

Memorandum

City of Lawrence

Public Works

TO: David P. Cronin, P.E., City Engineer

FROM: Steven M. Lashley, P.E., Project Engineer – Infrastructure Management

Date: July 5, 2012

RE: 2012 Pavement Maintenance Program Mid Year Update

Maintenance Program & Budget

The city's annual pavement maintenance program was reviewed and approved by City Commission on December 20, 2011. The current program has an approximate budget of \$5.6 million. The program projects map has had some revisions which include the addition of some mill and overlay streets, other internal street maintenance pavement rehabilitation locations, speed humps on planned mill and overlay streets, concrete crosswalks, and the postponement of reconstruction and rehabilitation locations to next year's (2013) program. The Revised 2012 Comprehensive Street Maintenance Program map is attached and is still subject to revisions until projects are completed and an as-built map can be updated.

The following table displays the various contracted maintenance projects awarded this year, all of which are currently active projects (see attached photographs).

Maintenance Project	Award Date / Projected Completion	Encumbered Amount	Work Status
2012 Microsurfacing Program	Feb. 28, 2012/ Sept., 2012	\$1,561,648.19	60% Completion
2012 Concrete Rehabilitation Program	April 17, 2012/ Sept., 2012	\$490,656.00	35% Completion
2012 KLINK Overlay & Geometric on 6 th St from Iowa St to Monterey Way	May 1, 2012/ August, 2012	\$1,144,208.62	60% Completion
2012 Overlay Program Phase 1	April 24, 2012/ July, 2012	\$669,773.70	99% Completion
2012 Overlay Program Phase 2	June 5, 2012/ Sept., 2012	\$1,321,483.30	Estimated start early July 2012
2012 Crack Seal Program (Internal)	Approval March 27, 2012	\$37,704.00	Progressing- streets west of Wakarusa
2012 CIP Reconstruction of Wakarusa Dr from Research Park Way to Oread West Dr	NA	NA	To be included in 2013 Program

Status of Projects & Highlights

Work began on the **2012 Microsurfacing Program** (Project No. PW1204) in early April. Currently, the project is near 30% complete on the microsurfacing portion and 65% complete on the asphalt pavement patch prep work. This pavement patching prep work includes partial and full depth asphalt pavement repairs. Microsurfacing, in conjunction with patchwork, has shown to be an effective preventative maintenance technique to improve pavement condition. Based on the extent of patching and resulting increased quantities, the completion date for the contract is being reviewed for extension into September. Staff has seen an increase in the overall patching quantities and has requested and received authorization for the use of an additional \$400,000 from infrastructure sales tax fund to complete the base bid portion of the contract. Due to the large amount of additional patching phase D patching will be completed this year and the microsurfacing portion of that phase will be done in the spring of 2013. Property owners affected by this change in phase D will be notified. This schedule change was necessary to allow the microsurfacing to be put down during optimal temperatures. Previously identified alternate locations for patching and microsurfacing will be planned with the 2013 program.

In conjunction with the microsurface and patch work, the City has included bicycle shared lane use pavement markings to be installed on Monterey Way from W 6th St to Bob Billings Pkwy and have already installed the markings on Connecticut St from E 7th St to E 15th St. To add, Public Works staff facilitated a partnership with Parks and Recreation Department to collaborate efforts in the enhancement and beautification of the intersection at N 3rd St and KTA access ramps.

Work began on the **2012 Concrete Rehabilitation** (Project No. PW1205) in late April. This concrete rehabilitation project includes intermittent curb repair and replacement, some adjacent concrete sidewalk impacted by curb replacement including access ramps, and various concrete street pavement removal and replacement. The street curb and gutter and concrete pavement sections being worked on are in poor condition with extensive concrete deterioration. The project is approximately 35% complete. So far there has been a general increase in current patching quantities within the active work locations. This will most likely impact other planned phases unless budget allocations allow for extension of project work. Additional review of continued project work will be necessary to determine overall impact and staff recommendations. The completion date for the contract is being reviewed for extension into September.

To add, imprinted concrete sidewalks are planned for installation at the intersections at W 12th St on Ohio, Tennessee, and Kentucky streets. These crosswalks will be inspected along with the rehab contract but were originally approved with the 12th St Lighted Pathway Project and will be performed as a continuation of the 2009 Sidewalk Gap Program (PW0929).

This is the third year of concrete rehabilitation projects primarily focused on the removal and replacement of existing failed concrete pavement without the inclusion of an asphalt overlay. With the goal of preservation in mind, Public Works has been steadily rehabilitating concrete pavements to extend the life cycle of the street and delaying the need for an asphalt overlay. Once a street has received an asphalt overlay application, deterioration will persist and could even become accelerated. The typical life cycle of a concrete street exceeds that of an asphalt street and returning to a concrete street after an overlay would most likely require reconstruction.

2012 KLINK Project, W 6th St from Monterey Way to Iowa St (Project No. PW1201) began in late May and is estimated to be completed by early August. The project is

approximately 60% complete with the conclusion of recent work on W 6th St between Monterey Way and Lawrence Avenue. The 2012 KLINK project consists of a mill and overlay, concrete curb and gutter replacement and full depth patching where needed. The project also includes three geometric improvements: the addition of an eastbound right turn lane including a bus stop and sidewalk at 6th & Kasold, an eastbound dedicated bus turnout at 6th & Schwarz, and road widening on W 6th St between Rockledge and Iowa St to install a center turn lane.

The **2012 Overlay Program Phase 1** (Project No. PW1209) project began in mid-May. This milling and overlay project is currently near 100% completion and includes a number of City residential streets along with the arterial Kentucky St from W 12th St to W 19th St. The street mill and overlay sections to be worked on are determined to be in generally fair to poor condition and have deteriorated beyond the point at which cost-effective preventative maintenance techniques can be performed. This type of minor rehabilitation work is utilized when some structural deficiencies exist along with other signs of progressed deterioration that lead to poor drainage and diminished ride quality. An effective milling and overlay program will re-establish desired drainage, structural, and rideability characteristics to a street and reduces other long-term maintenance and rehabilitation costs.

Installation of traffic calming speed humps was also included in this project. After the review by Historic Resources Commission, two humps were installed on Massachusetts St south of 23rd St and two humps were also placed on Winona St from Massachusetts St to Barker St.

The **2012 Overlay Program Phase 2** (Project No. PW1210) project will begin in early July and is scheduled to be completed in late September. This milling and overlay project also includes some curb and gutter removal and replacement on City residential, collector, and arterial streets. Similar to Overlay Phase 1, these streets are generally in fair to poor condition and the maintenance work will lead to improved drainage characteristics and structural capacity. Currently, the pavement segment of Bob Billings Pkwy from Wakarusa Dr to Foxfire Dr has been deferred to a future program year, tentatively 2013. However, staff has proposed the addition of milling and overlay on E 8th St from Connecticut St to the RR tracks and also on Lyon St from N 3rd St to N 4th St as part of this project.

The Public Works Internal Street Maintenance Division took on the project work for the **2012 Crack Seal Program** (Project No. PW1211). The City has purchased crack sealing materials, incorporated the use of some contracted labor, and has also purchased crack sealing equipment (machine). Internal street maintenance crews are managing the schedules and directing the field work. Internal crack sealing continues to save the program money. Contracted crack sealing annually was about \$250,000. In-house this same quantity of work cost \$70,000.

This crack and joint sealing project includes a number of residential, collector, and arterial streets. Streets to receive crack sealing are determined to be in generally good condition. Crack sealing is applied to cracks and joints to prevent the intrusion of moisture into the subgrade and to slow pavement deterioration. Over time, water infiltration through cracks and joints will lead to subgrade destabilization and additional pavement distresses. This remains one of our most important maintenance tools in the effort to maintain our city streets.

The **CIP Reconstruction of Wakarusa Dr from Research Park Way to Oread West Dr** (Project No. PW1202). In-house design is near completion. Construction is now scheduled from 2013 spring graduation to August of 2013. The project consists of a complete concrete reconstruction of Wakarusa Street from North of Oread West Dr to North of Bob Billings Parkway, and from South of Bob Billings Parkway to North of Research Park Way. This section will be widened to provide five driving lanes and two bike lanes of 10" concrete as well as new sidewalk and storm sewer improvements. A left turn (center) lane through the section will be included to improve traffic flow and safety. The bike lanes will add to the connectivity of bicycle routes currently in Lawrence.

To summarize, we are making significant progress towards improving roadways in Lawrence with the contracted street maintenance program (see attached photographs of some of the various project locations). Internal street maintenance crews have also played a key role in making this maintenance year a success. Some of the multiple work locations include Minnesota St, Northwood Dr, Kenwood Dr, Pinewood Dr, where curb and gutter and concrete valley gutters/intersections or concrete patching were removed and replaced in coordination with planned contracted milling and overlay projects (see program map for other internal street maintenance major work locations). As mentioned with the microsurfacing project update, Public Works and Parks and Recreation Department organized their efforts in the enhancement and beautification of the intersection at N 3rd St and KTA access ramps. This type of collaboration on projects has enhanced the overall impact to several City streets and intersections. As reflected in the recent citizen survey, the residents of Lawrence continue to place a high importance on street maintenance.

Public Works staff will continue street ratings this year with the goal of completing the third quarter of the third cycle this Summer/Fall period followed by an evaluation of the data collected. This information will continue to assist Public Works by utilizing the street pavement rating data to produce projected maintenance plans for future street maintenance program years. Having a projected maintenance plan will increase our effectiveness in programming street sections for upcoming maintenance years and will continue to be an ongoing project from one maintenance year to the next. We believe that the maintenance program is working and the continued support from City Commission has given us the ability to make progress.

Attachments: 2012 Maintenance Map, Project Photographs