Item No. 5
Town of Atherton

CITY COUNCIL STAFF REPORT – STUDY SESSION

TO: **HONORABLE MAYOR AND CITY COUNCIL**
GEORGE RODERICKS, CITY MANAGER

THROUGH: **ROBERT OVADIA, PUBLIC WORKS DIRECTOR**

FROM: **DAVID HUYNH, PW MAINTENANCE MANAGER**

DATE: **MAY 4, 2022**

SUBJECT: **OVERVIEW OF PAVEMENT MANAGEMENT PROGRAM**

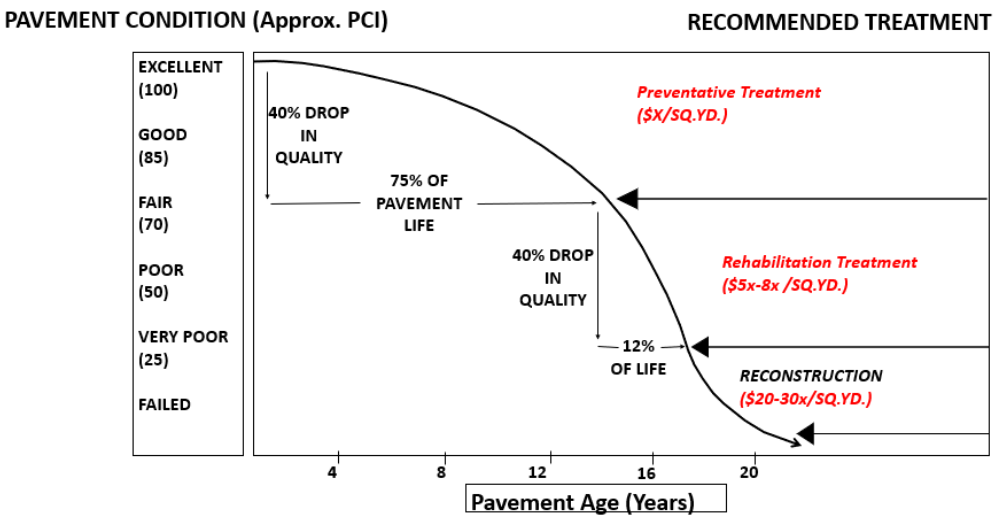
RECOMMENDATION

Receive an overview of the Atherton Pavement Management Program.

BACKGROUND

The Town's Pavement Management Program (PMP) is a computer assisted method of organizing and analyzing information about pavement conditions to assist in managing and maintaining roadways. The PMP calculates the pavement conditions index (PCI), based on visual assessments, maintenance activities and roadway deterioration algorithms. which the Town uses to plan the year's street pavement projects, including treatment methods.

The Pavement Conditions Index (PCI) provides a snapshot of the pavement health of a road. It is measured on a scale of 0 to 100, where 100 means a newly paved road and 0 is a completely failed roadway. Many factors affect a PCI score including pavement age, climate and precipitation, traffic loads, construction and maintenance activities.



Maintaining a proactive pavement program will result in lower long-term maintenance costs and safeguards the Town's investment in local streets and roads. Generally, it is more cost effective to treat/maintain a good street than to reconstruct a bad one. The better the roadway condition, the lighter and less expensive the treatment required to maintain its condition.

The Town uses the following treatments for its roadways:

1. Full Depth Pavement Repair
    a. Full depth pavement repair is used when a localized pavement area has failed or gets too old and loses its flexibility. Full depth repair is essentially removing a localized section of the pavement and replacing it in its entirety. Full depth repairs are often used to address localized failures in advance of slurry seals or other street resurfacing work.
2. Crack Seal
    a. Crack sealing is use of a product that fills individual pavement cracks to prevent the entry of water or other non-compressible substances such as sand, dirt, rocks or weeds.
3. Slurry Seal
    a. Slurry seal is a thin asphalt overlay or seal coat that fills in small cracks and surface imperfections to give a roadway a more uniform color or texture. Slurry seals extend the life of a roadway.
4. Cape Seal
    a. A cape seal is an application of a chip or scrub seal followed by the application of a slurry seal or microsurfacing at a later day. A cape seal helps seal and bond cracks in the underlying pavement.
5. Grind and Overlay
    a. A grind and overlay will grind off areas of old asphalt down a few inches and then placing and compacting a hot mix of asphalt pavement in the area. This is done typically in larger sections of old asphalt where there have been prior repairs that have deteriorated badly.
6. Reconstruction

a. A full reconstruction is performed when the streets structure and substructure have deteriorated to the point of no return.

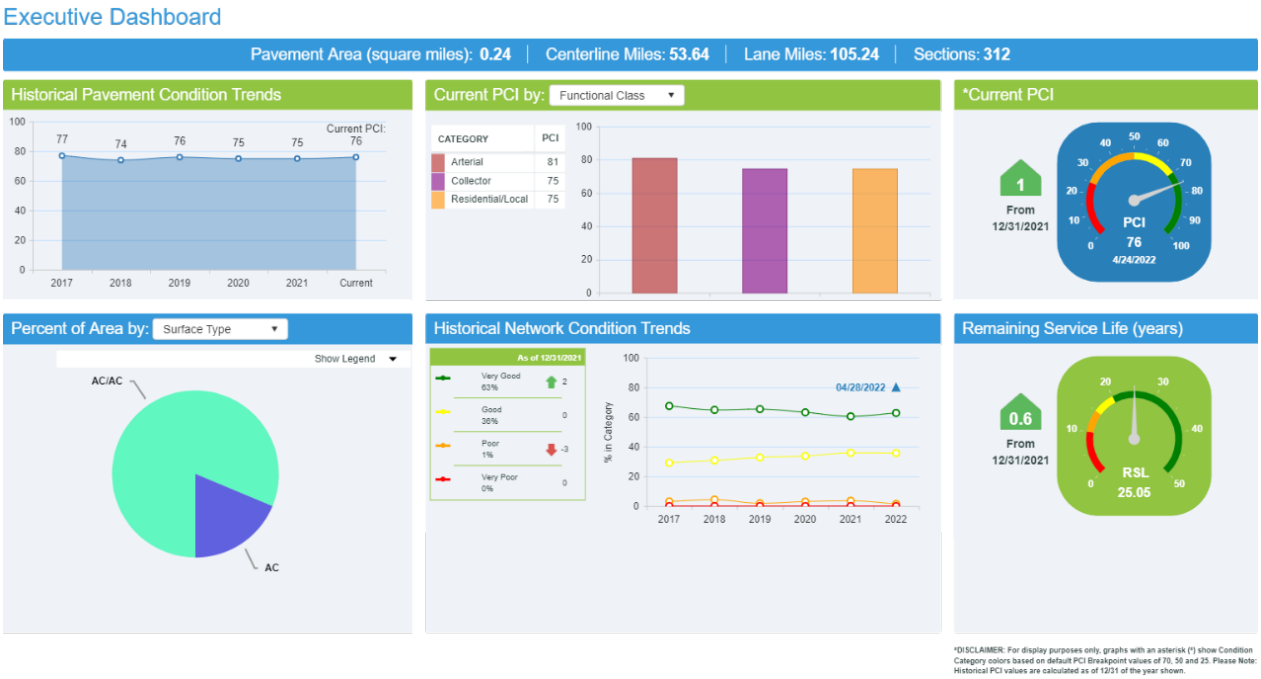
When evaluating a roadway for repair, the PCI Range provides a good indicator of the type of treatment necessary to restore and/or maintain the roadway during its lifetime.

Agency's Maintenance Treatments By Condition Category		
Condition	**PCI Range**	**Typical Maintenance Treatment**
Excellent	90-100	Do Nothing.
Very Good	70-89	Seal Cracks/ Microsurface/Mill and Thin Overlay
Good	50-69	Cape Seal/ Mill and Thin Overlay
Poor	25-49	Reconstruct Surface (AC)
Very Poor	0-24	Reconstruct Structure (AC)

* For regular maintenance projects, cul-de-sac street segments receives treatments 1-4. Thru-street segments receives can receive any of the treatments mentioned above.

To maintain an accurate picture of roadway conditions, the Town is required to conduct assessments of all its streets on a regular basis – every 2 years for arterial/collector streets and every 5 years for residential streets. The Town has been fortunate in obtaining funds and consultant support to conduct these assessments from the Metropolitan Transportation Commission for these assessments, typically every other year.

As of April 24, 2022, the latest PCI for the Town's overall roadway network is 76 (very good) and is shown below.



Currently, the lowest rated street segments in Atherton are Watkins Avenue (PCI = 44) and Walsh Road between Tallwood Court and Reservoir Road at (PCI = 45)

Projects are prioritized and selected for maintenance/repair based upon several factors including:

1. PCI
2. Visual inspections
3. Functional classification
4. Planned utility projects
5. Town priorities and other planned projects

Street segments for overlays are selected based upon the worst PCI first. In addition, some roadway segments are held pending upcoming utility projects or other development activities throughout Town. With the extent of construction throughout the Town, it is often difficult to coordinate timing of street repairs such that they are not impacted by development activities.

POLICY FOCUS

The pavement management program is intended to provide pavement repairs and resurfacing to maintain and extend the life cycle of the Town's roadways.

FISCAL IMPACT

There is no fiscal impact.

GOAL ALIGNMENT

This Report and its contents are in alignment with the following Council Policy Goals:

- Goal Area A – Maintain Fiscal Responsibility
- Goal Area F – Be Forward-Thinking, Well-Managed, and Well-Planned

PUBLIC NOTICE

Public notification was achieved by posting the agenda, with this agenda item being listed, at least 72 hours prior to the meeting in print and electronically. Information about the project is also disseminated via the Town's electronic News Flash and Atherton Online. There are approximately 1,200 subscribers to the Town's electronic News Flash publications. Subscribers include residents as well as stakeholders – to include, but be not limited to, media outlets, school districts, Menlo Park Fire District, service provides (water, power, and sewer), and regional elected officials.

COMMISSION/COMMITTEE FEEDBACK/REFERRAL

This item ____ has or _X_ has not been before a Town Committee or Commission.

____ Audit/Finance Committee (meets every other month)
____ Bicycle/Pedestrian Committee (meets as needed)
____ PMC & Civic Center Advisory Committee (meets as needed)
____ Environmental Programs Committee (meets every other month)
____ Park and Recreation Committee (meets each month)
____ Planning Commission (meets each month)
____ Rail Committee (meets every other month)
____ Transportation Committee (meets every other month)

ATTACHMENTS

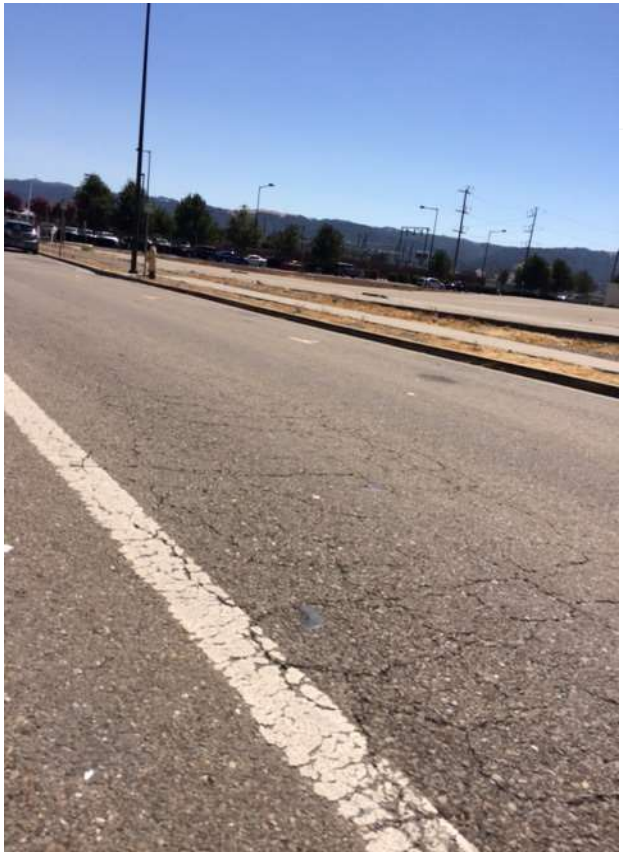
1. Street Condition photos vs PCI

Harris & Associates

EXCELLENT CONDITION CATEGORY (PCI=90-100)

VERY GOOD CONDITION CATEGORY (PCI=70-89)

GOOD CONDITION CATEGORY (PCI=50-69)



PCI = 50

POOR CONDITION CATEGORY (PCI=25-49)

VERY POOR/FAILED CONDITION CATEGORY (PCI=0-24)