

# East Point, GA

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## Pavement Management Presentation

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April, 2022

**IMS**

Infrastructure Management Services

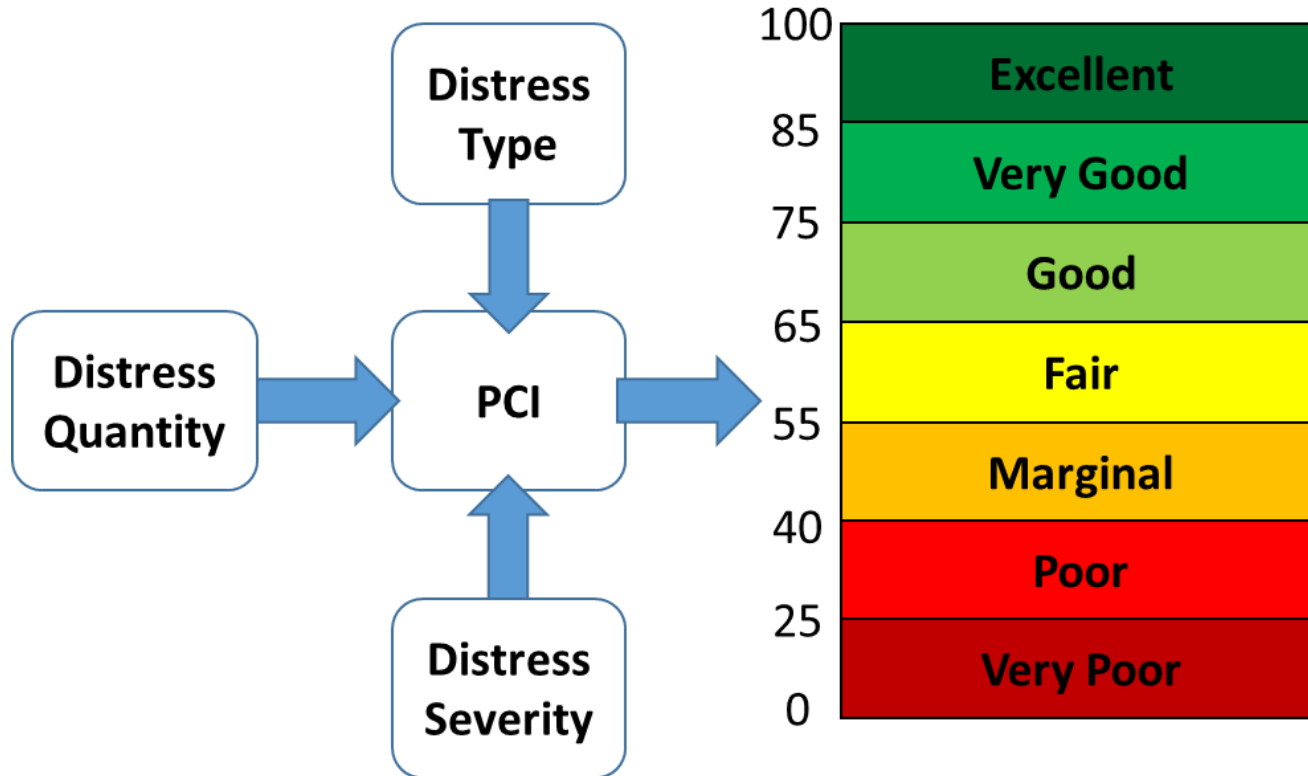
# Agenda

- ✓ Overview of Pavement Conditions
- ✓ Pavement Management Process
- ✓ Pavement Condition Survey
- ✓ Representative Conditions
- ✓ Analysis + Project Planning

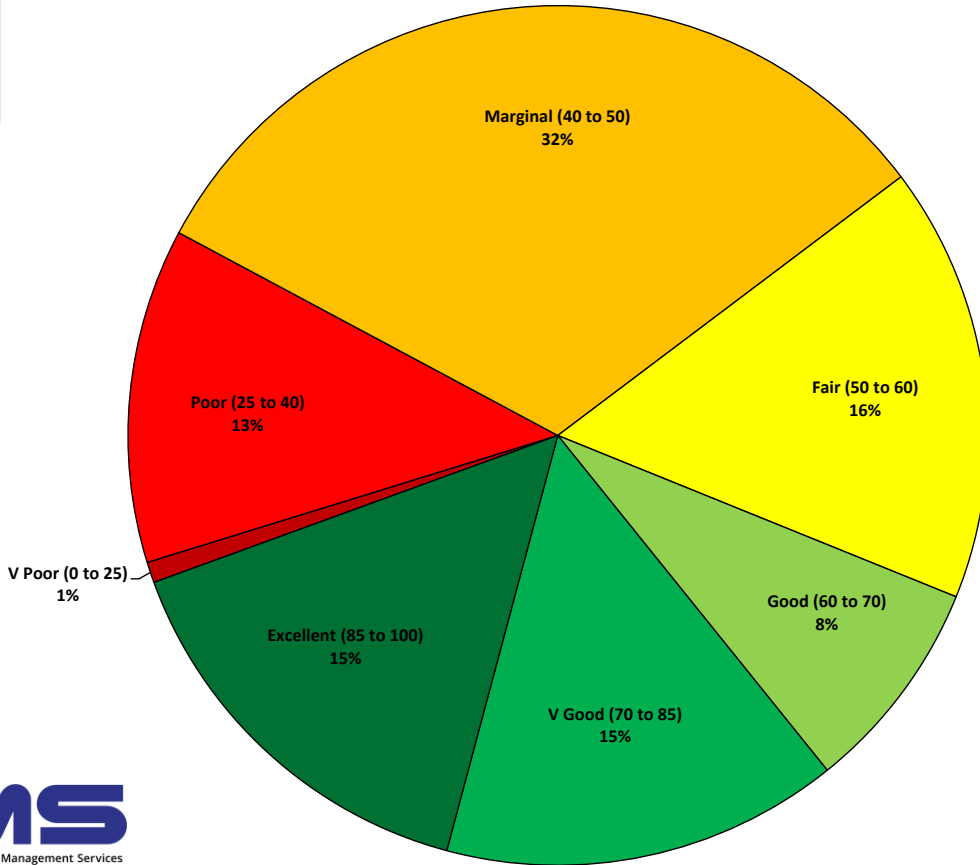


# Overview of Pavement Conditions

# Pavement Condition Index



# Overview of Pavement Conditions



~35,000 people  
~164 Centerline miles of  
City-owned roadways

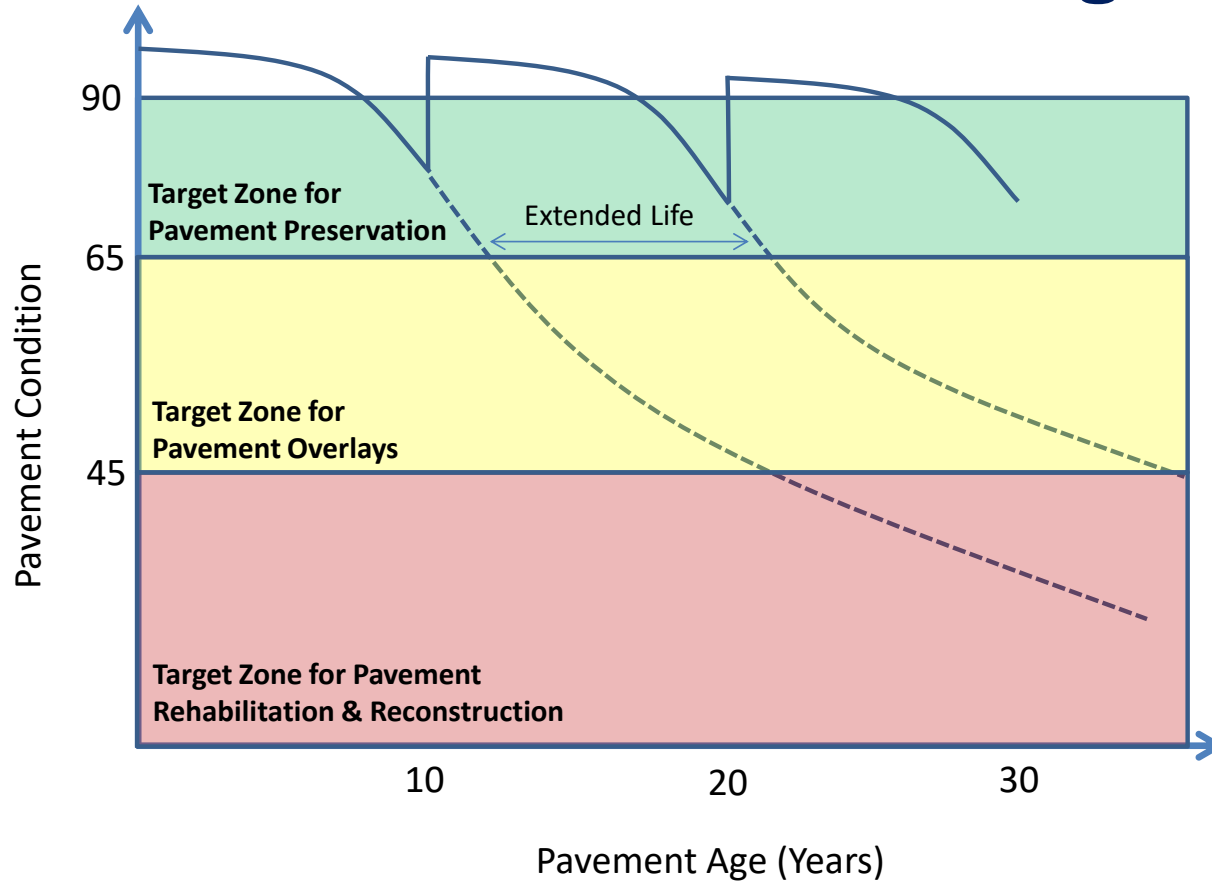
Early look at the condition score:  
PCI = 59 and Backlog = 13%

Pavement Condition Index (PCI)  
0-100 (0 = Failed, 100 = Excellent)

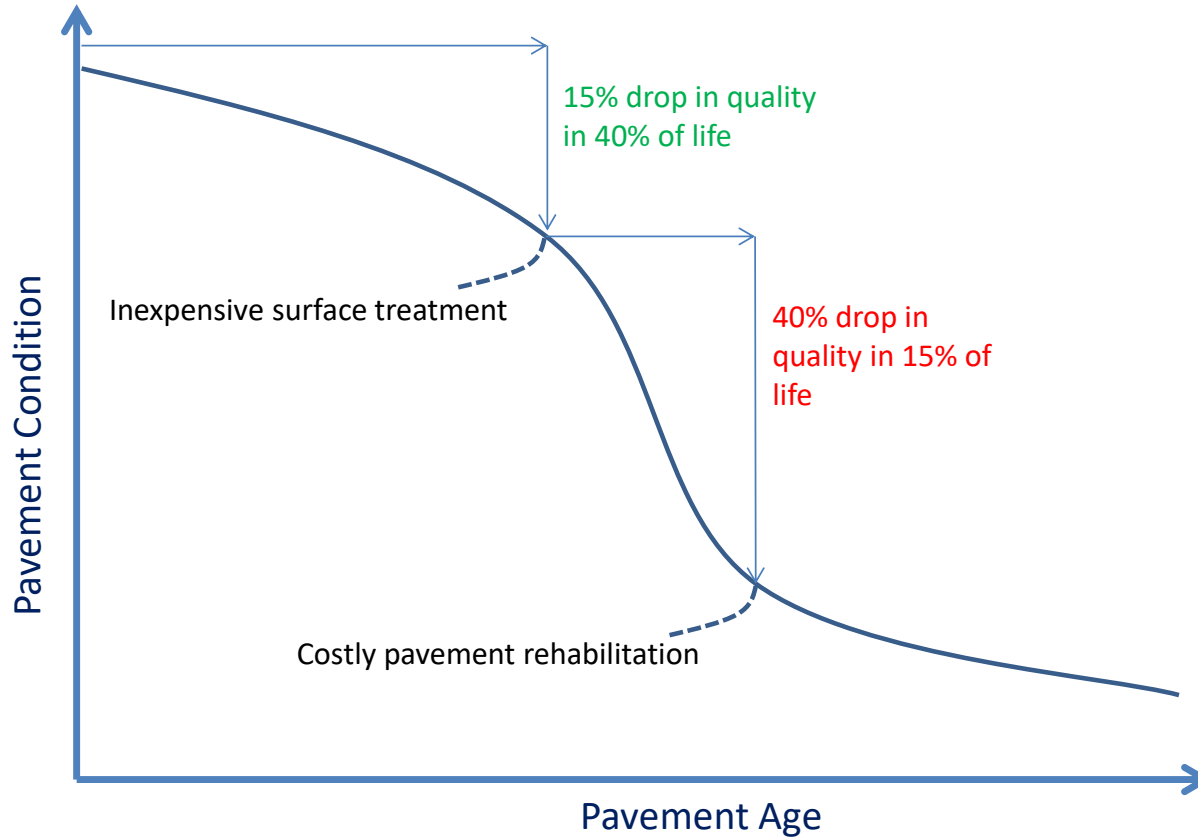
Backlog  
Pavements with a PCI < 40

# Pavement Management Process

# Benefits of Pavement Management

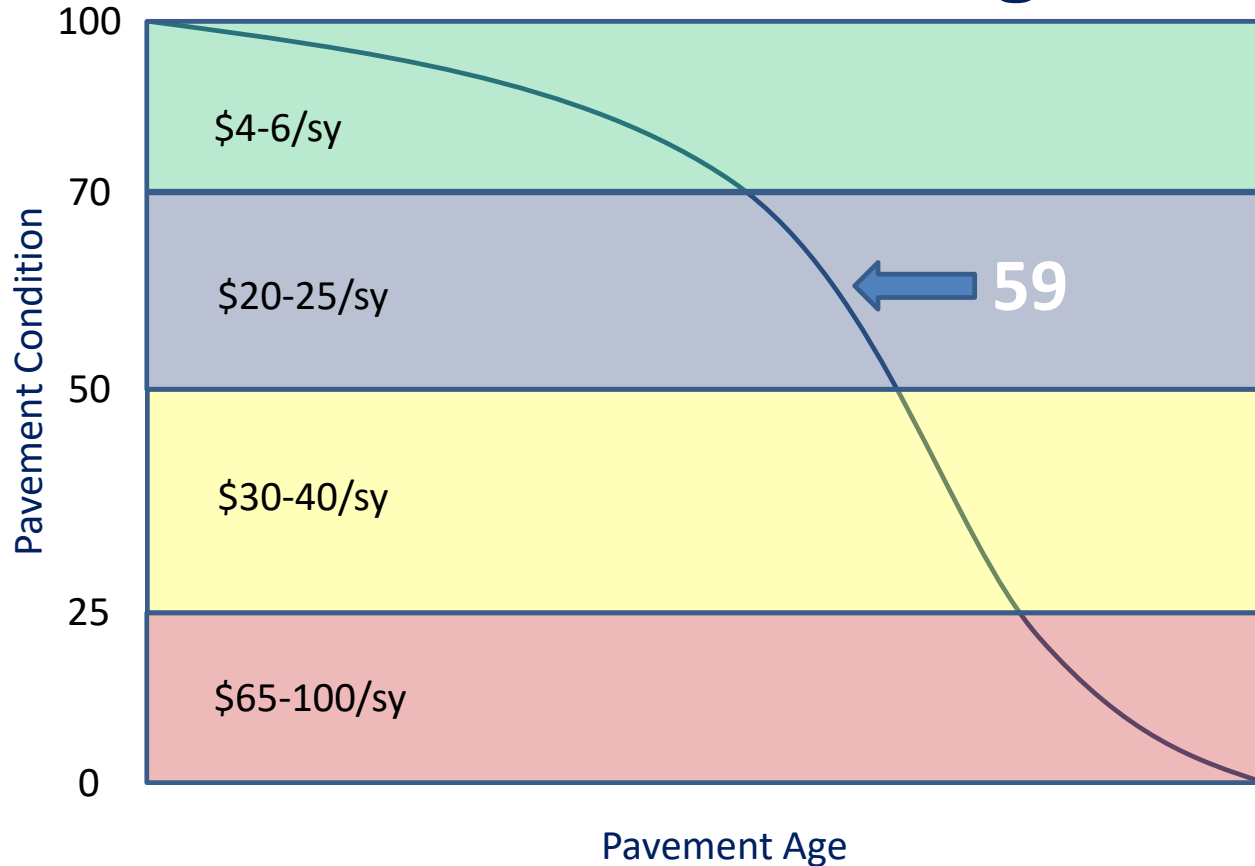


# Benefits of Pavement Management

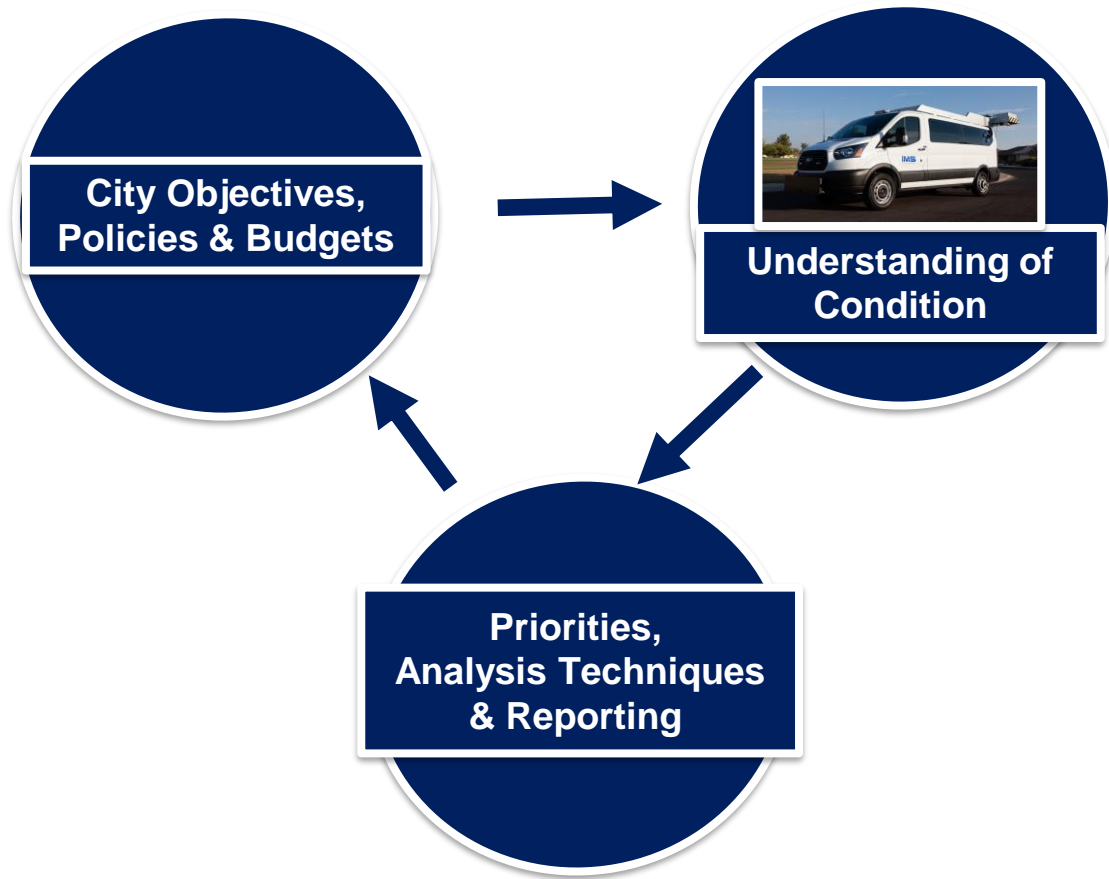




# Benefits of Pavement Management



# Pavement Management Process



# **Pavement Condition Survey**

## ***Data Collection and Processing***

# Pavement Condition Survey



*Presence of:*  
Alligator Cracking  
L&T Cracking  
Distortions  
Bleeding  
Weathering  
Raveling  
Patching  
Potholes

*Measurement of:*  
Roughness  
Rutting

## Our Process

- ✓ Overview of Pavement Conditions
- ✓ Pavement Management Process
- ✓ **Pavement Condition Survey**
- ❑ Representative Conditions
- ❑ Analysis + Project Planning



# Common Pavement Distresses

**Raveling** – Loss of coarse aggregate materials on the pavement surface.



**Bleeding** – Presence of excess asphalt binder on the roadway surface.



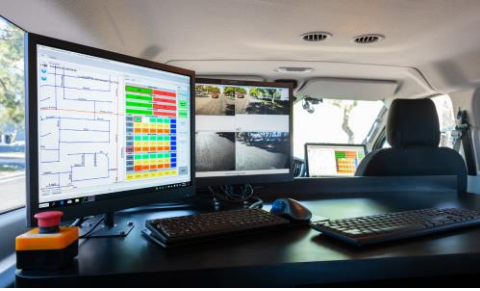
**Longitudinal and Transverse Cracks** – Quantified by their length and width.



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# Common Pavement Distresses



**Alligator Cracking** – Represents a failure of the underlying base materials.



**Edge Cracking** – Commonly occurs on rural roads without sufficient drainage.



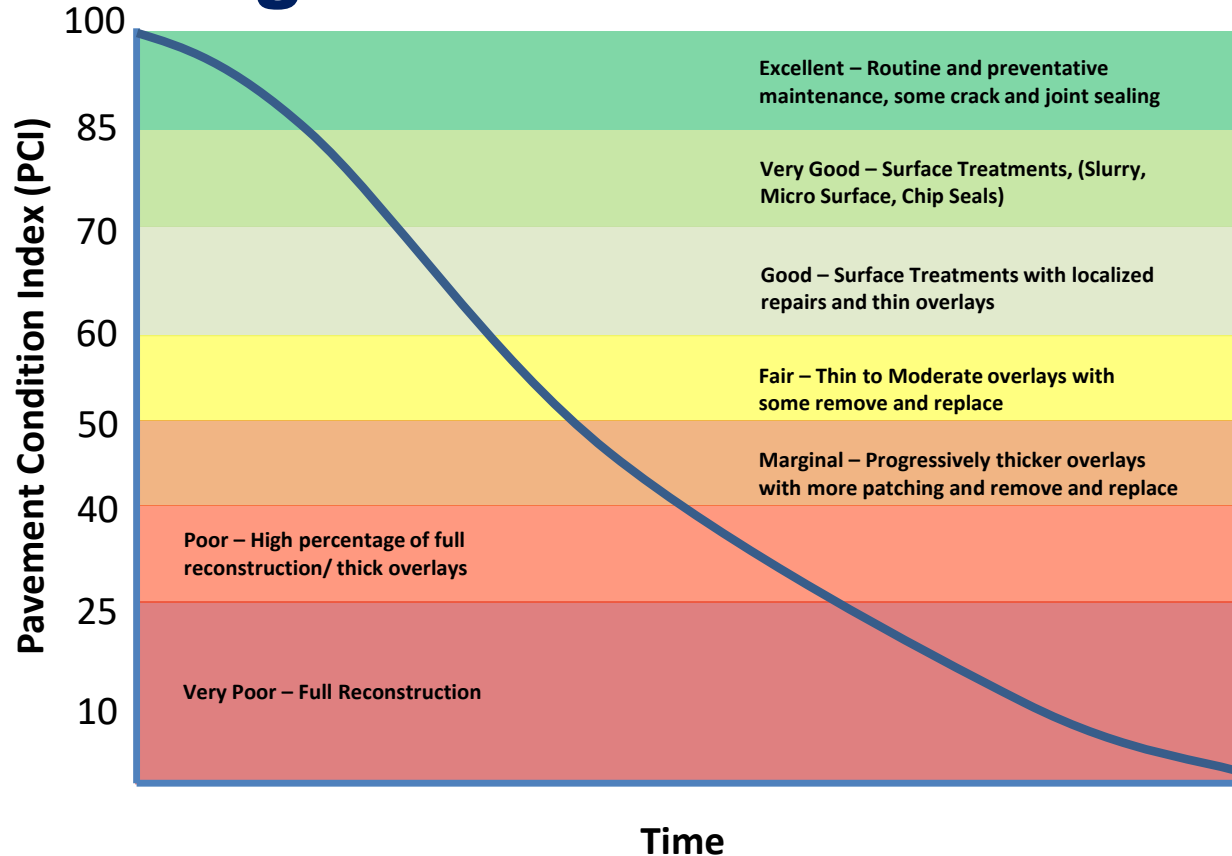
**Wheel Path Rutting** – Quantified by depth and area. Like alligator cracking, low densities can have a large impact on the final condition score.



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# Understanding the Pavement Condition Index



# Representative Conditions

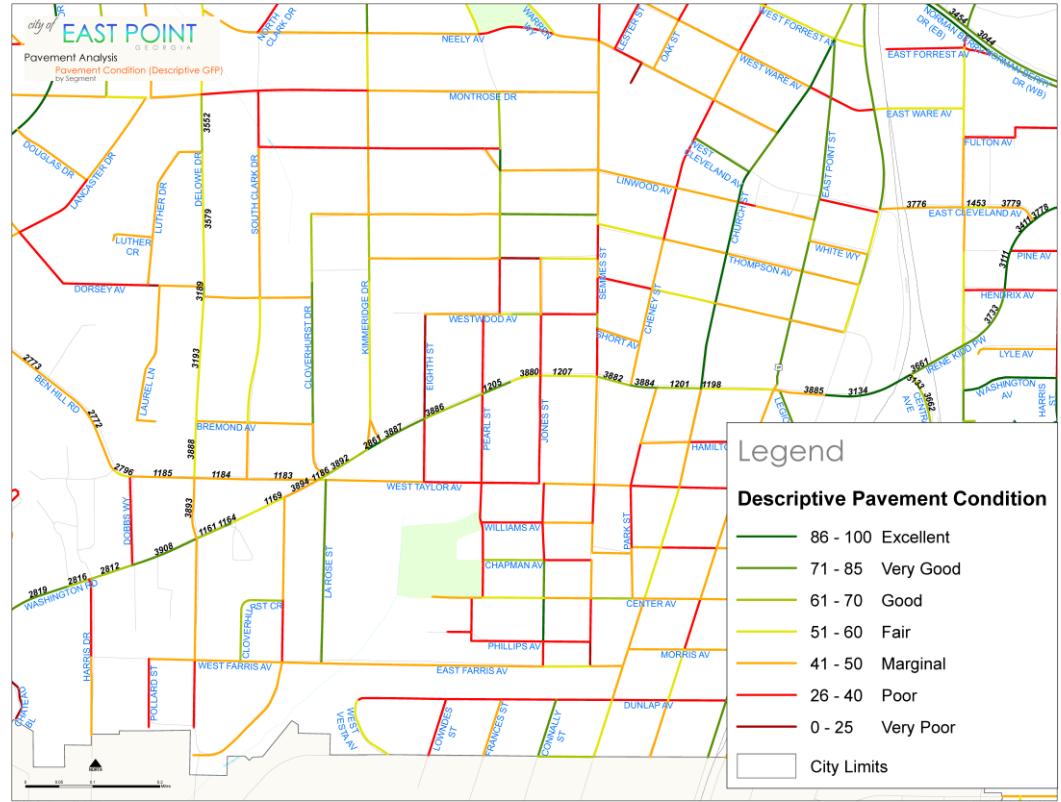


# What we see in East Point

**Population: 35,000**  
**Centerline Miles: 164**

- Very Good segments marked in **Green**
- Fair segments marked in **Yellow**
- Marginal segments marked in **Orange**
- Poor segments marked in **Red**

**Average Network PCI = 59**  
**Backlog of Reconstruction = 13%**



# Representative Conditions

Condition = **Excellent** | PCI = 96  
Church Street



## Our Process

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- ✓ **Representative Conditions**
- ❑ Analysis + Project Planning



# Representative Conditions

Condition = **Good** | PCI = 69 | Moderate longitudinal/transverse cracking  
Jailette Road



## Our Process

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# Representative Conditions

Condition = **Poor** | PCI = 28 | Severe alligator cracking  
Cambridge Avenue



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# Representative Conditions

Condition = **Very Poor** | PCI = 21 | Severe edge and alligator cracking  
Dorsey Avenue



## Our Process

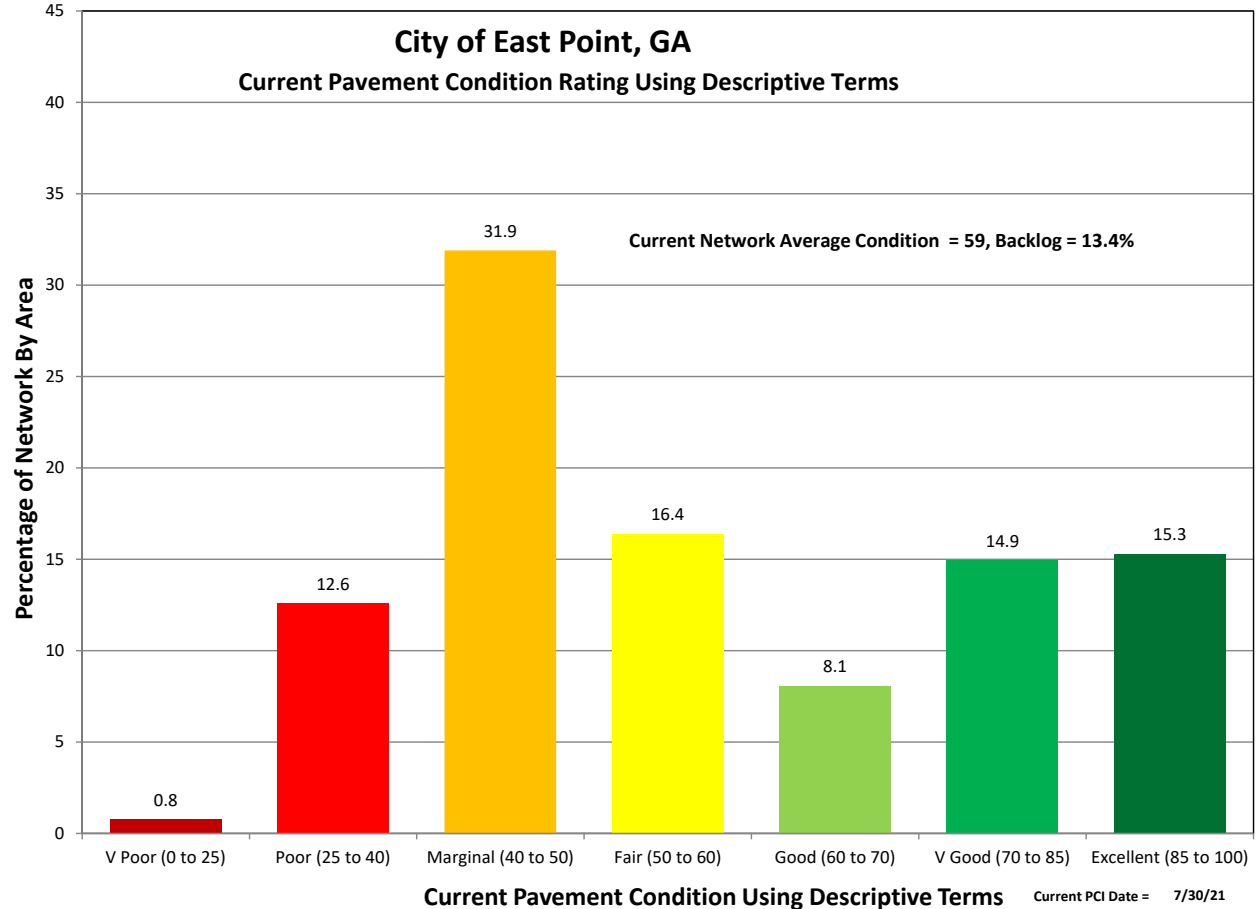
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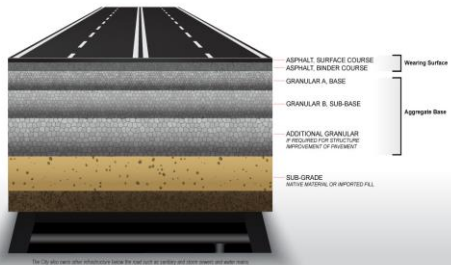
# Summary Condition Data

## Our Process

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- ☐ Analysis + Project Planning



# Analysis + Project Planning



# Analysis + Project Planning

1. Funding is not zero and it is not unlimited
2. Value of roadway network:

## Arterials + Collectors + Locals

3. Identify annual budget to maintain current PCI & backlog
4. Examine effects of current funding levels
5. Prevent deterioration in pavement quality
6. Pavement management is priority based, not worst-first, for most efficient stewardship of citizen funds

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# IMS Approach to Developing M&R Plans

<b>Step 1</b> <b>Research or 'Needs Analysis'</b>	<b>Step 2</b> <b>Customization</b>	<b>Step 3</b> <b>Recommended Plan</b>
<ul style="list-style-type: none"><li>✓ Identify agency's current M&amp;R practices – <i>maintenance, preservation, and rehabilitation</i></li><li>✓ <i>Identify historical M&amp;R records &amp; planned projects</i></li><li>✓ Identify local unit costs &amp; budget</li><li>✓ Identify agency priorities – <i>Functional class, highly trafficked areas, proximity to public buildings, etc.</i></li></ul>	<ul style="list-style-type: none"><li>✓ Create Deterioration Models</li><li>✓ Create Cost Models</li><li>✓ Implement planned projects</li><li>✓ Set City-Specific Priorities</li><li>✓ Define suitable treatments</li><li>✓ Create projects</li></ul>	<ul style="list-style-type: none"><li>✓ Run several What-if Scenarios based on City's budget and goals</li><li>✓ Compare conditions, annual budget, and backlog from various plans</li><li>✓ Multi-year M&amp;R plan</li></ul>

Note: M&R Planning will be done collaboratively with City Staff



# Rehab. Unit Costs

City of East Point, GA  
Rehabilitation Strategies and Unit Rates

Pavetype	Rehab Code	Rehab Activity	Rehab Group 1					
			Min PCI	Critical PCI (Need Year)	Max PCI	Base Unit Rate (\$/yd2)	Minor Arterial Unit Rate (\$/yd2)	Major Collector Unit Rate (\$/yd2)
All	5	Routine Maintenance	85	100	100	0.00	0.00	0.00
Asphalt	10	Slurry Seal / Seal Coat	80	82	85	<b>1.10</b>	1.20	1.15
Asphalt	20	MicroSurface	70	73	80	<b>1.80</b>	1.95	1.90
Asphalt	30	Edge Mill + Thin Overlay (1.5 - 2.0)	60	63	70	<b>10.00</b>	10.75	10.50
Asphalt	40	EM/FWM + Moderate Overlay (2.0 - 3.0)	50	54	60	<b>11.50</b>	12.75	12.25
Asphalt	50	FWM + Thick Overlay (> 2.0 - 3.0)	40	44	50	<b>12.50</b>	14.50	13.75
Asphalt	60	Surf Recon + Base Rehab / FWM + Strctrl Ptch + Olay	25	30	40	<b>15.00</b>	17.25	16.50
Asphalt	70	ACP Full Depth Reconstruction	0	15	25	<b>20.00</b>	21.50	21.00
Concrete	510	PCC Jnt Rehab & Crk Seal	80	82	100	<b>5.00</b>	5.50	5.25
Concrete	520	PCC Localized Rehab	70	73	80	<b>11.00</b>	12.25	11.75
Concrete	530	PCC Slight Pnl Rplcmnt (<10%)	60	63	70	<b>22.50</b>	26.00	24.75
Concrete	540	PCC Moderate Pnl Rplcmnt (< 20%)	50	54	60	<b>34.50</b>	41.50	39.00
Concrete	550	PCC Extensive Pnl Rplcmnt (<33%)	40	44	50	<b>47.50</b>	59.00	55.00
Concrete	560	PCC Partial Reconstruction	25	30	40	<b>65.50</b>	78.50	74.00
Concrete	570	PCC Full Depth Reconstruction	0	15	25	<b>99.50</b>	123.50	115.00

*Analysis Strategy - Before any major rehabilitation is scheduled there are three levels of preventive work being applied: Crack Seal, Slurry Seal, and Cape Seal/ARAM.*

## Our Process

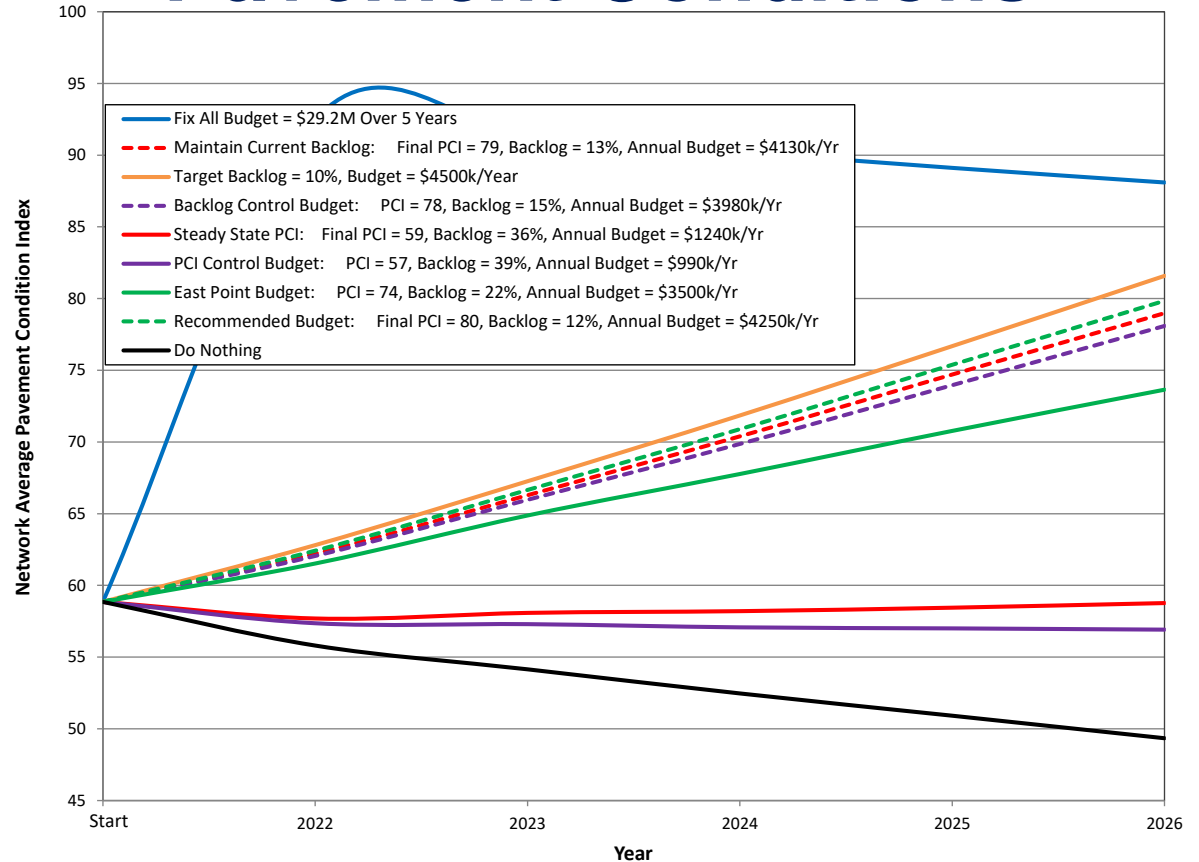
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# Impact of Funding Levels on Pavement Conditions



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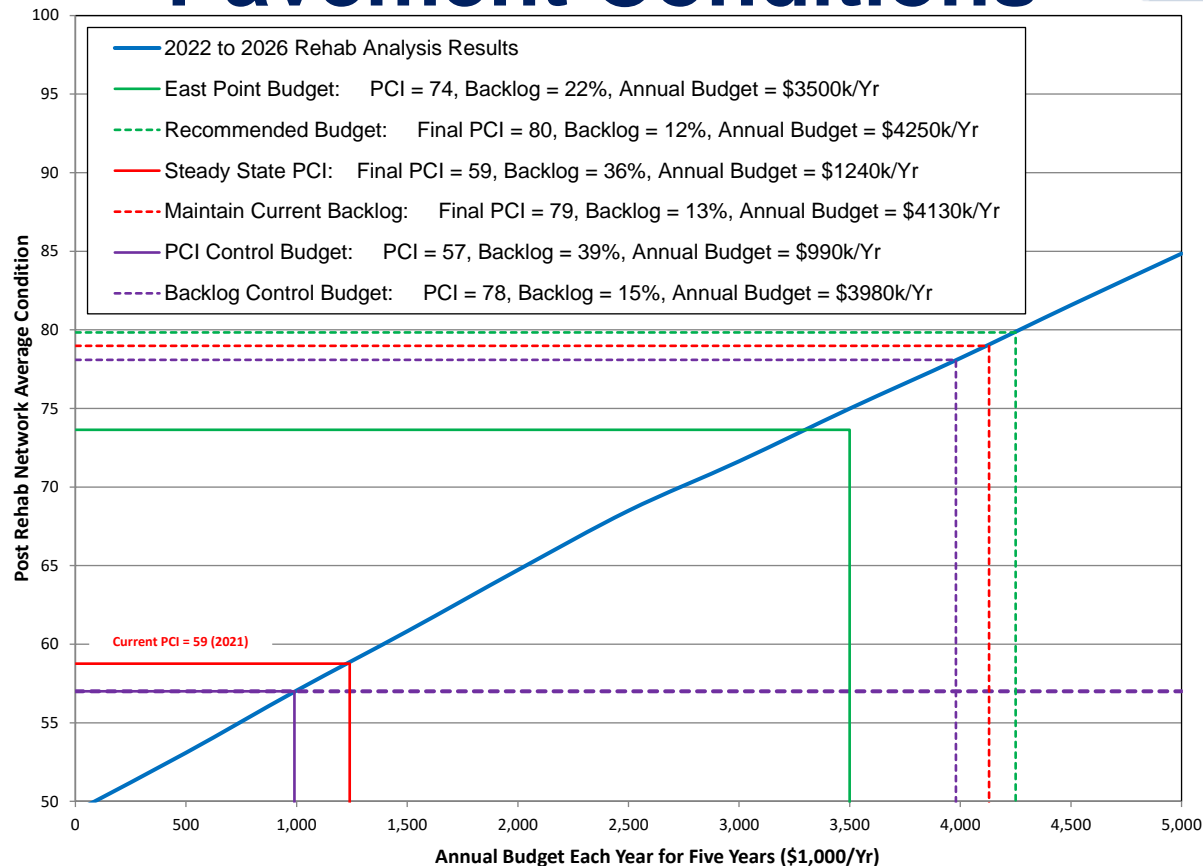




# Impact of Funding Levels on Pavement Conditions

## Our Process

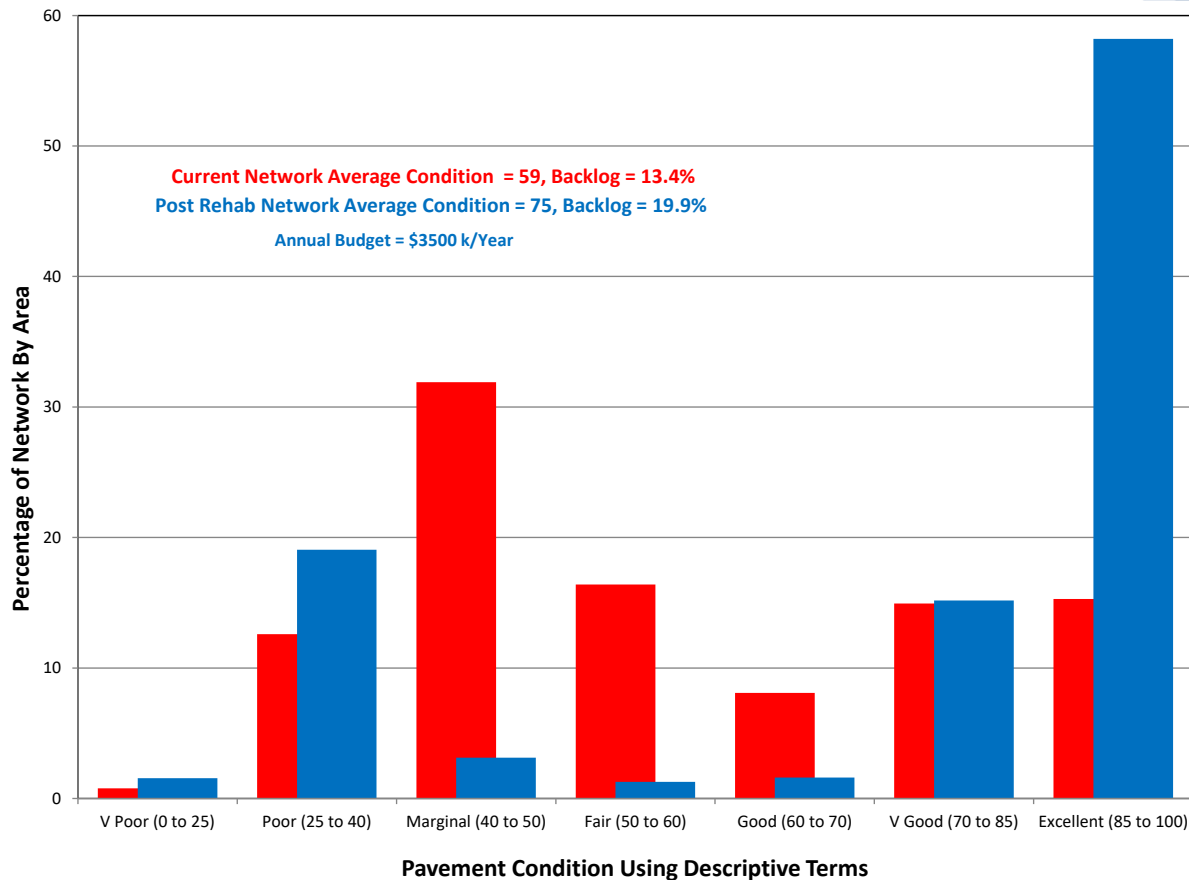
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# Post Rehab Condition Comparison

## Current Condition Versus Selected Budget



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# East Point, GA Recommendations

- **Strive to maintain a PCI above 70 with a backlog below 20%.**
- **The current 5-year budget of \$3.5M/Yr will achieve a PCI of 74 and the backlog will grow to 22%.**
- **Rehabilitation strategies should be reviewed annually.**
- **Proactive annual rehab and maintenance saves money.**
- **City should resurvey their streets every three years to update condition data and track pavement performance.**

**Thank you!**  
**Questions?**