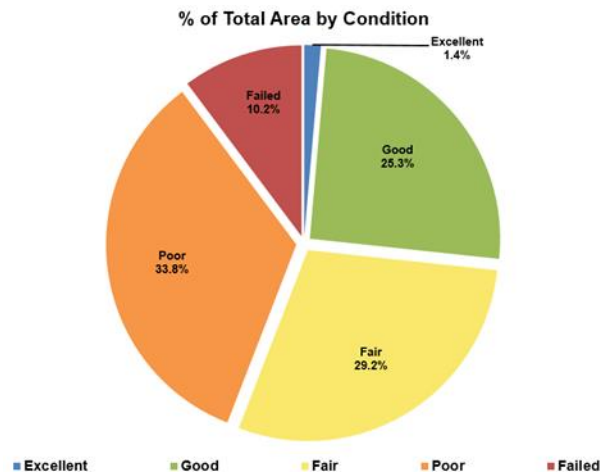
Scenario 3 – Maintaining PCI: To maintain the current network PCI of 55, an annual budget of \$23.5 million is needed. The maintenance backlog will increase to \$341 million at the end of FY 2025.

Scenario 4 – Current Budget Level: With the proposed annual budget of \$6.3 million over the next five years, the network PCI will decrease from 55 to 48, and the maintenance backlog will increase from \$169 million to \$341 million at the end of FY 2025. The \$6.3 million per year budget is funded by the annual SB1 and Measure X revenues. If the approach is taken, these funds will be dedicated exclusively for street work. City staff does apply for grants as much as possible to offset maintenance costs and will continue to do so.

City Staff has spent/encumbered \$39 million in Measure X bond funds and \$8.0 Million in Measure X since 2017, \$4.2 million in SB1 funds and currently out to bid on a \$2.5 Million street rehabilitation project. The maintenance crew this year will spend approximately \$2.0 Million this fiscal year in patch and repair and crack sealing throughout the City. With all this fund investment, the City has been successful in maintain the PCI at 55 since the last report in March 2018.

Moving forward it is recommend that City set priorities on pavements in the Good and Fair category to prevent them from falling into Poor category. Below is a chart indicating the percentage of centerline miles for each condition category and the Fair and Good category makes up for 55% of the City street network.

Condition Category:	Failed	Poor	Fair	Good	Excellent
% of Total :	10.2%	33.8%	29.2%	25.3%	1.4%



Refer to Attachment A for City maps showing where streets falling in the Good and Fair category lie.

The PMS will assist the City in its efforts to monitor treatments and track their effectiveness, as well as help the City in setting future priorities and treatment policies. But ultimately, the budget for road preventative maintenance needs more budget to maintain the overall Fair condition.

As a comparison, the following Cities in our County have the following road network PCI, per TAMC's website:

City	Average PCI
County of Monterey	46
City of Gonzales	54
City of Salinas	55
City of Seaside	63
City of Monterey	69

CEQA CONSIDERATION:

Not a Project. 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 Investment Strategies by investing in existing infrastructure to provide improved network of roadways for Salinas residents, Agriculture Industry and travelers.

DEPARTMENTAL COORDINATION:

The Public Works Department has worked with the Finance Department on available budgets and projected budgets for Street maintenance.

FISCAL AND SUSTAINABILITY IMPACT:

The "StreetSaver" software that accompanies the PMS report will calculate how each individual project works toward improving the PCI. The cost therefore of \$23.5 million per year for 5 years will maintain the PCI at current levels, and the cost of \$6.3 million per year (which is most of annual SB1 funds and Measure X allocations) for 5 years will reduce the PCI by 7 points to a PCI

of 48. More resources are needed annually, about \$17.2 million annually for the next 5 years to maintain the Pavement Condition Index to Fair.

ATTACHMENTS:

Attachment “A” City Maps of Pavement Condition

Attachment “B” Pictures of Pavement Condition

2020 Pavement Management System Update Report