



# Street and Sidewalk Conditions and Funding Scenarios



# Agenda

- About the Pavement Condition Index
- Streets and Sidewalks
  - Conditions
  - Current funding
  - Existing commitments
  - Future funding scenarios
  - Photos
- Questions



# About the Pavement Condition Index (PCI)

- Developed by the U.S. Army Corps of Engineers.
- Used by the Federal Aviation Administration (FAA), the U.S. Department of Defense, and the American Public Works Association (APWA).
- ASTM D6433 standard.

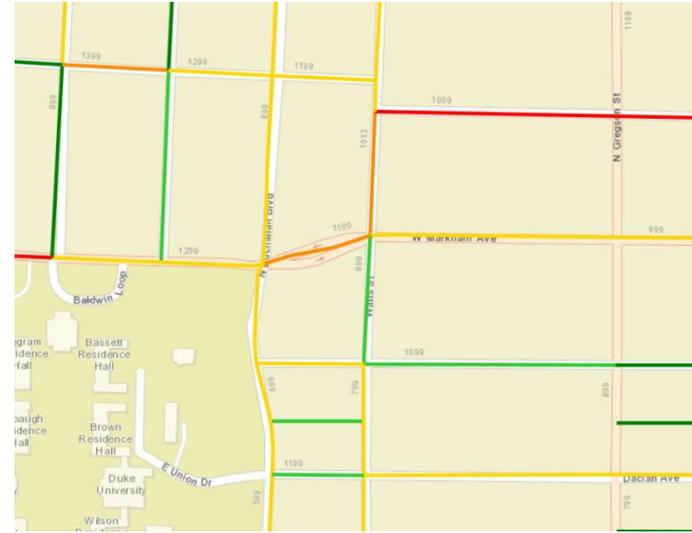


# About Transmap

- North Carolina Professional Engineers
- Recent North Carolina Project Experience:
  - City of Durham
  - City of Wilmington
  - Town of Cary
  - City of Raleigh
  - City of Greenville
- 20 PCI Studies and software deployments within the last two years across the country

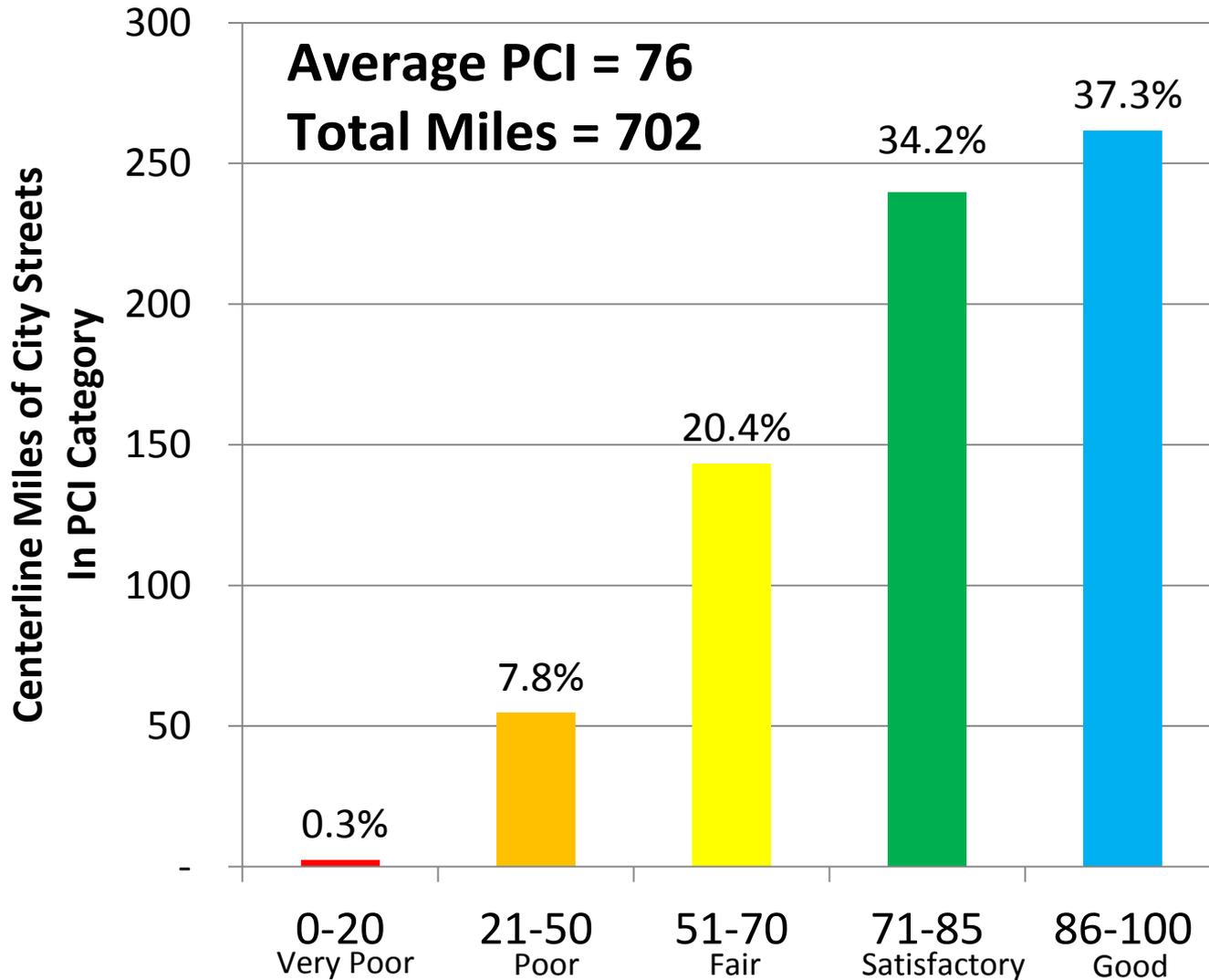
# PCI Process

- Transmap van captured images of streets and sidewalks in 13 feet integrals
- Developed Representative sample areas
- Imagery in sample areas used to assign ratings on a street by street basis





# 2013 PCI Analysis Results





# Street Treatment Options

	PCI	Rating	Remaining Life	2013 Centerline miles of Streets	Pavement Management/ Rehabilitation Type of Work	Cost per Lane-Mile	Added Life and Benefit
<b>Preservation Treatments</b>	86-100	Good	15-25 Years	262	Fog Seal, Crack Seal	\$15,000	3-5 Years PCI +5 points
	71-85	Satisfactory	12-20 Years	240	Microsurfacing, Slurry Seal, Crack Seal	\$25,000	5-7 Years PCI +10 points
	51-70	Fair	10-15 Years	143	Cape Seals, Thin Overlays	\$40,000	8+ Years PCI +15 points
<b>Paving and Reconstruction</b>	21-50	Poor	5-10 Years	40	Mill and Repave - Regular Streets	\$65,000	10+ Years PCI 100
				15	Mill and Repave ADA Non-Compliant Streets	\$140,000	10+ Years PCI 100
	0-20	Very Poor	0-5 Years	3	Reconstruction, Full-Depth Reclamation	\$300,000	10+ Years PCI 100



# Street Classes Detail

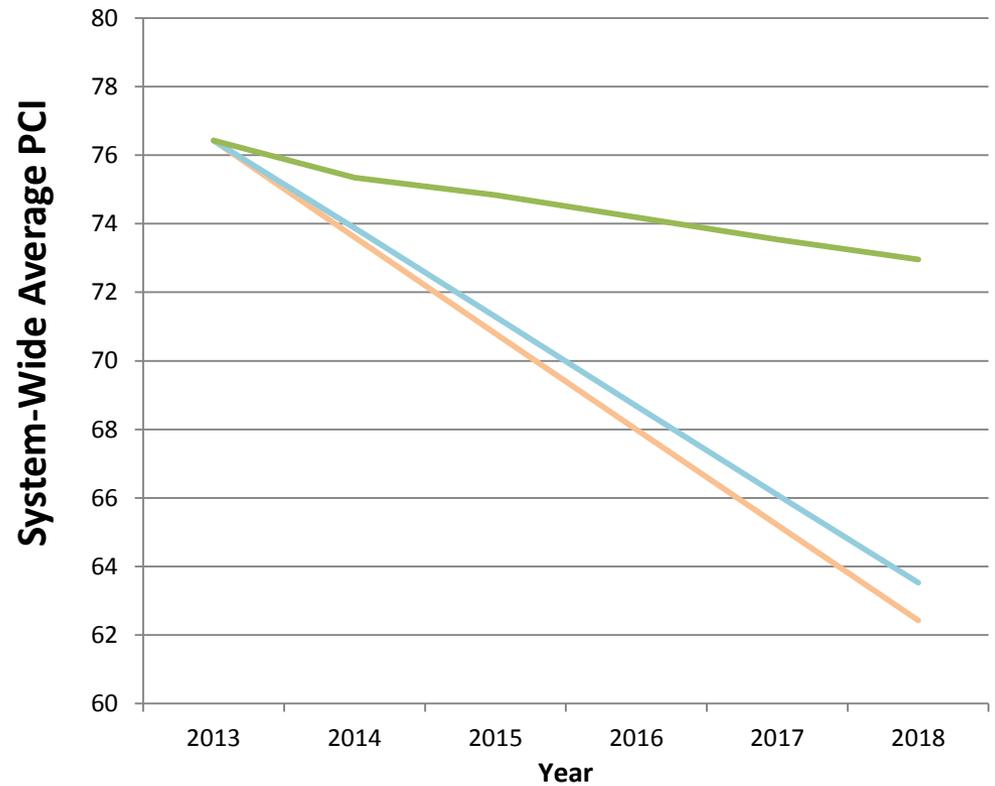
<b>Street Class</b>	<b>Length (Miles)</b>	<b>Length (%)</b>	<b>PCI</b>
Principal Arterials	3.79	0.5%	73
Minor Arterials	13.61	1.9%	70
Collectors	37.76	5.4%	73
Local Roads	643.44	91.9%	77
Alleys	1.75	0.2%	84
<b>Total</b>	<b>700.35</b>	<b>100%</b>	<b>76</b>



# 5 Year Funding Level Analysis

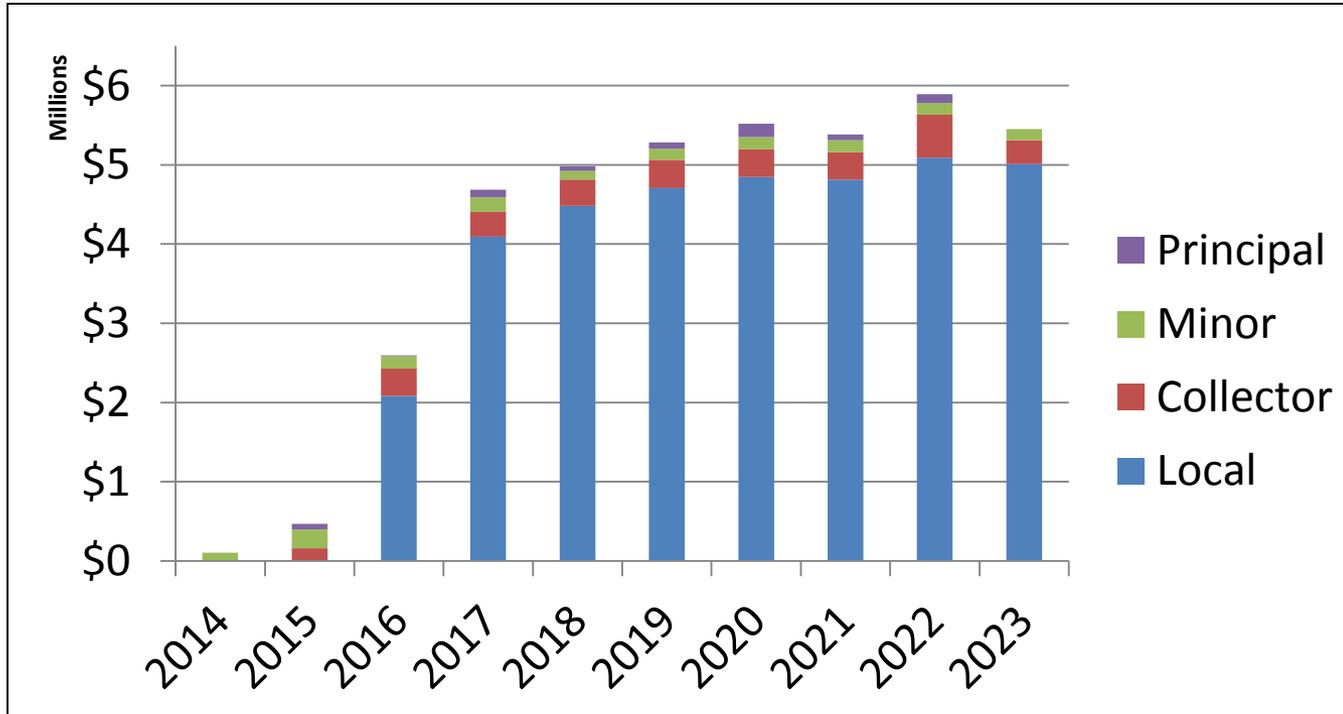
Annual Budget Funding Levels and Corresponding System-Wide Average PCI			
Year	\$750K per Year	\$2M per Year	\$6M per Year
2013	76.4	76.4	76.4
2014	73.6	73.9	75.4
2015	70.8	71.3	74.8
2016	68.0	68.7	74.2
2017	65.2	66.1	73.4
2018	62.4	63.5	73.0
<b>Total Change in PCI</b>	<b>-14.0</b>	<b>-12.9</b>	<b>-3.5</b>

Budget Levels and Corresponding PCI





# Funding Required to Maintain Target PCI of 70 by Road Class



Year	Total Cost
2014	102,560
2015	467,145
2016	2,596,748
2017	4,687,434
2018	4,983,200
2019	5,282,216
2020	5,518,856
2021	5,381,998
2022	5,893,042
2023	5,451,291
<b>Total</b>	<b>40,364,490</b>



# Comparison Cities

City	Centerline Street Miles	System-Wide Average PCI	Percent of Streets in the PCI Range 0-39	Transmap Recommended Budget to Maintain Current Average PCI	Current Annual Preservation and repaving Budget
Durham, NC	700	76.0	4%	\$12 M	\$750K
Cary, NC	453	77.0	<1%	\$6 M	N/A
Wilmington, NC	407	82.0	1%	\$22M over 5 years	\$750K
Shreveport, LA	928	57.0	19%	N/A	\$1.5M



# Petition and Dirt Streets

- 9 Petition streets ordered
  - 7,746 linear feet (1.5 miles)
  - Estimated Cost: \$2.6M
- 18.6 miles of additional city-maintained dirt streets
  - Estimated Cost: ~\$37M to pave, curb and gutter



# Streets – Current Funding

Current and Proposed Budgets:

Budget	FY14	FY15
Repaving	\$750k	\$1M
Operating	\$1.17M	\$1.19M

CIP Requests:

Project	Available	FY15	FY16	FY17	FY18	FY19
Petition Streets	\$250k	\$450k	\$450k	\$1M	\$600k	--

- Addresses all ordered petition streets

# Street PCI Rating 0-20



# Street PCI Rating 21-50





# Street PCI Rating 21-50





# Street PCI Rating 51-65



# Street PCI Rating 66-75





# Street PCI Rating 66-75





# Street PCI Rating 76-85





# Street PCI Rating 86-100





# Sidewalks



# Durham Sidewalk Conditions

\*Assessment completed by City staff

	Rating	Condition	2013 miles of Sidewalk	Sidewalk Maintenance/ Reconstruction Type of Work	Cost per Foot	Maintenance or Repair Cost
SIDEWALK MAINTENANCE	1	Good	302	None Required		
	2	Satisfactory	63	Sweeping, Trim Vegetation	\$5	\$1,650,792
	3	Fair	70	Sweeping, Trim Vegetation Cementitious Joint Seal	\$10	\$3,685,968
	4	Moderate	17	Grind Trip Hazards/ Cover with Asphalt Patch/ Cementitious Joint Seal	\$25	\$2,234,760
RECON- STRUCTION	5	Poor	10	Remove and Replace Individual Sidewalk Panels	\$60	\$3,047,616
	6	Very Poor	1.36	Reconstruct Sidewalk Specialized Design Services and Acquisition Needed in some Cases	\$120	\$861,696
		<b>Total Miles of Sidewalk</b>	462	<b>Total Projected Cost</b>		\$11,480,832



# Sidewalks – Backlog

- Petition Sidewalks
  - 11 ordered petitions
  - 11,179 linear feet
  - Estimated Cost: \$600K
  
- Durham Walks! Pedestrian Plan
  - 24 unfunded priority projects
  - 120,365 linear feet
  - 2013 Estimated Cost: \$13.7M



# Sidewalks – Proposed Funding

## Current and Proposed Budgets:

Budget	FY14	FY15
Operating	\$375k	\$382k

## CIP Request:

Project	Available	FY15	FY16	FY17	FY18	FY19
Petition Sidewalks	\$391K	\$400K	--	--	--	--
New Sidewalks	\$918K	--	\$250K	\$300K	\$300K	\$300K
Sidewalk Repair, ADA	\$1.66M	--	\$100K	\$100K	\$100K	\$100K



# Sidewalk Class 2 / 3



# Sidewalk Class 4





# Sidewalk Class 5



# Sidewalk Class 6

CLASS 6

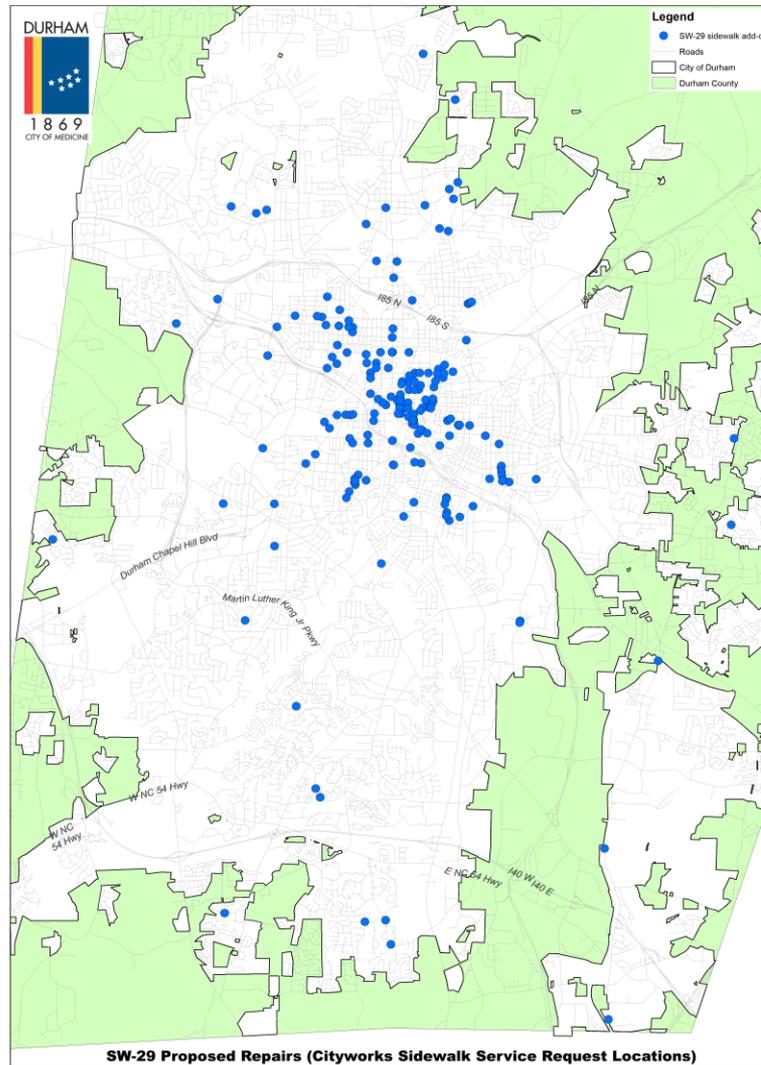


# Need for New Sidewalks





# Current Sidewalk Repair Locations





# Questions?

- Is an average PCI rating of 70 acceptable?
- Are the budget numbers in line with your expectations?
- Should different classes of roads have different PCI ratings?