

Pavement Management Program 2016



Executive Summary

February 23, 2016

Presented by
Mark Thiel

The TEAM

- Pavement Engineer
- Engineering Division
- Street Division
- Other City Departments
- Bicycle Advisory Committee
- Complete Streets Group
- Contractors
- Community
- Safe Routes to School
- USD 497
- Utility Companies

PCI Goals

- Prevent / slow down further deterioration
- Establish a maintenance plan
- Critical points (from preventative to rehabilitation work)
 - Arterial 65
 - Collector 60
 - Residential 55
- Cycle 1 - 31.5% in “fair to poor” range (as of Oct. 2005)
- Cycle 2 - 29.8% in “fair to poor” range (2006 thru 2009)
- Cycle 3 - 20.57% in “fair to poor” range (2010 thru 2014)
- Cycle 4 (Phase 2) w/ Cycle 3 – **17.50% in “fair to poor” range**
- “fair to poor” suggests not a good candidate for preventative maintenance – should consider rehabilitation / possible reconstruction in some cases

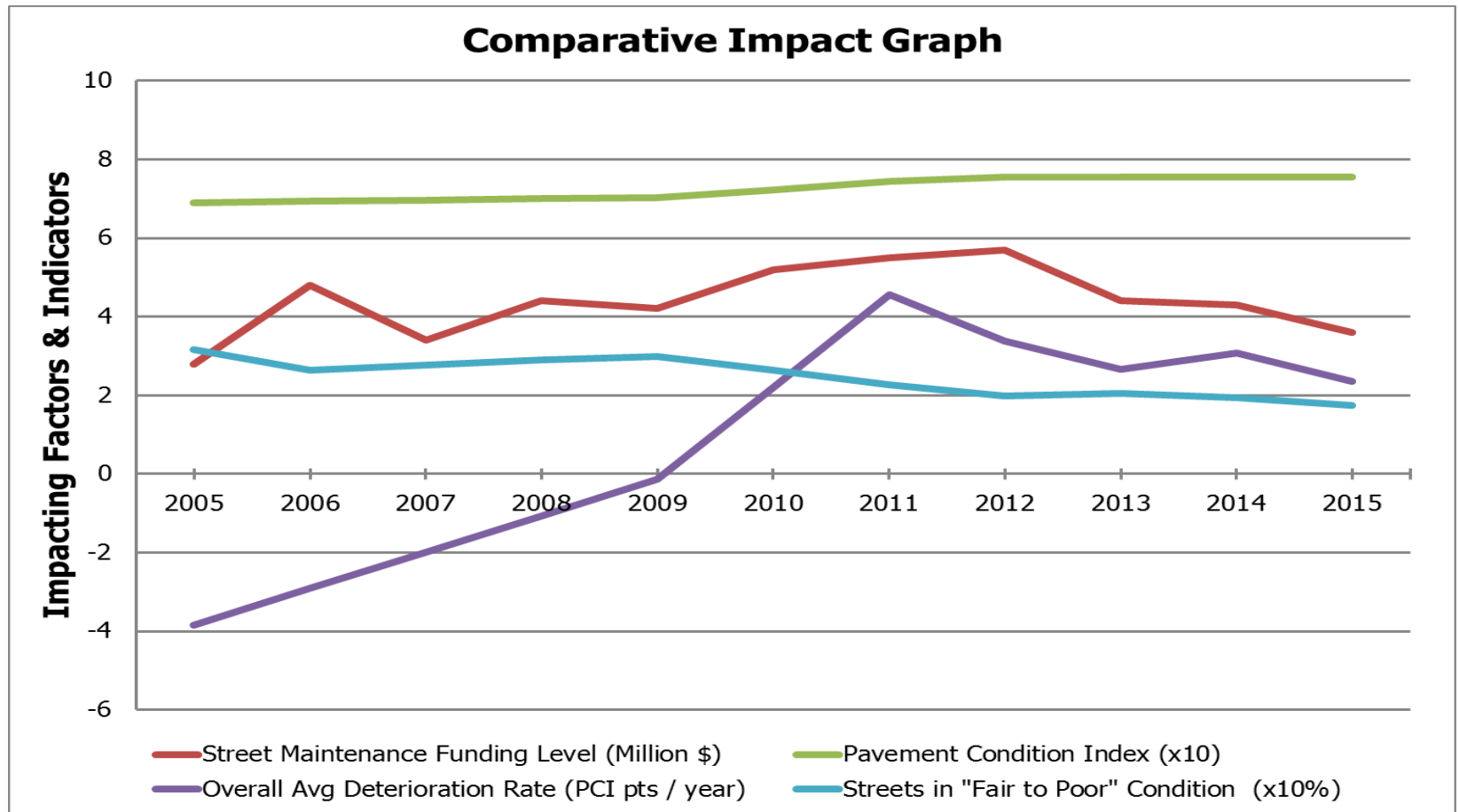
Pothole Numbers

- Pothole numbers fluctuate from year to year and continue to play a significant role in pavement maintenance
- 2015 showed an increase in potholes reported over 2014, and have continued to rise since 2012/2013
- Continued use of patching methods (injection patching & mill/overlay patch)
- Fewer freeze thaw cycles over the past several winters continues to help out.

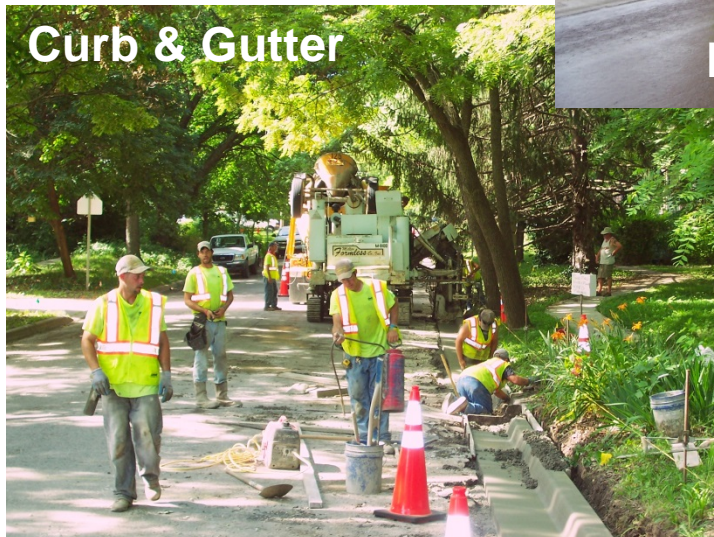
Pothole Comparison

Potholes	2011	2012	2013	2014	2015
Potholes Reported on Phone & Hotline	468	210	183	303	1040
Potholes Reported on Wufoo (on-line)	207	110	77	234	304
Total Reported	675	320	260	537	1,344
Number of Holes Patched	12,575	6,041	6,127	9,875	8,891
Tons of Hot Mix Used	664	449	400	3,546	3,841
Tons of Cold Mix Used	164	87	80	189	108
Square Yards of Durapatch Used	251	293	90	126	48

Comparative Impact Graph



Maintenance Programs Contracted



Maintenance Programs

In-House



Asphalt Overlay



Concrete Pavement/ Rehab



Injection Patching



Polymer Patching



Crack Sealing



Asphalt Patching

Program Outreach & Public Education

LIMITED ACCESS

Access to the street during the micro-surfacing process (4-8 hours) will be limited to pedestrian traffic only. Cars must be removed from the street—or driveway if planning to leave later—by 8am. The street will be open to traffic once the microsurfacing has had sufficient time to cure (typically a few hours) so that vehicular traffic will not damage the fresh surface.



"Microsurfacing provides an effective treatment for preserving, protecting, and providing additional life to streets."

- Asphalt Materials, Inc.

QUESTIONS?

City of Lawrence

City Hall
6 East 6th St
Lawrence, KS 66044

Public Works
785-832-3123
cityhall@lawrenceks.org



City of Lawrence
PUBLIC WORKS

Street Maintenance

Resident's Guide to Microsurfacing



City of Lawrence
PUBLIC WORKS

MAINTAINING OUR FUTURE



A GUIDE TO STREET MAINTENANCE IN LAWRENCE, KANSAS



City of Lawrence
PUBLIC WORKS

City of Lawrence
6th E 6th Street
Lawrence, Kansas

Revision 02-01-16

2015 Contract Maintenance Summary & Overall As-Built Map

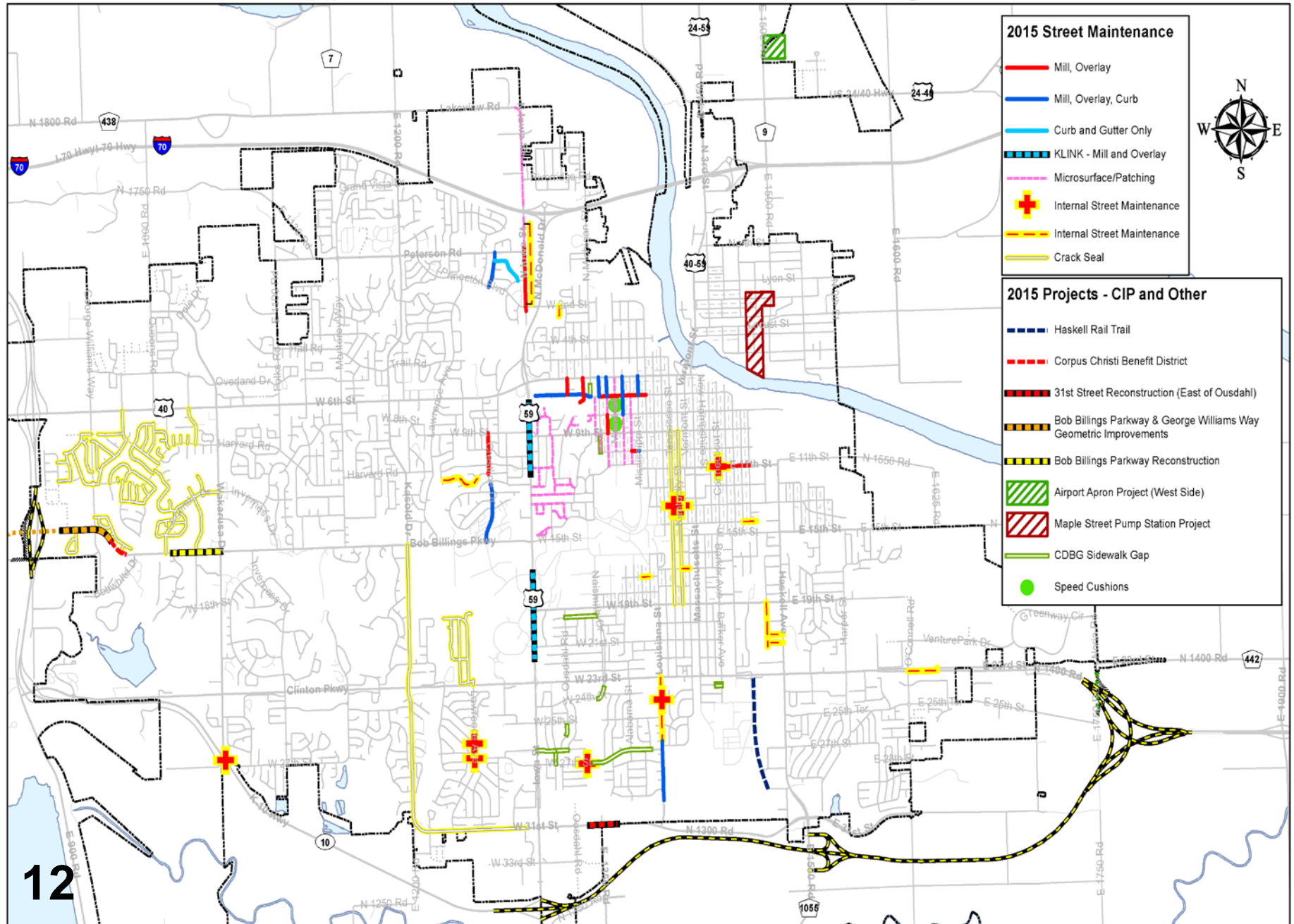
Work Type	Contracted Maintenance - 2015
Mill & Overlay	17.01 Lane-Miles
Microsurfacing & Patching	14.05 Lane-Miles
Concrete Pavement & Rehab Patching	3,314 Square Yards
Curb & Gutter	20,775 Linear Feet
ADA Access Ramps	36 Ramps

2015 Internal Maintenance Summary & Overall As-Built Map

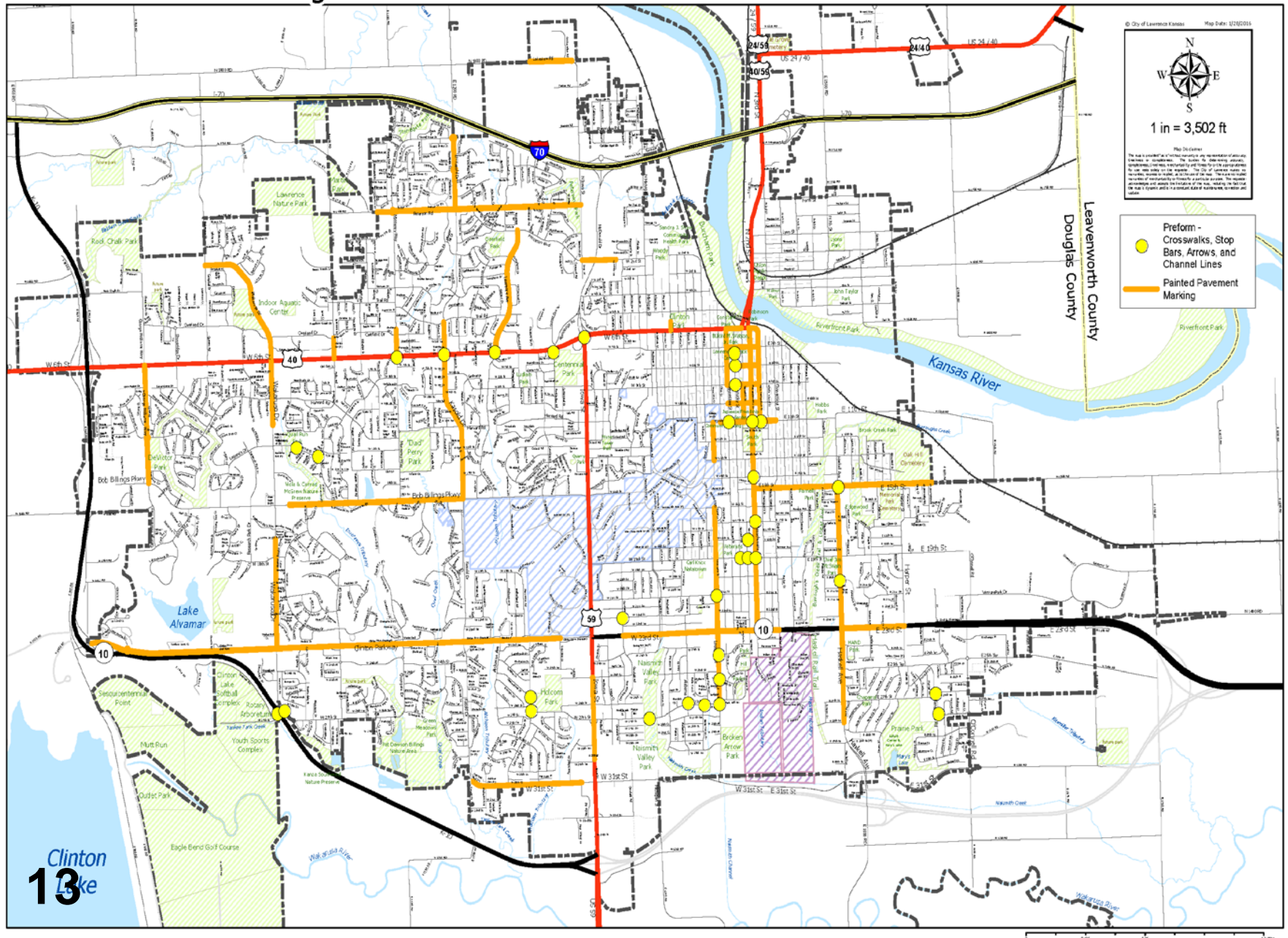
Work Type	Internal Maintenance - 2015
Crack Sealing	82,551 Pounds
Overlay & Pot-Hole Patching	3,949 Tons / 48 SY Durapatch
Concrete Pavement & Rehab Patching	5,443 Square Yards
Curb & Gutter	4,110 Linear Feet
ADA Access Ramps	36 Ramps

2015 Comprehensive Street Maintenance Program - As Built

Date: 12/30/2015



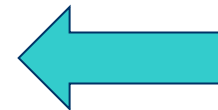
2015 Pavement Marking - As-Built



Pedestrian & Bicycle Facility Improvements

YEAR	NEW SIDEWALK		REPAIRED SIDEWALK		NEW RAMPS		REPAIRED RAMPS		TOTAL
	<i>LF</i>	\$	<i>LF</i>	\$	#	\$	#	\$	\$
2011	20,310	368,972	881	17,154	0	0	50	63,125	\$ 449,251
2012	2,450	213,432	1,259	167,090	12	20,000	46	34,925	\$ 435,446
2013	15,419	310,612	1,765	27,111	179	49,528	47	43,344	\$ 430,595
2014	14,200	219,182	8,254	168,026	25	28,200	87	86,145	\$ 501,553
2015	7,407	121,400	6,484	119,481	26	26,000	100	85,248	\$ 352,129
TOTAL	59,786	\$ 1,233,598	18,643	\$ 498,862	242	\$ 123,728	330	\$ 312,787	\$2,168,974
(miles)	11.3		3.5						

YEAR	BIKE LANES		SHARED USE PATH		TOTAL
	<i>LF</i>	\$	<i>LF</i>	\$	\$
2011	-	-	2,600	80,000	\$ 80,000
2012	-	-	-	-	-
2013	21,566	142,500	5,740	176,200	\$ 318,700
2014	21,301	560,500	9,750	650,000	\$ 1,210,500
2015	18,120	625,600	25,443	873,400	\$ 1,499,000
TOTAL	60,987	\$ 1,328,600	43,533	\$ 1,779,600	\$ 3,108,200
(miles)	11.6		8.2		

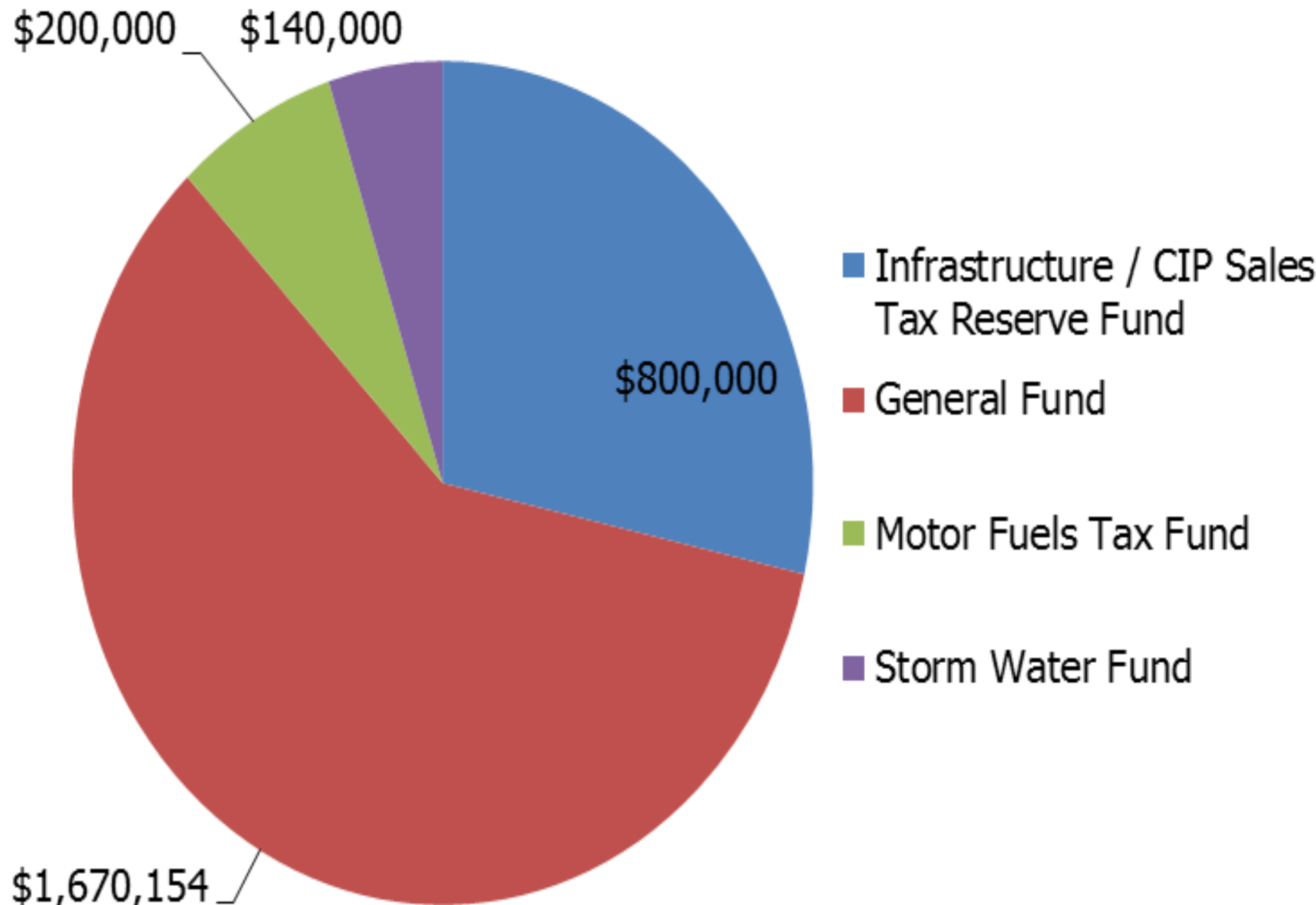


Summary of Program Update

- Since 2006 the average PCI has increase by 9.45% from Cycle 1 thru Cycle 4. **However, from Cycle 3 thru Cycle 4, there has been no significant change in the overall PCI.** This indicates the program's progress is slowing and a potential sign of future regression.
- Deterioration rates since 2006 have been overall positive. **However, some categories have begun a reversed trend downward.**
- The overall percentage of “fair to poor” streets has continued to decline but **the overall change has begun to level out.**
- The total amount of curb and gutter rated “poor” continues to increase. Currently we have 260,000 LF rated poor condition.
- The total number of lane miles of streets continue to grow.

2016 Program – Budget / Projects

- In August 2015 the Commission approved \$2.81 Million
- Verified by Budget Manager
- Projects selected using:
 - Pavement management database (PCI's)
 - Constituent concerns
 - Known problem areas
 - Coordination with other projects / agencies
 - Utilities, development, new construction (coordination / phasing with other projects)
 - Bicycle advisory committee review of plan (based on BAC recommendations - planned inclusion of sharrows & other amenities in various projects)
 - Incorporation of Complete Street Elements (ADA access ramps, crosswalks, bicycle lanes and/or sharrows)
 - Selection of diverse locations throughout the City



2016 Contracted Street Maintenance Budget by Fund

Complete Street Elements

- Bicycle / Sidewalk Facilities

- Bob Billings Pkwy Safety Corridor – Traffic Signal Installations, Pavement Marking for Turn Lanes, Bus Turn Out, & Sidewalk Gap
- Microsurfacing & Overlay Projects (various locations) – Reestablish Pre-existing Markings & Add Bicycle Sharrows where feasible; traffic calming approved for Crescent Rd. between Naismith Dr. and Engel Rd. (potential inclusion of speed humps)
- CDBG sidewalk program - Various locations
- ADA Access Ramps – Remove/replace & new installation with various reconstruction and maintenance projects

2016 Program Projects

- Crack Sealing (In-House), Wide Joint Sealing, Polymer Patching
- Microsurfacing / Patching (w/ some Mill & Overlay only streets)
- Curb Rehabilitation (In-House and Contracted)
- Mill, Overlay, Curb & Gutter– one phase including some Concrete Rehabilitation
- KLINK – Mill & Overlay – Iowa Street, North of 31st Street to South of 23rd Street
- Other projects:
 - Bob Billings Parkway Safety Corridor (Various locations from Kasold Dr to Wakarusa Dr & Foxfire Dr to Bobwhite Dr) – Mill & Overlay, Traffic Signal Installations, Pavement Marking for Turn Lanes, Bus Turn Out, & Sidewalk Gap
 - Various In-house projects

2016 Street Maintenance Program

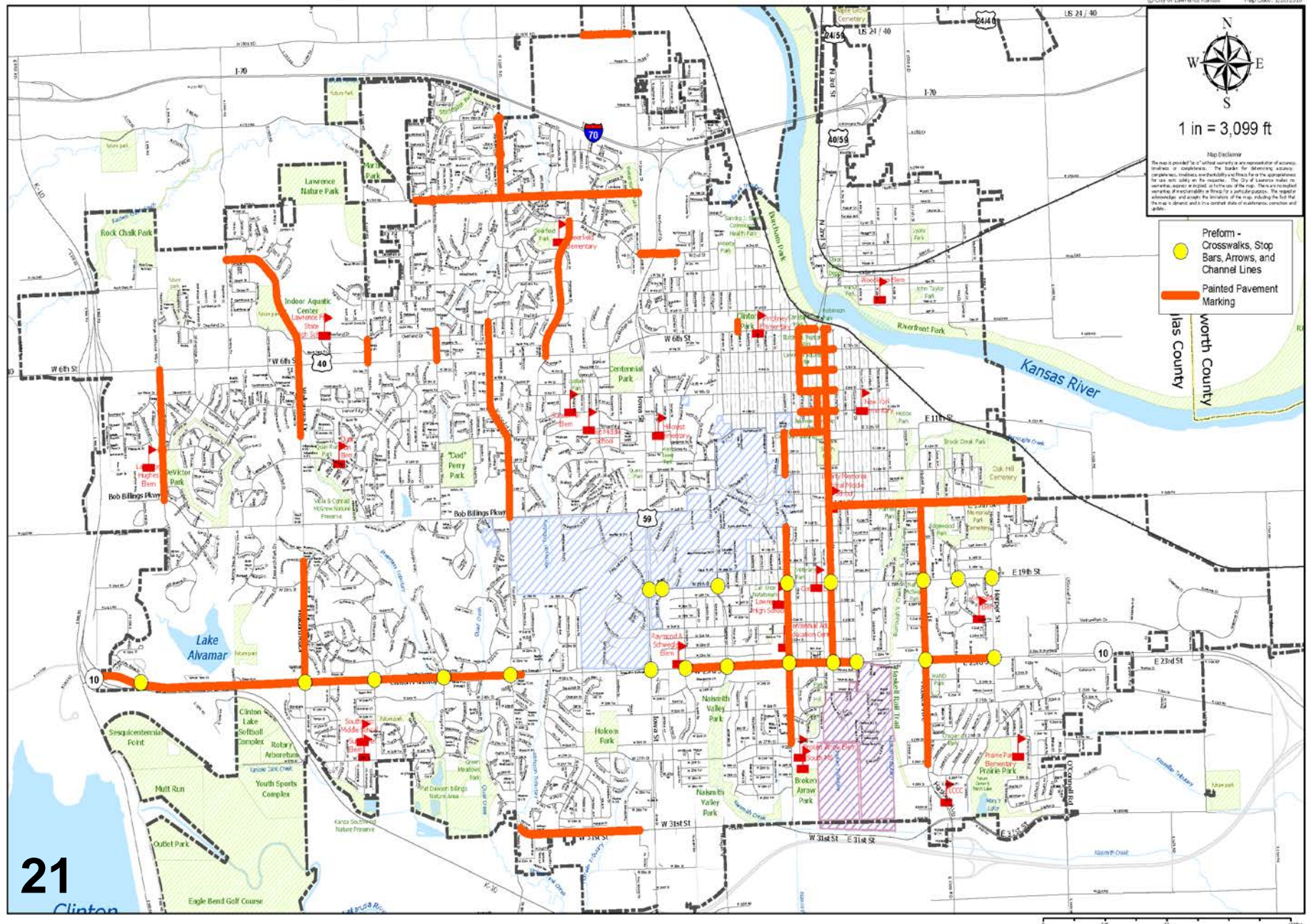
- Mill, Overlay
- Mill, Overlay, Curb
- Microsurfacing and Patching
- KLINK - Mill and Overlay
- 8th St. Reconstruction, Kentucky to Tennessee
- Internal Street Maintenance
- Internal Street Maintenance
- 2016 Crack Seal Areas - Internal Street Maint

2016 Projects - CIP / Other

- Bob Billings Pkwy Safety Corridor Improvements

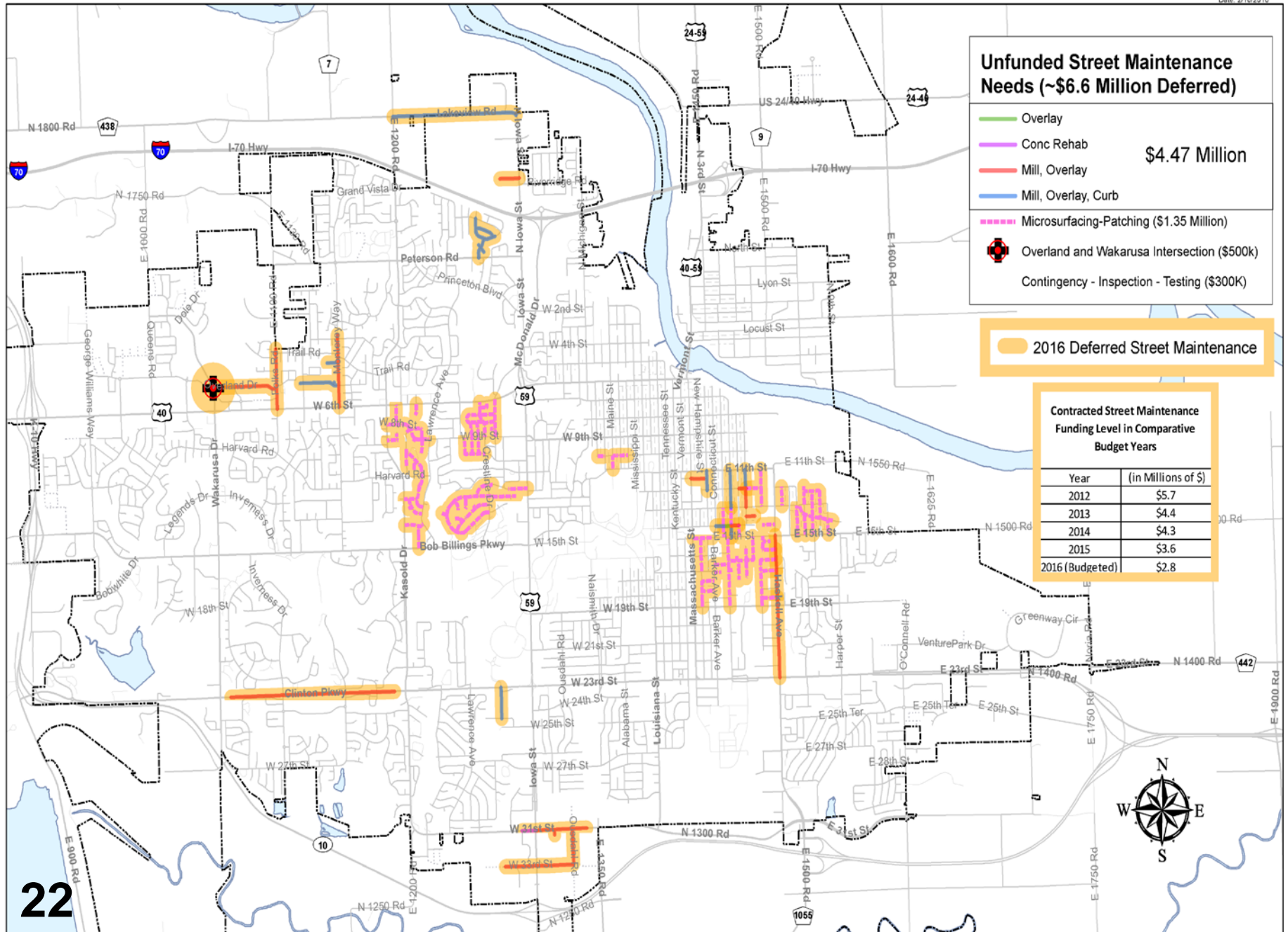
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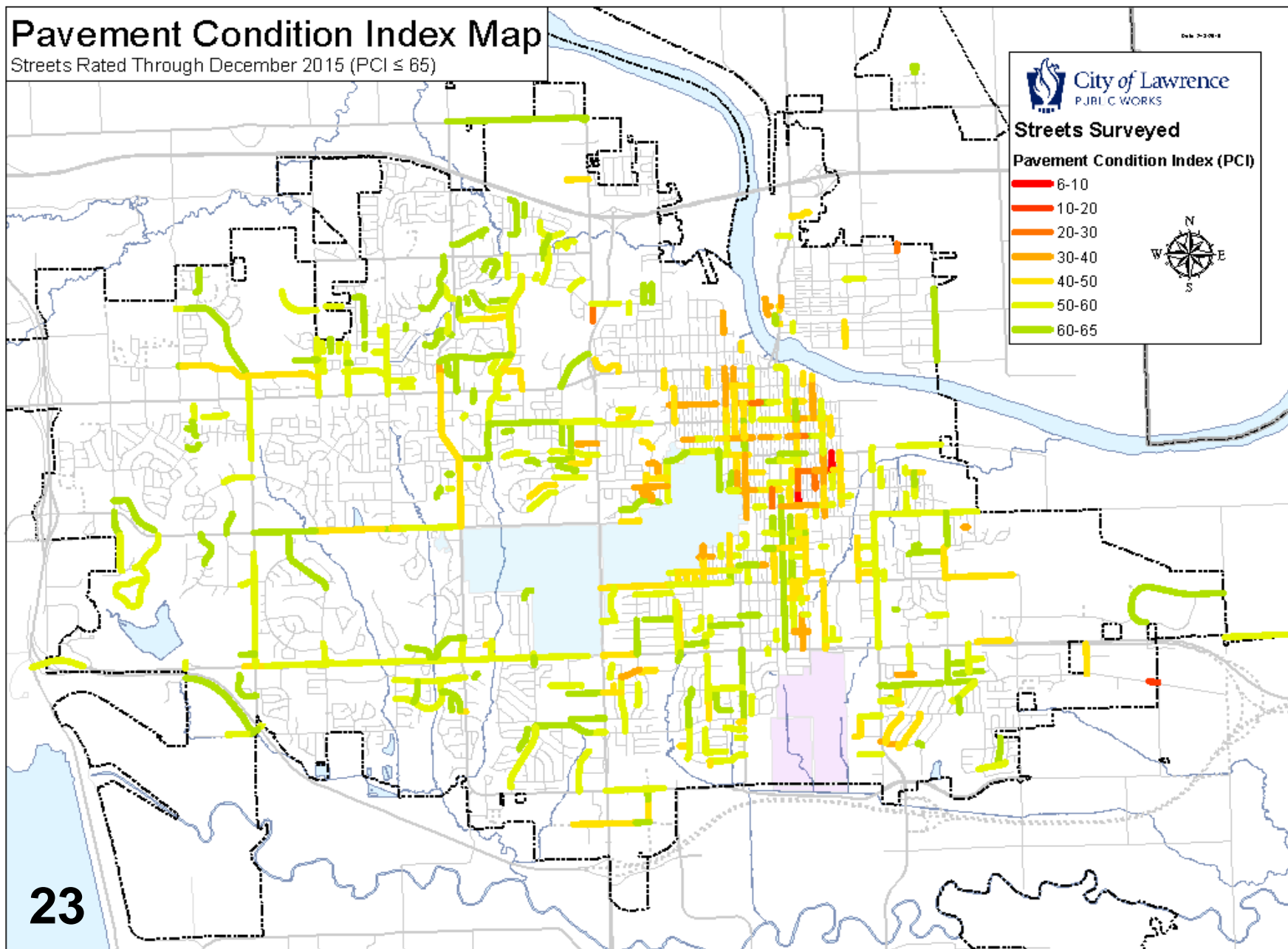
2015/2016 Deferred Street Maintenance - \$6.6 Million

Date: 2/10/2016



Pavement Condition Index Map

Streets Rated Through December 2015 (PCI ≤ 65)



Example Locations – Not Included in 2016 Program



Public Communication

- Public Meetings
- Mass mailings
- Open houses
- Water Billing insert
- Message boards
- Project advance notice signs
- City Website

Questions?

