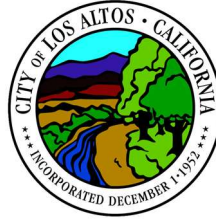


DATE: January 22, 2020

AGENDA ITEM # 4



**TO:** Complete Streets Commission

**FROM:** Jaime O. Rodriguez, Consultant – Transportation Services Division

**SUBJECT:** Project Update: Fremont Avenue Pavement Rehabilitation Project,  
Grant Road to Easterly City Limits at Stevens Creek Bridge

**RECOMMENDATION:**

Receive staff report and provide input on preferred pavement treatments.

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**INTRODUCTION**

The Fremont Avenue Pavement Rehabilitation Project is located between Grant Road and the Easterly City Limit at Stevens Creek Bridge. The project is partially funded through a grant from the One Bay Area Grant (OBAG) Program. The project includes pavement rehabilitation and new signage & striping treatments.

During the Winter of 2019, the project design consultant, Bellecci & Associates completed its pavement study and initiated grant-required environmental studies and permit applications with the California – Department of Transportation (Caltrans). This update focuses on the pavement study and inputs from the Complete Streets Commission preferred pavement treatments.

**BACKGROUND**

Fremont Avenue is an east-west minor arterial street located in South Los Altos that directly links Highway 85 in Cupertino with Foothill Expressway/I-280. The street provides one lane per direction and left-turn lanes for side street locations.

Fremont Avenue carries about 13,000 vehicles per day as an Average Daily Traffic (ADT) amount. The street is posted as a 30-MPH speed with 85<sup>th</sup> percentile speeds on Fremont averaging about 35-MPH, consistent with the existing speed survey allowing for police enforcement by radar.

The City received an OBAG grant in the amount of \$336,000 to help repave Fremont Avenue from Grant Road to the Stevens Creek Bridge in 2017; actual construction costs are expected to exceed the grant amount, the delta will be covered using the Annual Street Resurfacing Program.

## DISCUSSION

The Fremont Avenue Pavement Rehabilitation Project includes both a design and construction phase. The City's design consultant, Bellecci & Associates, started the design phase in August 2019 and it is anticipated to progress through the Fall 2020. The long design period is a result of a grant-required environmental review process by the California – Department of Transportation (Caltrans). The project cannot be approved for construction until Caltrans approves the project's environmental documents and issues an Authorization to Proceed.

To-date, the City has worked with Bellecci & Associates to complete:

- Topographic survey of the site
- Pavement evaluation to identify failed pavement segments
- Pavement study that analyzes core samples to identify pavement treatment options
- Initiated environmental studies and permit requirements from Caltrans

The pavement study (attached) discuss several types of pavement treatment, some of which are commonly used in the City of Los Altos as part of its annual street resurfacing and slurry programs:

### 1) Dig Out Repairs (Base Repair)

Where pavement segments are failed with substantial depression, cracking, or failure, dig-out repairs are common and include square or rectangular focused repair areas. It is common for dig-out repairs to precede any final pavement maintenance treatment. When the total dig out repair areas exceed 15% it is more practical consider more aggressive pavement repair treatments to help repair and level a roadway.

The pavement study conducted by Bellecci & Associates found that the overall pavement failure areas on Fremont Avenue is 16%. Within the focused area of Fremont Avenue between Grant Avenue and Kathy Lane the failure percentage area is 20%.

### 2) Cape Seal (Maintenance Treatment)

Cape Seal treatments typically follow dig out repairs and include using a combination of Chip Seal layer on top of the existing roadway followed by a smoother Slurry Seal or Microsurface wearing surface. This type of treatment offers a durable wearing surface but can be considered “messy” during construction because of the chip seal application.

### 3) Slurry Seal or Microsurface Treatments (Maintenance Treatment)

Slurry Seal and Microsurface Treatments follow dig out repairs and are the common pavement treatment method used in the City of Los Altos. Slurry Seal wearing surfaces are thinner but smoother than Microsurface applications. Both treatments wear within

a 5-7 year period and it is common for dig out repairs and crack seal treatments to show through the wearing surfaces in as little as one year.

4) Resurfacing Overlay (Rehabilitation)

Following dig-out repairs varying thickness levels of new pavement are spread on top of the existing roadway, this is commonly known as Hot Mix Asphalt (HMA). Resurfacing Overlay treatments include benefits of roadway leveling and offer a smooth wearing surface. Shortcomings of overlay treatments are that they do not address unidentified pavement failure areas in the original roadway so pavement failures can occur following this type of treatment within 3-5 years. In addition, the roadway crown increases resulting in steeper roadway cross grades.

5) Cold In-Place Recycling – CIR (Rehabilitation)

CIR is the recommended pavement treatment by Bellecci & Associates as part of the project pavement report. CIR is a newer pavement treatment method that includes a grind of the entire roadway (3-inches) followed by a HMA Overlay (1.5 inches). The old roadway is ground and placed back on the roadway with a binding agent that results in a greener construction method due to the elimination of off-hauling of old roadway material.

CIR pavement method provides excellent roadway leveling opportunities and address both known and unidentified pavement failures in the existing roadway resulting in longer pavement life cycles. This construction method is more expensive compared to City's standard Dig-Out/HMA Overlay practices.

6) Grind and Inlay (Rehabilitation/Maintenance)

Grind and Inlay pavement construction is a common pavement treatment that also follows dig-out repairs but also includes a thin grinding of the roadway to help eliminate high-crowns from prior Overlay only projects. Unlike CIR, the grindings are hauled off and not typically as deep as CIR (1.5 vs 3.0 inches). An HMA overlay is normally applied to provide a new pavement surface.

Table 1 – Fremont Avenue Pavement Method Comparison summarizes the findings of the Bellecci & Associates pavement study. The table only summarizes cost estimates for three items that the City requested Bellecci & Associates explore further after receipt of the pavement study to confirm cost estimates.

Although the study recommends the Cold In-Place Recycling method with a 1.5 Inch Overlay for Fremont Avenue, the City is currently recommending the City standard Dig Out and Microsurface or Slurry Seal method because of the cost savings.

The City is soliciting Complete Streets Commission input on this recommendation. The City plans to also present the findings and commission recommendations to the City Council on February 25, 2020.

Table 1  
Fremont Avenue Pavement Method Comparison

Option	Description	Life Cycle (years)	Cost Estimate
1	Dig Out Repairs with 1.5" Overlay	6-8	\$1,721,000
2	Dig Out Repairs with Microsurface Slurry Seal	5-7	\$1,305,000
3	3" CIR with 1.5" Overlay	12-14	\$2,179,000

The Caltrans environmental and permit applications are already in process but the City must select a preferred pavement method that can be funded within the City's existing budget constraints before March so that the improvement plans for the project can be completed.

The City of Los Altos – Annual Street Resurfacing program includes approximately \$1.9M per year. Depending on the pavement method selected for Fremont Avenue, less streets will receive pavement repairs during the Fiscal year 2020-21 year when the Fremont Avenue project is built.

Upon selection of a preferred pavement treatment for Fremont Avenue, the City will finalize design of the project during the Spring 2020. The City will hold additional community outreach meetings to finalize complete street treatments for the corridor.

Attachments:

- A. Pavement Rehabilitation Report
- B. Cost Estimates