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Presentation on the City's Pavement Management Program

**SUMMARY AND RECOMMENDATIONS**

This report is provided for information only and no action is required.

**BACKGROUND**

Streets are a critical component of our infrastructure and an important factor in the quality of life for our residents and the vitality of our businesses. Good pavement increases the efficiency of transporting goods, improves bicycle safety and makes walking more appealing which all leads to reduced greenhouse gas emissions. Each day, residents are dependent upon safe, reliable local streets and roads. Police, fire and emergency medical services all need safe, reliable roads to react quickly to calls.

Street pavement improvement is one of those "pay now or pay more later" situations. A dollar spent this year will save two to ten dollars in the future. Once the system is in a state of good repair, the need for maintenance will be reduced. Repairs to local roadways are more than just fixing potholes; they include improvements for sidewalks, stormwater control, gutters, curb ramps, traffic signs and medians, all of which make our roads safer.

San Leandro has 4,000,000 square yards of street pavement spread over 175 centerline miles of streets. For tracking purposes the streets are divided into 1,100 road segments with an average length of around 1,000 feet. Each road segment is inspected and rated on a scale of 1 (bad) to 100 (good) every other year; this rating is known as the Pavement Condition Index (PCI).

The City uses a computer program developed by the Metropolitan Transportation Commission (MTC) called Street Saver to manage the maintenance of San Leandro's street system. Street inspection results are entered into this database and over time, staff has collected enough data points to create a specific lifecycle curve for each road and can run queries in the database to predict the condition of

the roads. Street Saver calculates that the cost to repair all roads in the City with PCI below 70 is around \$100M. Street Saver also calculates that on an annual basis, \$7.5M is necessary to maintain our road system in its current state.

FY 16-17 ACTC Street Maintenance funding consists of the following:

Measure B and BB Local Streets and Roads	\$2.5M
Vehicle Registration Fees and Gas Tax	\$1.0M

San Leandro has appropriated the following for street repair in FY16-17:

General Fund (due in part to measure HH)	\$1.0M
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San Leandro has a grant for street repair in FY 16-17:

<u>Grant funding from Measure BB:</u>	<u>\$3.0M</u>
Total for FY 16-17	\$7.5M

In addition to the \$3.0M grant this year, Measure BB grant funding is programmed at \$6.0M for FY 17-18 and \$7.0M for each of the three years following that for a total of \$30M over five years (FY 16-17 through FY 20-21). Assuming that all other funding sources keep up with inflation, this grant will allow the City to reduce its street maintenance backlog by around \$15M. Without the Measure BB grant, the funding listed above is would not be sufficient to prevent the street maintenance backlog from increasing.

Street repair is accomplished via four ways:

1. For streets in relatively good condition, with a PCI of 70 and above, the street's life can be extended by applying a slurry seal. Slurry seal is a 1/8" thick mixture of oil and sand and is the lowest cost treatment method at around \$3.50/square yard.
2. Streets in fair condition, with a PCI above 50, can be repaired with a cape seal. Cape seal is a mixture of recycled rubber, oil, and rock chips, with a top layer of oil and sand. Cape seals are about 1/2" thick and the cost ranges from \$8 to \$46/square yard, depending on the amount of pothole repair necessary.
3. Streets in poor condition, with a PCI of 25 and above, can be repaired by milling or grinding off the top layer of pavement and installing 3 to 4 inches of new pavement. A "mill and fill", or overlay project, such as this costs \$65/square yard.
4. Streets that have reached the end of their useful life must be replaced. Typically cement is mixed into the soils below the road after which a new pavement section is installed. Thickness of the pavement varies with the volume of car and truck traffic from 4 to 8 inches. This kind of reconstruction or rehabilitation is \$75 to \$90/square yard depending on the thickness of pavement required.

The Street Saver program is used to calculate the most beneficial use of the City's maintenance funds. In general, it is most economical to repair streets at the low end of each repair category to prevent as many streets as possible from slipping into the next, more expensive, repair category. The exact distribution of funds among the four repair types of work depends on the total funds available, the number of streets that are approaching the cut off for each repair type, and the shape of the lifecycle curve for each street.

While Street Saver is useful for calculating how maintenance money should be spent, it isn't robust enough to accurately choose the street segments that should be repaired. Staff must walk the candidate streets to confirm the pavement condition is suitable for the proposed maintenance

treatment, calculate the cost of preparatory work such as pothole repair and crack sealing, check for utility conflicts or scheduled maintenance, and determine what curb repair and curb ramps are required. In the case of slurry and cape seal streets, some of the crack sealing and preparatory work is done by the Public Works Department. Accordingly, the volume of work that Public Works staff can accomplish is considered when selecting street segments for each year's street repair program.

Each summer, staff prepares two road repair contracts; one for slurry and cape seal and a second for overlay and reconstruction. The slurry and cape seal contract concentrates work in one quadrant of the City each year. This makes both the preparatory work done by Public Works and the construction work done by an outside contractor more efficient and prevents neighborhoods from being disrupted by construction every year. The overlay and reconstruction project is done citywide each year. Using the process described above allows the development of an efficient program that maximizes the improvement in our streets pavement conditions.

### **Current Agency Policies**

Council Goal D: Maintain and enhance San Leandro's Infrastructure.

### **Committee Review and Actions**

The Facilities and Transportation Committee requested presentation of this information to the Council.

### **Applicable General Plan Policies**

Policy 52.07: Ensure that sufficient funding is provided for the ongoing maintenance of City-owned facilities, including streets, street lights, traffic signals, landscaping, street trees, storm drains, public buildings, and other infrastructure.

### **Attachment to Staff Report**

- Presentation Materials

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