Pavement Management Program

2014 Street Maintenance Program



Executive Summary

01/21/2014

Presented by Mark Thiel Assistant Director of Public Works

Program Overview

- Start of current program 2005
- 825.1 Lane miles of City streets
 - Up 12.6 lane miles from 2012
- Cycle 1 complete Oct. 2005 299 center-line miles
- Cycle 2 complete Oct. 2009 319.5 center-line miles
- Cycle 3 complete Nov. 2013 324.1 center-line miles* (*segmented center-line miles of streets rated)
- PCI Pavement Condition Index
 - Is a numerical value (0 to 100) assigned based on the visual street condition and ride. 100 represents a pavement with no visible distresses

The TEAM

- Pavement Engineer
- Engineering Division
- Street Division
- Other City Departments
- Bicycle Advisory Committee
- Complete Streets Group
- Contractors
- Community
- <u>Others....</u>

Pothole Reduction

- Pothole numbers over the past several years have been greatly reduced
 - Pavement Management Program success balanced use of rehabilitation & preventative maintenance methods
 - Continued use of patching methods (injection patching & mill/patch)
 - Fewer freeze thaw cycles

Pothole Comparison

Potholes 🗾	2011 🗾	2012 🗾	2013 🗾
Potholes			
reported on			
Hotline & phone	468.00	210.00	183.00
Potholes			
reported on			
Wufoo (on-line			
reporting)	207.00	110.00	77.00
Total Reported	675.00	320.00	260.00
Number of holes			
patched	12575.00	6041.00	5640.00
Tons of Hot mix			
used	664.15	448.51	400.00
Tons of cold mix			
used	164.05	87.25	80.00
Yards of			
Durapatch used	251.00	292.50	90.00
Pounds of Crack			
Sealer used	63273.00	92390.00	109930.00

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
- Cycle 2 29.8% in "fair to poor" range
- Cycle 3 20.57% in "fair to poor" range
- "fair to poor" suggests not a good candidate for preventative maintenance – should consider rehabilitation / possible reconstruction in some cases

Average PCI

- The overall PCI
 - Cycle 1 = 69.0
 - Cycle 2 = 70.28
 - Cycle 3 = 75.54
- Positive movement of PCI average
- Curb and Gutter condition does not impact street PCI; however, steady increase from fair/poor to "good" condition (+3.22% change in Cycle 2 to 3, +11.35% change Cycle 1 to 3)



Maintenance Programs Contracted









Maintenance Programs In-House



MAINTAINING OUR FUTURE



A GUIDE TO STREET MAINTENANCE IN LAWRENCE, KANSAS



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

Program Cutreach Bublic Education 8 Public Education

Revision 01-02-14

2013 Contract Maintenance Summary & Overall As-Built Map

Work Type	Contracted Maintenance - 2013
Mill & Overlay	7.5 Lane-Miles
Microsurfacing & Patching	9.7 Lane-Miles
Concrete Pavement & Rehab Patching	5,402 Square Yards
Curb & Gutter	12,966 Linear Feet
ADA Access Ramps	15 Ramps

2013 Internal Maintenance Summary & Overall As-Built Map

Work Type	Internal Maintenance - 2013
Crack Sealing	109,930 Pounds
Pot-Hole Patching	481 Tons / 90 SY Durapatch
Concrete Patching	4,300 Square Yards
Curb & Gutter	3,741 Linear Feet
ADA Access Ramps	25 Ramps





Pavement Markings

- In 2013 we began a much more comprehensive pavement marking maintenance program.
- This included a major cross walk remarking project



Summary of Program Update

- Average PCI <u>increased by 7.48%</u> from Cycle 2 (70.28) to Cycle 3 (75.54) and by 9.48% from Cycle 1 (69.0) to Cycle 3 (75.54).
 - Indicates program is moving in a positive direction toward sustainability
 - Good decisions are being made
- Deterioration rates are slowing / stabilizing, overall average of +2.67 (positive incline) of comparable street segments from Cycle 2 to Cycle 3.
- The overall percentage of "fair to poor" streets has continued to decline.

Deterioration Rates by pavement type

TABLE 1 – Comparison of Full Cycles 1, 2, & 3Utilizing Comparable Segments to Prior Cycle									
Pavement Type	Street Classification	C1 – Full Cycle Deterioration Rate	C3- Full Cycle Deterioration Rate						
	Arterial	-2.40	-2.60	+0.63					
Flexible (Asphalt)	Collector	-2.38	-1.84	-0.29					
w/ NO Fast Overlay	Residential	-2.40	-1.18	+2.74					
Flexible (Asphalt) w/ Past Overlay	Arterial	-6.42	-2.66	+2.19					
	Collector	-5.60	-1.00	+1.25					
	Residential	-5.27	+2.28	+4.27					
Composite	Arterial	-8.70	+1.58	+0.95					
(Asphalt over	Collector	-5.62	+0.86	+4.13					
Concrete/Brick)	Residential	-3.84	+0.72	+2.98					
	Arterial	-1.97	-0.93	+0.84					
Rigid (Concrete)	Collector	-1.50	-0.21	+2.30					
	Residential	-1.41	-0.35	+0.75					

2014 Program – Budget / Projects

- In August 2013 the Commission approved \$3.065 Million
- An additional \$1.03 Million from Rock Chalk Park bonded debt & \$100k from Transit was added in January 2014
- 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 shared use paths, bicycle lanes, sharrows, & other amenities in various projects)
 - Incorporation of Complete Street Elements (ADA access ramps, crosswalks, bicycle lanes)
 - Selection of diverse locations throughout the City



Complete Street Elements

• Bicycle Advisory Committee – Recommendations

- 6th & Iowa Bike / Pedestrian Amenities, 10' multiuse path North side to Rockledge Rd
- 9th & Emery Bike Lanes, 6' sidewalk south side
- 23rd & Iowa Pedestrian & landscaping improvements
- Haskell Rail Trail Pave existing gravel trail
- 2100 Block Vermont St Traffic calming approved by Traffic Safety Commission
- 31st St Relocation w/ SLT Shared Use Path
- Bob Billings Pkwy west of Wakarusa Bike Lanes
- Wakarusa Dr Bike Lanes
- Princeton Dr (Iowa to Lawrence Ave) Reestablish Bike Lanes w/ Improved material
- E 19th (Almira to Harper) Reestablish Bike Lanes
- Microsurfacing (various locations) Reestablish Pre-existing Markings & Add Sharrows where feasible
- ADA Access Ramps Remove/replace & new installation with various reconstruction and maintenance projects

2014 Program Projects

- Crack Sealing (In-House), Wide Joint Sealing, Polymer Patching
- Microsurfacing / Patching (w/ possible combination of Mill & Overlay only streets)
- Concrete Rehabilitation (In-House and Contracted)
- Mill, Overlay, Curb & Gutter- one phase including some Concrete Rehab
- KLINK Microsurfacing of W 6th St from K-10 HWY to Folks Rd and Mill & Overlay of W 23rd St from east of Iowa St Reconstruct to Ousdahl Rd
- Reconstruction
 - Wakarusa Dr, north of BBP through Inverness Dr
 - Bob Billings Pkwy, Wakarusa Dr to Foxfire Dr
 - 2100 Block of Vermont St Brick Restoration
 - 31st St Relocation w/ SLT Haskell Ave to O'Connell Rd
- Intersections Geometric/ Signalization / Turn Lanes
 - 23rd & Iowa St
 - 6th & Iowa St
 - 9th & Emery Rd / Michigan St
 - 9th & Kentucky St
- Other projects
 - In-house projects
 - Haskell Rail Trail Shared Use Path
 - Venture Park Public Improvements (Ongoing)
 - Rock Chalk Park Public Improvements (Ongoing)



City of Lawrence 2014 Design & Construction Schedule

Location	Project Description	Project Designer	2013/2 Desig Sched	014 gn ule	2 Consi Sch	014 truction edule	Dec-2013	Jan-2014	Feb-2014	Mar-2014	Apr-2014	May-2014	Jun-2014	Jul-2014	Aug-2014	Sep-2014	Oct-2014	Nov-2014	Dec-2014
Various City Streets*	2014 Microsurfacing Program	In House (Lashley)	Oct-2013	Dec-2013	Apr-2014	Sep-2014								C. C	(1),中国				
Various City Streets*	2014 Concrete Rehab	In House (Lashley)	Oct-2013	Dec-2013	Apr-2014	Sep-2014					994-061W	A STATE	Second Party	1 Sectors	12,115-7142	(en sini)			
Various City Streets*	2014 Overlay Program Phase 1	In House (Lashley)	Oct-2013	Dec-2013	Apr-2014	Sep-2014					Stalan Fi	12-212-12		NUM 24	1211	100			
Rock Chalk Park	Public Improvements	In House (Cronin)	Jan-2013	Jun-2013	Jul-2013	Apr-2014	and Sugar	215/25	1-1122	With the second	1911011								
Venture Park Addition	Public Improvements	Bart. & West (Bond)	Jul-2012	Jan-2013	Mar-2013	May-2014	STREET,	hu an the	COLUMN A	8.26.3	N FAILE								
Vermont Street	Brick Street Restoration	In House (Voss)	Aug-2013	Mar-2014	Apr-2014	Jun-2014					15.27.2.19		(duin)						
W 9th & Michigan/Emery	Geometric Improvements	In House (Baker)	Jun-2013	Nov-2013	May-2014	Jul-2014						125.1 1884	a Patrill						
W 9th St & Kentucky	Signal	In House (Baker)	Jun-2013	Dec-2013	May-2014	Jul-2014	1					1 Kinge	T 2 784	ALL ALL					
W 6th St & Iowa St	Geometric Improvements	Landplan (Cronin)	May-2013	Dec-2013	Mar-2014	Aug-2014				12/2019	N BOR	12101/15	11/11/2						
KLINK W 6th Street & 23rd Street	KLINK Microsurface	In House (Baker)	Aug-2013	Apr-2014	May-2014	Sep-2014						all and a second		102 402	15 - 20	RUR			
Wakarusa Dr - North of Oread Drive	Concrete Reconstruction	In House (Voss)	Nov-2013	Apr-2014	Jun-2014	Oct-2014									100 137 142	00321	Marriel 9		
Bob Billings Pkwy - Wakarusa to Foxfire	Asphalt Reconstruction	In House (Baker)	Nov-2013	Apr-2014	Jun-2014	Oct-2014								the set		10000	A de la		
2014 CDBG	Sidewalk	In House (Ward)	Apr-2014	Jul-2014	Aug-2014	Oct-2014	-								-210-04		1.42		
23rd & Iowa	Geometric Improvements	BG (Cronin)	Jun-2013	Jan-2014	Apr-2014	Nov-2014					51.43	Sec. 1	Min IV		12 3 94 8	Fund F	112 1- 23	512 1	
Clinton Pkwy, Wakarusa, 6th Street	ITS Project Signal Equipment	In House (Morris)	Jan-2014	Jun-2014	Jul-2014	Dec-2014								1 HE BALL	AC-76/13	2. 19.	1		100 100
Haskell Rail Trail	Shared Use Path	In House (Voss)	Aug-2013	Mar-2014	Aug-2014	Dec-2014								R. S. CR.		E BY MAR	The state	RIL	A SIGNA
Maple St Pump	Pump Station	Bart. & West (Bond)	Jun-2013	May-2014	Aug-2014	Dec-2014									55,00	A Starting	14/23	1.5.00	Derel
31st St Extension - Haskell to O'Connell	Public Improvements	Wilson & Co. (Cronin)	Jan-2012	Sep-2013	Nov-2013	Dec-2015	200	Men Ma		S. Mart	TO MAR	and the	CHE OF THE	Terry	1200	12:07	Waster Here	NELD	UNE C
Bob Billings Pkwy & George Williams Way	Signal	In House (Cronin)	Jan-2014	Aug-2014	Mar-2015	May-2015													
23rd & Ousdahl	Geometric Improvements	BG (Bond)	Nov-2013	Dec-2014	2015	2015													

* See 2014 comprehensive street maintenance map

Updated December 3, 2013



2014 Pavement Marking Plan

- Includes painting pavement markings internally
- Contracted crosswalk remarking



Public Communication

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

Message boards and Signs

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23rd & Iowa Construction 2014

www.lawrenceks.org/construction

Water Bill Insert – 32,000 Mailings



- 1. 23rd & Iowa Pavement Reconstruction and Geometric Improvements; Construction Spring to Fall 2014
- BBBP = Wakarusa to Foxfire Pavement Reconstruction with addition of bike lanes; Construction Summer 2014
- W 6th & Iowa Geometric Improvements and Traffic Signal Improvements;
 - Construction Summer 2014
- 4. W 9th & Kentucky Traffic Signal Improvements; Construction Spring 2014
- W 9th & Michigan/Emery Geometric Improvements, Traffic Signal Improvements with addition of bike lanes; Construction Summer 2014
- Wakarusa Drive North of Oread Dr Pavement Reconstruction, improvements at Legends/Inverness intersection, addition of bike lanes; Construction Summer to Fall 2014
- 7. Vermont Street (2100 block) Brick Street Reconstruction; Construction Summer 2014
- 31st Street Extension Haskell to O'Connell Concrete street construction, sidewalk and shared-use path; Construction Winter 2013 to Fall 2015



Questions?

