

City of Alexandria, Virginia

MEMORANDUM

DATE: JUNE 18, 2014

TO: MEMBERS OF THE TRANSPORTATION COMMISSION

FROM: SANDRA MARKS, ACTING DEPUTY DIRECTOR, T&ES

SUBJECT: AGENDA ITEM #6 – PAVING SCHEDULE AND COMPLETE STREETS

ISSUE: Update on the paving schedule and associated Complete Streets projects.

RECOMMENDATION: That the Transportation Commission receive the update.

BACKGROUND: In March 2013, T&ES provided an update to the Transportation Commission on the ongoing development of a paving management program and multi- year paving schedule. Since that time, staff has completed a condition assessment of the City's road and alley infrastructure. This assessment has been used to develop a paving management program and a proposed three year paving schedule which was included in the FY 2015- FY 2024 Capital Improvement Plan (CIP) which was approved by City Council on May 1, 2014.

DISCUSSION: The City of Alexandria maintains and manages more than 560 lane miles of paved streets to ensure the safe and efficient movement of people, goods and services. The City's FY 2015 CIP includes \$4,493,000 in funding for the reconstruction and resurfacing of major roads, typically arterials and collector roads. Approximately 20 percent of City streets are arterials and 11 percent are primary collectors, while 69 percent are local and residential streets. Because arterial and collector routes are generally wider with greater traffic volumes and heavier truck traffic, maintenance of arterials and collectors comprises a significant share of the City's overall street maintenance operating budget.

In addition to the CIP budget, the FY 2015 Operating Budget for Street and Sidewalk Maintenance is \$3,845,084. As part of the \$3.845 million total budget, \$1.0 million is designated for local/residential street patching and pothole repair. The \$1.0 million is utilized for smaller spot repairs, typically one block or less, and thus the scope of work cannot be programmed as easily so it represents an operating and not a capital expenditure. In other words, the major resurfacing projects represent a significant long-term capital investment, while the smaller maintenance projects are part of the everyday cost of maintaining the City's streets.

T&ES focuses its limited resurfacing funds on streets that are in most need. When selecting streets to be paved, staff begins with an objective pavement rating index calculated by a computer model. The City in 2013 used a specialized contractor to objectively prioritize all 560 lane miles of roads according to accepted industry standards. The City's contractor assesses all

streets in the City in order to generate a numerical measure called a Pavement Condition Index (PCI) for every block evaluated. Using a scale from 100 for brand new pavement down to 1, the worst possible condition, the City then develops a priority based system for resurfacing. The PCI is based on a streets’ ride quality, cracking, presence of potholes or utility cuts, raveling, streaking, wash-boarding, shoving, etc. The streets are then placed into “bands” that generally characterize their overall condition. The chart below explains the relationship between the road conditions, PCI and definitions:

Condition	PCI	Definition
Good	86-100	Stable, no cracking, no patching and no deformation. Very good riding qualities.
Satisfactory	71-85	Stable, minor cracking, generally hairline and hard to detect. Minor patching and possibly some minor deformation evident. Dry or light colored appearance. Good riding qualities. Rutting less than ½”.
Fair	56-70	Generally stable, minor areas of structural weakness evident. Cracking is easier to detect, patches evident. Cracking is easier to detect, patched but not excessively. Deformation more pronounced and easily noticed. Ride qualities are good to acceptable.
Poor	41-55	Areas of instability, marked evidence of structural deficiency, large crack patterns (alligating) heavy and numerous patches, deformation very noticeable. Riding qualities range from acceptable to poor.
Very Poor/Serious	11-40	Pavement in extremely deteriorated condition. Numerous areas of instability. Majority of section showing structural deficiency. Ride quality is poor.
Failed	0-10	Pavement structure failed. All of section showing severe structural deficiency.

In the 2013 assessment, the City’s average PCI was 58 with nearly 50 percent of street sections at or below 60. This assessment was used to develop a proposed three year paving schedule which was included in the approved FY 2015- FY 2024 CIP document.

In addition to major resurfacing projects staff also uses the pavement management system to determine locations for local/ residential street patching work and preventative maintenance activities. In FY 2014, staff piloted the use of crack sealing technology as a preventative means to extend the life of asphalt. To date this program shows success, and as a result, staff will continue using this method as well as other preventative maintenance strategies.

Figures 1-3 below list the streets that have been included in the approved FY 2015- FY 2024 CIP for major street/multi-block resurfacing. It is important to note that these lists are tentative and may change due to utility, development, and other City projects, contract cost variance or other unforeseen conditions.

Annual resurfacing is coordinated with the City’s Complete Streets program to implement Complete Streets improvements on the roadway in conjunction with the paving. On April 2, 2014 staff presented a Complete Streets Program update to the Transportation Commission and provided an overview of the coordination that occurs with the street surfacing. Each roadway in Figures 1-3 is evaluated to determine if improvements to the roadway can be made in conjunction with the paving to enhance safety, accessibility and mobility for all roadway users. The recommendations of the Transportation Master Plan and the Pedestrian and Bicycle Mobility

Plan is used to guide street improvements. Some of the improvements include new or upgraded crosswalks, sidewalks, curb ramps, signage, bus stop accessibility improvements, and on-street bicycle facilities.

Due to the increasing lane miles of resurfacing approved in the FY 2015 budget, Complete Streets projects associated with resurfacing must be prioritized to be accomplished within the resources available. Projects are prioritized by plan recommendations, crash data, street classification, activity centers, and distance from pedestrian generators such as schools, parks and transit. For the proposed FY 2015 paving schedule, Complete Streets improvements are planned for the intersection of Yoakum Parkway and Stevenson Avenue, Monroe Avenue between Stonewall and Leslie Avenue, Wheeler Avenue between Duke Street and the dead end, and the intersection of Janney’s Lane and Taylor Run Parkway. In addition, staff will study King Street, between Janney’s Lane and Quaker Lane, and Taney Avenue from Van Dorn Street to the dead end to gather more information about roadway and sidewalk conditions. Complete Streets improvements for Royal Street, between Gibbon Street and Jones Point Drive are currently on hold.

Figure 1 – Proposed FY 2015 Paving Schedule

		Avg PCI	Estimated Cost	Proposed CIP Funding
Proposed FY15 Paving Schedule	E. Howell from Mt Vernon to Jefferson Davis Hwy	25.50	\$84,000.00	
	Duncan Ave from Mt Vernon Ave to Bellefonte	27.75	\$111,000.00	
	N Gordon St from Duke St to the dead end	29.00	\$80,000.00	
	Wheeler Ave from Duke St to the dead end	29.80	\$500,000.00	
	W Bellefonte Ave from Russell Rd to Jefferson Davis Hwy	31.20	\$150,000.00	
	Eisenhower Ave from S. Van Dorn to Clermont Ave	31.33	\$550,000.00	
	Princess St from N Columbus St to Cameron St via Buchanan St	34.00	\$180,000.00	
	N. Pitt St. from Bashford Ln to Pendleton St.	31.00	\$140,000.00	
	Beauregard from Mark Center Dr to Lincolnia Rd	34.75	\$700,000.00	
	Ridge Rd from Crestwood Dr to Braddock Rd	17.50	\$90,000.00	
	Janneys Lane from Cloverway to King St	33.00	\$150,000.00	
	Taney Ave from Van Dorn St to the dead end	33.13	\$410,000.00	
	Yoakum Parkway from Edsall Rd to Stevenson Ave	36.00	\$180,000.00	
	N Hampton Dr from Ford Ave to King St	23.50	\$150,000.00	
	King St from Radford St. to Janney's Lane	36.43	\$460,000.00	
	Royal St from Gibbon St to Jones Point Dr	36.50	\$175,000.00	
	Monroe Ave from Stonewall Rd to Leslie Ave	39.00	\$250,000.00	
TOTAL	31.14	\$4,360,000.00	\$4,493,000.00	

Figure 2 – Proposed FY 2016 Paving Schedule

		Avg PCI	Estimated Cost	Proposed CIP Funding
Proposed FY16 Paving Schedule	Duke St. from N. Quaker Ln. to S. Jordan St.	40.00	\$520,000.00	
	Prince St. from Dangerfield Rd. to S. Columbus St.	35.00	\$208,000.00	
	S. Van Dorn St. from S. Pickett St. to Edsall Rd.	45.00	\$170,000.00	
	N. Van Dorn St. from Seminary Rd. to Menokin Dr.	41.00	\$250,000.00	
	Eisenhower Ave. from Bluestone Rd. to Mill Rd.	40.60	\$480,000.00	
	E. Taylor Run Pkwy from Duke St. to Dead End	45.20	\$170,000.00	
	S./ N. Jordan St Entire Length	31.00	\$450,000.00	
	Cambridge Rd. from Duke St. to Janney's Ln	30.00	\$140,000.00	
	Braxton Pl. Entire Length	18.00	\$50,000.00	
	Hilltop Terrace Entire Length	27.00	\$50,000.00	
	Putnam Pl. Entire Length	26.50	\$60,000.00	
	Westview Terrace Entire Length	40.00	\$50,000.00	
	E. Oxford Ave Entire Length	37.00	\$110,000.00	
	E./ W. Myrtle St. Entire Length	35.00	\$100,000.00	
	Dawes Ave. from King St. to Seminary Rd.	28.00	\$140,000.00	
	CityWide Alley Resurfacing	< 10	\$300,000.00	
	Hume Ave. Entire Length	38.00	\$80,000.00	
	Raymond Ave. Entire Length	42.50	\$80,000.00	
	Fordham Rd. Entire Length	21.50	\$60,000.00	
	Farm Rd./ Wellington Rd. from Chalfonte Dr. to Circle Terrace	43.20	\$180,000.00	
TOTAL	34.97	\$3,648,000.00	\$3,975,000.00	

Figure 3 – Proposed FY 2017 Paving Schedule

		Avg PCI	Estimated Cost	Proposed CIP Funding
Proposed FY17 Paving Schedule	E Windsor Ave from Russell Rd to Jefferson Davis Hwy	34.63	\$140,000.00	
	Russell Rd. from Mt. Vernon Ave. to Masonic View Ave.	42.25	\$900,000.00	
	Cameron St. from Union St. to Buchanan St.	44.50	\$200,000.00	
	Mt. Vernon Ave. from Braddock Rd. to Hume Ave.	42.00	\$420,000.00	
	Randolph Ave. Entire Length	25.50	\$140,000.00	
	E. Braddock from Russell Rd. to N. West St.	38.50	\$180,000.00	
	N./ S. Columbus from Green St. to Oronoco St.	37.50	\$300,000.00	
	CityWide Alley Resurfacing	< 20	\$300,000.00	
	Pickett St. from Van Dorn St. to Valley Forge	44.60	\$300,000.00	
	Kennedy St./ Landover Rd. Entire Length	23.50	\$200,000.00	
	N. Pickett from Polk Ave. to Dead End	44.20	\$80,000.00	
	N./ S. Henry St. from Slater's Ln. to Franklin St.	48.00	\$500,000.00	
	Pendleton St. Entire Length	42.50	\$200,000.00	
	N. Owen St. Entire Length	47.50	\$60,000.00	
	St. Stephens Rd Entire Length	28.80	\$140,000.00	
	Colonel Ellis Ave. Entire Length	31.20	\$50,000.00	
	Chambliss St. Length in City	38.50	\$80,000.00	
	Francis Hammond/ Skyhill Rd.	32.50	\$100,000.00	
	W. Timber Branch Pkwy. From Braddock Rd. to Dead End	44.25	\$100,000.00	
	Taney Ave. from N. Early St. to N. Gordon St.	32.50	\$80,000.00	
	Leslie Ave. from Randolph Ave. to Duncan Ave.	25.50	\$140,000.00	
E. Glebe Rd. from Jefferson Davis Hwy to Russell Rd	46.50	\$200,000.00		
TOTAL	37.85	\$4,810,000.00	\$5,200,000.00	