



PUBLIC WORKS DEPARTMENT

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2023 PAVEMENT REPORT

Subject

2023 Pavement Report and future program funding options.

Discussion

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

With proper maintenance, an asphalt street will typically last 20 years without the need of a total reconstruction, depending on variables such as traffic load. It is widely accepted that maintaining streets in good condition is cheaper and more efficient than reconstructing streets. For the past several years, the City has established a performance measure to maintain the average network Pavement Condition Index (PCI) at 82 or higher, which is considered "very good" per Attached 1 – Ranges of PCI Values.

Most street networks, including the Cupertino street network, degrade approximately two PCI points annually, due to weather and wear and tear from vehicles. Appropriate maintenance to a street network can overcome the degradation and successfully maintain or increase the condition of streets.

The table below shows the Cupertino Street Network PCI values for the years 2020-2022, which includes the three-year Metropolitan Transportation Commission moving average.

	2020	2021	2022
Annual PCI	84	84	82
3-year moving average PCI	83	85	83

The Fiscal Year (FY) 2022-23 budget authorized \$3.1 million for maintenance of streets and park pathways. Staff anticipates completing two projects by end of calendar year 2023. The 2023 Pavement Maintenance Phase 1 project, which will occur later this year due to the initial advertisement of bids being rejected because of the bid amounts received significantly exceeding the project budget, will include rehabilitation of various residential roads and park pathways. The Phase 2 project is currently out to bid and

includes crack seal, fog seal and slurry seal of various residential streets. Upon completion of these two projects, PCI is expected to be maintained at 82, with natural deterioration being offset by applied maintenance.

Future Budget Options

The City receives several sources of non-discretionary revenues required to be used for street and road purposes. These include Highway User Tax Account (HUTA) and Vehicle Registration Fees (VRF), which are distributed by Valley Transportation Authority (VTA,) and Road Maintenance and Rehabilitation Act (RMRA) (RMRA is also known as Senate Bill (SB) 1). In addition, General Fund revenues have been used to augment the street maintenance program in years past. Due to the economic uncertainty resulting from the pending California Department of Tax and Fee Administration (CDTFA) audit, the City will be exploring how various funding options will impact future PCI and will modify program performance measures and expenditures from the General Fund as appropriate.

The City uses an application called StreetSaver, which tracks PCI and 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. When RMRA was approved by California voters in 2017, it was presented as a means of funding deferred maintenance on State streets and roads. In addition, VRF revenues are required to be expended on road maintenance. Therefore, staff recommends these two revenue sources continue to fund pavement maintenance. For the purposes of this report, four funding scenarios were evaluated: 1) Maintain PCI at 82 (approximately \$7.386 million/year) (HUTA, VRF, RMRA, and General Fund allocations); 2) Allocate all non-discretionary street and road revenues to Pavement Maintenance (approximately \$3.56 million/year) (VRF, RMRA, and HUTA); 3) Fund per FY 23-24 draft budget request (approximately \$2.735 million/year) (VRF, RMRA, and a portion of HUTA); and 4) Allocate VRF and RMRA revenues only (approximately \$1.8 million/year) to Pavement Maintenance leaving HUTA funds to be used for “other streets and roads purposes” such as concrete maintenance. The table below depicts anticipated total expenditures, deferred maintenance, and projected PCI for a 10-year period under each scenario.

Funding Scenario	Total 10 Year Expenditures	Deferred Maintenance (2032)	PCI Score	PCI Category
1) PCI 82	\$73,856,070	0	81	Very Good
2) 3.56M/YR	\$35,600,000	\$15,440,936	78	Good
3) 2.735M/YR	\$27,350,000	\$23,108,020	76	Good
4) 1.8M/YR	\$18,000,000	\$33,103,420	72	Good

The charts below show annual pavement maintenance program costs and resulting deferred maintenance costs under each scenario over a 10-year period.

Chart 1 – Maintain PCI at 82

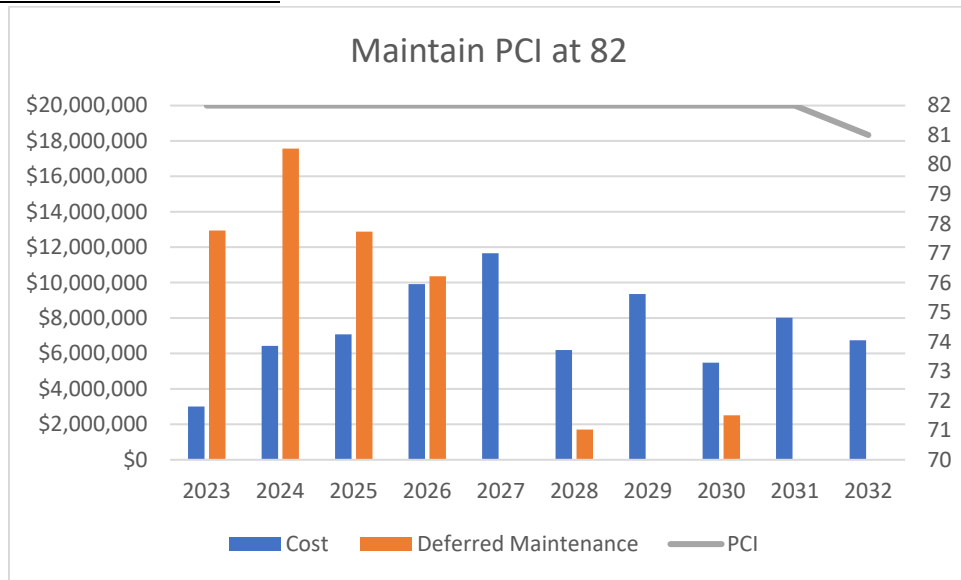


Chart 2 – 3.56 Million Annual Expenditure

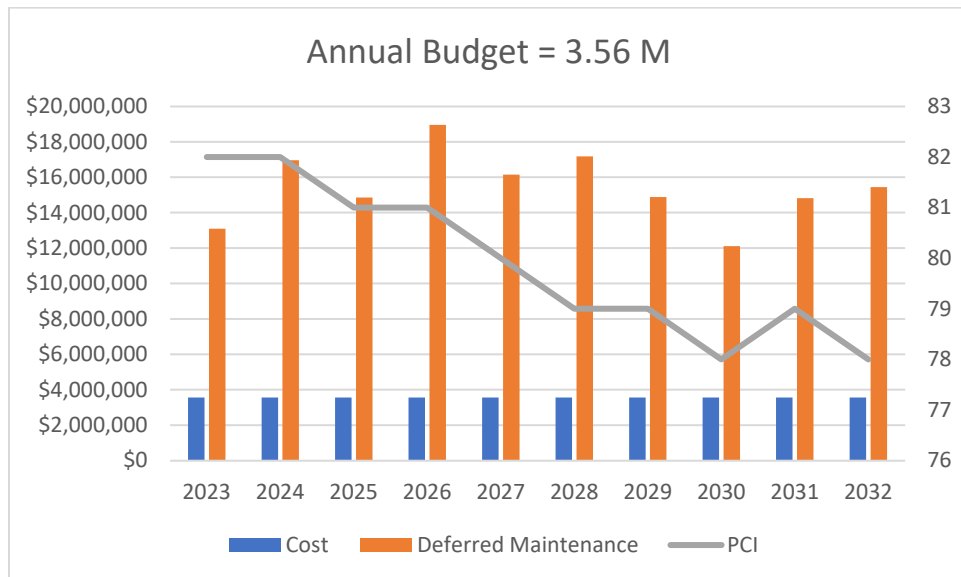


Chart 3 – 2.735 Million Annual Expenditure

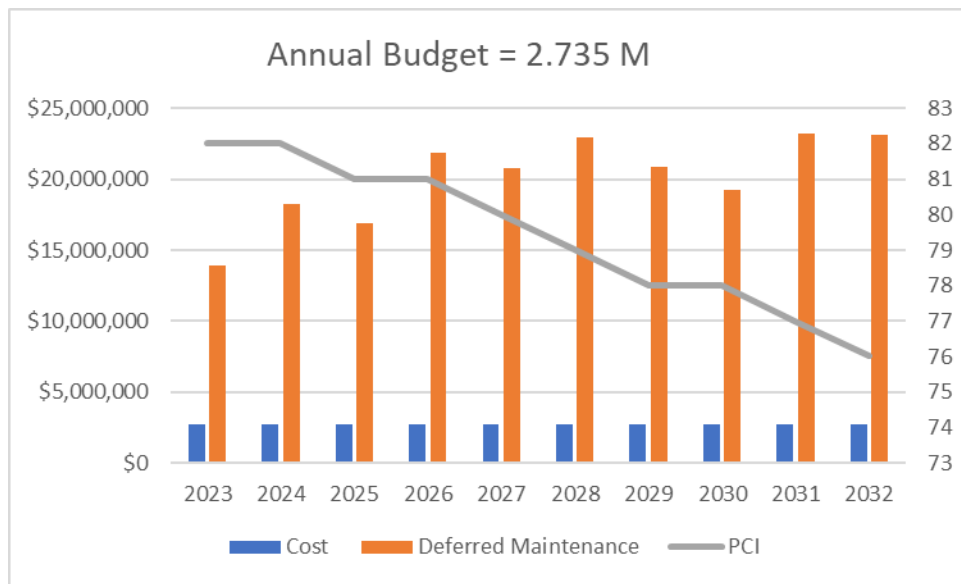
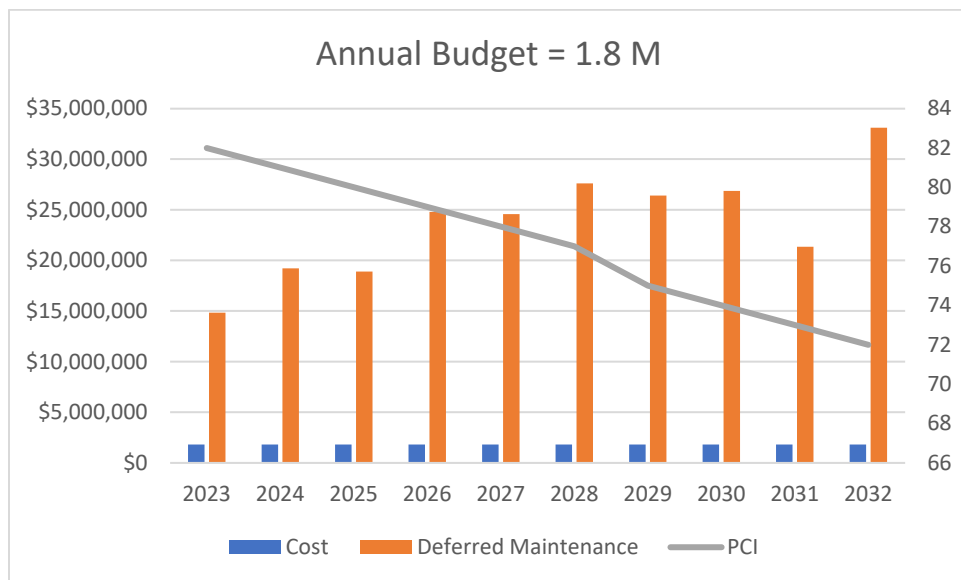


Chart 4 – 1.8 Million Annual Expenditure



Based on these evaluations, and considering recent budget uncertainties, staff is recommending that ongoing pavement maintenance be funded as indicated in Scenario 3, which utilizes VRF, RMRA and a portion of HUTA revenues to fund these projects and does not utilize General Funds directly for pavement maintenance. Further Scenario 3 maintains the City’s PCI in good condition, and offsets deferred maintenance against General Fund expenditures. The City is also allocated approximately 1.3M per year from Measure B revenues. Because the City’s PCI is greater than 70, our Measure B revenues are allowed to be used for Congestion Management purposes, such as construction of

bike/ped trails. Therefore, Measure B revenues were not included in the various funding scenarios, but it should be noted that these revenues can be used to address deferred maintenance if desired.

As noted above, decreasing pavement maintenance expenditures will result in increased deferred maintenance. However, all scenarios will maintain the City's PCI in good condition. Information presented in this report is based upon historic revenues and current project costs. Gas Tax revenues may increase or decrease overtime. Future revenue projections were not available at the time of this report.

Attachments:

1 – Ranges of PCI Values

Pavement Condition Index (PCI)

Pavement Condition Value	Street Condition
80-100 (Very Good–Excellent)	New pavement with few signs of distress.
70-79 (Good)	Pavement showing only low levels of distress.
60-69 (Fair)	Pavement that may require a combination of rehabilitation and preventive maintenance.
50-59 (At Risk)	Deteriorated pavement requiring immediate attention.
25-49 (Poor)	Pavement showing extensive distress and requiring major rehabilitation or reconstruction.
0-24 (Failed)	Extremely rough pavement that needs complete reconstruction.