

# Department of Public Works

## *Paving Presentation*



Presented by Bobby Vincent, Director  
May 10, 2021



# Department of Public Works

## Executive Summary



### MISSION

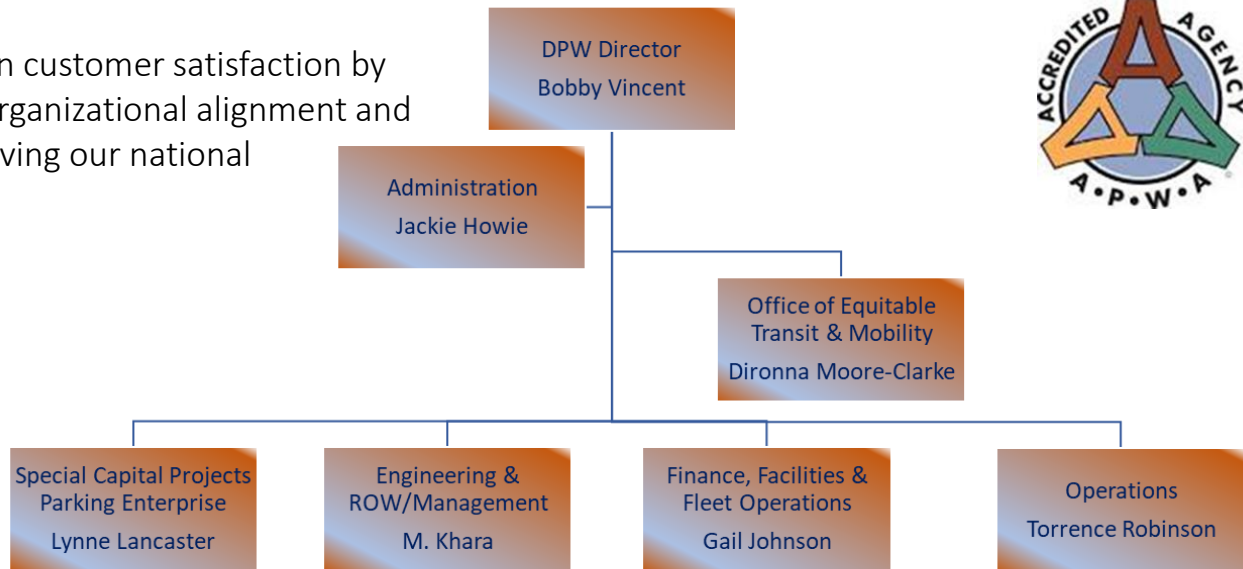
To provide a clean, safe and healthy environment

### VISION

To become the organizational leader in customer satisfaction by improving communication, assuring organizational alignment and affecting positive change while preserving our national accreditation

### VALUES

- Accountability
- Teamwork
- Respect
- Training
- Communication
- Consistency
- Professional/Organizational Growth



### CUSTOMER VALUE PROPOSITION

The Department of Public Works strives for excellence while providing safe, quality and efficient services in a fiscally responsible manner



# RVA Stats, Public Information and Q&A



## Contact Information:

### Dept of Public Works City of Richmond

900 E. Broad St., Suite 704  
Richmond, VA  
23219 USA

[Map It](#)

Hours: Monday -Friday  
8 a.m. - 5 p.m.

Email: [Ask Public Works](#)

Customer Care Center: 3-1-1

or (804)646-7000



Geographical Size:	62.5 square miles
City Population:	230,000+ (Ranked 97th)
Metropolitan Area Population:	1,263,617 (Ranked 44th)
Lane Miles of Roads:	1,835 lane miles
Miles of Sidewalks:	836 lane miles
Miles of Alleys:	210 miles
Trees within Public ROW:	120,000
Bridges and Structures:	83
Signals & Flashers	521
Bike Sharrows (two way)	> 90 miles
Bike Lanes	53 miles

# Condition Rating Goals

## MicroPaver Pavement Management System



### City of Richmond Virginia Pavement Condition Scores 2020

#### Instructions for Use

Updated 12/17/2020 PCI Scores Updated 12/17

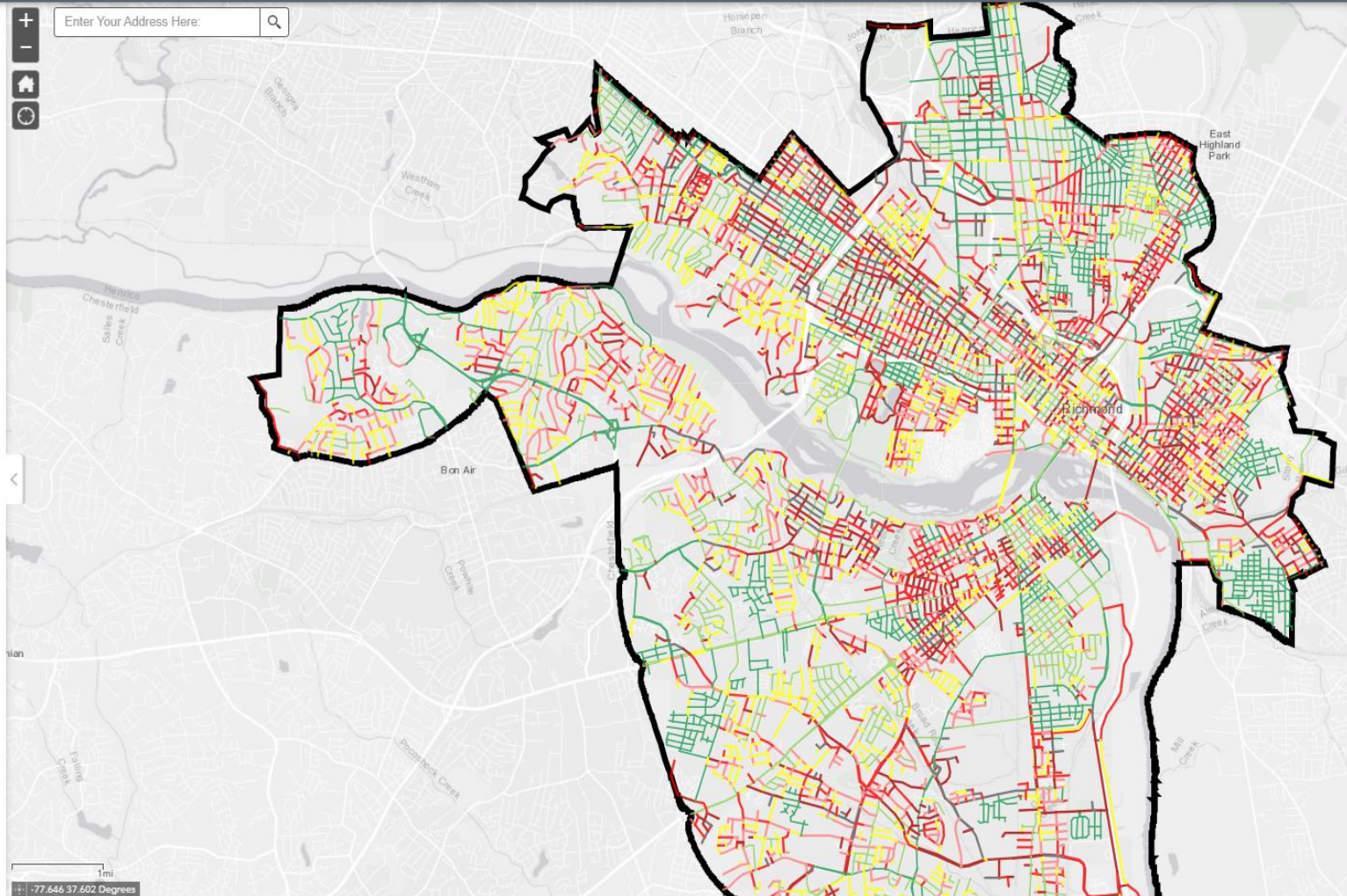
**Option 1:** Enter Address in upper left corner. When Map Zooms to the location, Left Click on the Red, Yellow, or Green Lines to Find the Exact Pavement Condition Score.

**Option 2:** Zoom In and Out on the map using the + or - sign in upper left corner of map or use your mouse wheel to Zoom In and Out on the Map. Left Click on the Red, Yellow, or Green Lines to Find the Exact Pavement Condition Score.

#### Pavement Condition Index

##### PCI

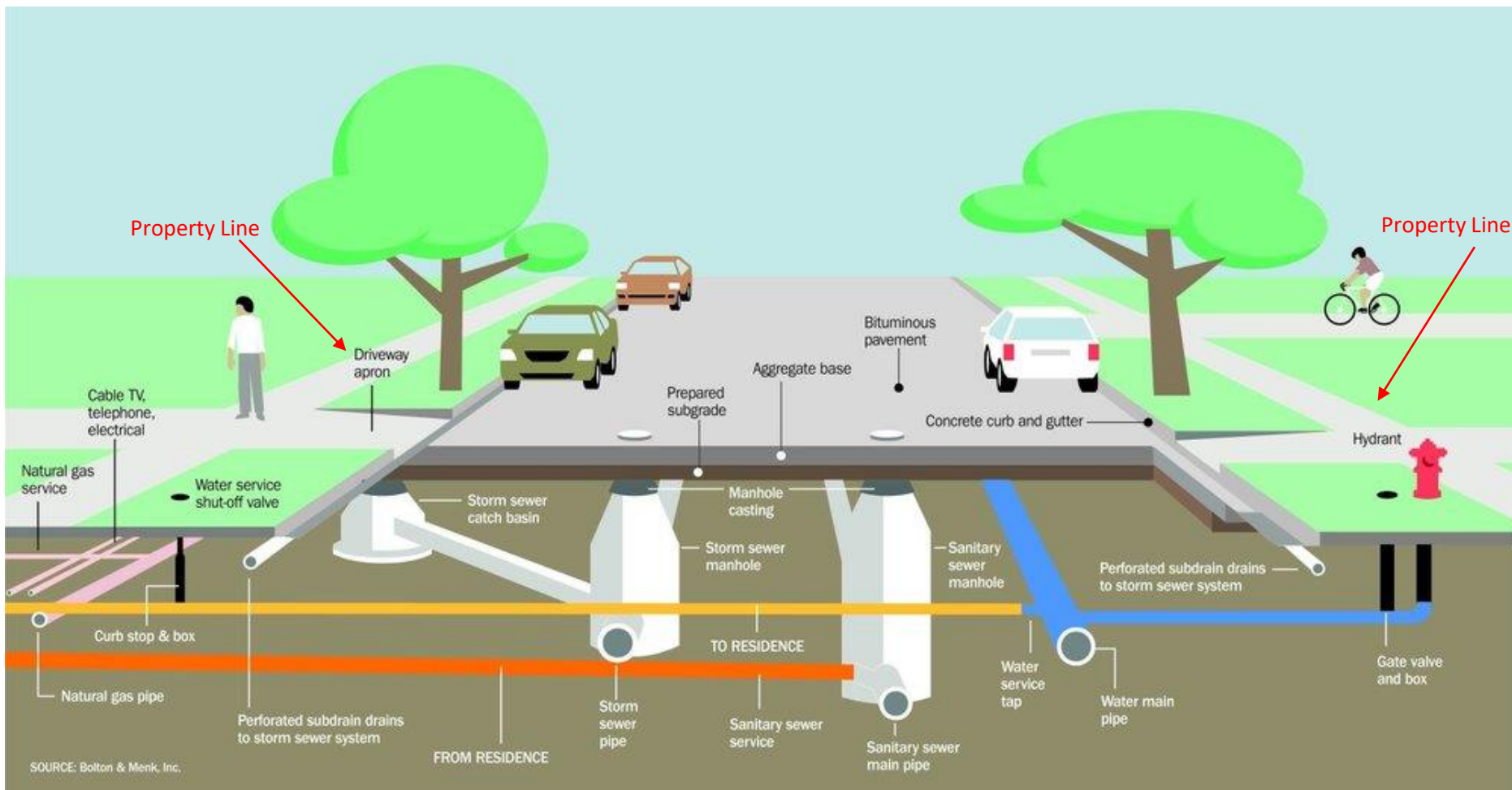
- 0 - 10: Failed
- 11 - 25: Serious
- 26 - 40: Very Poor
- 41 - 55: Poor
- 56 - 70: Fair
- 71 - 85: Satisfactory
- 86 - 100: Good





# Infrastructure w/in or Adjacent to Urban Streets

When paving occurs, milling & overlay projects average 2" in depth. In the City of Richmond streets, even on local streets, there are several utilities that run underground within the public right of way. The main line pipes and conduits run at depths from 4' (48") to 20'+ (240"). Each main line has laterals at various depths to each property. Due to excavations, cavitations and upgrades, the earth around each of these can become compromised at any given time.



# A comparison of Urban City vs. Suburban Infrastructure

## Example of Infrastructure Impact



## City of Richmond: Intersection of 7<sup>th</sup> Street and Broad Street



### Features w/in Infrastructure

1. Crosswalks – 2,400 SqFt
2. Manholes - 12
3. Gas & Water Valves - 4
4. Grass/Trees – Yes
5. Parking - Yes

### Characteristics:

- Six(6) x Four(4) Lanes wide
- Four adjacent sidewalks
- Void ROW: Zero-Building



## County of Henrico: Intersection of Cox Road and Broad Street



### Features w/in Infrastructure

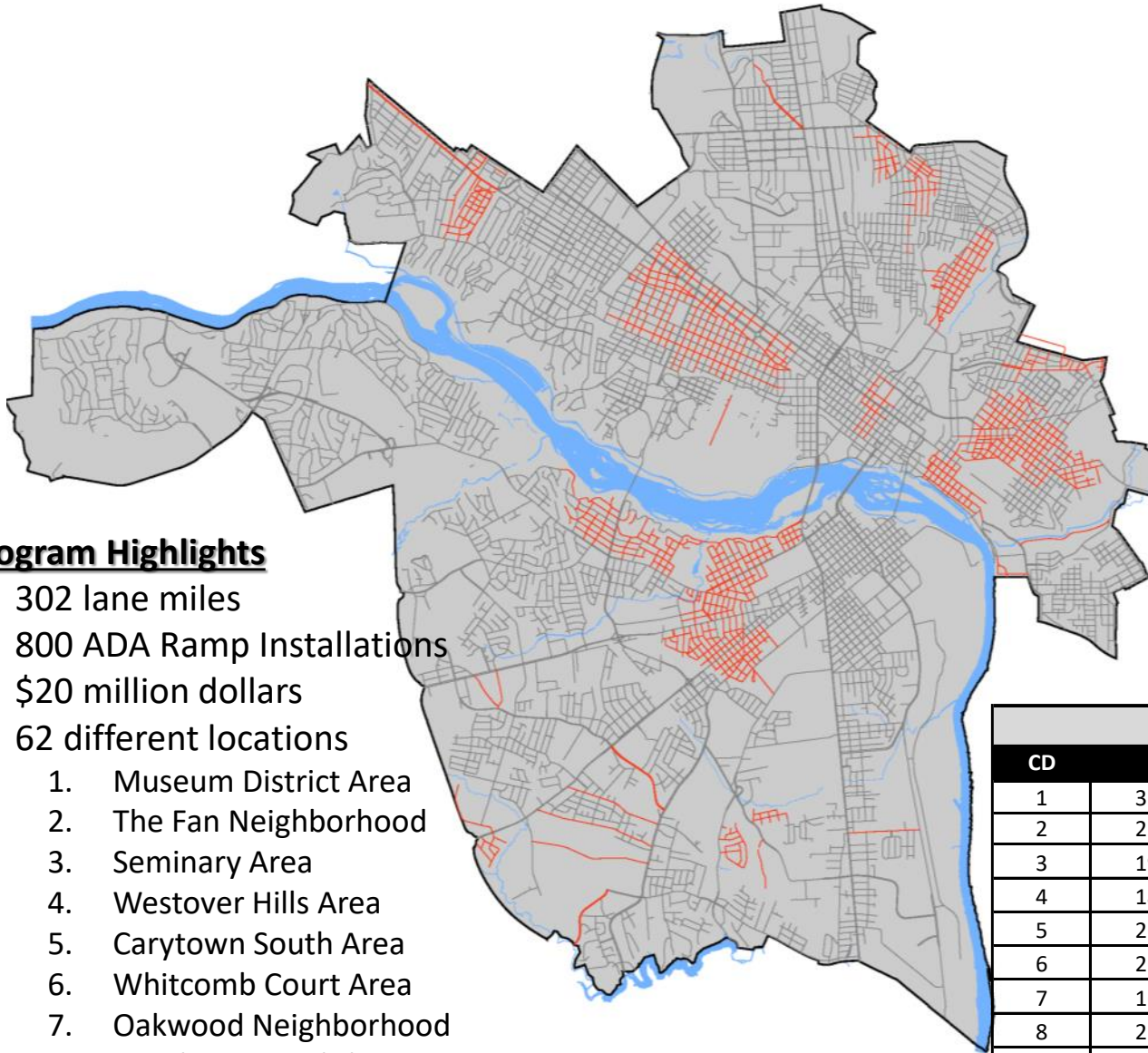
1. Crosswalks - 0
2. Manholes - 2
3. Gas & Water Valves - 4
4. Grass/Trees – Yes
5. Parking - No

### Characteristics:

- Nine(9) x Five(5) Lanes wide
- One adjacent sidewalk
- Void ROW: 20' x 300'



# FY 2021 Paving Program



## Milling & Overlay

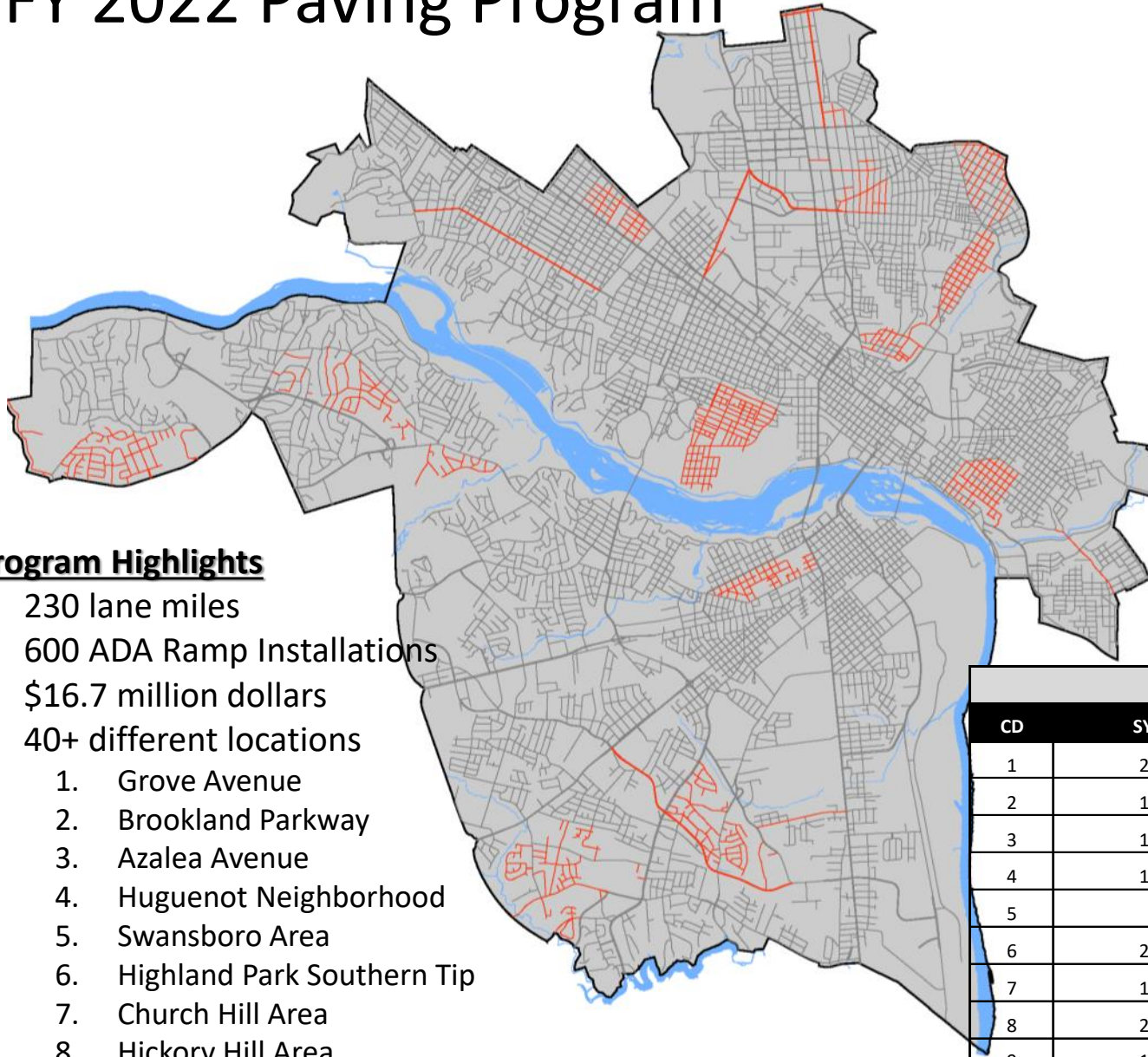
Step 1: 1-3" Milling of Surface  
Step 2: Asphalt Application

### Program Highlights

- 302 lane miles
- 800 ADA Ramp Installations
- \$20 million dollars
- 62 different locations
  1. Museum District Area
  2. The Fan Neighborhood
  3. Seminary Area
  4. Westover Hills Area
  5. Carytown South Area
  6. Whitcomb Court Area
  7. Oakwood Neighborhood
  8. Deerbourne Subdivision
  9. Jahnke Road

FY2021 Paving Program				
CD	SY	LM	Cost	% LM
1	324,986.0	50.4	3,187,974.5	16.6%
2	250,100.0	38.8	2,677,048.0	12.8%
3	199,661.0	30.9	2,095,371.5	10.2%
4	185,000.0	28.7	1,720,500.0	9.5%
5	266,486.0	41.3	2,534,552.0	13.6%
6	262,564.0	40.7	2,595,689.1	13.4%
7	160,562.0	24.9	1,718,564.5	8.2%
8	219,611.1	34.0	2,556,125.1	11.2%
9	84,906.0	13.2	1,009,494.5	4.3%
<b>Total</b>	<b>1,953,876.1</b>	<b>302.8</b>	<b>\$ 20,095,319.18</b>	<b>100.0%</b>

# FY 2022 Paving Program



## Heat Scarification

Step 1: Superheat Asphalt and Relay

Step 2: Slurry Seal

### Program Highlights

- 230 lane miles
- 600 ADA Ramp Installations
- \$16.7 million dollars
- 40+ different locations
  1. Grove Avenue
  2. Brookland Parkway
  3. Azalea Avenue
  4. Huguenot Neighborhood
  5. Swansboro Area
  6. Highland Park Southern Tip
  7. Church Hill Area
  8. Hickory Hill Area
  9. Piney Knoll Area

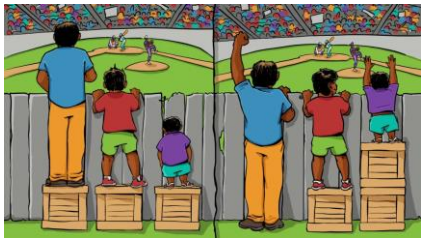
FY2022 Paving Program				
CD	SY	LM	Cost	% LM
1	219,500.0	34.0	2,893,110.0	14.7%
2	101,500.0	15.7	1,567,020.0	6.8%
3	183,000.0	28.4	2,206,170.0	12.2%
4	181,750.0	28.2	1,577,075.0	12.2%
5	79,000.0	12.2	734,700.0	5.3%
6	240,500.0	37.3	2,683,450.0	16.1%
7	105,000.0	16.3	976,500.0	7.0%
8	228,000.0	35.3	2,421,300.0	15.3%
9	156,100.0	24.2	1,633,710.0	10.4%
<b>Total</b>	<b>1,494,350.0</b>	<b>231.6</b>	<b>\$ 16,693,035.00</b>	<b>100.0%</b>



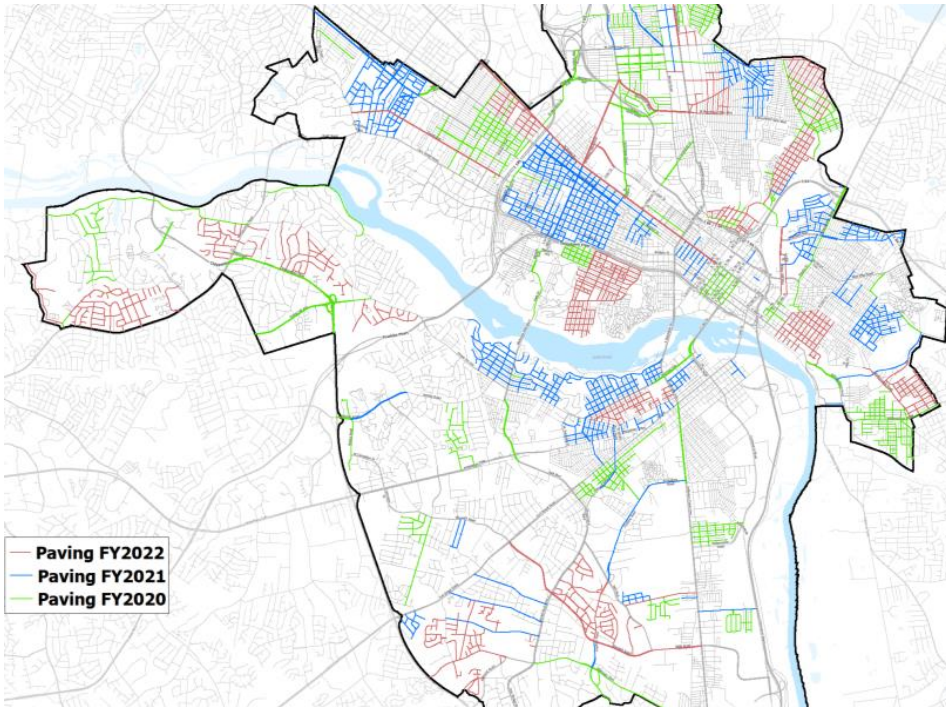


# Equality and Equity

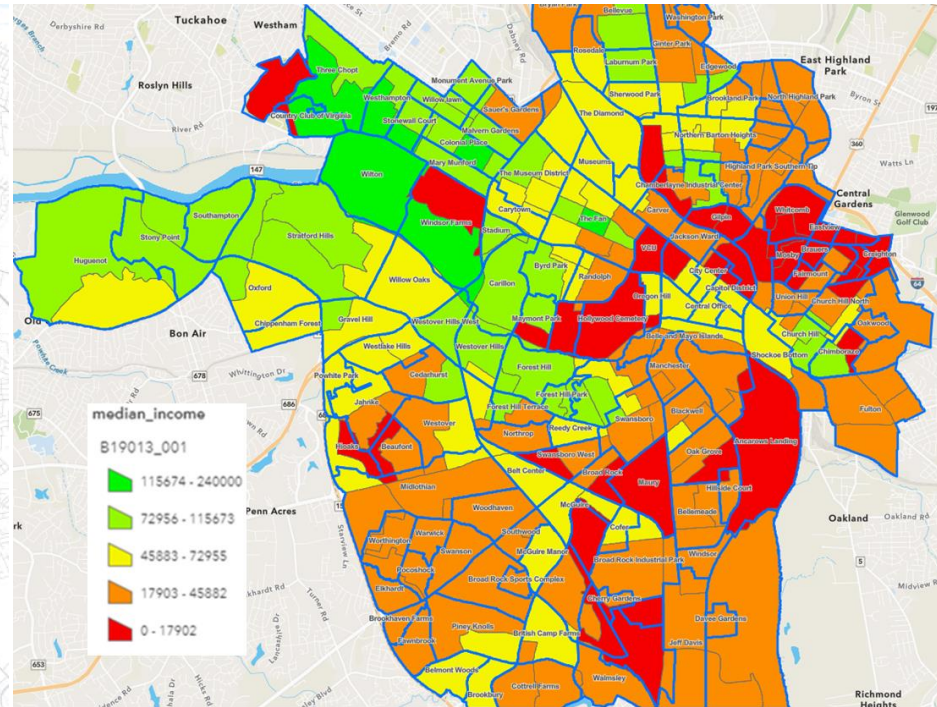
## City Paving Construction Projects



The information below is an illustration of how DPW provides construction services throughout the City of Richmond equitably and equally. For instance, the 9<sup>th</sup> District makes up an estimated 7.0% of the infrastructure, however, due to its PCI rating, it has received numerous projects over the past several years in comparison to the 8<sup>th</sup> District, who has the largest pavement infrastructure in the City. On the other hand, the 1<sup>st</sup> District has the highest median income, and has seen similar increases to its overall PCI rating as the 6<sup>th</sup> District, who has quite a few neighborhoods in the red shaded areas below.



Paving for FY2020, 2021, & 2022



City of Richmond Median Income

# City of Richmond

## Pavement Condition Index August 2020

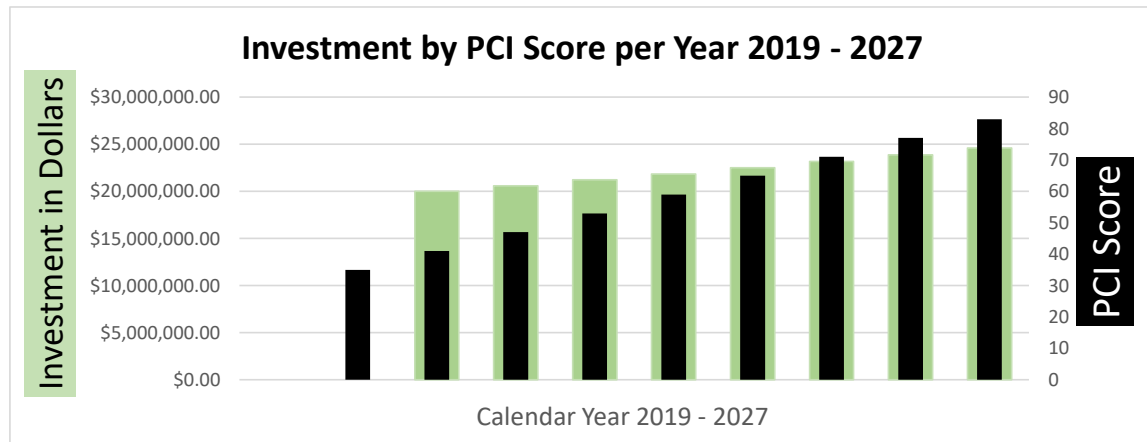


CD	Lane Miles	% of the City	LM Good or Better	% Good or Better 2018 PCI	% Good or Better 2020 PCI
1	296.8	11.3%	105.8	31%	36%
2	249.6	9.5%	91.9	36%	37%
3	280.4	10.7%	142.5	28%	51%
4	362.1	13.8%	140.8	36%	39%
5	246.1	9.4%	83.8	35%	34%
6	327.5	12.5%	168.6	43%	52%
7	233.0	8.9%	83.2	27%	36%
8	454.2	17.3%	168.7	40%	37%
9	177.1	6.7%	92.5	39%	52%
<b>Totals</b>	<b>2,626.8</b>	<b>100.0%</b>	<b>1,077.8</b>	<b>35%</b>	<b>41%</b>



DPW has the pavement infrastructure reassessed every four years. DPW obtains VDOT assessments, on Arterials, every three years. The next City assessment is due Fall 2021. **January 2021 PCI 43%**

Year	PCI	Dollars Needed
2019	35	\$ -
2020	41	\$ 20,000,000.00
2021	47	\$ 20,600,000.00
2022	53	\$ 21,218,000.00
2023	59	\$ 21,854,540.00
2024	65	\$ 22,510,176.20
2025	71	\$ 23,185,481.49
2026	77	\$ 23,881,045.93
2027	83	\$ 24,597,477.31



# City of Richmond

## Additional “Indirect” Benefits of Paving



### Reduction in Pothole Request and Potholes Overall

- 2017 – 24,930 YTD Total – 3,883 Citizen Request
- 2018 – 25,623 YTD Total – 4,246 Citizen Request
- 2019 - 34,451 YTD Total – 4,670 Citizen Request
- 2020 – 15,621 YTD Total – 2,203 Citizen Request
- **2021 - 2,864 YTD (8,956 YTD in 2020)**

### Increase in Alley Maintenance Activities

- 2017 – 994.3 Alleys Graded (65.9 Miles)
- 2018 – 1,308.7 Alleys Graded (86.8 Miles)
- 2019 – 1,702.9 Alleys Graded (112.9 Miles)
- 2020 – 1,611.0 Alleys Graded (106.8 Miles)
- **2021 YTD – 373.9 Alleys Graded (139.2 more than CY2020 YTD)**



# Vision Zero and Traffic Calming



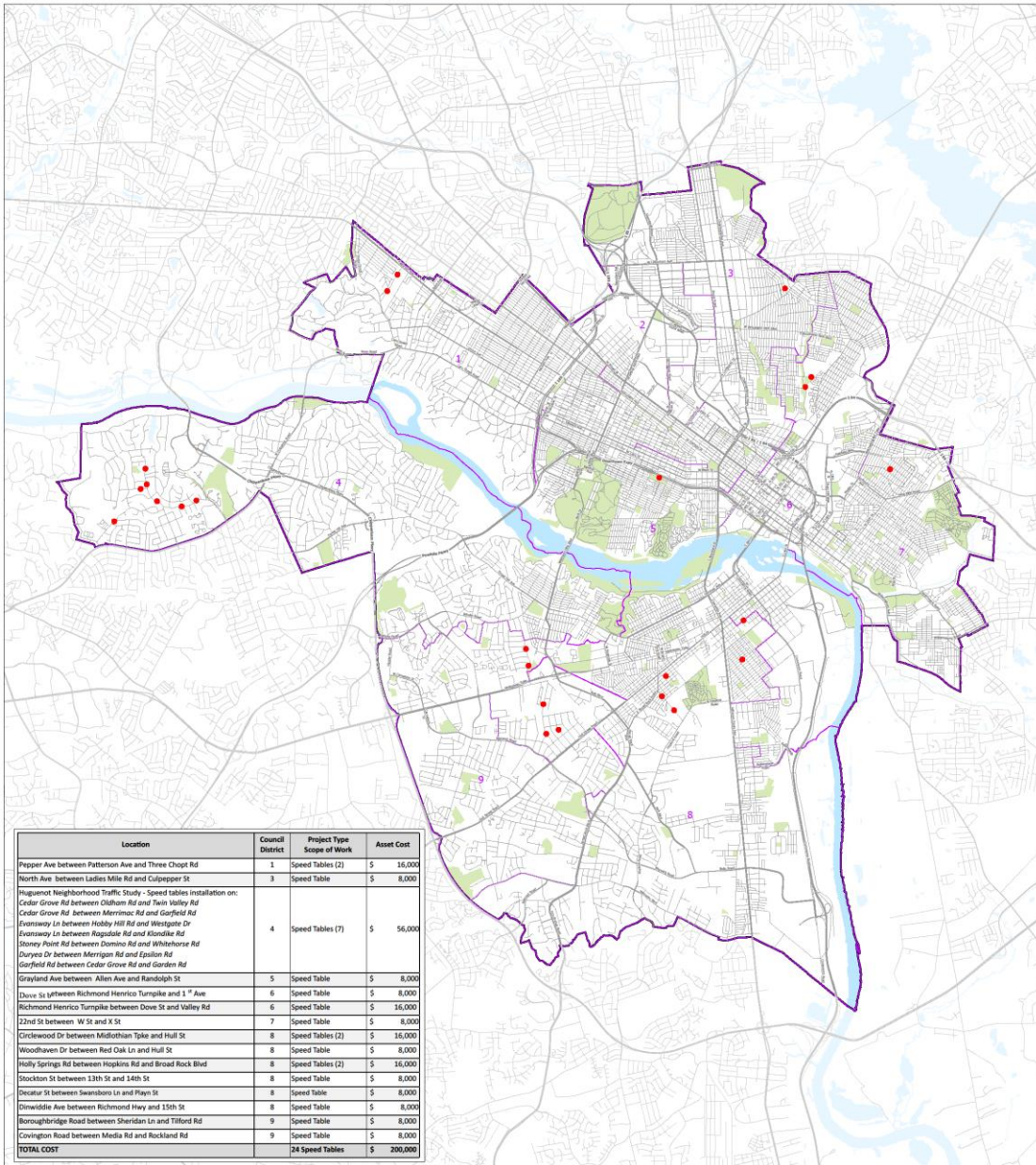
## Safe and Healthy Streets Challenge

- Wear our seat belts
- Avoid distractions such as talking/texting on a cell phone, eating and reading while driving
- Share the road with cyclists, motorcyclists, pedestrians and large trucks
- Never drink and drive
- Obey posted speed limits



## Traffic Calming Initiatives

- Spending of \$200,000 annually
- Installation of 24+ in FY2022
- Installed over 80+ measures since 2017 inclusive of Curb Extensions, Splitters, Speed Tables, and/or Traffic Circles
- Installations with Paving Program

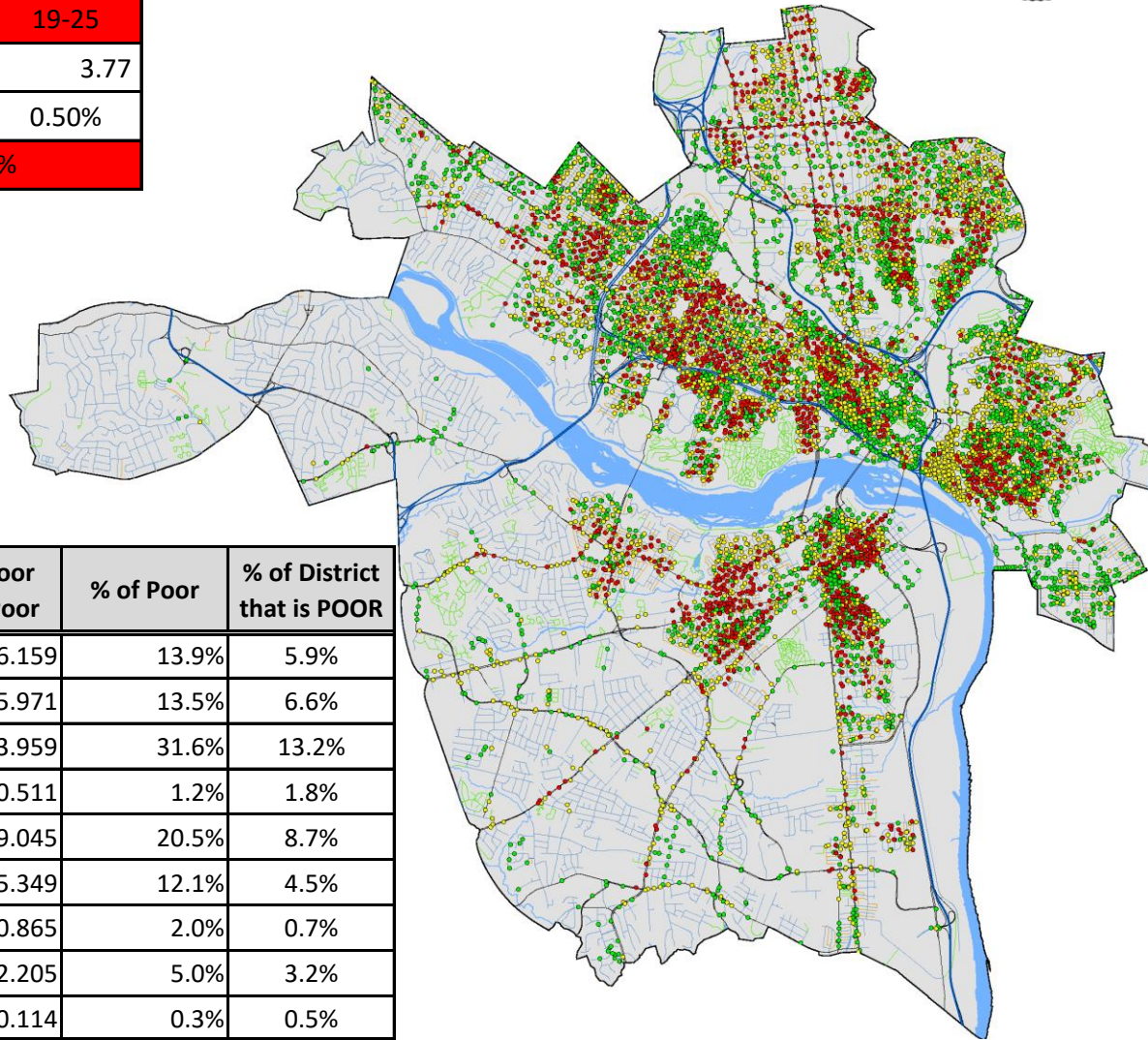


# Sidewalk Condition Assessment



## Total CONDITION Score

Very Good	Good	Fair	Poor	Very Poor
8	9-10	11-14	15-18	19-25
429.11	40.83	246.92	40.47	3.77
56.38%	5.36%	32.44%	5.32%	0.50%
61.74%		32.44%	5.81%	



Council District	% of the City	Lane Miles per District	Miles of Poor and Very Poor	% of Poor	% of District that is POOR
1	13.8%	104.673	6.159	13.9%	5.9%
2	11.9%	90.220	5.971	13.5%	6.6%
3	13.9%	105.454	13.959	31.6%	13.2%
4	3.8%	28.969	0.511	1.2%	1.8%
5	13.6%	103.476	9.045	20.5%	8.7%
6	15.7%	119.226	5.349	12.1%	4.5%
7	15.3%	116.554	0.865	2.0%	0.7%
8	9.2%	69.909	2.205	5.0%	3.2%
9	3.0%	22.479	0.114	0.3%	0.5%
<b>Total LM</b>		<b>760.960</b>	<b>44.178</b>		

# Sidewalk Maintenance FY2022

Increased from Two(2) Crews to Eight(8)



Current Staffing per Crew (# personnel) consist of 1 Concrete (4), 1 Brick (3), and 1 Breakout (3)

Sidewalk Maintenance Type	Current # of OPEN Request	Weeks of Work thru Oct '19	Current Complete per week	Proposed Completions/Week		Current Backlog		Proposed Backlog	
				# of Crews	# Request	Weeks	Years	Weeks	Years
Concrete	2,093	25	7.0	5	35.0	299.0	5.8	59.8	1.2
Brick	496	20	1.8	3	5.3	283.4	5.5	94.5	1.8

## Human Resources

Crew Name	Position	Salary	# of Crews	# of Staff	Total
Concrete	Mason	\$ 50,000.00	4	16	\$ 800,000.00
Brick	Mason	\$ 50,000.00	2	6	\$ 300,000.00
Breakout	Operator	\$ 50,000.00	2	6	\$ 300,000.00
<b>Totals</b>			<b>8</b>	<b>28</b>	<b>\$ 1,400,000.00</b>

## Equipment Resources

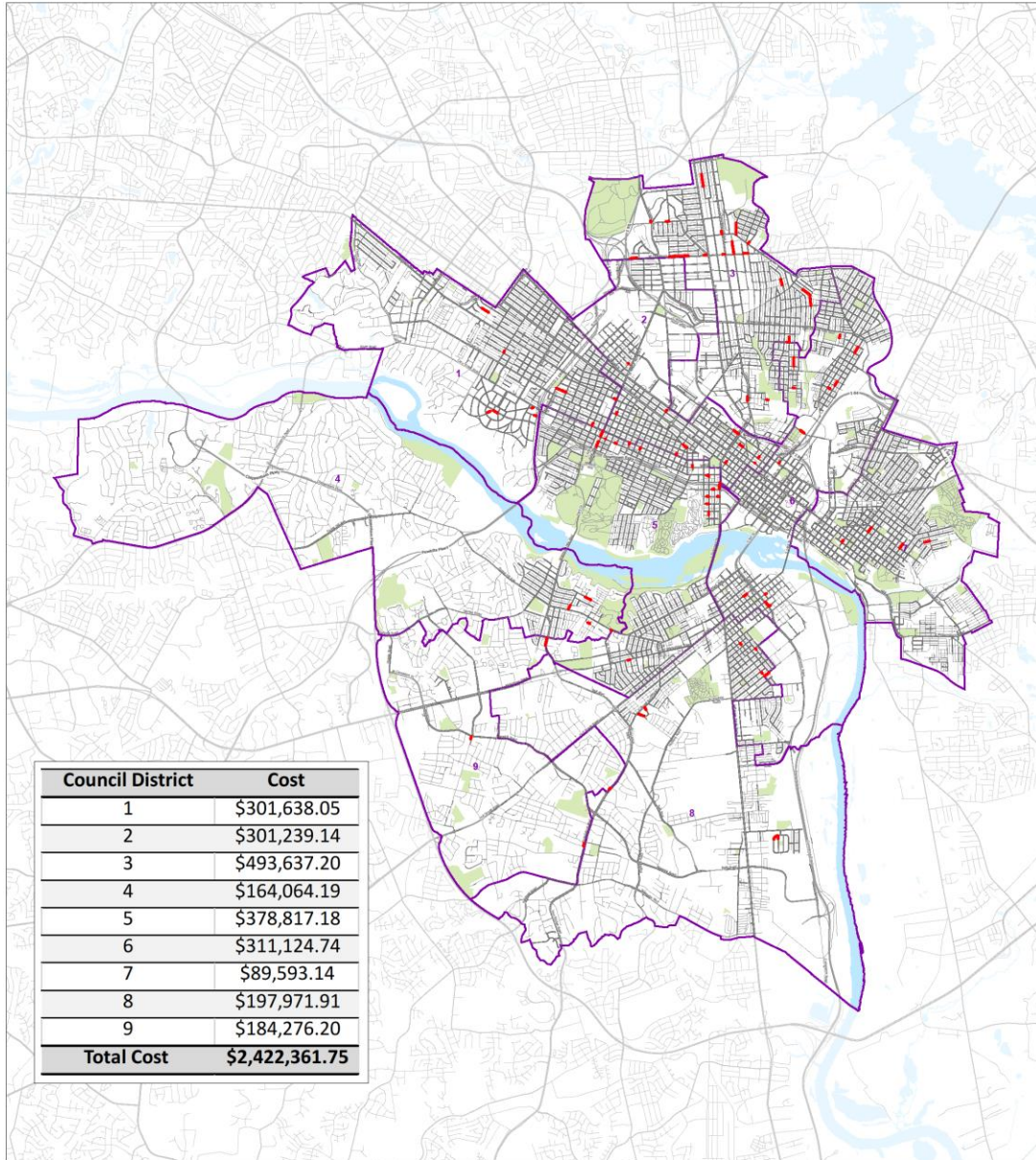
Crew Name	Vehicle	Cost	# of Crews	Trk/Crew	Total
Mobilization	Pickup	\$ 40,000.00	8	2	\$ 640,000.00
Material	Concrete	\$ 200,000.00	1	1	\$ 200,000.00
<b>Totals</b>				<b>3</b>	<b>\$ 840,000.00</b>

<b>Program Enhancement Total</b>					<b>\$ 2,240,000.00</b>
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City Brick Maintenance Crew

# Sidewalk Improvements FY2022



City Concrete Maintenance Crew

CD	Lane Miles	# of Projects	Avg Cost per Project	Total Cost Per Council District
1	1.0055	9	\$ 33,515.34	\$ 301,638.05
2	1.0041	13	\$ 23,172.24	\$ 301,239.14
3	1.6455	16	\$ 30,852.33	\$ 493,637.20
4	0.5469	5	\$ 32,812.84	\$ 164,064.19
5	1.2627	17	\$ 22,283.36	\$ 378,817.18
6	1.0371	13	\$ 23,932.67	\$ 311,124.74
7	0.2986	4	\$ 22,398.28	\$ 89,593.14
8	0.6599	7	\$ 28,281.70	\$ 197,971.91
9	0.6143	4	\$ 46,069.05	\$ 184,276.20
	8.0745	88	\$ 27,526.84	2,422,361.7466

# Questions and Comments

