



## CITY COUNCIL MEMORANDUM

**FROM:** The Office of the City Manager      **DATE:** January 27, 2020  
**SUBJECT:** Consider the 2019-2020 Preventive Street Maintenance Program.  
**PRESENTER:** Boe Blankenship, Public Works Operations Manager

### **SUMMARY:**

The Public Works Department has developed a comprehensive recommendation for the Preventive Street Maintenance Program and a 2-year plan of action for your consideration. The proposed program is comprised of six types of preventive maintenance techniques ranging in scope from full-depth subgrade stabilization and resurfacing to crack sealing, and incorporates 163 different streets into the program.

### **GENERAL DESCRIPTION:**

The Preventive Street Maintenance Program was created to invest in proactively maintaining the city's streets to prolong their useful life. In years past, the priorities were set based on condition rating assessed by visual staff observations which has proven successful for a number of years. Recently, pavement analysis using the latest technology has become more cost-effective, and we were recently able to have the city's roadway network surveyed and assessed using a company that utilizes this technology to conduct roadway assessments. Using tools such as ground penetrating radar, the technology is able to ascertain what is occurring below the pavement surface, allowing the prediction of subgrade failure and future pavement issues. This scientific method of surveying the city's streets, coupled with data analysis to establish a more objective street condition rating, is the basis of both this year's program as well as a long-term plan of action that will make better use of available maintenance funds to improve overall street conditions.

The six types of preventive maintenance techniques include the three that staff has utilized for several years (Crack Seal, Slurry Seal and 2" Asphalt Overlay) along with three new techniques (Micro Surfacing, Crack Sealing concrete streets, Partial Pavement Replacement). Two of the three new techniques are a result of staff recommending preventive maintenance on some concrete streets as an addition to the preventive street maintenance program this year. All six techniques are summarized below:

#### **Asphalt Streets:**

1. Crack Seal – This technique involves sealing the large cracks in the pavement in order to prevent water and debris from getting to the subgrade. This extends the longevity of the pavement.
2. Slurry Seal – This technique is an application of asphalt and very small aggregate that is used to seal the fine cracks in the pavement. This process



covers the entire surface of the roadway and is used for less traveled streets such as residential streets.

3. Micro Surfacing – This technique is similar to a Slurry Seal except the asphalt application consists of material that is more durable and will hold up on more traveled roadways such as collector streets.
4. 2” Asphalt Overlay – This technique involves the application of a new 2” thick asphalt surface over the existing pavement.

Concrete Streets: (New to the program this Year)

5. Crack Seal – This technique serves the same purpose as the Crack Seal for asphalt streets but it is a different material and needs to be applied somewhat differently.
6. Partial Pavement Replacement – This technique involves replacing bad areas of concrete pavement. The size of the area replaced can range in size from a few square feet to a few panels.

The 2019-2020 Combined Program is a two-year program proposed by Staff, and recommended by the Council Capital Improvement Program (CIP) committee. The list of streets being recommended for each of the 6 different techniques along with location maps is included for reference.

Additionally, this program includes the rehabilitation of Meadow Road from Chapman Drive to Hightower Drive to be completed in partnership with Tarrant County Precinct #3. The city's Preventive Street Maintenance Program has utilized Tarrant County's paving services through interlocal agreements on one or more streets per year since 2011. This partnership with Tarrant County has been successful for several years. Recent cooperative programs include streets like Eden Road and Susan Lee Lane.

Staff presented this year's program to the CIP Committee on Tuesday, December 3, 2019, and the committee voted to recommend approval of the recommended program.

The following exhibits identify the streets recommended in the 2019-20 Preventive Street Maintenance Program.

- Map & Listing of 2019-20 Asphalt Overlay
- Map & Listing of 2019-20 Slurry Seal
- Map & Listing of 2019-20 Crack Seal
- Map & Listing of 2019-20 Microsurface
- Map & Listing of 2019-20 Concrete Crack Seal
- Map & Listing of 2019-20 Partial Concrete Pavement Replacement
- Map of 2019-20 Overall

The funding for Preventive Street Maintenance Projects is included as part of the FY 19-20 Adopted Capital Budget as (SM1901, SM1902, and SM2001) and totals \$2,600,000.00.



**RECOMMENDATION:**

Staff recommends approval of the 2019-20 Preventive Street Maintenance Program.