



PUBLIC WORKS DEPARTMENT

CITY HALL

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CITY COUNCIL STAFF REPORT

Meeting: May 2, 2017

Subject

Annual Report on the Pavement Management Program.

Recommended Action

Receive the report. No action is required.

Discussion

Cupertino's street network is over 138 miles in length and covers approximately 26M square feet (8% of the total area of the City). The network is an essential asset to businesses, residents and visitors and is among the most valuable assets maintained by the City.

A properly designed asphalt street will typically last 20 years without the need of total reconstruction. However if some conditions change, such as more and/or heavier traffic, then reconstruction may be needed sooner. Extending the life of pavement, as opposed to the replacement of pavement, is the goal of the pavement management program. Over the last three years substantial funding and effort has been provided to the program that had been in spiraling decline during the years of the recession. These program resources are extending the life and improving the condition of Cupertino's street network, while also saving the City millions of dollars into the future.

To support the goal of preservation, a dependable infrastructure performance measure of a pavement condition index (PCI) equal to or greater than 82 has been established. Achieving this goal is important as more money is spent on preservation rather than rehabilitation, and consequently, costs to maintain are lower and it is easier to maintain that level. Ranges of PCI values and street conditions are included in Attachment A.

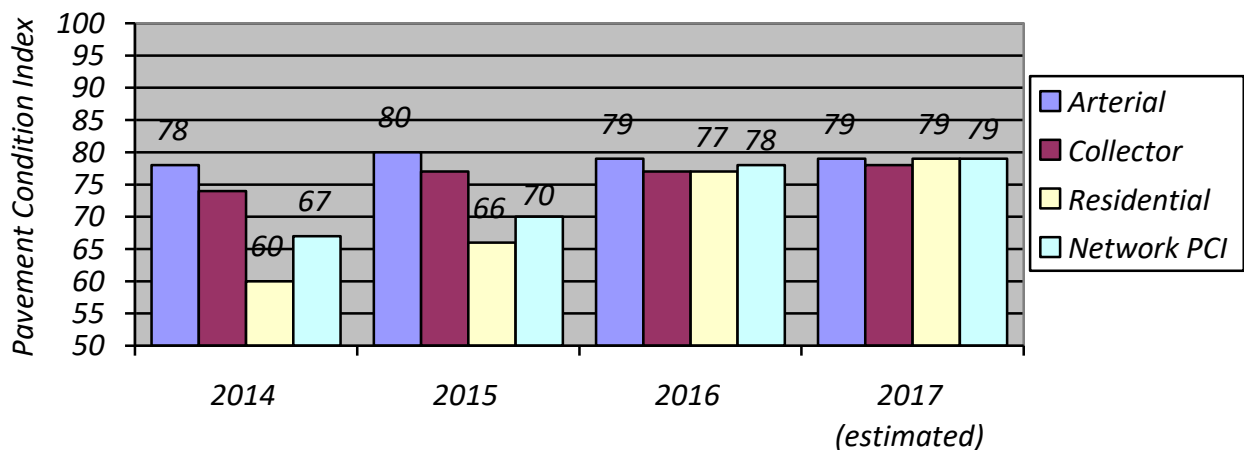
The Metropolitan Transportation Commission (MTC) will be releasing to the press the "2016 Regional Pavement Condition Summary Report" within the next few months. In this report, Cupertino's 3-year moving average PCI of 72 will be reported. The below table shows the Cupertino 3-year moving average and annual PCI values for years 2014-16.

	2014	2015	2016
3-year Moving Average PCI	65	67	72
Annual PCI	67	70	78

The 8 point gain in annual PCI from 2015 to 2016 is unusual. Half of the gain was expected due to the ongoing aggressive improvements of the street network. The remaining gain was due to change in the MTC survey methodology. Prior methodology measured the asphalt distress of weathering and raveling as one input. The new methodology separates these distresses as two inputs. With this change, MTC anticipated that street networks with a PCI > 70 would experience slightly higher PCI values. For the Cupertino street network, due to the amount of newly paved streets and aggressive preventative maintenance programs completed, the change resulted in a 4 point PCI increase.

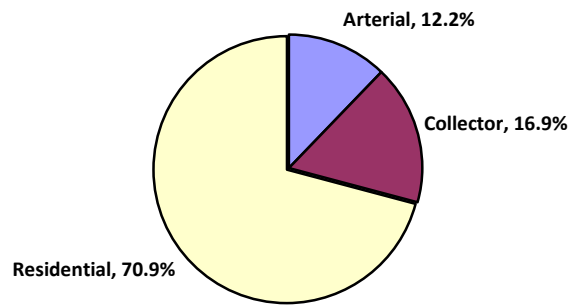
Figure 1 shows the PCI values for arterial, collector and residential streets for the last three years plus the 2017 PCI values that are expected upon completion of all scheduled projects this summer.

Figure 1



The street network PCI is calculated by weighting the areas of arterial, collector and residential streets to the total combined area. Figure 2 represents the percent of total network area by arterial, collector and residential streets.

Figure 2



Residential streets represent the largest portion at over 70% of the total area. With residential streets having the largest area, their PCI value has the greatest contribution to the cumulative street network PCI. The program in 2015 and 2016 focused on residential streets with well over 55 streets improved. Residential streets will continue to be the focus of the 2017 program. Arterial streets that will be improved in 2017 include both Stevens Creek Boulevard east of Wolf Road and De Anza Boulevard south of Stevens Creek Boulevard.

Budget Options Report

The MTC StreetSaver program provides the ability to run various budget scenarios. Based on a series of assumptions, StreetSaver allocates available funds across the street network, recommends improvements, and forecasts future PCI if recommendations are implemented. Staff periodically updates values in StreetSaver in order to align current costs with the type of pavement treatment recommended at various PCI values. For example, a residential PCI of 25 typically requires spot repairs and a 2.5" asphalt overlay with paving fabric, while a street with a PCI of 75 will require a much less costly preventative slurry treatment.

The two funding scenarios detailed below are a 5-year look-ahead and provide useful "what if" information on expected PCI and deferred maintenance values that may occur at varying levels of funding.

Scenario 1 Maintain PCI of 78 through 2021

- \$2.7M per year
- Deferred maintenance relatively constant \$10.9 to \$10M

Scenario 2 Raise PCI to 82 by 2021

- \$6M for FY17/18
- \$4M for 2018-2021
- Deferred maintenance decreases to \$1.5M

2017 Pavement Management Project

The 2017 Pavement Maintenance Project opened bids on November 1, 2017 and is scheduled to start near the end of this school year (week of June 12th). A street-by-street listing of this project is included in Attachment B and will be available for residents to view online, as will the current PCI values for all streets. Streets completed in FY16/17 projects are included as Attachment C.

Note that the street listing in Attachment B may be modified as unforeseen conditions arise.

Sustainability Impact

Not applicable.

Fiscal Impact

In November, Santa Clara County voters approved Measure B, a 30 year half-cent sales tax to enhance local street and road maintenance, transit, highways, expressways, and bicycle and pedestrian facilities. Cupertino is estimated to receive \$1.13M annually. A second stream of recently approved revenue is The Road Repair and Accountability Act of 2017. Cupertino is estimated to receive \$336,000 for FY17/18, followed by approximately \$1.1M in FY18/19 and then about \$1.3M for at least the remainder of the first ten years. These amounts will augment the approximate \$0.35M and \$1.0M currently received from the State for Cupertino's share of vehicle license fees and gas tax receipts, respectively. Funding for the 2017 Pavement Management program was approved in the FY16/17 operating budget. No additional funding is required.

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Reviewed by: Timm Borden, Director of Public Works

Approved for Submission by: David Brandt, City Manager

Attachments:

A – PCI Condition Table

B – Street-by-street listing of improvements to be completed by the 2017 Pavement Management Projects

C – Street-by-street listing of improvements completed by the FY16/17 Pavement Management Projects