



CITY OF CARSON

Legislation Text

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Report to Mayor and City Council

Tuesday, April 06, 2021

Consent

SUBJECT:

****THIS STAFF REPORT HAS BEEN REPLACED BY FILE ID NO. 2021-284 (ITEM NO. 21A ON APRIL 6, 2021 COUNCIL AGENDA**

UPDATE ON CITY'S ANNUAL SLURRY SEAL PROGRAM (CITY COUNCIL)

I. SUMMARY

At the request of the City Council, this staff report provides an update on the status of the City's Annual Slurry Seal Program and background information about how the Maintenance Zones for work are selected each year.

II. RECOMMENDATION

1. RECEIVE AND FILE.

III. ALTERNATIVES

Take another action the City Council deems appropriate consistent with the requirements of the law.

IV. BACKGROUND

The City of Carson is responsible for the repair and maintenance of approximately 203.1 centerline miles of streets of which 49.2 miles are arterials, 5.7 miles are secondary arterials, 18.1 miles are collectors, and 130.1 miles are residential streets. Streets or pavements are one of the City's most valuable assets, and it's always the City's goal to keep this infrastructure in good and safe condition at all times.

The locations for where slurry seal is required are based on the results of the City's Pavement Management Program (PMP). The PMP provides recommended repairs, a

preventive maintenance schedule, and corresponding costs to improve and maintain the City's overall roadway system network. The report presents the overall condition of the city-maintained streets, provides the Pavement Condition Index (PCI) of every street and highlights options for improving them. The PCI is a measurement of pavement grade or condition that ranges from 0 to 100. A newly constructed street will have a PCI of 100, while a failed street will have a PCI of 25 or less. The pavement condition is primarily affected by the climate, traffic loads and volumes, construction materials, and age.

The maintenance and repair strategies include appropriate treatment such as filling cracks, surface slurry seals or overlays.

Each year the City performs slurry sealing and makes its best effort to implement the street maintenance needed to maintain the integrity of the City's infrastructure. There are seven Maintenance Zones. Slurry sealing is a 10-year cycle program between the City's seven Maintenance Zones. The entire city is not slurry sealed since only those areas that require slurry sealing and are based on the recommendations of the PMP. Each street segment in the PMP is assigned a corresponding Pavement Condition Index (PCI) that indicates the treatment needed to maintain structural integrity. It costs much less to maintain streets in good condition than to repair streets that have failed. "Preventive maintenance" is when the City utilizes a surface treatment such as a slurry seal when pavement is in good condition. "Rehabilitation or reconstruction" occurs when the pavement condition deteriorates to lower levels and an overlay and reconstruction have been performed. Residential and collector streets in fair and good conditions with a PCI between 62 and 75 are recommended for slurry sealing.

The City has been utilizing rubberized slurry seal on city streets due to its superior benefits over conventional slurry seal in preventing deterioration of the existing pavement. The application of rubberized slurry seal is currently one of the best, cost effective approaches to extend pavement life, preserve structural capacity, and provide quality service. Slurry seal is a pavement surface treatment, used for streets, parking lots, shopping malls pavement, and other high-traffic low-speed pavement surfaces. Slurry seal replenishes the pavement surface while providing a uniform black, slip-resistant, durable surface, and significantly extends the life of existing pavements by protecting the under-surface from damage caused by water seepage. This usually adds approximately 7-10 years in the life of the pavement.

Currently, the City has an annual budget of approximately \$900,000 for slurry sealing of city streets as listed in the City's Capital Improvement Program (CIP). Streets in need of immediate attention based on the City's PMP are given a higher priority, and staff makes its best effort to implement the maximum slurry sealing within the allocated budget. An evaluation of additional funding will be made during the budget process.

By sustaining the current annual budget of \$900,000 for slurry sealing, approximately 1.2M s.f. of the City's streets can be slurry sealed. This contributes to the city meeting the cycle of 7-10 years for those streets that are still in good enough condition to benefit from this treatment.

The PMP, completed in 2017, indicated that there are approximately 18,000,000 s.f. of roadway surface area in the city that needs to be slurry sealed over the next 10 years. The

City has been performing slurry sealing maintenance annually even before the completion of the PMP, and has completed approximately 7,292,483 s.f. of roadway surface area (Exhibit No. 1) since approximately 2010.

The 1.2M s.f. represents approximately 7% of the streets in Carson that are recommended for slurry sealing from the PMP report. In between the cycle program, the Maintenance Division performs its regular maintenance and repair based on the available funds budgeted. It should be noted that the city has approximately 51.3M s.f of roadway system. The percentage of streets that are slurry sealed over a 10-year cycle is only 35% of the entire roadway system the City owns and maintains. The remaining 65% is either in good condition or has grind and overlay activities.

For the year FY 21/22, the City will slurry seal the following area:

- Maintenance Zone 1 - bordered by Rainsbury Avenue, Bitterlake Street, Central Avenue, Victoria Street, with an approximate square footage of 400,000 s.f.
- Maintenance Zone 5 - bordered by Figueroa Street, Carson Street, Bonita Street, and 223rd Street, with an approximate square footage of 800,000 s.f.

A location map of the area to be slurry sealed in FY 21/22 is also shown in Exhibit No. 2.

For the year FY 22/23, the City will slurry seal the following area:

- Maintenance Zone 5 bordered by Figueroa Street, Torrance Blvd., Avalon Blvd., and Carson Street. A location map for FY 22/23 slurry sealing is attached as Exhibit No. 3.

In prior years (Fiscal Years 2013-2021), the City has completed the slurry sealing of the following area:

- Maintenance Zone Nos. 4 and 5 (portion) - bordered by the 405 Freeway, Wilmington Avenue, 213th Street, 223rd Street and Bonita Street. Also included was the following four City Parks parking lots: Del Amo Park (CIP Project No.1401), Stevenson Park (CIP Project No. 1410), Dominguez Park (CIP Project No. 1417), and Calas Park (CIP Project No. 1418), given that these parking lot areas were also in need of the same surface treatment. The approximate square footage of the area slurry sealed last year was 1,792,483 s.f. A location map is attached as Exhibit No. 4.
- Maintenance Zone 1 - bordered by the 91 freeway to the south, Billings Drive, 169th Street, and Margay Avenue, with an approximate square footage of 1,250,000 s.f. A location map is attached as Exhibit No. 5.
- Maintenance Zone 3 - bordered by 405 freeway on the north, Avalon Boulevard, Figueroa Street and Sepulveda Boulevard. Also included as part of this project was Turmont Street between Fairman Drive and Central Avenue. The total approximate square footage sealed was 800,000 s.f. A location map is attached as Exhibit No. 6.

- Maintenance Zone 2 - bordered by the 405 freeway on the south, Main Street, Victoria Street, Avalon Boulevard, 189th Street, with an approximate square footage of 1,600,000 s.f. A location map is attached as Exhibit No. 7.

By undertaking a program of planned pavement maintenance such as slurry sealing, considerable savings in rehabilitation costs may be achieved. The pavement surface will remain sound, usable, and safe. Extensive downtime needed to repair deep cracks and potholes will be reduced or eliminated.

However, it is important to note that streets that require slurry sealing are only a portion of the City's roadways. To prevent the decline of the PCI, the City will need to invest more in street rehabilitation and reconstruction. Staff will return in the future to discuss possible strategies to accomplish this as part of the budget process.

V. FISCAL IMPACT

None, this staff report is for information only, no funding is requested as part of the report.

VI. EXHIBITS

1. Location Map - Citywide Annual Slurry Sealing (pg. 5)
2. Location Map - On-going Slurry Seal Project, FY 21/22 (pgs. 6-9)
3. Location Map - Future Slurry Seal Project, FY 22/23 (pgs. 10-13)
4. Location Map - Completed Slurry Sealing, FY 20/21 (pgs. 14-16)
5. Location Map - Completed Slurry Sealing, FY 13/14 (pgs. 17-20)
6. Location Map - Completed Slurry Sealing, FY 16/17 (pgs. 21-23)
7. Location Map - Completed Slurry Sealing, FY 18/19 (pgs. 24-28)

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