



City Council Agenda

City of Campbell, 70 N. First St., Campbell, California

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STUDY SESSION OF THE CAMPBELL CITY COUNCIL

Tuesday, February 18, 2025 – 6:00 p.m.

City Hall Council Chamber – 70 N. First Street

CALL TO ORDER

ROLL CALL

PUBLIC COMMENT

NEW BUSINESS

1. Study Session - Pavement Maintenance Program

Recommended Action: That the City Council receives a status report on the Pavement Maintenance Program and previews the impacts of various funding strategies on the future condition of the roadway network.

ADJOURN

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*City
Council
Report*

Item: 1
Category: NEW BUSINESS
Meeting Date: February 18, 2025

TITLE: Study Session - Pavement Maintenance Program

RECOMMENDED ACTION

That the City Council receives a status report on the Pavement Maintenance Program and previews the impacts of various funding strategies on the future condition of the roadway network.

BACKGROUND

The City of Campbell has approximately 94 centerline miles of paved streets within the city limits, which are maintained by the Department of Public Works. In the 2015 Campbell Resident Satisfaction Survey, pavement maintenance was ranked fourth, just below public safety services of fire, police, and emergency medical. The City's commitment to pavement maintenance was further affirmed by the City's Envision Campbell General Plan 2040 which calls for the City to provide well-maintained and safe streets.

The Bay Area Metropolitan Transportation Commission (MTC) plays a key role in pavement maintenance programs of cities and counties in the San Francisco Bay Area by providing technical and financial assistance with network audits through the Pavement Management Technical Assistance Program (P-TAP). The StreetSaver software developed by MTC is a tool used by the City to plan and manage cost effective improvements by identifying the most reasonable and effective street maintenance projects for the program year with predictive indicators of current and projected pavement conditions. MTC certifies the City's pavement program every two years which enables the City to be eligible to receive regional discretionary funds and participate in MTC's technical assistance and funding programs. The certification process is simple because the City adopted StreetSaver as its pavement management software.

To understand the pavement condition of the street network, StreetSaver determines the pavement condition from information gathered through surveying the severity of surface distresses for each street within the City network. The conditions are quantified through a numerical rating system referred to as the Pavement Condition Index, PCI. Many factors affect the PCI score, such as pavement age, climate and precipitation, traffic loads, and type and frequency of maintenance. The PCI rating system is based on a scale of 0 to 100 (with 100 being equivalent to a new street) as shown in the table below:

Condition	PCI Rating
Excellent	100-91
Good	90-71
Fair	70-51
Poor	50-31
Failed	30-0

The Envision Campbell General Plan 2040 affirms the City's commitment to pavement maintenance with Goal T-6, which is to maintain a PCI of 70 or better for all streets in the City. In 2024, the average City roadway network PCI is 66. This is based on the latest City roadway network data collected and analyzed in StreetSaver as part of the biennial P-TAP funds the City receives for this effort.

DISCUSSION

The City's roadway network consists of 94 centerline miles which are categorized into three functional roadway classifications: arterial, collector and local residential. The table below summarizes the roadway network condition by these functional roadway classifications and the corresponding average PCI.

Functional Classification	Centerline Miles	Percent of Roadway Network (based on centerline miles)	Average PCI
Arterials	13.7	14.6%	64
Collectors	18.5	19.7%	66
Local Residential	61.8	65.7%	66
City Network	94	100	66

Additionally, the percentage of the City network by condition is shown below:

Condition Category	Percent of Network
Excellent	6.88%
Good	31.49%
Fair	44.30%
Poor	16.94%
Failed	0.39%

The data indicates 38% of the City's pavement is in excellent to good condition with a little over 44% in the fair condition. The remaining 18% are in poor or failed condition.

Paved surfaces move through a circle of life beginning with a new pavement, preservation, maintenance, rehabilitation and reconstruction. The intent is to provide an adequate level of preventative maintenance to prolong the life of the pavement by keeping distresses from advancing to the point of needing full reconstruction, i.e. managing the system to avoid more streets in the poor or failed condition. As pavement conditions deteriorate with time, the most cost-effective management strategy is through an effective preventative maintenance strategy.

The most common types of preventative maintenance performed in the City are slurry seal and asphalt overlay. Sealing the pavement provides a protective layer on the surface to prevent water intrusion. Cape seal, a combination of chip seal and slurry seal, is a good application for residential and collector type streets to achieve a durable finish. Pavement maintenance for arterial streets is typically done with asphalt overlays which provide a durable finish in addition to having a smooth surface and longer life but cost more. For new pavement areas, the design life spans 15 to 20 years, depending on the type of treatment.

Routine maintenance work, such as crack seal and pot-hole repairs are low cost and can have great benefits in prolonging pavement life. For the past few years, a nominal portion of the annual street maintenance has been dedicated each year to street crack sealing which has shown benefits to the roadway network and helps prevent further deterioration.

To illustrate the types of projects and the impact to the PCI of the network, an example is the upcoming project to resurface approximately 2.8 miles of pavement on Hamilton Avenue from the western city limit near Phoenix Drive to the eastern city limit at Hurst Avenue, a main arterial in the City. This project is currently in the design phase with an estimated cost of over \$12 million, equal to the budget of four years of annual street maintenance. When it is completed, the network average PCI is projected to be 68. To maintain the PCI of 68 and prevent it from dropping, an annual funding level of \$10M would be required. Conversely, given the current annual street maintenance budget of \$3.1 million, the PCI will continue to decline and would reach a PCI of 60 by the year 2030. Furthermore, to reach and maintain an average network PCI of 70 per Goal T-6 of the General Plan, it would require an annual investment of \$12 million.

Repairing failed streets would also require major investments to rehabilitate or reconstruct. When funding levels cannot fully support the maintenance needs, maintenance is then deferred, creating a backlog of needs, commonly referred to as “deferred maintenance”. The challenge is to create a balanced pavement maintenance program that manages the overall system PCI being mindful of the “deferred maintenance” needs while reducing the gap between the two.

The table below compares various funding scenarios to achieve the desirable PCI while illustrating the corresponding deferred maintenance during a five-year period ending in 2030.

Annual Funding (in millions)	PCI						Deferred Maintenance 2025 to 2030 (in millions)
	2025	2026	2027	2028	2029	2030	
\$ 3.1	68	66	65	64	62	60	\$58 to \$134
\$ 6.0	68	67	66	65	64	63	\$58 to \$117
\$ 10	68	68	68	68	68	68	\$57 to \$94
\$ 12	68	70	70	70	70	70	\$50 to \$78

As shown, the deferred maintenance need is relative to the level of annual investment in that the higher the annual investment, the less deferred maintenance.

Pavement Maintenance Funding Sources

As previously discussed, the budget in fiscal year 2024/25 for annual street maintenance is \$3.1 million through a combination of local and regional sources. The local funds are comprised of the Capital Improvement Plan Reserve (CIPR) and vehicle impact fees collected through building permits and the solid waste rates. The regional sources are from the 2016 Santa Clara County Measure B, a 30-year, half-cent countywide sales tax for transportation systems improvements and the California Road Maintenance and Rehabilitation Account (RMRA), a.k.a. SB1 gas tax created in 2017. To receive Measure B and SB1/RMRA funds, the City must maintain the level of spending on street maintenance equal to the average general fund expenditures for FY 2009-10, FY 2010-11, and FY 2011-12 which is \$917,000 for the City. The Maintenance of Effort (MOE) requirement for the City is satisfied by programming funds from CIPR and vehicle impact fees towards roadway maintenance.

Funding Source	Funding Source Detail	Amount (\$)	% of Annual Total
Local	CIP Reserve (CIPR)	200,000	6
Local	Vehicle Impact Fees (Building and Solid Waste)	777,000	25
Regional Grant	Vehicle Registration Fee (VRF)	215,000	7
Regional Grant	Measure B	797,000	26
State Grant	Gas Tax (SB 1/RMRA)	1,100,000	36
Annual Total		3,089,000	100

The annual investment in street maintenance has remained roughly the same since the introduction of Measure B and SB1/RMRA. The slight fluctuations are due to adjustments to SB1/RMRA and Measure B funds. The flat funding level along with higher construction costs and more regulations associated with resurfacing projects (up to 50% of the base budget) has led to less miles of streets receiving pavement treatments. Hence, the average PCI rating continues to drop while the deferred maintenance backlog continues to grow.

Regulations Associated with Pavement Projects

Over the years, when undertaking pavement maintenance projects, the number of federal and regional regulations with which the City is required to comply has increased, often 30 percent or more of the project budget. These add to the scope of a resurfacing project but with no separate funding attached. In short, although these are not direct pavement maintenance items, they assume funds from the annual street maintenance budget. Such regulations and their impacts on the pavement maintenance program budget are discussed below.

Curb Ramps

Federal laws require provisions for equal access for people with disabilities. This includes pavement resurfacing projects which are required to include American with Disabilities (ADA) compliant curb ramps to make pedestrian facilities accessible to everyone. This mandate can result in a budgetary burden of 30% or more on a given street resurfacing project.

Green Street Infrastructure/Municipal Regional Stormwater Permit (MRP)

Effective July 2023, street maintenance projects are subject to the stormwater treatment requirements of MRP 3.0. The threshold for pavement maintenance projects is one acre of contiguous impervious areas disturbed. It would apply to the reconstruction of existing roads, sidewalks and bicycle lanes or extending the edge of a roadway. Construction costs can be costly for excavating the grounds and installing specialized stormwater treatment facilities and could add 20% to the project budget or otherwise reduce the scope of a project by a commensurate amount.

Complete Streets Elements

Incorporating Complete Streets Best Practices with the VTA Measure B funded projects is required. When the street width allows, street resurfacing projects allow the opportunity to incorporate bicycle lane treatments. While such practices can have an impact on expanding the bicycle and accessibility network, the challenge is that no additional funding is being allocated for the implementation of these new requirements which could result in less miles of street pavements being treated.

Impact Fees

Traffic loading such as those caused by heavy waste and construction vehicles cause pavement damage over time that leads to higher maintenance costs. To recuperate from the negative effects, the City collects vehicle impact fees from building construction and solid waste. The building vehicle impact fee of \$300,000 annually is based on 0.32% of building permit valuation. The waste vehicle impact fee is \$477,000 annually. Since neither of these have been adjusted since the fees were established, staff would recommend researching the possibilities to update the fees to reflect current economic levels.

Pavement Cut Moratorium

Water intrusion is the number one contributor to early pavement failure. To minimize unwanted cuts to new pavement by utility or private land development projects, the City enforces a street moratorium of five years after a street is resurfaced in which no

pavement cuts are allowed during this period. Regular coordination with utility companies helps to plan upcoming projects. If pavement disturbance is unavoidable, then whichever entity causes the cut would be subject to extensive pavement restoration.

CONCLUSION

Unless a significant amount of funding is added into the program, the PCI of the roadway network in the City will continue to decline even with steady annual funding of \$3.1 million. Not injecting additional funds would lead to an increasing number of streets in poor or failed conditions as the system deteriorates and the deferred maintenance will grow. When the streets reach this point, the costs of repairing them increases significantly. The costs of pavement projects will also continue to increase due to escalating construction costs and additional regulations associated with pavement projects.

Given these factors, the strategy with the annual program is to treat the most centerline miles of streets allowed by the funding level but will need direction from the City Council of the acceptable condition of the streets.

Therefore, there is no fiscal impact with this report, however, fiscal impact would depend on the strategy preferred by the Council on the PCI to achieve and maintain for the City.

KEY QUESTIONS AND ISSUES

At this point, staff is seeking City Council input on some key questions. The outcome of this discussion will help shape the Pavement Maintenance Program and assist with the preparation of the upcoming CIP.

1. Pavement Condition
 - a. What is the acceptable condition to achieve for the overall City roadway network with an understanding of the fiscal impacts?
 - b. Should the decision-making process prioritize streets by functional class or condition?
2. Additional Funding
 - a. In the event additional funding is made available, should it be allocated to address the deferred pavement maintenance needs?
 - b. In compliance with regulations associated with pavement maintenance projects, should there be separate funding to address improvements related to Green Street Infrastructure and Complete Street elements and increase the annual Accessibility Ramps budget to reduce the backlog of non-compliant ADA curb ramps?
 - c. Confirm City Council support to conduct a study to update the vehicle impact fees.

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