

# Public Services Infrastructure: 2018 and Forward

## 2018 Construction Projects Goal:

Calendar 2018 paving and utility projects are planned throughout the City, helping advance the City's Sustainability Systems goal:



## Sustainable Systems Goal:

Plan for and manage constructed and natural infrastructure systems to meet the current and future needs of our community

## Streets:

### Planned Calendar 2018 Street Construction Projects

Consistent with the City and MDOT-approved Pavement Asset Management Plan, the “mix of fixes” used this year on street projects will include three types:

- *Reconstruction projects* in which the entire roadway is removed, as well as the soil underneath. Utilities and drainage are addressed, curb and gutter is added or replaced. The Road base is rebuilt and new pavement placed on top. As these are the most expensive types of road projects, use of this technique is limited.
- *Resurfacing projects* in which part or all of the asphalt is removed, curb and gutter repairs made if necessary, and new asphalt placed. Sidewalk ramps are replaced (to achieve ADA compliance), and drainage structures and manholes are repaired.
- *Capital Preventive Maintenance Projects* that could include removing a thin layer of asphalt and replacing, sealing cracks, or treating and sealing the surface of the street.

Figure 1 depicts the streets to be treated. With a Level of Service goal of having 80% of the City's streets at a rated level of 7 or better (“Good to Excellent”) by 2025, the City is following an asset management model that places heavy emphasis on capital preventive maintenance projects for 2018. This approach helps stabilize and elevate streets presently in fair to good condition. Heavy investment in this type of treatment going forward is the only feasible method of achieving the stated goal within current funding levels.

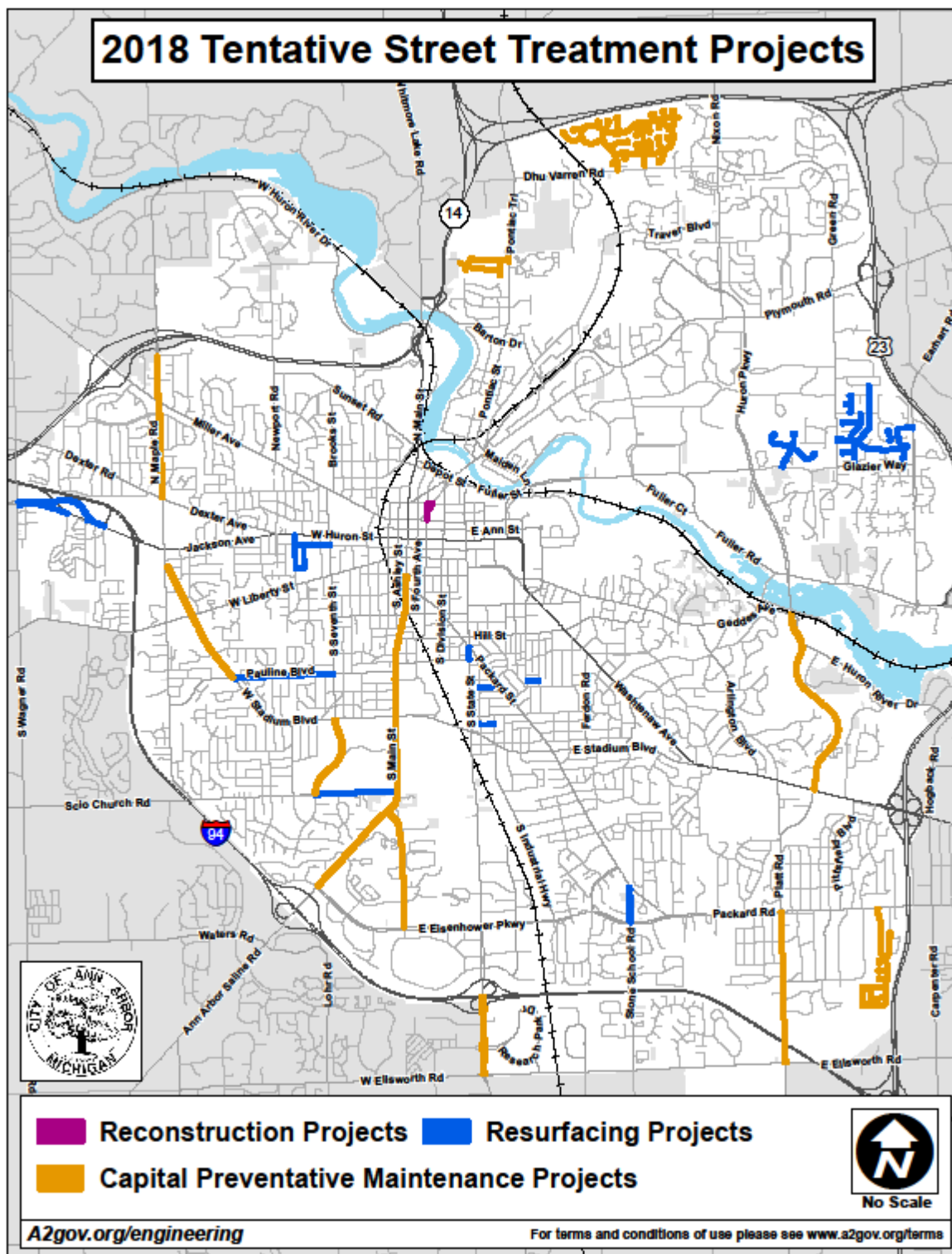


Figure 1

### 2018 Street Reconstruction Projects:

- North Fifth Avenue (Kingsley to Catherine)
- Detroit Street (N. Fifth Ave to Kingsley)

### 2018 Resurfacing Projects:

- Jackson Avenue (I-94 to city limits)
- Pauline (Stadium to Seventh)
- Scio Church Road (Main to Seventh)
- Seventh Street (Scio Church to Stadium Blvd)
- South State Street (Packard to Hoover)
- Stone School Road (Packard to Eisenhower)
- Bardstown Trail (Charter Place to Middleton)
- Barrister Drive (Windemere to Larchmont)
- Brookwood Place (White to Packard) - with utility project
- Buena Vista Avenue (Washington to Crest) - with utility project
- Crest Avenue (Huron to Buena Vista) - with utility project
- East Dobson Place (Wolverhampton to easterly end)
- West Dobson Place (Wolverhampton to westerly end)
- Fairmont Drive (Kipling to southerly end)
- Horman Court (Forest to Olivia) - with utility project
- Kipling Drive (Earhart to Fairmont)
- McGregor Lane (Larchmont to Chatham)
- Prestwick Court (McGregor to westerly end)
- Severn Court (Wynnstone to northerly end)
- Sturbridge Court (Bardstown to westerly end)
- Sulgrave Place (Barrister to westerly end)
- Sycamore Place (White to Park) - with utility project
- Washington Street (Crest to Seventh) - with utility project
- Windemere Drive (Green to easterly end)
- Wolverhampton Lane (Glazier Way to northerly end)

### 2018 Street Capital Preventive Maintenance Projects:

#### Major streets:

- Ann Arbor-Saline (West Eisenhower/Brookfield to South Main)
- North Maple Road (Dexter Avenue to Foss Street)
- Platt Road (East Ellsworth to Packard)
- South Huron Pkwy (Washtenaw to southerly end of Huron River bridge)
- South Main (West Eisenhower Parkway to Ann Arbor-Saline)
- South Main (Ann Arbor-Saline to East Stadium/West Stadium)
- South Main (Stadium to East William/West William)
- West Stadium (Pauline to South Maple)

## 2018 Street Capital Preventive Maintenance Projects:

### Local streets:

- Alisa Craig Drive - (Turnberry Lane to northerly and Westerly end of cul-de-sacs)
- Birchwood Court - (Birchwood Drive to northerly end of cul-de-sac)
- Birchwood Drive - (Dhu Varren Road to Hickory Point Drive/Birchwood Court)
- CaCanny Court - (Turnberry Lane to westerly end of cul-de-sac)
- Canyon Court - (Birchwood Drive to westerly end of cul-de-sac)
- Cloverdale Street - (Skydale Drive to southerly dead end)
- Deer Creek Court - (Foxway Drive to southerly end of cul-de-sac)
- Eagle Court - (Hickory Point Drive to southerly end of cul-de-sac)
- Fairhaven Court - (Foxway Drive to northerly end of cul-de-sac)
- Falcon Court - (Hickory Point Drive to southerly end of cul-de-sac)
- Fawn Meadow Court - (Foxway Drive to northerly end of cul-de-sac)
- Featherstone Court - (Hickory Point Drive to Northerly end of cul-de-sac)
- Foxway Court - (Hickory Point Drive to Northerly end of cul-de-sac)
- Foxway Drive - (Birchwood Drive to Hickory Point Drive)
- Goat Fell Court - (Turnberry Lane to Turnberry Lane)
- Hickory Point Drive - (Birchwood Drive to easterly dead end)
- Hilldale Drive - (Skydale Drive to southerly dead end)
- Idlewild Court - (Southerly end of cul-de-sac to Foxway Drive)
- Indian Creek Circle - (Hickory Point Drive to westerly end of cul-de-sac)
- Larkspur Street - (Cloverdale Street to city/township limit)
- Mallard Court - (Foxway Drive to easterly end of cul-de-sac)
- Monument Drive - (Roon The Ben Drive to Turnberry Ln)
- Omlesaad Drive - (Dhu Varren Road to Hickory Point Drive)
- Otter Creek Court - (Hickory Point Drive to northerly end of cul-de-sac)
- Pinebluff Court - (Hickory Point Drive to northerly end of cul-de-sac)
- Roon the Ben Drive - (Turnberry Lane to Turnberry Lane)
- Shamrock Court - (Hickory Point Drive to Southerly end of cul-de-sac)
- Skydale Drive - (Hilldale Drive to Pontiac Trail)
- Spring Hollow Court - (Foxway Drive to northerly end of cul-de-sac)
- Woodhaven Court - (Hickory Point Drive to westerly end of cul-de-sac)
- Woe Be Tide Court - (Roon The Ben Drive to Roon The Ben Drive)
- White Tail Run Court - (Foxway Drive to Westerly end of cul-de-sac)
- Redland Court - (Hickory Point Drive to Northerly end of cul-de-sac)
- Weeburn Court - (Turnberry Lane to Westerly end of cul-de-sac)
- Turnberry Lane - (Packard Street to Roon The Ben Drive)
- Timbercrest Court - (Birchwood Drive to Easterly end of cul-de-sac)

## 2018 Road Reconstruction/Underground Utility Projects:

- Riverview Drive Project
- Pauline Blvd Water Main Replacement Project
- Nixon Rd/Dhu Varren/Green intersection - roundabout/reconstruction
- Scio Church Improvements project
- Crest, Buena Vista, Washington water main replacement project

2018 Sidewalk Repair Areas are illustrated in Figure 2 following. In addition, new sidewalks will be installed on Federal/Commerce and on Green (Burbank to Burbank).



## City of Ann Arbor - Ramp & Sidewalk Repair Program 2018 Construction Areas

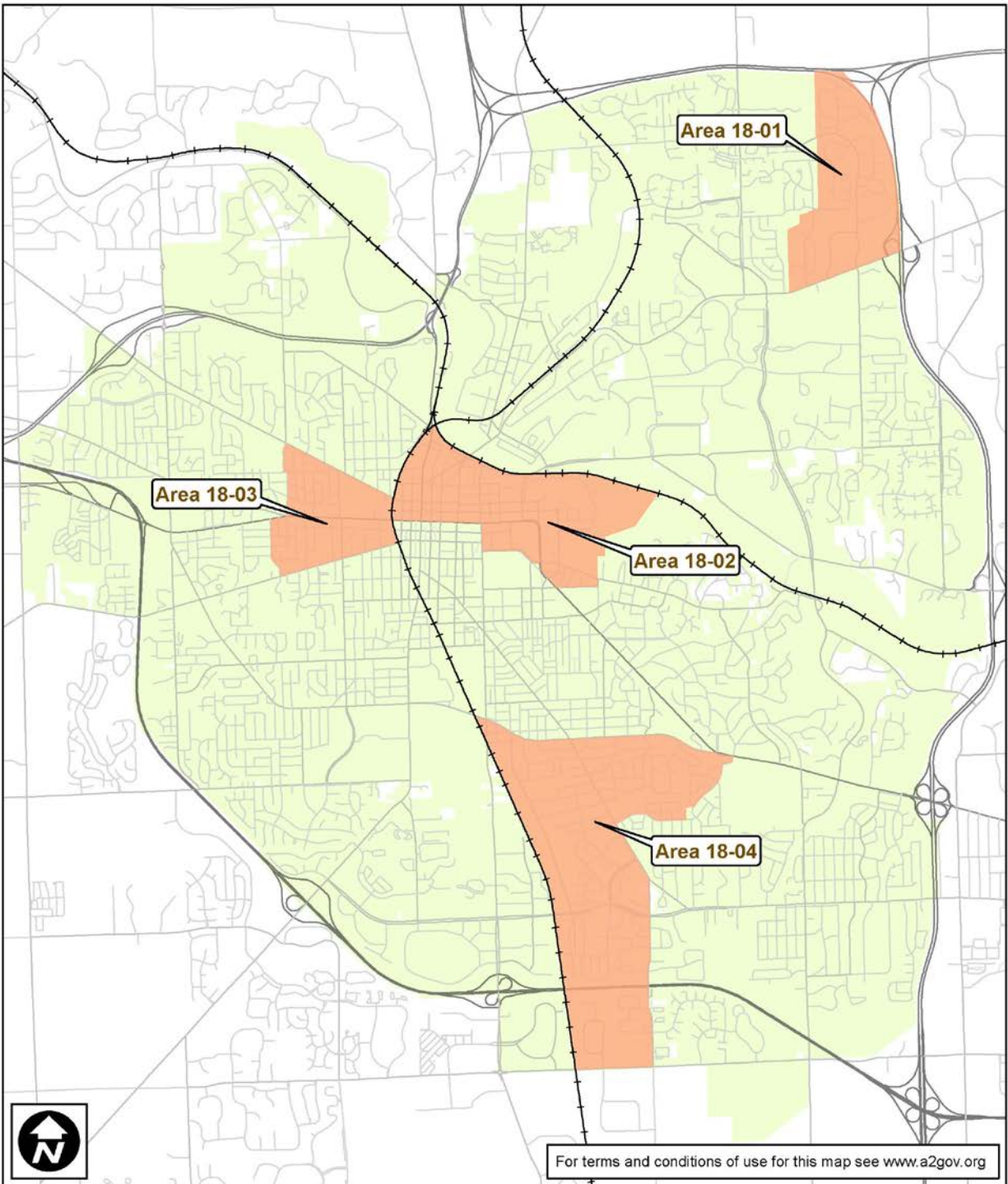


Figure 2

### Progress Indicators for Miles of Roads Treated and Pavement Ratings:

The two key performance indicators established for tracking progress on the goals of the City's Pavement Asset Management Plan were:

- Miles of Road Treated
- Pavement Ratings

Figure 3 depicts progress on the miles of roads treated since such tracking was instituted in 2014. The shift in emphasis from reconstruction and resurfacing to capital preventive maintenance is evident even prior to the formal completion of the Pavement Asset Management Plan and its approval by the State's Transportation Asset Management Council on January 23, 2017.

Figures for FY2018 are incomplete. Spring street treatment projects will add significantly to these figures.

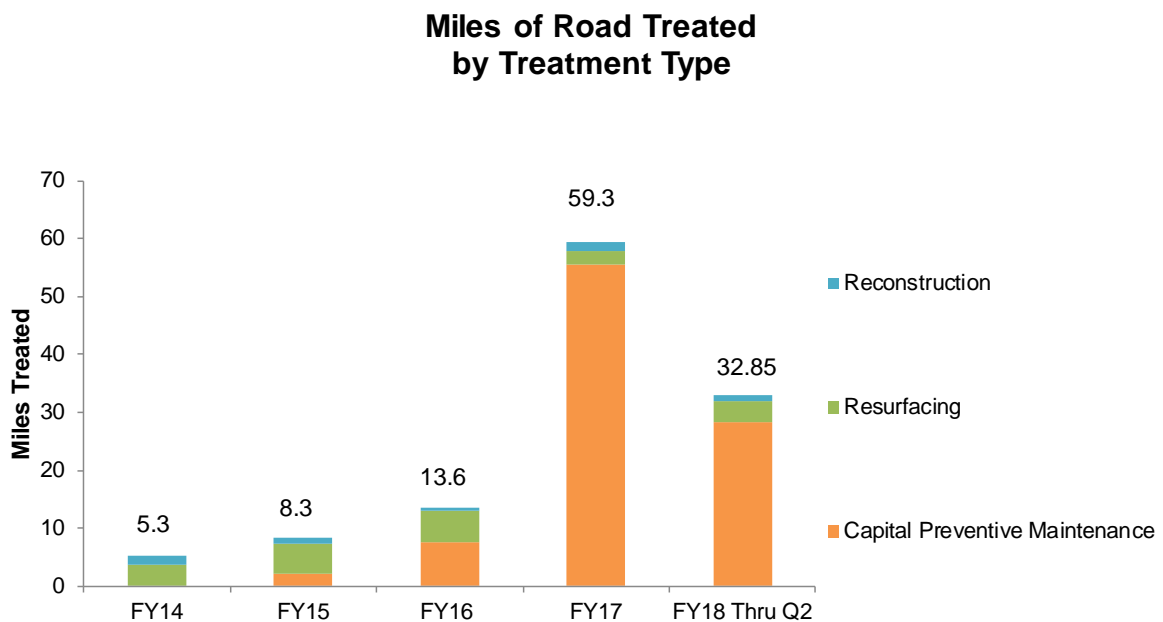


Figure 3

## Pavement Ratings Update:

In April of 2014, the City hired a consultant to rate all of its paved streets, providing a historic first-ever look at the condition of the entire system at a single point in time. Prior to that effort, condition ratings had been undertaken for only about 20% of the system annually.

In June of 2017, the consultant returned and again rated all of the City's paved streets. Ratings were conducted in both cases using a detailed technique to create a Pavement Condition Index (PCI) score. This score was then converted by a University of Wisconsin formula to the Pavement Surface Evaluation and Rating (PASER) scale adopted by MDOT. This system utilizes a "windshield" level rating system with descriptors per Figure 4 below.

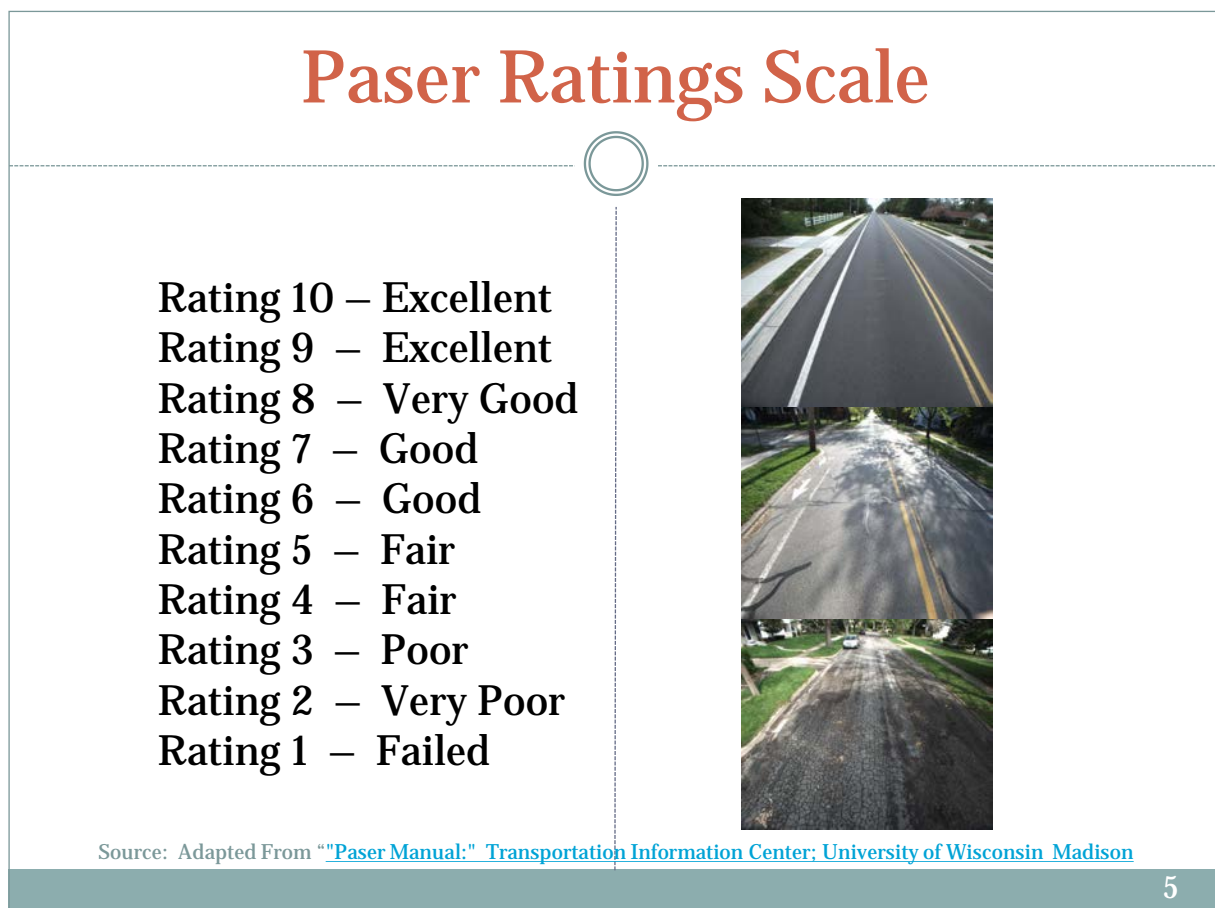


Figure 4

Note that while a rating of 6 is also considered "Good," the City chose to adopt a rating of 7 or above as its target goal.

Figures 5 and 6 following depict the current ratings for Major and Local streets and provide comparison to the 2014 figures.



Figure 5

The results for streets in the City's Act 51 Major street system indicate progress is being made towards the target goal to increase the percentage of such streets at a PASER rating of 7 or better. The percentage in that category increased 4% from 2014 to 2017.

Beginning in FY16, aggressive use of capital preventive maintenance treatments suitable to streets in the 5-6 rating range helped bring about the result of successfully elevating such streets into the target 7+ range.



# PASER Ratings: Local Streets

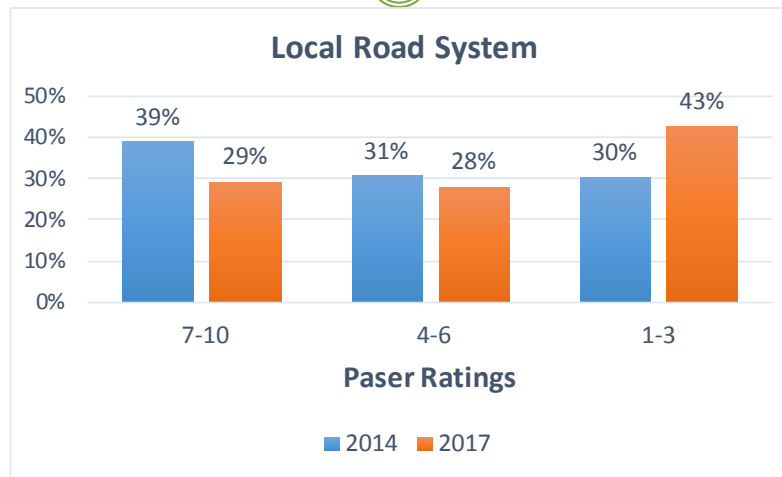


Figure 6

For streets in the City's Act 51 Local street system, initial concentration was on crack sealing as a capital preventive maintenance measure. This critical technique extends the time during which streets stay at a rating of 7 or above but does not elevate streets with a lower rating into the target category.

Achieving progress towards improving ratings in the Local street category faces many challenges. Of particular significance, outside funding sources (federal Surface Transportation, Act 51, and county millage funds) are heavily geared toward Major Streets and yet Local Streets represent about two-thirds of the City's street system.

As a result, initial efforts to diversify the "mix of mixes" to improve street conditions were concentrated heavily on the Major street system using funds from the newly created county millage and increased Act 51 revenue. Other already-committed high dollar projects such as the Stadium Boulevard reconstruction further skewed efforts towards the Major Street system.

While the Local street system is presently in the "darkness before the dawn" stage, several targeted strategy changes should serve to elevate the overall ratings this portion of the street system at a brisk pace (see Strategy section below).

## Pavement Strategy Moving Forward

To continue progress on improved Major Street pavement ratings, and to reverse the downward pavement ratings trend on Local streets, a number of strategies will be implemented.

### 1) Pavement Asset management Model Update:

A significant update to the City's Pavement Asset Management model (as generated using MDOT's Roadsoft software) is planned for completion in advance of development of the 2020-2026 Capital Improvement Plan.

### 2) Funding Shifts

To the largest extent possible, any Major Street projects presently proposed to be funded by the City's Street, Bridge, and Sidewalk Millage will be switched to utilizing outside funding sources (County Millage, Surface Transportation Program, and Act 51). This funding shift will serve to maximize the amount of funds available to direct to Local streets while continuing successful progress on Major streets.

### 3) Implementation of New Capital Preventive Maintenance Technique

This spring, the city is launching a new category of capital preventive maintenance fixes called "surface treatments" which amend and seal existing pavement surfaces. This work will be heavily focused on local streets over the next few years.

The effect of such surface treatments will be to increase the pavement ratings of streets in the 5-6 range to the 8-9 range and foster considerable progress towards the City's Level of Service goal.

In calendar 2018, the City will apply such surface treatments to about 22 miles of Local streets (about 11% of that system) and 9 miles of Major streets (about 9% of the system).

### 4) Continued Use of Standard Pavement Treatments

While overall treatment strategy has switched from a "worst first" approach to one emphasizing CPM treatments, the City will continue to spend funds on pavement treatments such as reconstruction and rehabilitation.

Such available traditional treatment dollars will be directed almost exclusively to treat streets near the bottom of the rating scale. As CPM treatments gradually

elevate the overall condition of the City's street system, an increasing amount of funding will be directed towards this effort. However, in order to achieve long term goals, a number of these streets will remain low-rated for some time.

## Utility Systems:

### Planned Calendar 2018 Utility Construction Projects

A number of underground utility projects are planned for construction in calendar 2018 as illustrated in Figure 7.

### Progress on Utility Asset Management Plans

#### Sanitary Sewer and Stormwater Systems:

- The City has retained the consulting team of CH2M and OHM to develop sanitary sewer and stormwater asset management plans
- Projected completion date for these plans is the end of calendar 2018
- Overall projections are that the systems are in good condition
- However, the need for additional condition assessment has been identified
- Assetic has been chosen as asset management planning software for use in these systems
- Assetic will also be a tool for use by other asset groups and has already been utilized for development of a pilot plan for the City's streetlight system

#### Water System:

- In December 2017, the City submitted a Water Asset Management plan to the Michigan Department of Environmental Quality to meet permit requirements
- It is anticipated that tools and software utilized in development of the sanitary sewer and stormwater asset management plans will ultimately be employed to further refine this plan

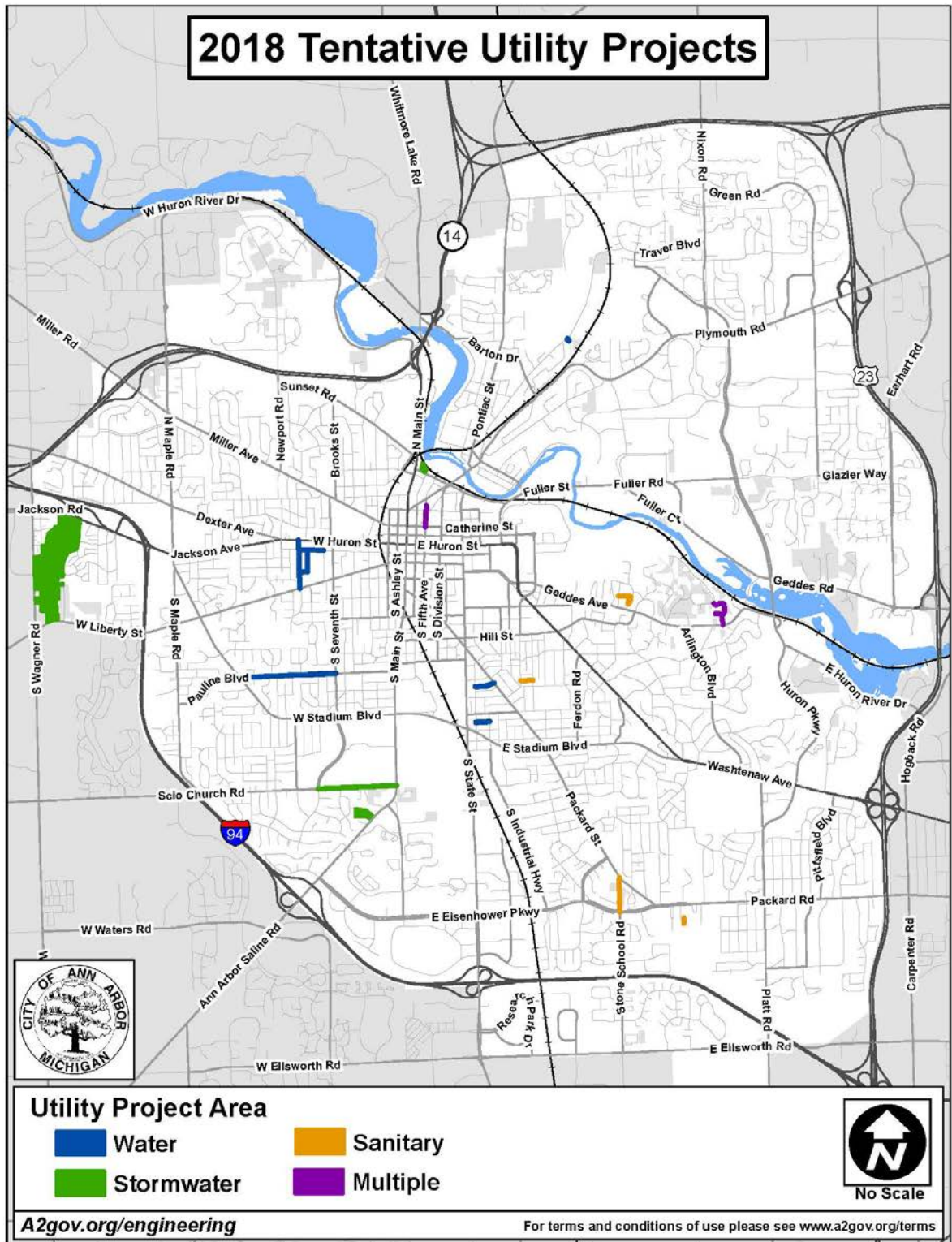


Figure 7