



PUBLIC WORKS DEPARTMENT

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CITY COUNCIL STAFF REPORT

Meeting: 6/1/2021

Subject

The 2021 Annual Pavement Report.

Recommended Action

Receive the Annual Pavement Report.

Discussion

Cupertino's street network is over 138 miles in length and covers approximately 26 million square feet (8 percent of the total area of the City of Cupertino). The street network is one of the highest valued assets maintained by the City.

A properly designed asphalt street will typically last 20 years without the need of a 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 street network timely preservation, a dependable infrastructure performance measure taken from the Pavement Condition Index (PCI), which is equal to or greater than 82 (on a scale of 100), 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 2020 PCI of Cupertino's street network will be an 84, and that the 3-year moving average will also be an 84. The 1-year PCI value and the 3-year PCI value are expected to be the same because the street network has been consistently maintained over several years. This is also indicative of a well performing street maintenance program. At a PCI value of 84, Cupertino's street network is ranked third out of 109 Bay Area agencies.

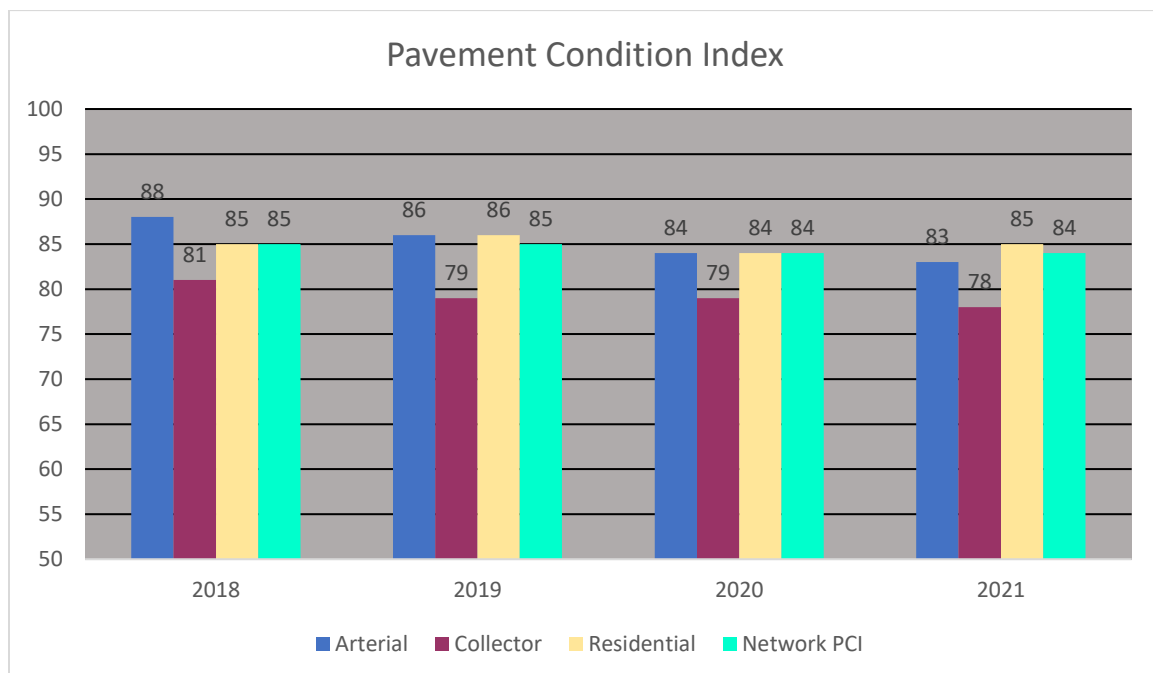
Due to high PCI values and the financial uncertainties created by COVID-19, the City chose to defer many pavement maintenance activities in 2020.

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 since 2015 exceed the aging process and cause the overall condition of the street network to be improved.

The table below shows the Cupertino Street Network PCI values for the years 2018-2020, which includes the 3-year MTC Moving Average.

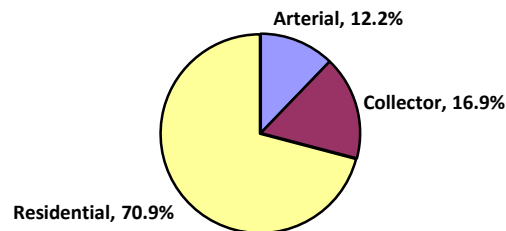
	2018	2019	2020
Annual PCI	85	85	84
3-year Moving Average PCI	81	83	85

The following table shows the PCI values for arterial, collector and residential streets for the last three years, plus the 2021 PCI values that are anticipated upon completion of all scheduled projects this summer. A street-by-street listing of PCI values can be found at www.cupertino.org/our-city/departments/public-works/maintenance-services/streets-sidewalks/pavement-management-program.



The street network PCI is calculated by weighing 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.

Figure 2



Residential streets represent the largest portion at over 70 percent of the total network 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 projects focused on residential streets. The 2020 program, although reduced, focused on collector streets. The 2021 Program will focus on residential streets, with preventative maintenance on collectors and arterial streets.

Budget Options Report

MTC has a program called the StreetSaver Program (StreetSaver) that 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 to 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 84 through 2024 under the following budget funding scenarios:

FY 20/21	FY21/22	FY22/23	FY23/24
\$1 M	\$3M	\$3M	\$3M

2021 Pavement Management Projects

The 2021 Pavement Maintenance Project - Phase I opened bids on May 4, 2021 and pending award of the \$1,824,276.55 contract, is expected to begin in July 2021. This project was originally scheduled to occur in 2020 and includes an asphalt overlay on 17 residential streets as well as asphalt digout repairs on various streets and park pathways. The 2021 Pavement Maintenance Project - Phase II project is estimated at approximately \$1 Million and consists of a variety of treatments including crack fill, fog seal and slurry seal on various residential, collector and arterial streets, as well as enhanced bike lanes on Mary Ave between Stevens Creek Boulevard and the Don Burnett Bicycle Pedestrian Bridge. The project will go to bid in June 2021 and is expected to begin in the Fall 2021. A street-

by-street listing of improvements to be completed by the 2021 Pavement Maintenance Phase 1 and 2 projects is included in 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. The proposed funding scenario will not impact the City's ability to provide timely preventative maintenance treatments.

Fiscal Impact

There is no fiscal impact in receiving the Annual Pavement Report.

Funding for the 2021 Pavement Maintenance Phase 1 project was approved in Fiscal Year (FY) 2019/2020 and is currently available due to budget carryover. The 2021 Pavement Maintenance Phase 2 Project will be funded by FY22 Road Maintenance and Rehabilitation Account (Senate Bill 1) revenues per Resolution No. 21-024 adopted by Council May 4, 2021. An additional \$2 Million of Measure B funds is available to fund the FY22 Pavement Maintenance Program. No additional funds are needed.

Prepared by: Jo Anne Johnson, Public Works Project Manager

Reviewed by: Roger Lee, Director of Public Works

Approved for Submission by: Dianne Thompson, Assistant City Manager

Attachments:

A – Ranges of PCI values and street conditions

B – Street-by-street listing of improvements to be completed by the 2021 Pavement Maintenance Phase 1 and 2 projects