DEPARTMENT

results

minneapolis

Public Works

2016

Street Infrastructure Plan

- Context within Public Works goals and objectives.
- Pavement Condition Index (PCI) and its history as a measure.
- Next Steps
  - Condition Factors
  - Other Factors

Department Vision

To provide excellent urban infrastructure and services for Minneapolis.

Public Works Department Goals

- Engaged and talented employees reflect our community, have the resources they need to succeed and are empowered to improve our efficiency and effectiveness.
- All people have access to high-quality and convenient transportation options which connect every corner of the City.
- The City's infrastructure is managed and improved for current and future needs.
- Public Works operations and services are efficient, effective, sustainable, results driven, and customer focused.

Department Vision

To provide excellent urban infrastructure and services for Minneapolis.

Department Goal

The City's infrastructure is managed and improved for current and future needs.

Department Objectives

Plan
Make asset lifecycle decisions and optimize investment and reinvestment.

Program
Manage short-term and long-term finances through proactive financial planning

Design & Construct
Infrastructure that meets policy objectives and accepted professional standards.

Maintain
Transportation and utility infrastructure

Street Infrastructure Plan

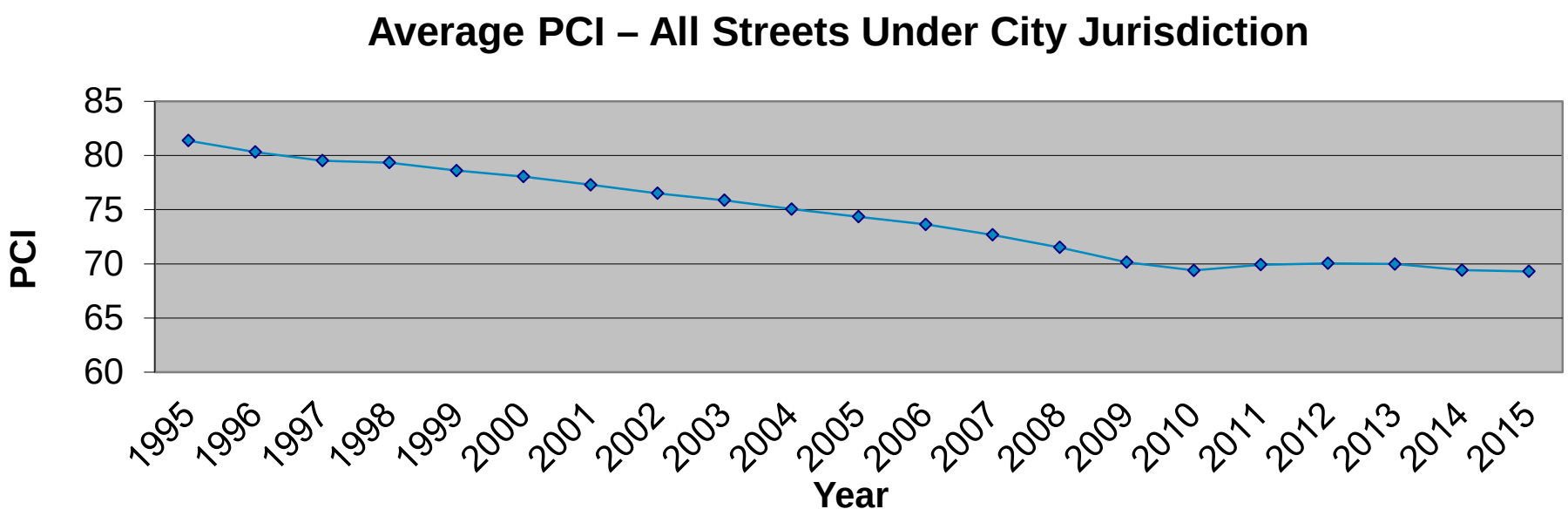
Department Goal	The City's infrastructure is managed and improved for current and future needs.			
2015 Results & Rationale	**Plan** Updated gap projections and presented to policy makers. Proposed new approach to evaluating street system.	**Program** Balanced five-year capital plan to debt targets provided by finance department.	**Design & Construct** Reconstructed 1.5 miles of streets. Resurfaced 30 miles of streets.	**Maintain** Crack sealing and seal-coating program.
2016 Approach	**Plan** Determine approach to programing new funding. Consider condition and other factors.	**Program** Create new long-term pavement plan using new funding.	**Design & Construct** Evaluate adopted five-year plan for projects that could be accelerated. Start design work if possible.	**Maintain** No change for 2016.

Pavement Condition Index

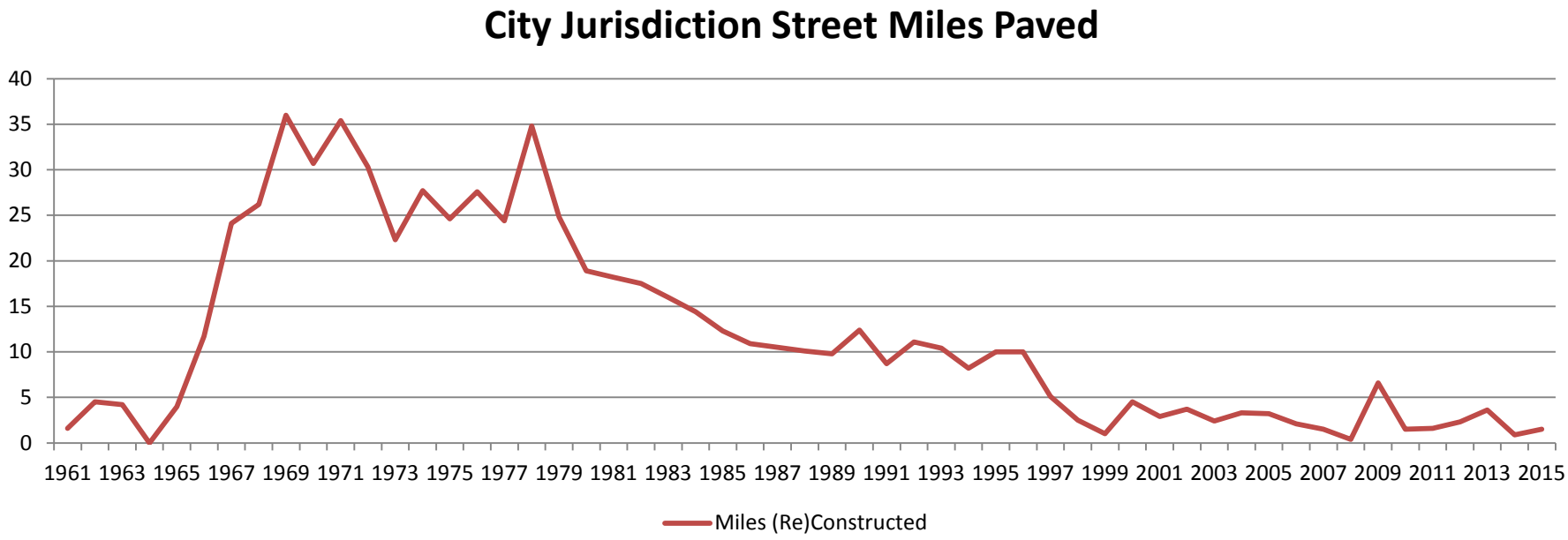
Pavement Condition Index

Pavement Condition Index (PCI) is the city's historic indicator for a high value city asset and an original Public Works Results Minneapolis measure. In addition to being valuable, pavement quality is an issue that is visible to the public and that influences the reputation of the city.

PCI measurement over time shows the outcomes of the City's financial and policy decisions on street maintenance and construction funding. It is an important measure because looking at PCI values over time can show trends in the overall condition of city streets. The chart below shows PCI history since 1995 and indicates an overall declining trend.



Pavement Condition Index



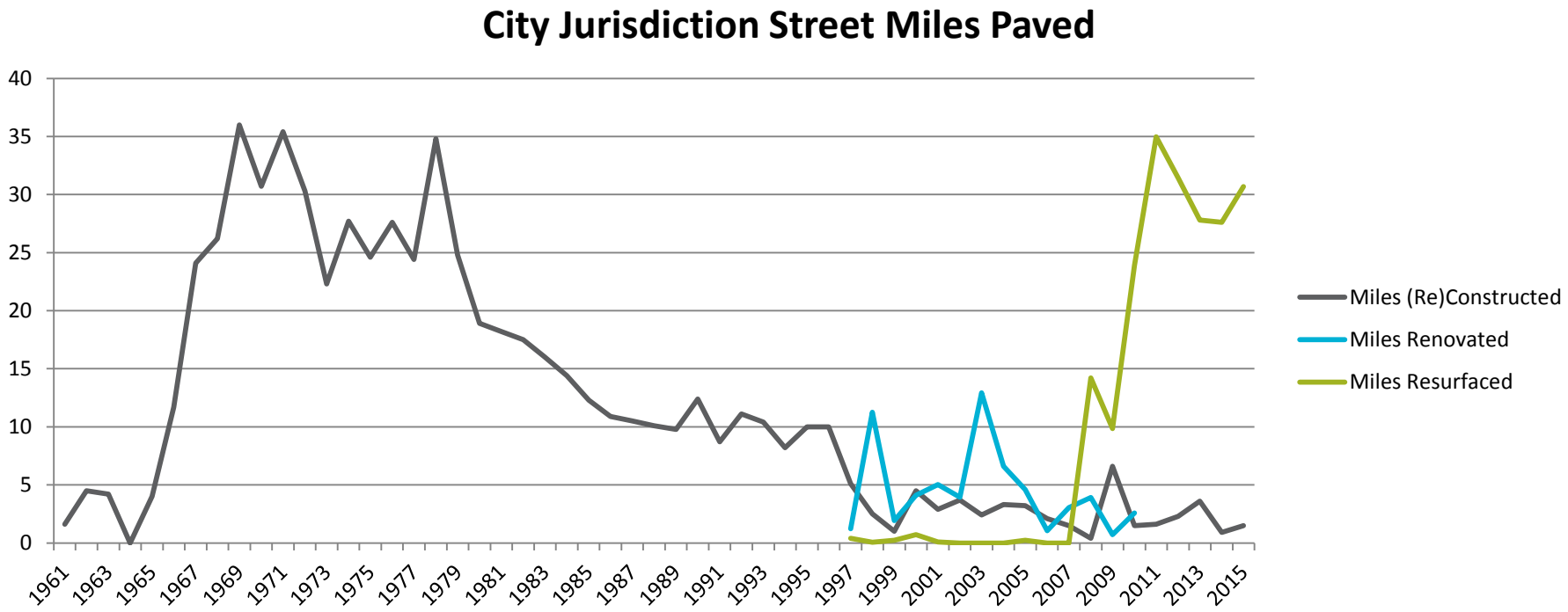
Residential Paving Program

Prior to 1960 all residential streets in Minneapolis were considered unpaved. Each street had an oiled-dirt surface with old curbs. By the 1950s, potholes and poor drainage were common. There was also a need to separate the combined sanitary/storm sewers.

The severe winter of 1964/1965 caused a city-wide breakup of the oiled-dirt streets. The council adopted and funded a long term program to construct 600 miles of streets. The program was completed in 1997.

The aging of the streets constructed in this program and the inability to continue investing in reconstruction projects are significant factors in the overall PCI trend.

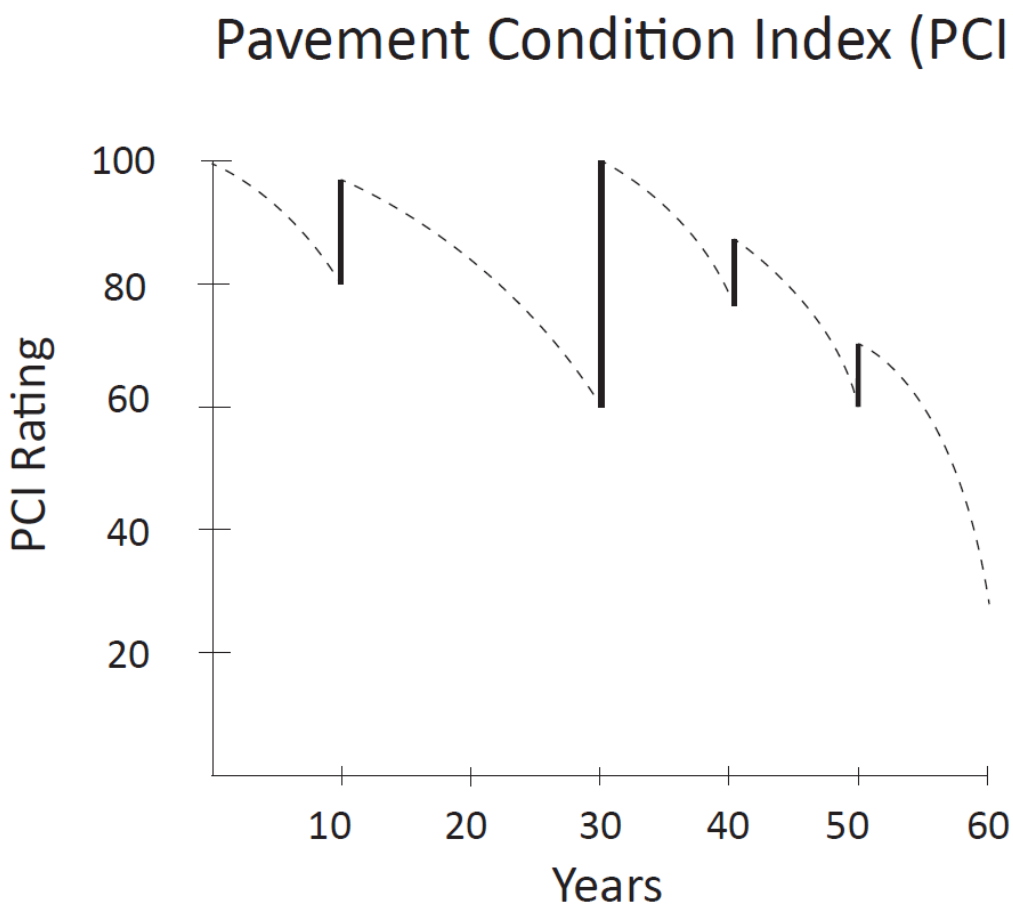
Pavement Condition Index



Funding Realities

Limited resources for paving created the need explore other pavement management options. The Resurfacing Program, started in 2008, allowed the department to place a new surface on many miles of city streets for a fraction of the cost of full reconstruction. This program created many benefits including a reduction in potholes and a slowing of the decline in PCI.

Pavement Condition Index

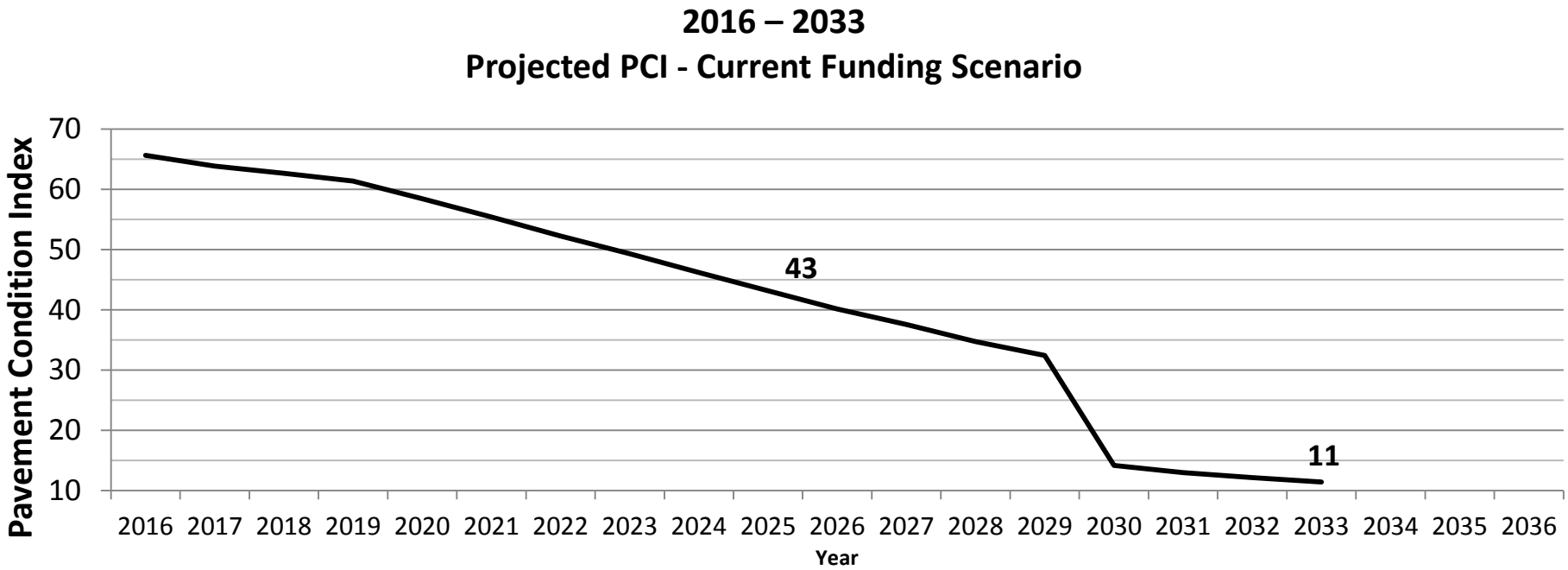


Effective Pavement Management

Even with the perfect maintenance at the perfect time, harsh Minnesota weather and time cause streets to fail.

Late in a street's life, surface fixes such as resurfacing do not last as long due to base failures. Street reconstruction becomes the only effective fix at this point.

Pavement Condition Index



The Future – Current Funding

A downward trend in PCI and the history of the paving program begged the question, what does the future look like for Minneapolis streets? The department hired a consultant to model the future PCI using current funding levels and projected unit costs for construction and maintenance activities.

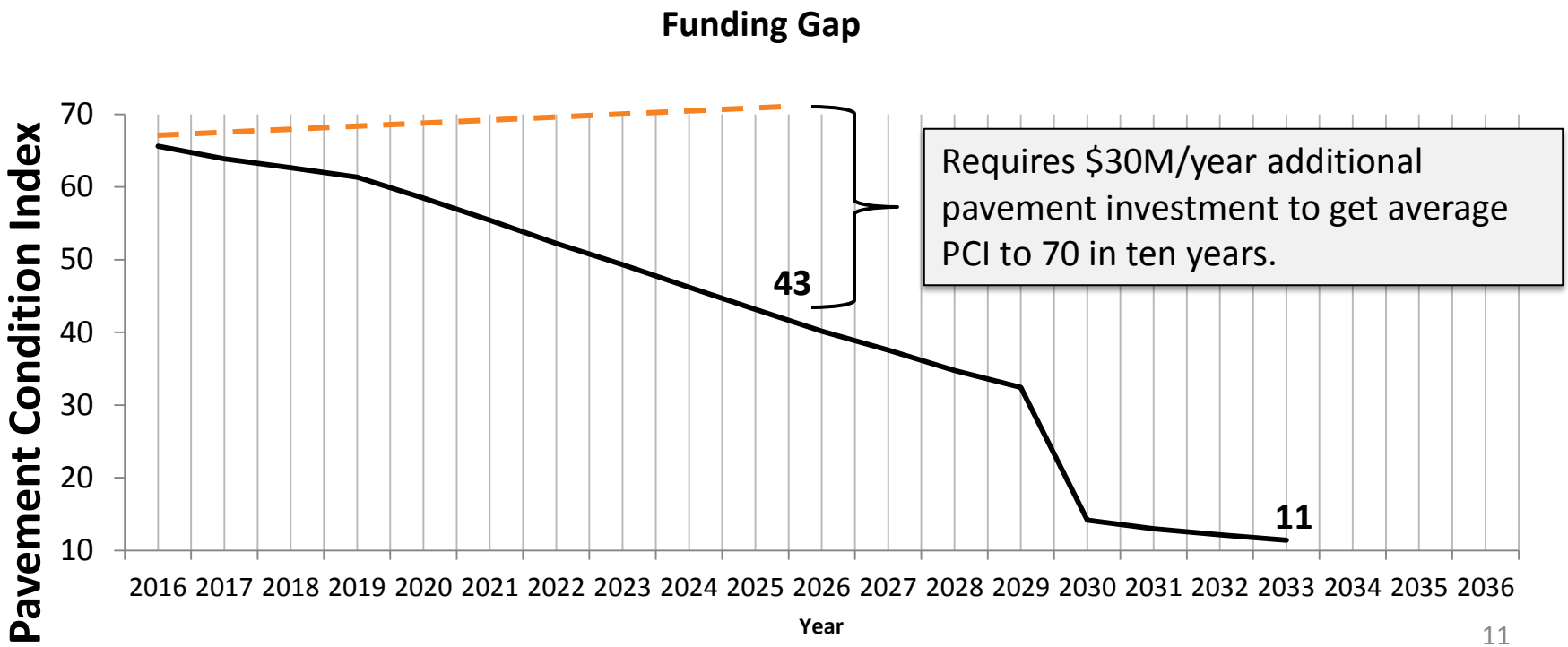
This version of the future is bleak. In 10 years, the system average falls from 68 to 43. In 2030, a large number of failures in the residential network causes the PCI to crash. At this point, residential streets paved during the Residential Paving program in the 1960s and 1970s are 60 to 70 years old.

Pavement Condition Index

A Different Future

The current funding projected pavement condition for that scenario is not consistent with the department's vision and goals. In order to provide policy makers with options, the department analyzed funding levels needed to keep the streets, on average, in a similar condition to 2015. This funding gap was presented to the Mayor and City Council for their consideration.

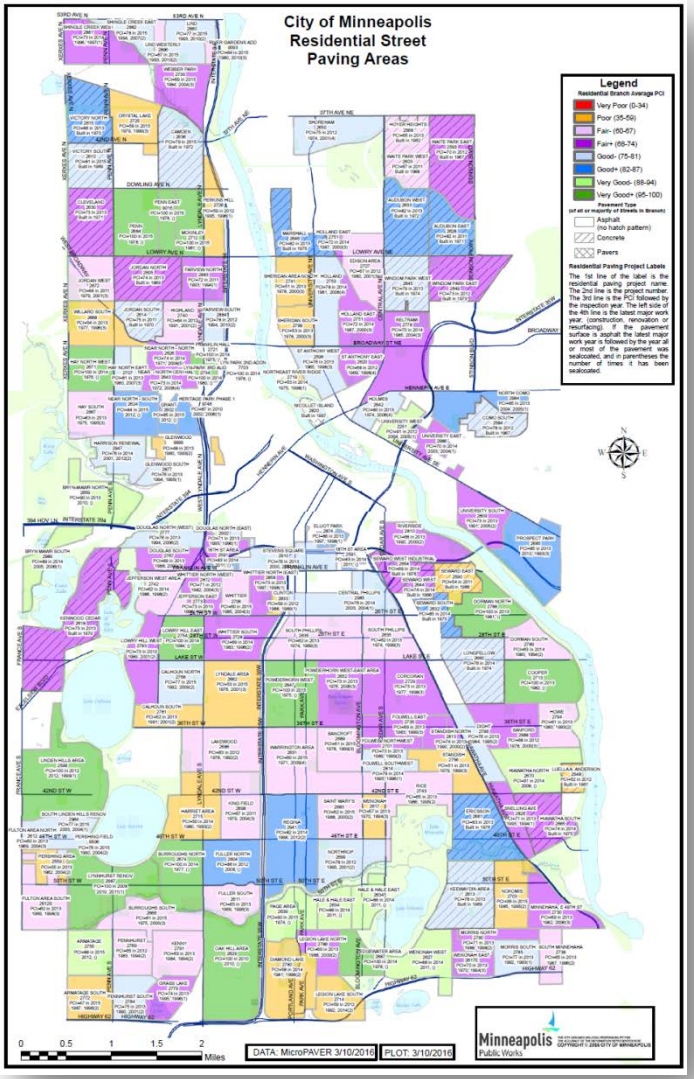
On April 29, 2016, the City Council and Mayor announced a plan to increase pavement investment by $21.2M a year for 20 years.



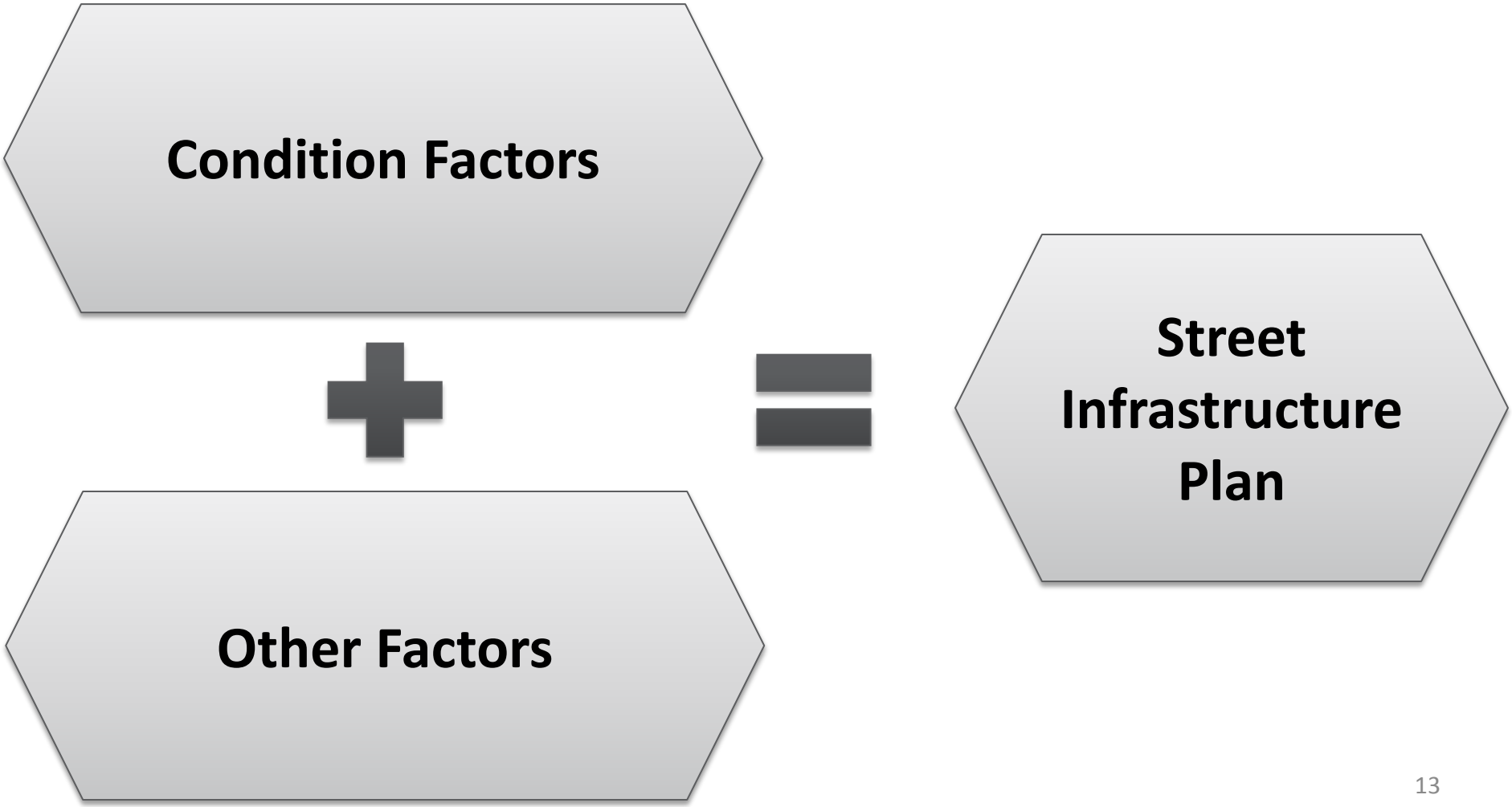
Pavement Condition Index

Next Steps

- Mayor and City Council approves additional $21.2M per year for paving capital on April 29th.
- Public Works needs to develop an additional multiyear program with the new funding.
- What information can we use to maximize effectiveness of program?



Approaching the Program



Condition Factors

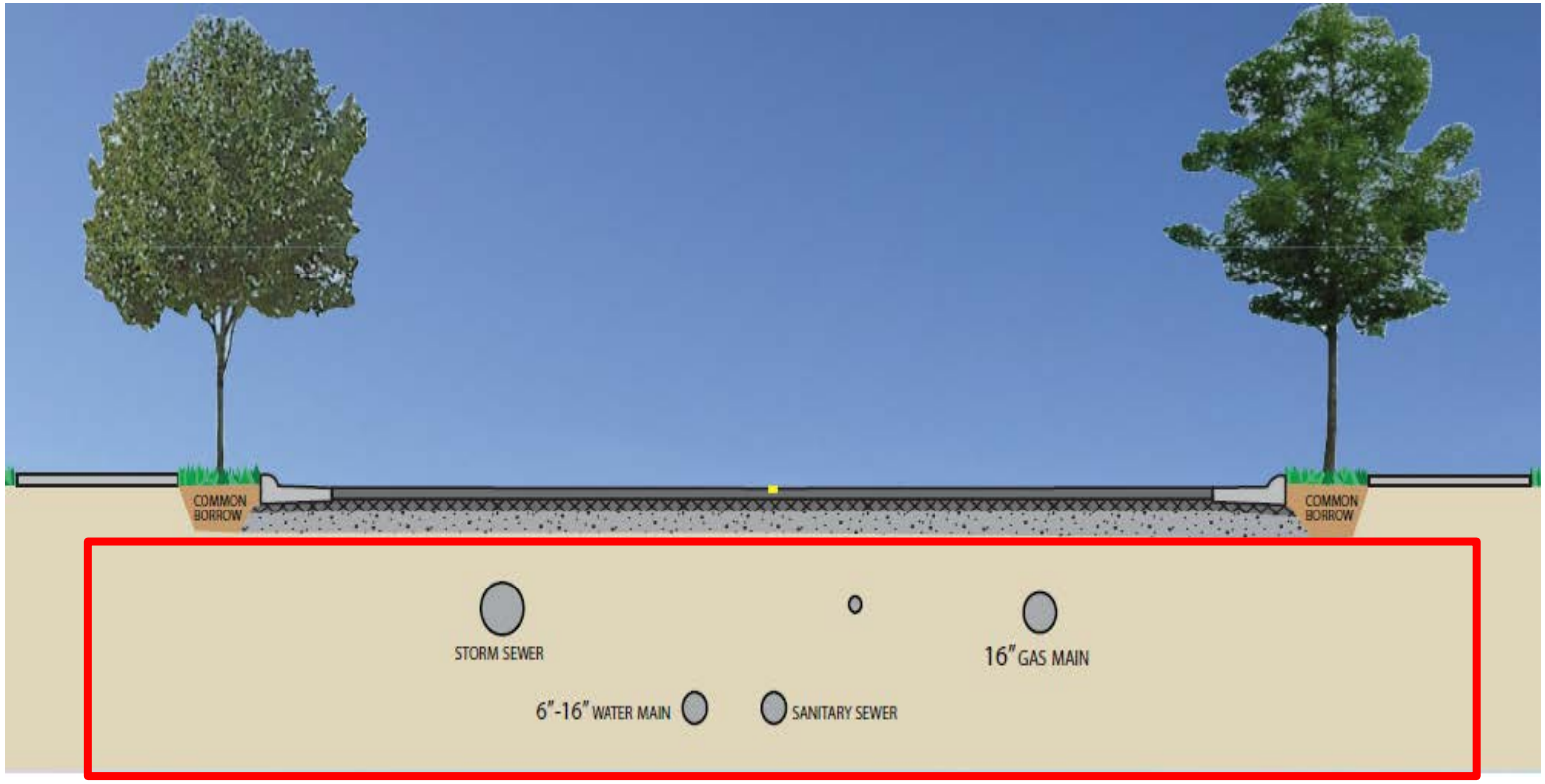
Street Condition

+

Storm Sewer

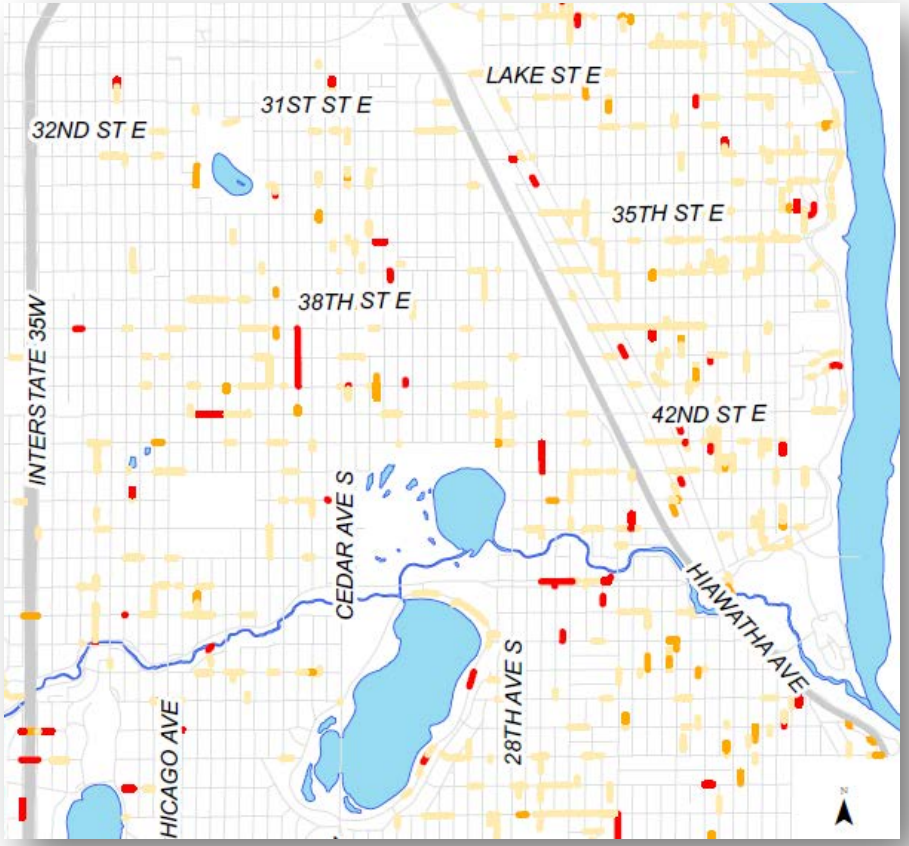
Sanitary Sewer

Drinking Water



Storm Sewer and Sanitary Sewer

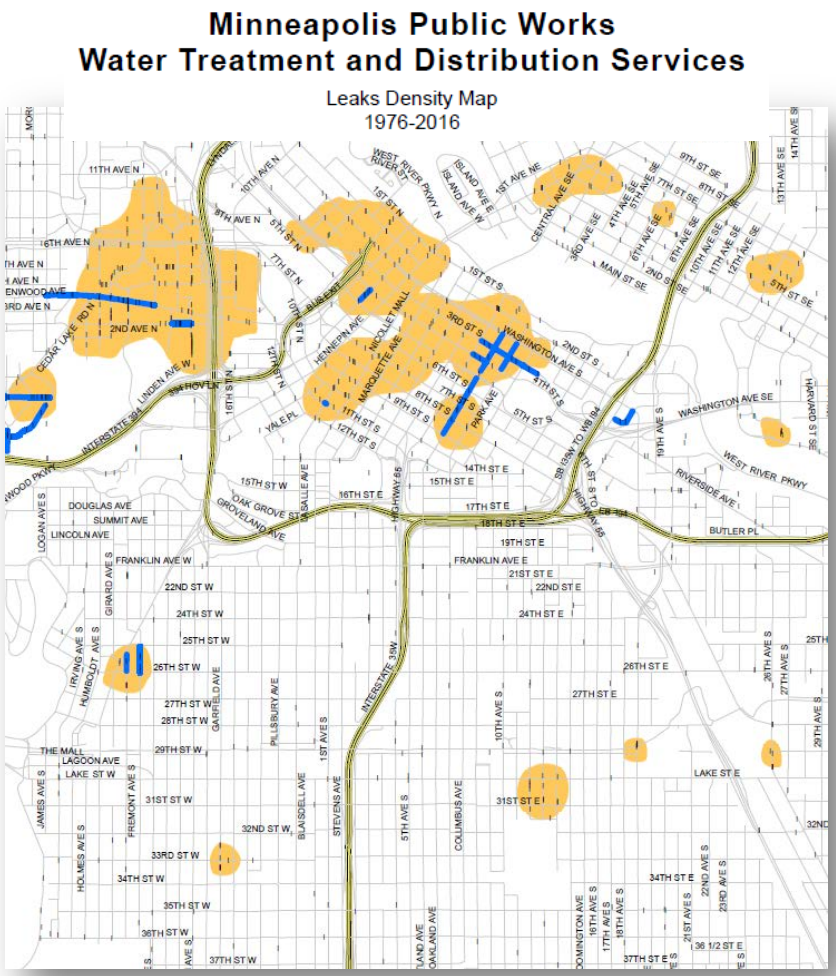
2015 Storm Televising Results
Structural Rating



Data

1. Hydraulic modeling of the storm system.
2. Condition information from televising storm and sanitary system.
3. Water quality issues in receiving water bodies.

Drinking Water

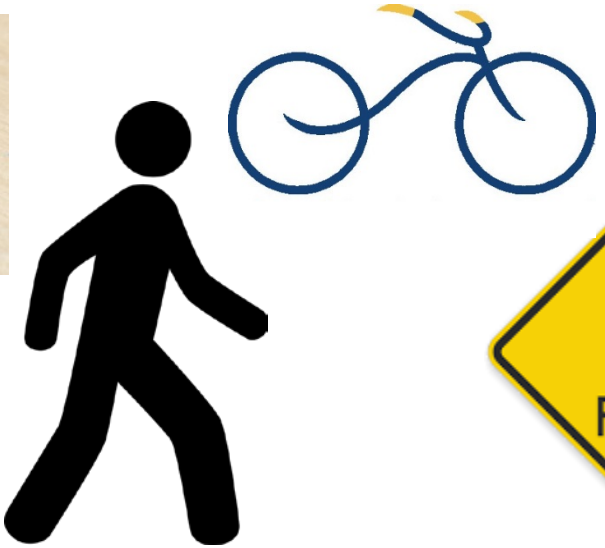


A Risk Based Approach

1. Hydraulic modeling of the drinking water distribution system.
2. Identify critical infrastructure.
3. Develop more linked, robust datasets:
   a) Age and material.
   b) Leak history.
   c) Soils.

Other Factors

16.1230(d)(1) The Public Works Director will make a public presentation to the City Council prior to the City's adoption of the 2017 budget in a report outlining the proposed five year capital project schedule for the Street Infrastructure Plan, ***including its utilization of a criteria based system with a focus on racial and economic equity to determine equitable distribution of funding*** *and the impact to the overall operating costs.*



Equity

Citywide Pavement Condition Index Map with Concentrated Areas of Poverty overlay.

Refer to handout to be given at session

Equity

The Impact of Assessments

Reconstruction Project
Assessment Impact

Residential Assessment
6,320 sq. ft. lot
$5,182 Assessment

Non Residential Assessment
Church (14,834 sq. ft.)
$37,382 Assessment

Street Infrastructure Plan

Next Steps

1. Currently talking to consultants about scope and services.
2. Define criteria.
3. Plan development.
4. Presentation of proposed plan to City Council this fall.

City of Minneapolis Residential Street Paving Areas

Areas of Concentrated Poverty using 2010-2014 Met Council Data

Legend

Residential Branch Average PCI

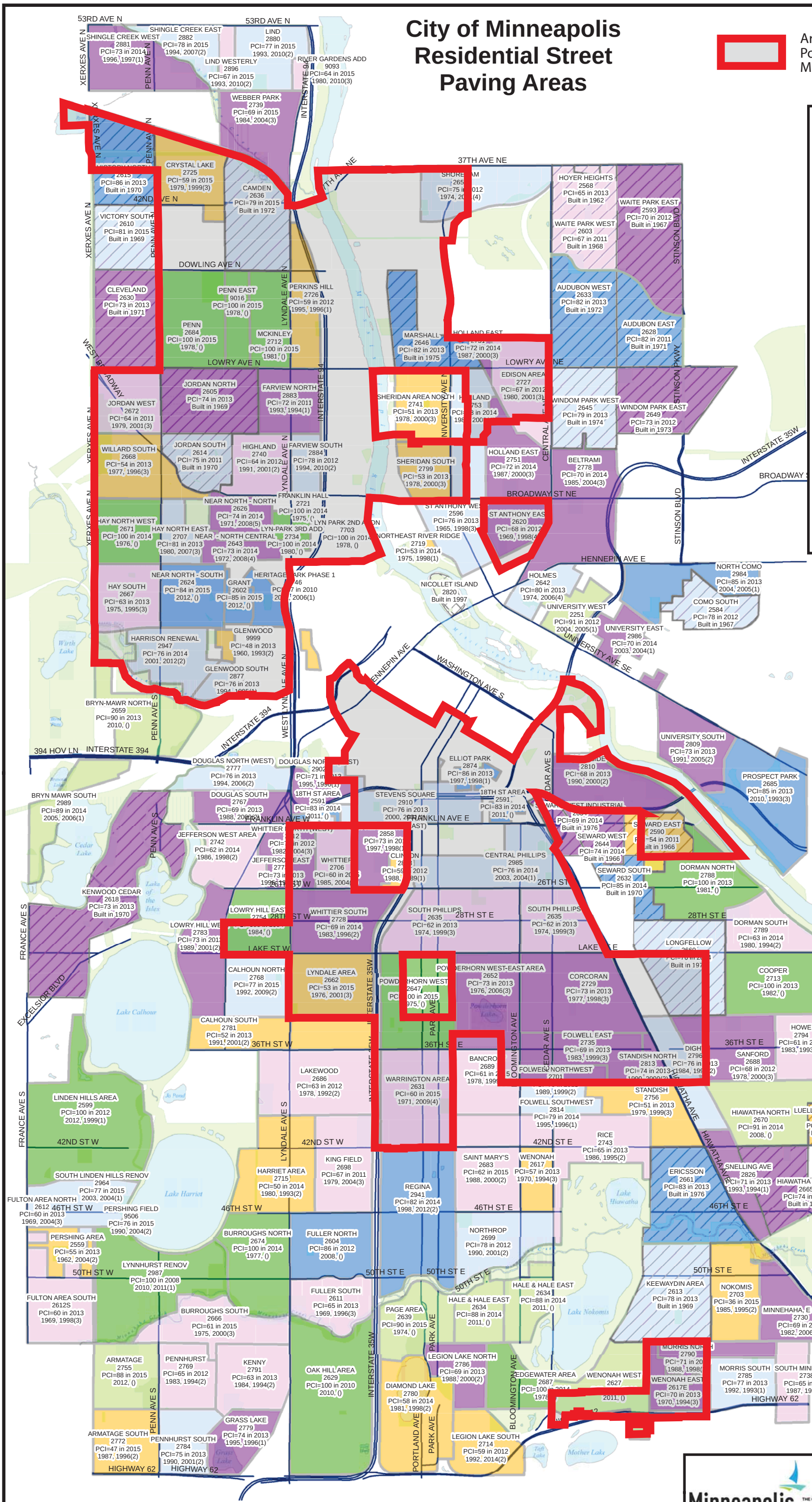
- Very Poor (0-34)
- Poor (35-59)
- Fair- (60-67)
- Fair+ (68-74)
- Good- (75-81)
- Good+ (82-87)
- Very Good- (88-94)
- Very Good+ (95-100)

Pavement Type
(of all or majority of Streets in Branch)

- Asphalt (no hatch pattern)
- Concrete
- Pavers

Residential Paving Project Labels

The 1st line of the label is the residential paving project name. The 2nd line is the project number. The 3rd line is the PCI followed by the inspection year. The left side of the 4th line is the latest major work year, (construction, renovation or resurfacing). If the pavement surface is asphalt the latest major work year is followed by the year all or most of the pavement was sealcoated, and in parentheses the number of times it has been sealcoated.



DATA: MicroPAVER 3/10/2016

PLOT: 3/10/2016

Minneapolis Public Works

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