



STAFF REPORT

City Council

Meeting Date:

2/11/2025

Staff Report Number:

25-021-CC

Informational Item:

Update on the City's Five Year Street Maintenance Plan

Recommendation

This is an informational item that does not require City Council action. Staff recommends that the City Council receive an update on the City's Five Year Street Maintenance Plan (Plan). The Plan identifies potential street maintenance projects for inclusion in the capital improvement program (CIP) over the next five years.

Policy Issues

This project is consistent with the City's goal of maintaining and enhancing its municipal infrastructure and extending the life and safety of its streets. The City's General Plan's Circulation Element also includes policies related to the maintenance and safety of the City's roadway network.

Background

The City maintains approximately 96 miles of roadway across 348 streets. Staff uses StreetSaver, a pavement analysis software endorsed by the Metropolitan Transportation Commission (MTC), as the pavement management system (PMS) for cataloging streets and identifying segments in need of repair. Through grants provided by MTC, a survey and inventory of the City's roadway pavement conditions are performed every two years. Through this process, each street is assigned a pavement condition index (PCI) rating (a numeric identifier that has a scale from 0 to 100) to classify the condition of the roadway (Table 1). As of January 2025, the City's overall PCI is 75 (Good) which ranks sixth amongst 20 municipalities in San Mateo County.

| Table 1: PCI classification | |
|-----------------------------|-------------------------------|
| PCI rating | Street condition |
| 0 to 25 | Failed |
| 25 to 50 | Poor |
| 50 to 70 | Fair |
| 70 to 90 | Good |
| 90 to 100 | Excellent or brand-new street |

The goal of the City's pavement management approach is to maintain the City's overall PCI in the good category through preventative maintenance measures. In general, streets with higher PCIs are candidates

for cost effective surface treatments, such as slurry seals, which extend the life of existing good pavement. By contrast, streets with lower PCIs require more intensive and expensive repairs such as deep overlays or full street reconstruction. Table 2 shows different roadway repairs and unit cost estimates of the repair. With proper maintenance, the number of streets requiring full reconstruction can be minimized.

| Table 2: Repair scenarios | | |
|---------------------------|------------------------------|-----------------------------------|
| PCI | Recommended repair | Estimated unit cost (square yard) |
| 70 to 100 | Slurry seal | \$4 |
| 50 to 69 | Overlay (1 to 3-inches) | \$34 |
| 26 to 49 | Deep overlay (over 3-inches) | \$50 |
| 0 to 25 | Full street reconstruction | \$200 |

The City maintains its PCI through the implementation of the annual Street Resurfacing project as included in the annual budget. This CIP project includes annual slurry seal and street resurfacing efforts. The CIP also identifies separate street improvement projects for locations that have a larger scope, more involved traffic control coordination, and integrate multimodal infrastructure or other street of utility improvements. These separate CIP projects may require additional outreach, permitting with other agencies, multiple sources of funding, and higher complexities of design. Examples of completed separate CIP projects include improvements on Willow Road (from Middlefield Road to Chester Street) and Ravenswood Avenue (from El Camino Real to Laurel Street).

Each year, staff reviews StreetSaver recommendations based on PCI and available budget. Site evaluations are conducted to confirm the type of treatment needed for street segments in need of maintenance and identify the general scope of work (including coordination with utility improvements). Projects are classified by scope and complexity of work. For example, isolated pavement repairs are addressed by maintenance staff or the City's on-call paving contractor, while larger projects are programmed in the CIP (per the annual Street Resurfacing project or as a separate effort). Overall, the process for determining the City's street maintenance needs typically involves the following:

- Review pavement conditions through reports provided by the MTC;
- Use of StreetSaver to assess street segments in need of repair in the CIP;
- Gather public input and review of reported roadway damage by the community or staff;
- Coordinate with City departments, West Bay Sanitary District (WBSD), Cal Water, and other utility agencies to eliminate overlaps with upcoming utility or development work;
- Review projects for implementation of complete streets elements (e.g., pedestrian, bicycle and vehicular safety improvements) and curb ramps per the Americans with Disabilities Act;
- Conduct site visits and develop a cost/benefit analysis for the recommended pavement treatment; and
- Update the Plan and specific street segments and/or projects in the CIP based on available budget each year.

At the completion of each project, staff updates the City's geographic information system (GIS) database and StreetSaver to catalogue constructed improvements and ensure the City's PCI is up-to-date. The Plan provides a framework to guide and select future streets to be included each year, and may change over time due to updated information or actual conditions.

Analysis

The Plan proposes to treat 72 street segments totaling 17 centerline miles, representing approximately 18% of the City's roadway network over the next five years. From this total, 29 street segments will be part of the annual Street Resurfacing project while 6 streets are identified as separate CIP projects due to their complexity and coordination needs. Since the Plan is a dynamic document, the proposed list of streets may vary if conditions change. Key changes from the Plan, as presented last year include:

- Resurfacing work at University Drive (from Cambridge Avenue to Creek Drive) was removed from the Plan due to an upcoming water main replacement project by Cal Water along the corridor. Staff will work with Cal Water to perform resurfacing as part of its restoration requirements.
- The extents of the resurfacing work on Chrysler Drive (from Constitution to Independence Drive) were shortened to Jefferson Drive. The remaining segment from Jefferson to Independence Drive is conditioned as part of future development at 123 Independence Dr.
- Resurfacing work at Noel Drive (from Ravenswood Avenue to Laurel Street) was removed from the Plan due to recent sewer main upgrades and pavement restoration performed by West Bay Sanitary District.
- Pierce Road was identified as a separate CIP project due to higher complexities of design and coordination. Based on the proximity, Del Norte Avenue (from Pierce Road to Terminal Avenue) will also be evaluated as part of that project.
- Creek Drive (from University Drive to El Camino Real) was added as a future project per Attachment B. This segment is a low volume corridor that requires local spot repairs and may be a candidate for on-call work.
- Lennox Avenue and Tudor Drive were removed due to recent utility and pavement restoration upgrades by Cal Water and West Bay Sanitary District.
- Work on Coleman Avenue (from Willow Road to City limit) was removed. Pavement repairs will be included as part of the future Coleman and Ringwood Avenues project.
- Staff grouped adjoining street segments formerly identified in separate fiscal years in the same year where feasible to be cost effective and minimize construction impacts to the public.
- Streets with PCI 85 or higher were removed from the Annual Slurry Seal projects to be more cost effective. These streets do not require repairs within the five year window of this Plan and will be evaluated for inclusion in future years.

The Plan also provides an opportunity to implement a number of City transportation priorities as identified in the Transportation Master Plan, Vision Zero Action Plan, and traffic calming needs. Where these plans or programs recommend striping upgrades to enhance safety or provide complete streets features, staff will work to integrate these into street maintenance projects.

Annual street resurfacing and slurry seal projects

The City typically alternates between annual street resurfacing and slurry seal projects each fiscal year. Staff recently advertised construction bids for the 2024-25 Annual Street Resurfacing project Jan. 14. The project is scheduled for bid award in April in anticipation for construction this summer. A summary of proposed streets per the Plan is included in Table 3 and mapped per Attachment A. It is important to note that the proposed list of streets identified in the Plan will be reviewed during the annual planning phase to account for new or unforeseen conditions, therefore, street segments may change before construction. In addition, small areas of isolated pavement damage, as reported by roadway users or staff, are addressed separately and in addition to the Plan. These areas often need to be repaired quickly and are typically completed by Public Works maintenance staff or the City's on-call paving contractor.

| Table 3: Summary of proposed projects | | |
|---|------------------|---------------|
| Project | Proposed streets | Miles treated |
| 2024 – 25 Annual Resurfacing Project | 14 | 3 |
| 2025 – 26 Annual Slurry Seal Project | 14 | 2 |
| 2026 – 27 Annual Slurry Seal Project | 14 | 2 |
| 2027 – 28 Annual Street Resurfacing Project | 9 | 2 |
| 2028 – 29 Annual Slurry Seal Project | 15 | 3 |
| Separate CIP projects | 6 | 3 |
| Total | 72 | 15 |

Separate CIP projects

The Plan identifies six separate CIP resurfacing projects, as summarized in Table 4 below. These projects typically have more complex design funding, or coordination needs. In 2021, the City Council held a study session to review rubberized asphalt concrete and hot mix asphalt pavement resurfacing options for upcoming capital projects. Rubberized asphalt is composed of recycled tires, reduces vehicle noise (for speeds at 45 miles per hour or greater), and has a 20-year typical life expectancy compared to 15 years for hot mix asphalt. However, rubberized asphalt costs 20% to 25% more than hot mix asphalt and is generally more labor intensive to install. The City Council directed staff to use rubberized asphalt concrete as a bid alternate to hot mix asphalt for:

- Projects proposing a 1.2 to 2.4-inch top lift overlay
- Projects along arterial or collector streets
- Projects planned for summer construction

With the exception of Pierce Road and Sand Hill Circle/Road (which are local streets), the streets listed in Table 4 meet the above criteria, therefore, rubberized asphalt will be included as a bid alternate on those projects. For this fiscal year, staff anticipates resurfacing Middle Avenue, from San Mateo Drive to El Camino Real, this summer as part of the Middle Avenue Complete Streets project.

| Table 4: Summary of separate CIP projects | | | | |
|---|-----------------|------------------|-------------------------|-------------------------------|
| Street | From | To | Planned design schedule | Planned construction schedule |
| Middle Avenue | San Mateo Drive | El Camino Real | Fiscal year 2024/25 | 2025 |
| Bay Road | Van Buren Road | Ringwood Avenue | Fiscal year 2025/26 | 2026 |
| Pierce Road | Willow Road | Del Norte Avenue | Fiscal year 2025/26 | 2026 |
| Sand Hill Circle/Road | Sand Hill Road | End of Loop | Fiscal year 2026/27 | 2027 |
| Middlefield Road | Willow Road | City Limit | Fiscal year 2027/28 | 2028 |

Streets for future consideration

In addition to the streets identified in the Plan, StreetSaver identified 23 street segments with PCIs lower than 50, for future consideration (Attachment B). Streets in this condition typically require deep overlays or

full construction which can be costly, time intensive and more impactful during construction. Most of these streets are short segments with lower traffic volumes and staff will assess performing roadway repairs through the City's on-call paving contractor. Streets requiring more extensive rehabilitation will be monitored and evaluated as part of annual updates, or potential bid alternates, to the Plan during the annual CIP planning process.

Given the extensive and costly rehabilitation needed for streets in poor condition, staff expects that repairing all these remaining streets will take more than the five-year planning horizon of this Plan. If more resources were allocated to repair more streets in poor condition, less preventative maintenance would be done and the overall pavement condition would be expected to worsen over the next 10 years as a result.

Impact on City Resources

The proposed Plan was developed based on the funding sources and amounts projected over the next five years. No additional appropriations or resources are requested at the present time. The Plan is funded through a combination of the highway user's (gas) tax, construction impact fees, Senate Bill 1 (SB 1), and the General Capital Fund. Measure W is a countywide sales tax measure that provides funding for paving or transportation projects and may be applied toward transportation safety improvements (e.g., striping changes, traffic calming, closing small sidewalk gaps, etc.) which often accompany street maintenance projects. Furthermore, the City also uses a portion of the annual street maintenance budget for its on-call asphalt repair contract (typically reserved for small pavement damage in addition to streets identified in the Plan).

The six separate CIP projects identified in the Plan include scopes of work beyond street maintenance (such as intersection, traffic calming, sidewalk and utility upgrades). These projects may also draw from other funding sources such as Measure A (a countywide sales tax measure dedicated toward transportation facilities, services and programs).

Cost estimates for the annual street maintenance project, separate CIPs and the City's on-call paving contract were calculated by fiscal year and shown per Table 5. Estimates account for consultant services, staff administration fees, construction costs and contingencies. Staff also utilized an annual inflation factor of 5% for construction costs. Depending on bids and pricing, proposed street segments may be eliminated or additional funding needed in the event of a shortfall. Staff anticipates that there will be sufficient funding for the Plan, however, available funds will be reviewed annually during the development of the CIP and as projects are planned to account for annual revenue fluctuations.

| Table 5: Estimated costs and funding ¹ | | | | | | |
|---|------------------------|------------------------|------------------------|------------------------|------------------------|---------------------|
| Project | Fiscal year 2024-25 | Fiscal year 2025-26 | Fiscal year 2026-27 | Fiscal year 2027-28 | Fiscal year 2028-29 | Five year total |
| Annual Street Maintenance project | \$3,580,000 | \$1,300,000 | \$1,300,000 | \$3,000,000 | \$1,300,000 | \$10,480,000 |
| Separate CIP projects | \$2,500,000 | \$1,980,000 | \$1,780,000 | \$1,600,000 | - | \$7,860,000 |
| On-call paving contract | \$420,000 | \$420,000 | \$420,000 | \$420,000 | \$420,000 | \$2,100,000 |
| Estimated project costs | \$6,500,000 | \$3,700,000 | \$3,500,000 | \$5,020,000 | \$1,720,000 | \$20,440,000 |
| Estimated funding | \$9,000,000 | \$5,400,000 | \$4,500,000 | \$5,400,000 | \$2,900,000 | \$27,200,000 |

¹Based on bid results and available funding, the project cost increase for the use of rubberized asphalt will be evaluated at the time of the construction contract award for the separate CIP projects. The estimates included in the table do not include this potential increase.

For separate CIP projects, the estimates do not include the cost of rubberized asphalt concrete. These projects will be bid with the use of rubberized asphalt as a bid alternate in order to preserve options for the City Council during award. In summary, the Plan will maintain the City's PCI in the good category at the end of five fiscal years. The approach is proactive and addresses pavement deterioration to minimize most costly and invasive treatment options associated with deferred maintenance.

Environmental Review

This action is not a project within the meaning of the California Environmental Quality Act (CEQA) Guidelines §§15378 and 15061(b)(3) as it will not result in any direct or indirect physical change in the environment.

Public Notice

Public Notification was achieved by posting the agenda, with the agenda items being listed, at least 72 hours prior to the meeting.

Attachments

- A. Map and list of the street segments included in the Plan
- B. Map of the street segments under 50 PCI not included in the Plan

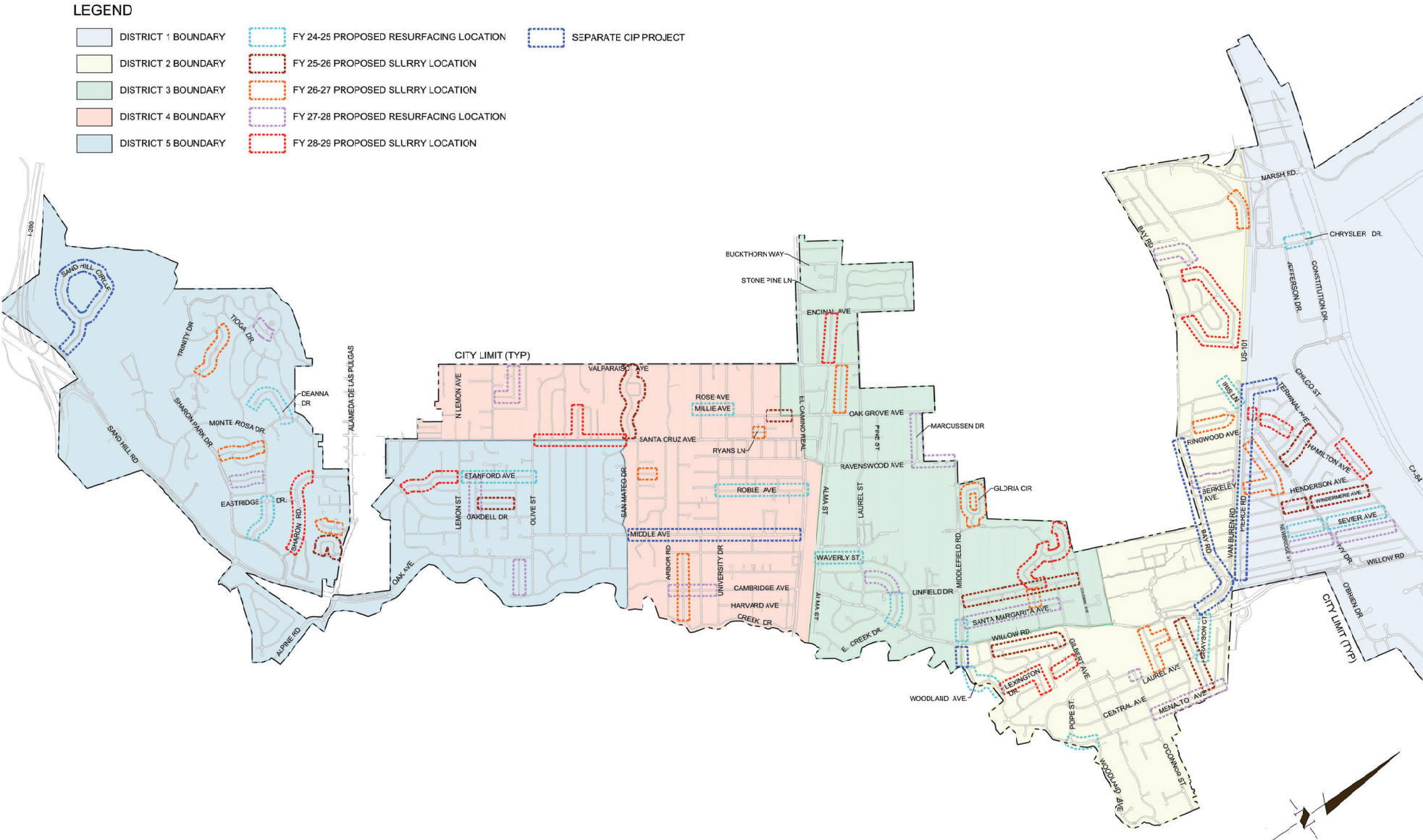
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ATTACHMENT A: 5-YEAR STREET MAINTENANCE PLAN



ATTACHMENT B: STREET SEGMENTS UNDER 50 PCI

LEGEND

- DISTRICT 1 BOUNDARY
- DISTRICT 2 BOUNDARY
- DISTRICT 3 BOUNDARY
- DISTRICT 4 BOUNDARY
- DISTRICT 5 BOUNDARY
- PCI < 50 NOT INCLUDED IN THE PLAN
- PROPOSED ON-CALL PROJECT

