



2014 Contracted Maintenance Program



Public Works & Utilities

Maintenance Division

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2014 Contracted Maintenance Program

Introduction:

The City of Wichita's paved street network is comprised of more than 5,000 lane-miles of residential, collector and arterial streets and expressways, representing a total paved area in excess of 322 million square feet. In order to cost effectively maintain this vast network of assets, the City supplements the critical preventive, corrective and emergency maintenance efforts of its internal staff by leveraging the resources and expertise of private contractors. Each year, contracted pavement maintenance efforts are proposed, and submitted for approval, in the Contracted (Pavement) Maintenance Program (CMP). In order to effectively manage both internal and external pavement maintenance resources, the Public Works & Utilities Department has always striven to effect "the right treatment, on the right road, at the right time". However, just as socioeconomic and technological influences have evolved over the years, so too must our approach. Consequently, the department is in the midst of developing a project selection, evaluation and reporting process that is intended to be:

1. More data driven, and less reliant on individual experience
2. More objective, relying greater on economic measures like return on investment (ROI) and remaining service life (RSL), and less on subjective measures like "good", "satisfactory", "poor", and the like
3. More supportive of experimentation and the incorporation of new technologies, and less adherent to past practice
4. Better able to quantify the cost of deferred maintenance
5. Better able to maximize the City's returns on future investments
6. Better able to assist in the identification of optimum funding levels

The department anticipates that this enhanced "Pavement Management System" will be fully implemented in 2015. Several components initiated in 2012 and 2013 are being continued, and expanded on, in 2014. Consequently, the proposed 2014 Contracted Maintenance Program represents a blend of both the traditional and enhanced approaches, as follows.

Contracted Maintenance Program (CMP) Project Selection Process

Traditional Approach

Locations to be addressed in the CMP have traditionally been determined using the following criteria:

1. Pavement Condition Index (PCI)

Historically, every street segment in the City is reviewed and assigned a PCI number. The PCI number is determined by evaluating each segment for various pavement distresses. The PCI ranges from 0 to 100, with a value of 70 being presumed to be satisfactory. Streets with PCIs below 70, and especially below 50, have formerly been considered first for inclusion in the CMP. PCIs have also been used to guide preventive maintenance, as funding allowed.

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(Preventive maintenance delays streets from dropping into a lower condition range and requiring more expensive repairs.)

2. Completion of locations previously identified

If repairs to previously programmed locations are not able to be completed, they are typically included in the following year's CMP.

3. Complaints and Requests

Complaints and requests concerning existing street conditions (from citizens, City officials, and maintenance personnel) are addressed either in-house, or through the CMP. Locations of concern are continually evaluated against other scheduled projects and included when warranted.

4. Maintenance history and other, scheduled projects

If a particular street has required continued maintenance from City staff, or routine maintenance operations are no longer effective, it is considered for inclusion in the CMP. Streets that are scheduled to be repaired in other programs, such as the Capital Improvement Program (CIP), are not included in the CMP.

Once the CMP funding level is established, the program is developed. Expenses not considered to benefit any single district (inspection costs, bridge work, bike paths, etc.) are deducted first. Using the criteria above, the remaining funds are applied equally to each of the City's six districts.

2014 Enhanced Approach

As part of ongoing efforts to maximize the City's return on continued investments, several new concepts are proposed anew, or for continued exploration, in 2014.

1. Increased Residential Thermal Crack Repair

In response to customer feedback, the 2014 CMP will focus on residential streets. In order to address some of the most severe and frequently occurring issues, the widespread repair of thermal cracking on neighborhood streets is proposed. The approach is anticipated to yield a substantial improvement in the quality of residential streets, as well as a significant, 132% increase in the number of line miles touched by CMP funds (an estimated 445.9 lane miles, compared to 192 in 2013).

2. Continued Emphasis on Preventive Maintenance

While preventive maintenance has historically been programmed as funding allows; it is apparent that, in order to ensure maximum return on investment, preventive maintenance must be made a priority. Much like maintaining a functional roof over one's home, the cost to maintain a good road, in good condition, is far less than the cost to rehabilitate a failed one.

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For example, a preservative seal can extend the service life of a good pavement by approximately 5 years, at a cost around \$1/sy, whereas milling and overlaying a bad pavement may extend the service life just 8-12 years, at a cost of \$10-\$15/sy. When applied to a hypothetical, quarter mile section of 4-lane arterial roadway (1 lane mile) the total cost to preservative seal the section at \$1/sy would be \$7,040. The total cost to mill and overlay the same section of roadway (7,040 sy) at a later date, assuming a midrange unit cost of \$12/sy, would be \$84,480. Assuming service lives of 5 and 10 years, respectively, one finds that it costs just \$1,408 to add one full lane-mile-year of service life by preservative sealing, while the cost to add the same one lane-mile-year of service life via mill and overlay is eight times higher, at \$8,448.

When one considers, again, that the City’s paved street network consists of roughly 5,000 lane-miles of pavement, the financial prudence of preventive maintenance is clear. While we do not presently track overall network condition in terms of remaining service life, we know that each lane-mile has but a limited number of years remaining until the end of its useful service life. Thus, in the absence of any maintenance improvements over a one year period, we can surmise that the remaining service of each lane-mile will be reduced by one year. Applied across the entire network, this represents a total service life reduction of 5,000 lane-mile-years, each year. Pavement preservation treatments, as well as rehabilitative repairs and reconstruction, however, add service life to the network. In order to offset the annual loss, the City must add at least 5,000 lane-mile-years back to the system through its maintenance efforts each year. Any less, results in an overall decline of the network’s condition. Any more, and the overall condition improves.

While the City employs numerous strategies in its approach to pavement management, for the purpose of example, we’ll examine a simplified approach using four common treatments, including the two previously described, in the table below.

Treatment	Type	Approx. Cost/SY	Approx. Service Life Extension (Years)	Lane-mile-years Needed to Maintain Status Quo	Lane Miles to be Treated	Cost to Maintain Status Quo (Using prescribed treatment alone)
Rejuvenating Seal	Preventive	\$1	5	5000	1000	\$7,040,000
Micro Surfacing	Preventive	\$3	6	5000	833	\$17,592,960
Mill & Overlay	Rehabilitation	\$12	10	5000	500	\$42,240,000
Asphalt Reconstruction	Reconstruction	\$35	25	5000	200	\$49,280,000

While none of the above hypothetical approaches is necessarily optimized for the City’s existing network, the exercise serves to illustrate two points. First, to successfully operate under the

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best of these scenarios – the one that serves to maximize ROI – one would need to begin with a near perfect system and repair 20% of that system each year. In reality, only about 20% of our existing system falls within the appropriate condition range for that treatment (and not all of those are asphalt pavements). Consequently, we must endeavor to employ some optimum combination of treatments across the full spectrum of pavement condition. Second, the example serves to demonstrate the scale of maintenance required, and alludes to the cumulative impact of deferred maintenance.

In light of its benefit, preventive maintenance expenditures were prioritized in 2012, 2013, and are proposed again for 2014. As demonstrated in the following table, nearly 100 lane miles will be touched by preventive maintenance in 2014, more than five times the number touched in 2011.

Preventive Maintenance Expenditures

Year	Project	Lane Miles
2011	Micro Surfacing Seal	6.8
	Preservative Seal	13.1
Total		19.9
2012	Micro Surfacing Seal	55.0
	Preservative Seal	15.8
Total		70.8
2013	Micro Surfacing Seal	12.9
	Ecopave Surface Seal	1.4
	Slurry Seal	14.1
	Preservative Seal	80.4
	Cape Seal	17.3
Total		126.1
2014	Preservative Seal	45.4
	Slurry Seal	30.3
	Micro Surfacing Seal	24.2
Total		99.9

3. Pavement Condition Rating Standardization and Pavement Life Cycle Cost Analysis

The Public Works & Utilities Maintenance Division has historically performed pavement condition assessment in general accordance with the methodology prescribed by the authors of its first Pavement Management System (PMS), which was purchased approximately 20 years ago. Since that time, however, the adoption of a new PMS (Lucity), turnover in the pavement condition assessment position, and efforts to make the resulting Pavement Condition Index more relatable, have resulted in a system more or less unique to the City of Wichita. While

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research suggests that such variation is common throughout the pavement maintenance industry, several standardized approaches are gaining acceptance, and offer the benefit of enhanced comparability among separate jurisdictions.

Furthermore, ongoing economic pressures have proved the usefulness of the City's traditional Pavement Condition Index (PCI) somewhat limited. While the PCI does serve to effectively illustrate network trends (better or worse), it does not, in and of itself, afford an objective means of characterizing streets as "failed", "deficient", "in need of repair", or the like. Perhaps more importantly, neither does it afford an objective means of quantifying the cost of deferred maintenance. In order that we may accurately and objectively do so, an approach other than PCI is needed.

For the purpose of maximizing ongoing investments, the Public Works & Utilities Department believes it will be better served by evaluating economic measures, rather than PCI alone. By modeling return on investment (ROI), network needs may be identified objectively, in terms of maximum ROI, rather than based on a certain level of PCI. To be truly effective, however, the data within the model must be thorough, accurate, and reliably measured.

As such, the department issued a Request for Proposal on Pavement Condition Survey, Assessment, and Inventory Services, and awarded the project to the team of Baughman Co., P.A., and MT Consulting in the fall of 2012. The project will accomplish the development and implementation of a standardized, reproducible pavement condition rating methodology, based largely on remaining service life. The project will also produce preliminary, predictive deterioration curves, based on both historical and newly acquired data. These predictive deterioration curves will serve as the backbone of future life-cycle modeling efforts.

In concert with ongoing raw data acquisition and analysis, department staff is working to develop a pavement life cycle model capable of evaluating alternative strategies over an extended period (40 or more years) and establishing:

- 1.) The short and long term results of the department's existing strategy and budget,
- 2.) The strategy and budget required to maintain current condition and asset values,
- 3.) The strategy and budget that results in the optimum ROI.

Presuming that those streets rated in 2012 (using the newly developed methodology) would ideally be rated again the following year, 2013 CIP funds were set aside in order to either contract again for the service, hire additional internal resources sufficient to manually accomplish the task, or purchase an automated data collection solution sufficient to accomplish the task using existing staff. However, delays experienced by the Baughman/MT Consulting team ultimately precluded a responsible initiation of those funds in 2013. Consequently, the department will request permission to initiate those unencumbered 2013 CIP funds

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(\$1,000,000), following an objective analysis of various options and determination of the most cost-effective, long-term approach, in 2014.

4. Pilot Projects

Numerous experimental (pilot) projects were conducted in 2012 and 2013, in order to test the viability and acceptance of potentially cost effective alternative maintenance techniques. The pilot projects varied widely, from the use of nontraditional (to the City of Wichita), but industry endorsed treatments, to the use of longstanding treatments on different types of roads. A continuation of the trend is proposed again for 2014, as evidenced by the program's focus on residential thermal crack repair. Additional 2014 pilot projects include several mitigations utilizing micro surfacing and slurry seal treatments.

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Definitions

1. Thermal Crack Repair

"Thermal crack repair" consists of repairing large cracks in full-depth asphalt pavements by removing the top two inches of pavement and installing a pavement interlayer reinforcement system beneath a new layer of asphalt. The interlayer reinforcement deters the crack from reflecting back through the renewed surface.

2. Preservative Seal

A "preservative seal" consists of the application of an emulsion specially formulated to penetrate, restore and preserve existing asphalt binders. By keeping the pavement flexible, it serves to seal against water intrusion, inhibit oxidation and improve aggregate retention.

3. Slurry Seal

A "slurry seal" is a basic surface sealing procedure in which a thin layer of fine graded aggregate, asphalt emulsion (as a binder) and mineral fillers is applied to the pavement. Its primary purpose is to retard water penetration, restore moderate to severe aggregate loss, improve aesthetics and extend the service life of the underlying pavement.

4. Micro Surfacing Seal

In a "micro surfacing seal", a mixture of relatively large aggregate, polymer modified emulsion, mineral filler and additives are combined and applied to an existing pavement using a specialized mixing and paving machine. The treatment is used to reduce water penetration, correct minor surface irregularities, improve aesthetics and extend the useful life of underlying pavement.

5. Asphalt Street Repair

"Asphalt street repair" includes various asphalt spot repairs, ranging from surface patching to full-depth removal and replacement, undertaken to strategically address myriad pavement distresses, such as block cracking and potholes.

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6. Concrete Repair

“Concrete repair” traditionally includes the strategic full-depth removal and replacement of concrete pavement, in order to address myriad pavement distresses, including spalling and pop-outs.

Proposed Expenditures

Proposed 2014 contracted pavement maintenance expenditures total \$8 million. Funds totaling \$4 million are allocated in the 2014 Adopted Budget for Pavement Maintenance. The remaining \$4 million are allocated in the 2014 Adopted CIP.

2014 CMP Network Funding/Expenditures Summary

Funding Summary	Expenditures	Percentage
General Obligation Funding		
Thermal Crack Repair	\$1,652,000	20.6%
Preservative Seal	\$352,000	4.4%
Slurry Seal	\$590,000	7.4%
Micro Surfacing Seal	\$687,000	8.6%
Asphalt Street Repair	\$139,000	1.7%
Engineering Salaries & Overhead	\$340,000	4.3%
Contingency	\$240,000	3.0%
CIP Street Improvement Funding		
Thermal Crack Repair	\$3,321,000	41.5%
Concrete Street Repair	\$159,000	2.0%
Engineering Salaries & Overhead	\$520,000	6.5%
Total Funding	\$8,000,000	100.0%

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2014 District-specific Construction Expenditures Summary

Project	District					
	1	2	3	4	5	6
Thermal Crack Repair	\$562,500	\$840,000	\$826,000	\$987,500	\$919,000	\$838,000
Preservative Seal	\$100,000	\$57,000	\$43,000	\$50,000	\$21,000	\$81,000
Slurry Seal	\$220,000	\$185,000	\$6,000	\$0	\$85,000	\$94,000
Micro Surfacing Seal	\$235,000	\$68,000	\$116,000	\$91,000	\$125,000	\$52,000
Asphalt Street Repair	\$32,500	\$0	\$0	\$21,500	\$0	\$85,000
Concrete Street Repair	\$0	\$0	\$159,000	\$0	\$0	\$0
District Totals*	\$1,150,000	\$1,150,000	\$1,150,000	\$1,150,000	\$1,150,000	\$1,150,000

2014 CMP Network Impact Summary

Project	Total Square Yards	Arterial Lane Miles	Residential Lane Miles	Total Lane Miles
Thermal Crack Repair	2,365,440	0	336	336.00
Preservative Seal	319,616	18	27.4	45.40
Slurry Seal	214,016	0	30.4	30.40
Micro Surfacing Seal	170,368	22.7	1.5	24.20
Asphalt Street Repair	52,800	5.1	2.4	7.50
Concrete Street Repair	16,896	1.6	0.8	2.40
Totals	3,139,136	47.40	398.50	445.90

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Proposed Locations

District I

Street	From	To	Project
Oliver	25th St N	1750' S of 25th St N	Asphalt Street Repair
Edgemoor	N Kellogg, Pavement Change	Douglas	Micro Surfacing Seal
Hillside	37th St N	45th St N	Micro Surfacing Seal
Hydraulic	Osie at Pavement Change	Mt. Vernon	Micro Surfacing Seal
21st St	230' W of Oliver	Pinecrest	Micro Surfacing Seal
Broadway	Waterman	Dewey	Preservative Seal
Central	Minnesota	Hillside	Preservative Seal
Cleveland	Central	13th St	Preservative Seal
Madison	9th St	Random	Preservative Seal
Woodlawn	29th St N, Including Intersection	Pavement Change, S of K-96	Preservative Seal
Rutan	Douglas	1st St	Preservative Seal
Victor	Hillside	Rutan	Preservative Seal
Commerce	William	106' South of English	Preservative Seal
Emporia	William	Waterman	Preservative Seal
English	St. Francis	Commerce	Preservative Seal
St. Francis	William	English	Preservative Seal
St. Francis	Douglas	William	Preservative Seal
Topeka	Waterman	Dewey	Preservative Seal
William	St. Francis	Emporia	Preservative Seal
William	Commerce	St. Francis	Preservative Seal
Grove	Raleigh	27th St N	Slurry Seal
17th St	Edgemoor	Woodlawn	Slurry Seal
19th St	Ridgewood	Beaumont	Slurry Seal
20th St Ct-5237	Old Manor	W Cul De Sac	Slurry Seal
20th St	Beaumont	Edgemoor	Slurry Seal
Beaumont	Farmstead	Charlotte	Slurry Seal
Beaumont	21st St	Shadybrook	Slurry Seal
Beaumont	Shadybrook	Siefkin	Slurry Seal
Chadowes	Charlotte	Kevin	Slurry Seal
Charlotte	Edgemoor	17th St	Slurry Seal
Edgemoor	21st St	S End/S of 17th St	Slurry Seal
Farmstead	21st St	Homestead	Slurry Seal
Homestead	Beaumont	17th St	Slurry Seal
Homestead	21st St	Beaumont	Slurry Seal

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District I (Continued)

Street	From	To	Project
Kevin	Chadowes	17th St	Slurry Seal
Larkspur	21st St	Edgemoor	Slurry Seal
Malcolm	20th St	21st St	Slurry Seal
Parkwood	21st St	Ridgewood	Slurry Seal
Ridgewood	21st St	19th St	Slurry Seal
Rockhill	Charlotte	Kevin	Slurry Seal
Shadybrook	Oliver	Battin	Slurry Seal
Shadybrook	Malcolm	Edgemoor	Slurry Seal
Shadybrook	Beaumont	Woodlawn	Slurry Seal
Area from 29th St N to 37th St N and between Woodlawn and Rock			Thermal Crack Repair
Area from 21st St N to 29th St N and between Woodlawn and Oliver			Thermal Crack Repair
Area from K-96 to 37th St N and between Oliver and Woodlawn			Thermal Crack Repair
Area from 33rd St N to 37th St N and West of Hillside			Thermal Crack Repair
Area of 14th St & Ohio			Thermal Crack Repair
Area from 17th St to 21st St between Oliver and Woodlawn			Thermal Crack Repair

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District II

Street	From	To	Project
Pawnee	Oak Knoll	Rock	Micro Surfacing Seal
Regency Lakes	21st St	Ayesbury	Micro Surfacing Seal
35th St N	Comotara	520' East	Preservative Seal
Comotara	37th St N	35th St N	Preservative Seal
Country Side	Lynnrae	Herrington	Preservative Seal
Funston	Herrington	Tara Falls	Preservative Seal
Funston	Lynnrae	Herrington	Preservative Seal
Herrington	Harry	Funston	Preservative Seal
Lynnrae	Herrington	Funston	Preservative Seal
Lynnrae Ct-1679	Lynnrae	SW Cul De Sac	Preservative Seal
Tara	Douglas	Central	Preservative Seal
Cambria	143rd St E	Welsh	Preservative Seal
Celtic	Welsh	Cambria	Preservative Seal
Welsh	Cambria	143rd St E	Preservative Seal
Welsh	Cambria	N End	Preservative Seal
Bristol Cir-732	Lincoln	NW Cul De Sac	Preservative Seal
Smithmoor Ct-1610	Smithmoor	E Cul De Sac	Preservative Seal
Kellogg Dr (S)	143rd St E	E End	Preservative Seal
Birchwood	127th St E	Edgewood	Slurry Seal
Davin Ln	13th St	Birchwood	Slurry Seal
Edgewood	127th St E	Woodridge	Slurry Seal
Edgewood Cir-12430	Woodridge	SW Cul De Sac	Slurry Seal
Woodridge	Edgewood (SW)	Edgewood (NE)	Slurry Seal
Woodridge Ct-1627	Woodridge	N Cul De Sac	Slurry Seal
14th St	Lawrence	Gouverneur	Slurry Seal
Aberdeen	Lawrence	Gouverneur	Slurry Seal
Farmview Ct-7027	Farmview	S Cul De Sac	Slurry Seal
Lawrence	13th St	Farmview	Slurry Seal
Lawrence Ct-1576	Lawrence	E Cul De Sac	Slurry Seal
Lawrence Ct-1638	Lawrence	E Cul De Sac	Slurry Seal
Lawrence Ct-1680	Lawrence	E Cul De Sac	Slurry Seal
Stonegate	Lawrence	Timberon	Slurry Seal
Timberon	Lawrence	Stonegate	Slurry Seal
Dublin Cir-2722	Greenbriar	SW Cul De Sac	Slurry Seal
Dublin Ct-2630	Dublin Cir-2722	S Cul De Sac	Slurry Seal

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District II (Continued)

Street	From	To	Project
Dublin Ct-2735	Dublin Cir-2722	W Cul De Sac	Slurry Seal
Greenbriar	Tallgrass	Penstemon	Slurry Seal
Greenbriar	Rock	Penstemon	Slurry Seal
Greenbriar Ct-8136	Greenbriar	NE Cul De Sac	Slurry Seal
Greenbriar Ct-8214	Greenbriar	N Cul De Sac	Slurry Seal
Greenbriar Ct-8253	Greenbriar	S Cul De Sac	Slurry Seal
Greenbriar Ct-8423	Greenbriar	S Cul De Sac	Slurry Seal
Greenbriar Ct-8531	Greenbriar	S Cul De Sac	Slurry Seal
Penstemon	Greenbriar	Tallgrass	Slurry Seal
Penstemon Cir-2868	Penstemon	NE Cul De Sac	Slurry Seal
Penstemon Ct-2806	Penstemon	SE Cul De Sac	Slurry Seal
Penstemon Ct-2956	Penstemon Cir-2868	E Cul De Sac	Slurry Seal
Tallgrass	Penstemon	Greenbriar	Slurry Seal
Plumthicket	Webb	Plumthicket Cir	Slurry Seal
Plumthicket Cir	2311 Plumthicket (N)	2551 Plumthicket (S)	Slurry Seal
Plumthicket Ct-2427	Plumthicket Cir	W Cul De Sac	Slurry Seal
Plumthicket Ct-2459	Plumthicket Cir	W Cul De Sac	Slurry Seal
Plumthicket Ct-2527	Plumthicket Cir	W Cul De Sac	Slurry Seal
Area of N of 37th St N and between Woodlawn and Rock			Thermal Crack Repair
Area of from 29th St N to 37th St N and between Rock and Webb			Thermal Crack Repair
Area of from 21st St N to 29th St N and between Rock and Webb			Thermal Crack Repair
Area of N of 21st St N and E of Webb			Thermal Crack Repair
Area of from Pawnee to Harry and between Webb and Greenwich			Thermal Crack Repair
Area of from Harry to Kellogg and between Rock and Webb			Thermal Crack Repair
Area of West of 143rd St E and South and North of Harry			Thermal Crack Repair
Area of from 143rd St E to 159th St E and South and North of Central			Thermal Crack Repair
Area of W of 127th St E and N of 13th St			Thermal Crack Repair

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District III

Street	From	To	Project
Harry	Market	Greenway	Concrete Street Repair
Lorraine	Mt. Vernon	N Cul De Sac	Concrete Street Repair
Skinner	Hillside	GWB, 30sy Driveway	Concrete Street Repair
Hydraulic	Mt. Vernon	SE Blvd	Micro Surfacing
K-15	Pawnee	Hydraulic	Micro Surfacing
Lincoln	Edgemoor	Woodlawn	Micro Surfacing
Broadway	Mt. Vernon	Blake at Pavement Change	Micro Surfacing
51st St S	Hydraulic	Spruce	Preservative Seal
53rd St S	Hydraulic	Spruce	Preservative Seal
Broadway	Bridge @ 34th St S	MacArthur & int.	Preservative Seal
Pawnee	Hillside, WL	George Washington, EL	Preservative Seal
Mosley	Harry	Boston	Slurry Seal
Hillside	Bayley	Harry	Thermal Crack Repair
Area of from 59th St S to 71st St between West of Hydraulic and Clifton			Thermal Crack Repair
Area of from 47th St S to 55th St S and between Broadway and Hydraulic			Thermal Crack Repair
Area of from 47th St S to 57th St S and East of Hydraulic			Thermal Crack Repair
Area of from 47th St S to MacAuthur and between Broadway and East of Hydraulic			Thermal Crack Repair
Area of from 31st St S to Pawnee and between Hydraulic and Hillside			Thermal Crack Repair
Area of from South of 31st St S to Pawnee and between Hydraulic and East of Oliver			Thermal Crack Repair
Area of from Harry to Lincoln on Bluffview			Thermal Crack Repair
Area of from Mt Vernon to Harry and between Hillside and Bluff			Thermal Crack Repair

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District IV

Street	From	To	Project
30th St S	Glenn	Bonn	Asphalt Street Repair
Crawford	Meridian	Everett	Asphalt Street Repair
Hadden	Meridian	Everett	Asphalt Street Repair
Southgate	Meridian	Everett	Asphalt Street Repair
McLean	Harry	Pawnee	Micro Surfacing Seal
Wetmore	Maize (S)	Maize (N)	Preservative Seal
Wetmore Ct-630	Wetmore	E Cul De Sac	Preservative Seal
Parkridge	Taft	Maple	Preservative Seal
Shefford	Taft	Maple	Preservative Seal
Hayden	Slope	E Cul De Sac	Preservative Seal
Slope	151st St W	Hayden	Preservative Seal
Grant	119th St W	Upland Hills	Preservative Seal
Grant Ct-12001	Grant	S Cul De Sac	Preservative Seal
Grant Ct-12002	Grant	N Cul De Sac	Preservative Seal
Haskell	Upland Hills	Rogers	Preservative Seal
Jewell	119th St W	Upland Hills	Preservative Seal
Jewell Ct-12001	Jewell	S Cul De Sac	Preservative Seal
Jewell Ct-12002	Jewell	N Cul De Sac	Preservative Seal
Jewell Ct-12101	Jewell	S Cul De Sac	Preservative Seal
Rogers	Upland Hills	Grant	Preservative Seal
Rogers Cir-2122	Grant	N Cul De Sac	Preservative Seal
Upland Hills	Pawnee	Jewell	Preservative Seal
Upland Hills Ct-2211	Upland Hills	N Cul De Sac	Preservative Seal
Upland Hills Ct-2302	Upland Hills	E Cul De Sac	Preservative Seal
MacArthur	Hoover	West St	Thermal Crack Repair
Area of from South of 47th St S to MacArthur between Meridian and Seneca			Thermal Crack Repair
Area of SW Corner of MacArthur and Hoover			Thermal Crack Repair
Area of NE Corner of 47th St S and West St			Thermal Crack Repair
Area of from South of 31st St S and between West St and Meridian			Thermal Crack Repair
Area of from N of Kellogg to S of Harry between K-42 and Seneca			Thermal Crack Repair
Area of from Harry to Maple between Tyler and Ridge			Thermal Crack Repair
Area of from Kellogg to Maple between W of Seville and Tyler			Thermal Crack Repair
Area of from 119th St W to Maize between Pawnee and Kellogg			Thermal Crack Repair
Area of from 47th St S to 55th St S and between Seneca and Broadway			Thermal Crack Repair
Area of from 31st St S to Pawnee and between West of West St and Meridian			Thermal Crack Repair

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District V

Street	From	To	Project
Maize	Central	13th St	Micro Surfacing
Country View	Maple	Fawnwood	Preservative Seal
Country View Ct-126	Country View	E Cul De Sac	Preservative Seal
Fawnwood	Jason	City View	Preservative Seal
Hunters View	Liberty	Nantucket	Preservative Seal
Liberty	13th St	Hunters View	Preservative Seal
Nantucket	Hunters View	Liberty	Preservative Seal
Bellwood	Britton	Keith	Slurry Seal
Bellwood Ct-2448	Bellwood	N Cul De Sac	Slurry Seal
Britton	Keith	Amarado	Slurry Seal
Britton	Keith	Bellwood	Slurry Seal
Britton Ct-9306	Britton	N Cul De Sac	Slurry Seal
Brookridge	Sterling	Keith	Slurry Seal
Brookridge Cir-9554	Brookridge	N Cul De Sac	Slurry Seal
Brookridge Ct-9509	Brookridge (W)	Brookridge (E)	Slurry Seal
Brookridge Ct-9514	Brookridge	E Cul De Sac	Slurry Seal
Keith	21st St	Sterling	Slurry Seal
Keith Ct-2309	Keith	SW Cul De Sac	Slurry Seal
Sterling	Brookridge	Tyler	Slurry Seal
Sterling Ct-9402	Sterling	E Cul De Sac	Slurry Seal
Sterling Ct-9422	Sterling	NE Cul De Sac	Slurry Seal
Sterling Ct-9454	Sterling Ct-9422	NW Cul De Sac	Slurry Seal
Wyncroft	Britton	Keith	Slurry Seal
Wyncroft Ct-9415	Wyncroft	S Cul De Sac	Slurry Seal
Area of from 119th St W to Maize and between 13th St and Half Mile South			Thermal Crack Repair
Area of from Maize to Shefford and between 13th St and 21st St			Thermal Crack Repair
Area of from 119th St W to Maize and between Central and Maple			Thermal Crack Repair
Area of SE Corner of 135th St W and Central			Thermal Crack Repair

2014 Contracted Maintenance Program

District VI

Street	From	To	Project
21st St	Amidon	Bridge at McLean	Asphalt Street Repair
49th St N	Jeanette	Sullivan	Asphalt Street Repair
48th St N	Arkansas	E End	Micro Surfacing Seal
25th St (EB)	Bullinger	Amidon	Preservative Seal
61st St N	RR Crossing, E of Armstrong	Seneca, Including Intersection	Preservative Seal
61st St N	Seneca	Fairfield	Preservative Seal
Broadway	Central	13th St	Preservative Seal
Broadway	450' N, 21st St	25th St	Preservative Seal
Boardwalk	Bayview	N End/N of Crystal Beach	Preservative Seal
Crystal Beach	Boardwalk	Portwest	Preservative Seal
Crystal Beach Cir-3517	Portwest	W Cul De Sac	Preservative Seal
Pierport	Boardwalk	E End	Preservative Seal
Portwest	Crystal Beach	Bayview	Preservative Seal
Agnes Ct-3740	36th St N	37th St N	Preservative Seal
Zoo Park Cir-2220	21st St	NE Cul De Sac	Preservative Seal
29th St N	Amidon	Meridian	Slurry Seal
29th St N	Meridian	Halstead	Slurry Seal
Halstead	29th St N	Richmond	Slurry Seal
Halstead	Richmond	25th St N	Slurry Seal
Halstead	25th St N	Sweetbriar	Slurry Seal
Halstead	Valley Park	29th St N	Slurry Seal
Sweetbriar	Halstead	21st St	Slurry Seal
Valley Park	Halstead	Meridian	Slurry Seal
Area of N of 60th St N and E of Meridian			Thermal Crack Repair
Area of between 45th St N and 53rd St N from Meridian to Half Miles West			Thermal Crack Repair
Area of between 25th St N and N of 37th St N from I-135 to Arkansas			Thermal Crack Repair
Area of between 21st St N and 37th St N from Arkansas to I-235			Thermal Crack Repair
Area of between 21st St and 25th St N from I-235 to Amidon			Thermal Crack Repair
Area of between 21st St and 25th St N from Amidon to Arkansas			Thermal Crack Repair
Area of between 13th St and Zoo from Zoo St to Hoover, including 13th St			Thermal Crack Repair
Area of between Central and 13th St from Hoover to West St, excluding 13th St			Thermal Crack Repair
Area of between Central and 13th St from West St to McLean			Thermal Crack Repair
Area of between Douglas and Central from West St to Meridian			Thermal Crack Repair

