

# 3-Year Pavement Management Plan



Louisville Metro Public Works  
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# Louisville Metro Public Works

Vanessa Burns, Director

## Our Mission

The Department of Public Works will effectively and efficiently maintain Metro's infrastructure; improve roadway systems; support progressive environmental initiatives; deliver superior external and internal customer service and tirelessly explore innovative processes that allow us to more efficiently serve the public.

## What We Do...

- Road construction and maintenance

- Manage Metro Government road construction projects

- Transportation Planning

- Snow Removal on 2,709 2-lane miles

- Manage Solid Waste removal and recycling

- Operate and maintain 647 Traffic Signals



# Pavement Management Plan

The Pavement Management Plan formalizes and documents a standard procedure for assessing the pavement condition and prioritizing repairs so as to maximize resources.

The overall steps in the plan:

1. Develop a street inventory with attributes
2. Survey the pavement condition to determine required maintenance
3. Develop preliminary engineering costs for maintenance
4. Rank projects
5. Complete projects
6. Inspect and update pavement condition inventory



# Pavement Management Plan

## Pavement Maintenance & Rehabilitation:

### 1. Crack Sealing

- a. Completed annually based on visual inspection
- b. Required at specific point in roadway life-cycle

### 2. Pothole Repairs

- a. Completed annually based on visual inspection
- b. Complaint driven

### 3. Micro-Surfacing

- a. Thin layer of asphalt material applied to local roads
- b. Requires preparation but no milling

### 4. Mill & Overlay

- a. Removal of asphalt wear-layer
- b. Requires preparation including roadside grading for drainage
- c. Handicap ramps are brought into compliance



# Pavement Condition Index

Each road is assigned a Pavement Condition Index (PCI) between 0 & 100 depending on the number and type of distresses across the roadway segment. This method, developed by the Army Corps of Engineers and standardized by ASTM D6433-11, subjectively indicates the condition of the roadway.



# Pavement Condition Index

Condition	Description
Very Good-Excellent (PCI = 86-100)	Newly constructed or resurfaced pavement with few signs of distress.
Good (PCI = 71-85)	Pavement requiring mostly preventive maintenance and showing only low levels of distress.
Fair (PCI = 56-70)	Pavement at the low end of this range is significantly distressed and may require a combination of rehabilitation and preventive maintenance.
Poor (PCI = 41-55)	Deteriorated pavement requiring immediate attention, including rehabilitative work.
Very Poor (PCI = 40-0)	Pavement showing extensive distress and requiring major rehabilitation or reconstruction.



# Predicted PCI

Arterial				Collector			
FY	% > 55 PCI	% < 40 PCI	Funding	FY	% > 55 PCI	% < 40 PCI	Funding
2016	53.6%	4.9%		2016	79.9%	3.9%	
2017	63.0%	9.5%	\$8,045,829	2017	80.6%	2.8%	\$5,180,033
2018	74.8%	4.7%	\$6,150,710	2018	87.4%	2.5%	\$5,683,315
2019	86.3%	3.5%	\$6,170,608	2019	88.3%	2.2%	\$5,030,506
2020	93.4%	2.5%	\$6,391,823	2020	86.4%	2.3%	\$5,513,653

Predicted PCI at the end of the fiscal year based on funding amounts allocated for pavement resurfacing and maintenance. Goal is to have 80% of the roads with PCI greater than 55 and no more than 2% of the roads with a PCI less than 40.



# 3-Year Plan

## 3-Year Funding

Fiscal Year	Arterial	Collector	Local	Rehab
2018	\$6,150,710	\$5,683,315	\$6,020,825	\$1,945,150
2019	\$6,170,608	\$5,030,506	\$6,016,277	\$2,582,609
2020	\$6,391,823	\$5,513,653	\$5,311,915	\$2,582,609

## Lane Miles Paved

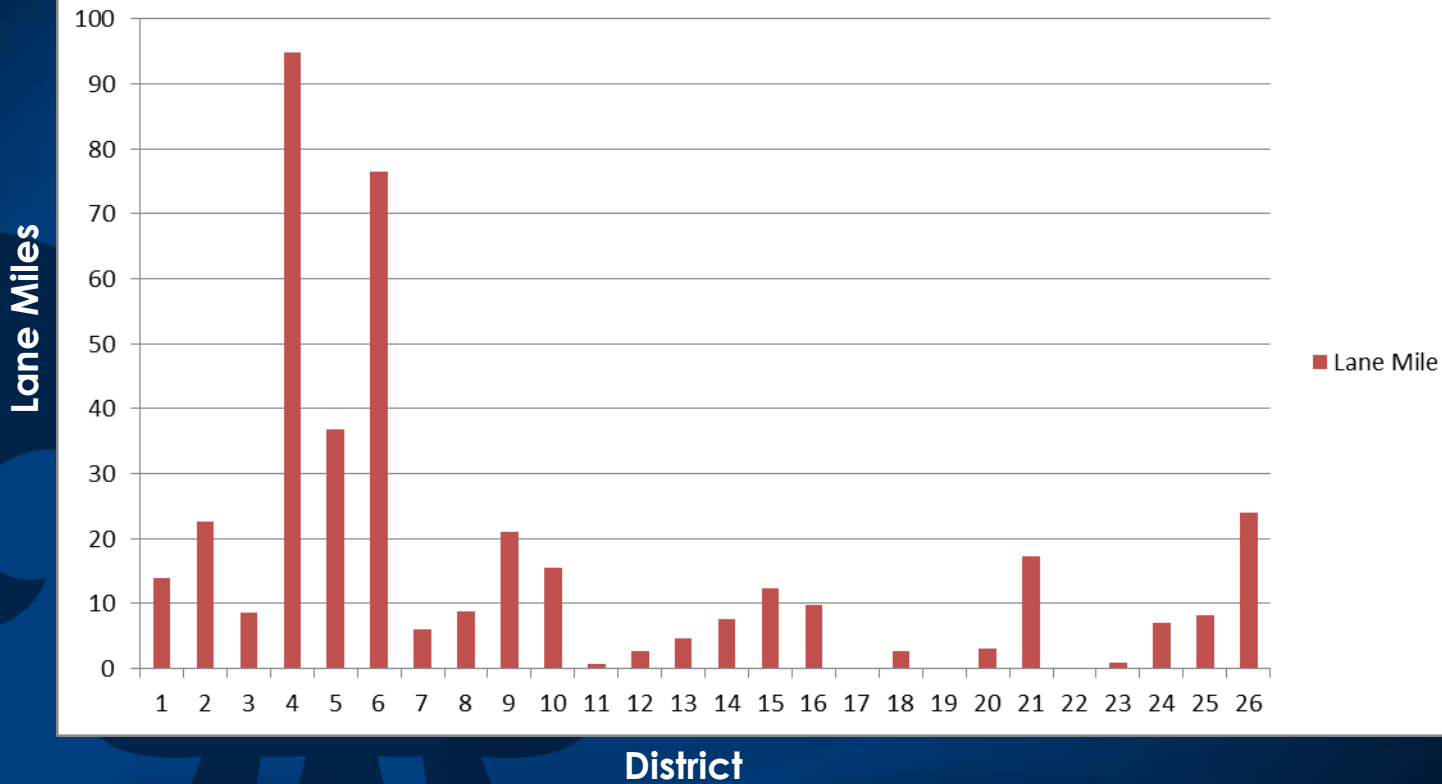
Fiscal Year	Arterial	Collector	Local	Total
2018	54.5	55.8	59.5	169.8
2019	58.0	49.4	55.2	162.6
2020	62.7	54.1	52.6	169.4





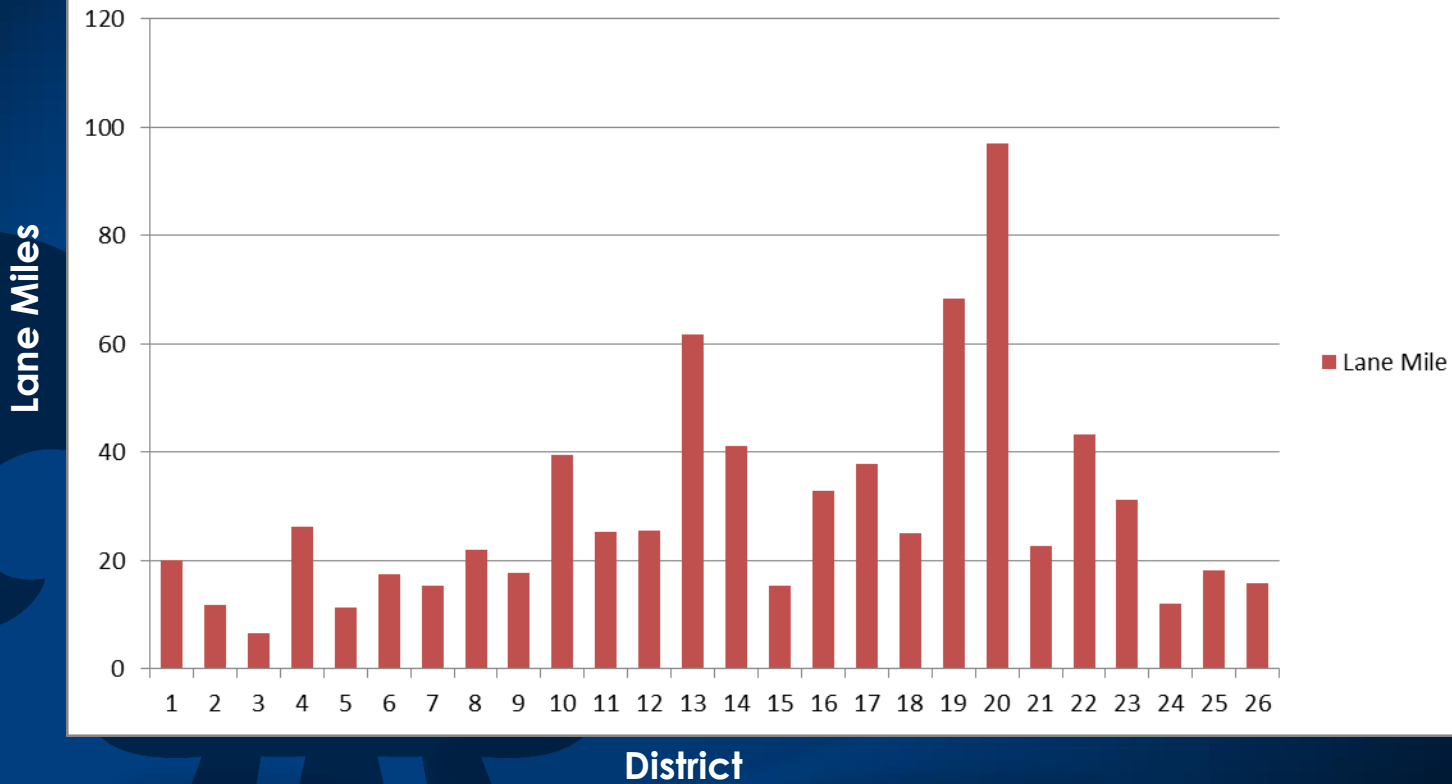
# Roadway Distribution by District

## Arterials by District

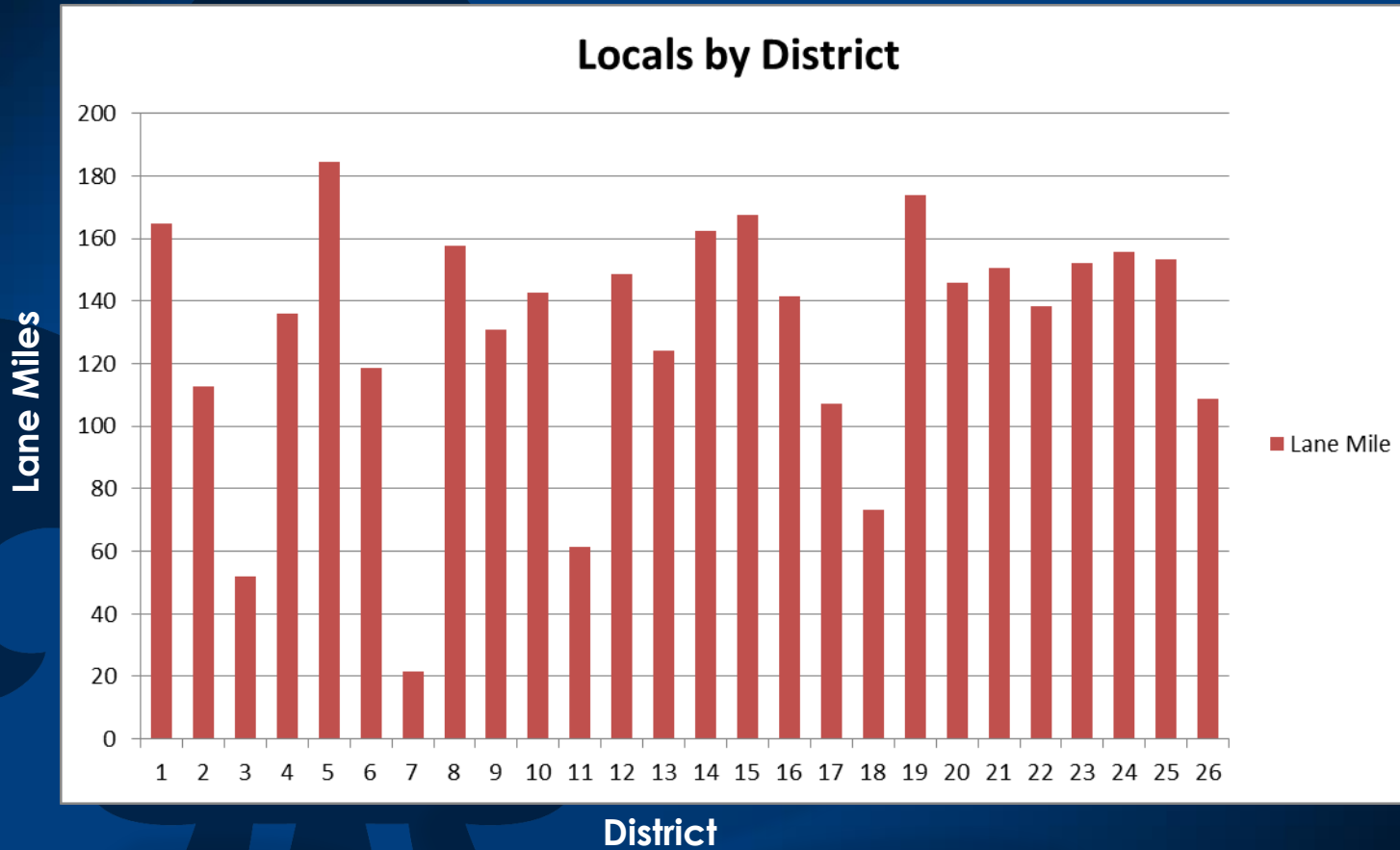


# Roadway Distribution by District

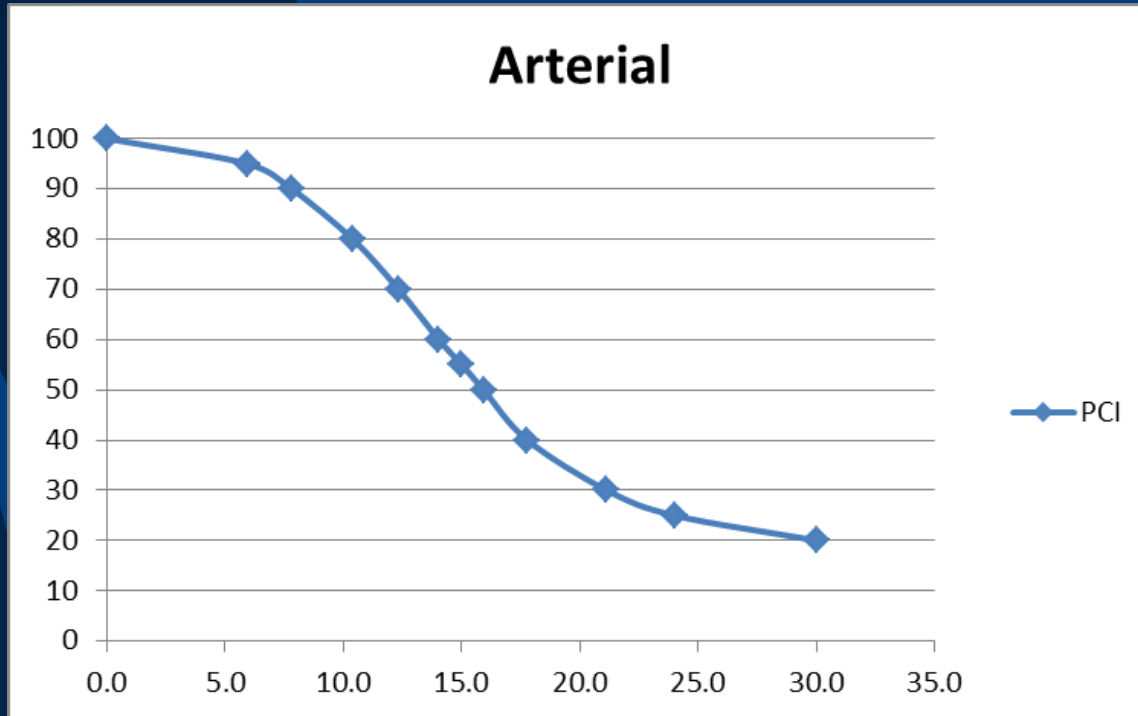
## Collectors by District



# Roadway Distribution by District



# Typical Degradation Rate



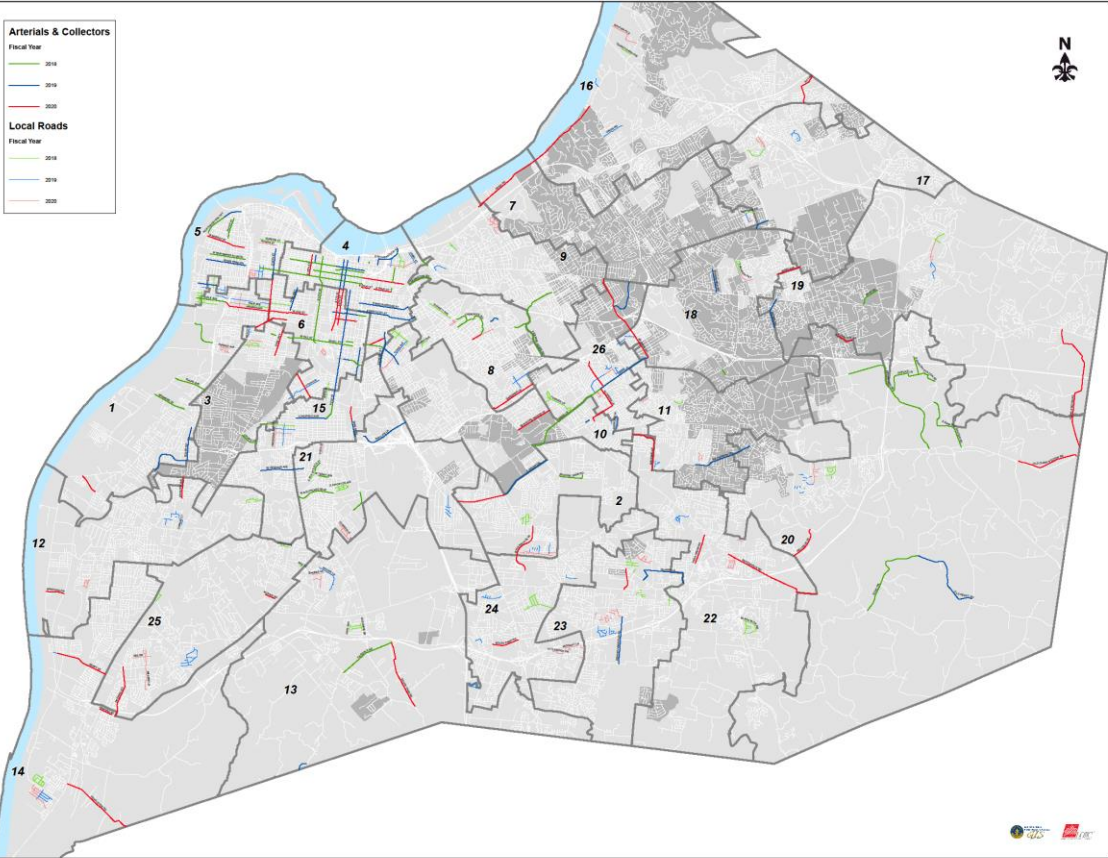
# 3-Year Plan Map

Louisville Metro Public Works  
Planned Paving FY 18, 19, 20

Arterials & Collectors	
Fiscal Year	2018
Fiscal Year	2019
Fiscal Year	2020

Local Roads	
Fiscal Year	2018
Fiscal Year	2019
Fiscal Year	2020



# Paving Status Map

