PUBLIC WORKS DEPARTMENT
CITY HALL
10300 TORRE AVENUE • CUPERTINO, CA 95014-3255
TELEPHONE: (408) 777-3354 www.cupertino.org

CITY COUNCIL STAFF REPORT

Meeting: May 19, 2020

Subject

Annual Pavement Report with COVID-19 Economic Impacts.

Recommended Action

Receive the Annual Pavement Report with COVID-19 Economic Impacts.

Discussion

Cupertino's street network is over 138 miles in length and covers approximately 26 million square feet (8% of the total area of 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 (program).

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 ultimately leads to cost savings since more money is spent on preservation than rehabilitation. Ranges of PCI values and street conditions are included in Attachment A.

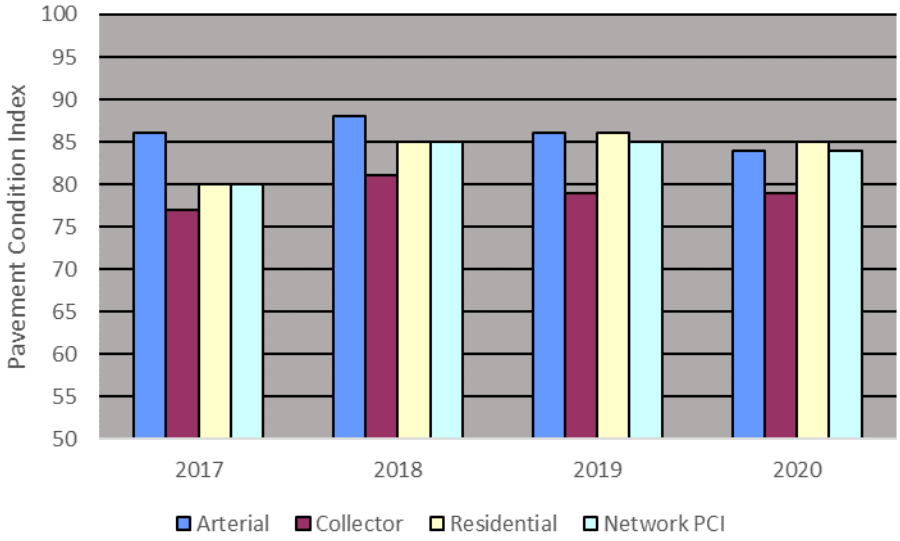
The Metropolitan Transportation Commission (MTC) monitors and reports on the condition of pavement in the Bay Area in their Regional Pavement Condition Summary Report (report). The PCI for Cupertino's street network, along with over 100 Bay Area agencies, is updated annually in this report. Staff anticipates that the report will show that the 2019 PCI of Cupertino's street network will be an 85, and that the 3-year moving average will be an 83. Note that the 2019 PCI value is most relevant as it represents the most current condition of the street network. The 3-year moving average method smooths high and low PCI values. Since the Cupertino street network has improved steadily over the last several years, the 3-year average will lag in its representation of the street network condition.

Most street networks, including the Cupertino street network, degrade approximately 2 PCI points annually due to weather and wear/ tear from vehicles. Improvements to a street network can either offset this amount or, as has been the practice in Cupertino over the last several years, improvements have exceeded the aging process and the overall condition of the street network has been improved.

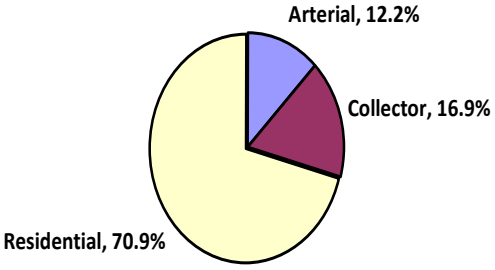
The table below shows the Cupertino street network PCI values for years 2017-19. For reference, the 3-year MTC moving average is included.

	2017	2018	2019
Annual PCI	80	85	85
3-year Moving Average PCI	76	81	83

The following table shows the PCI values for arterial, collector and residential streets for the last three years plus the 2020 PCI values that are anticipated upon completion of all scheduled projects this summer.



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



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. In 2018 and 2019 pavement maintenance primarily projects focused on residential streets. The 2020 program will focus on collector streets.

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 routinely updates values in StreetSaver in order to update current costs with the type of pavement treatment recommended at various PCI values.

StreetSaver predicts that the Cupertino street network will maintain a PCI of 85 through 2023 and for several years to follow under the following budget scenario:

FY 20/21	FY21/22	FY22/23	FY23/24
$3M	$3M	$3M	$3M

Alternatively, StreetSaver predicts that the City will maintain a PCI of 83 in year 23/24 under the following scenario:

FY 20/21	FY21/22	FY22/23	FY23/24
$1.15 M	$1.5 M	$3.0 M	$3.0 M

2020 Pavement Management Projects

The 2020 Pavement Maintenance Project - Phase I was estimated to be $1.8M and consisted of asphalt overlay on various residential streets. This project is recommended to be deferred, as the work can be delayed for a year or two without significant further deterioration of the road surface. The 2020 Pavement Maintenance Project - Phase II project consists of a mill and fill on Bollinger Rd from Miller Ave to Lawrence Expressway. The City will cost-share with the City of San Jose to resurface the full road width of Bollinger Rd. The Phase II project also includes a rubberized asphalt cape seal on McClellan Rd between Bubb Rd. and Stelling Rd. The project is estimated to cost $1.75M. Funding for this project includes $769,000 in OBAG 2 funds and approximately $600,000 from the City of San Jose for work within their jurisdiction. Historically, $4.93M has annually been spent on street asphalt improvements with approximately $2.9M contributed from the general fund. Public Works will propose a $1.75M budget for this work in FY20/21. This requested amount will not require any general fund dollars.

As funds spent on asphalt are proportional to funds spent on concrete, it will be recommended for FY20 that concrete improvements be budgeted at $1,080,000. This compares to an annual average of $1,778,348 expended on concrete over the last three years. A street-by-street listing of improvements completed by the FY19/20 Pavement Management Projects is included as Attachment B.

Sustainability Impact

Timely maintenance of the street network conserves valuable resources as compared to the consumption of additional resources that are required when maintenance is not performed and

street reconstruction is required. The proposed funding scenario will not impact the City's ability to provide timely preventative maintenance treatments.

Fiscal Impact

The Road Repair and Accountability Act of 2017 (SB1) requires that cities and counties maintain a minimum maintenance of effort (MOE) spending for street purposes in order to be eligible to receive funds. This same MOE applies to program eligibility under Measure B. For the past several years, Cupertino's streets and roads discretionary expenditures have been significantly higher than this minimum MOE. Since Cupertino's PCI is relatively high, and a short-term reduction in pavement maintenance expenditures is not expected to impact the City's ability to provide timely preventative maintenance treatments, Public Works will be recommending the FY 20/21 streets maintenance budget be reduced to align with our MOE requirement. This recommended budget strategy will reduce general fund expenditures and will use vehicle license fees and gas tax funds as revenues. Additionally, future eligibility for SB1 and Measure B funding will be maintained.

Gas tax revenues are expected to decrease due to impacts of COVID-19. Gas tax revenues are received two months in arrears. The State is expected to release revised revenue projections mid to late May. Staff will monitor closely as new information becomes available.

Prepared by: JoAnne Johnson, Public Works Project Manager
Reviewed by: Roger Lee, Director of Public Works
Approved for Submission by: Dianne Thompson, Assistant City Manager

Attachments:
A – Description of pavement condition range categories and street-by street pavement condition index table
B – Street-by-street listing of improvements completed by the FY19/20 Pavement Management Projects