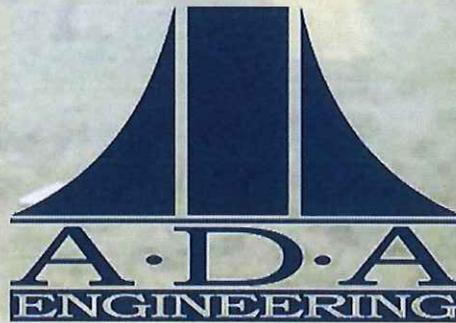


# CITY OF LAKE WORTH PAVEMENT MANAGEMENT MASTER PLAN 2016 UPDATE



SW 12th Ave



IPC: 91(9)  
ML: 0  
MO: 100  
MO: 10  
CL: 0

RUTCI



Brent Whitfield, PE



# Value of Pavement Management Planning

- **The road network is visible and valuable**
  - Roadways are the most visible sign of how well a City is maintained
  - The roadway network is one of the biggest capital assets in any City (over \$120 million to replace)
- **Asphalt is maintenance intensive and requires investment**
  - Asphalt condition degrades by approximately 3% each year
  - Underfunding resurfacing leads to the need for base repairs and full-depth reconstruction
- **Pavement management evaluates the effect of maintenance strategies on the City's roadways and can help predict costly outcomes**

Standard PCI™ Rating Scale		Suggested Colors
100	Good	Dark Green
85	Satisfactory	Light Green
70	Fair	Yellow
55	Poor	Light Red
40	Very Poor	Medium Red
25	Serious	Dark Red
10	Failed	Dark Grey
0		

FIG. 1 Pavement Condition Index (PCI), Rating Scale, and Suggested Colors

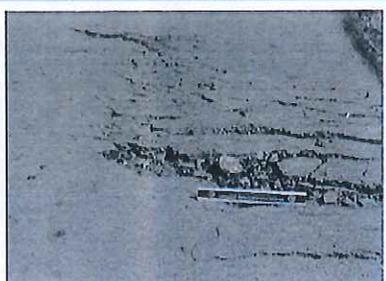


FIG. X1.49 High-Severity Slippage Cracking

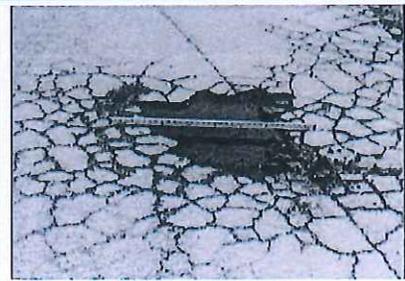


FIG. X1.37 High-Severity Pothole



FIG. X1.34 Polished Aggregate



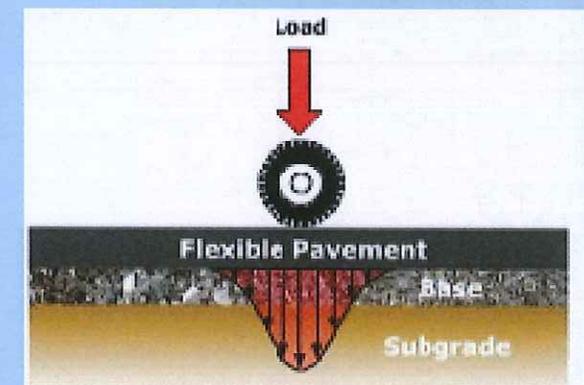
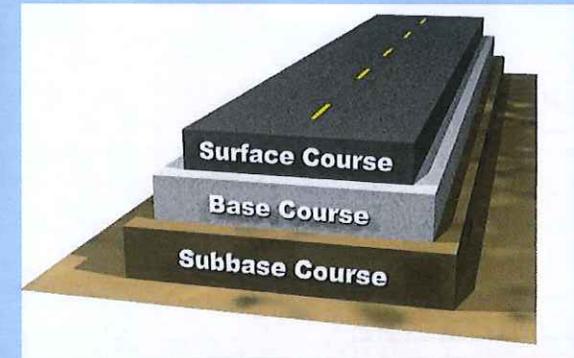
FIG. X1.3 High-Severity Alligator Cracking





# Preventative Maintenance

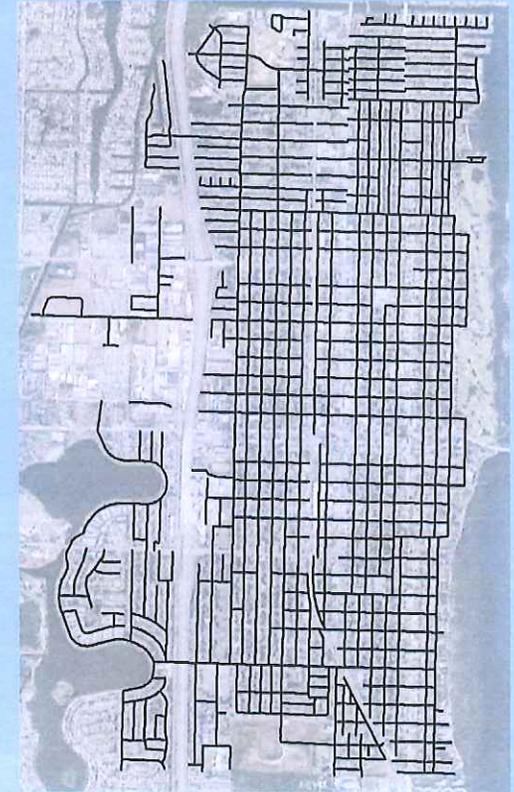
- The strength of the road is in the Base and Subbase (most costly to repair)
- Preventative maintenance to the asphalt prevents damage to the Base and Subbase, much like maintaining a roof prevents water damage inside a house
- Maintenance treatments on a roadway must be appropriate for the distress type and point in the life-cycle
- Full depth reconstruction can be avoided or significantly delayed if funding is sufficient and maintenance is applied.





# Original 2013 Plan: Data Collection

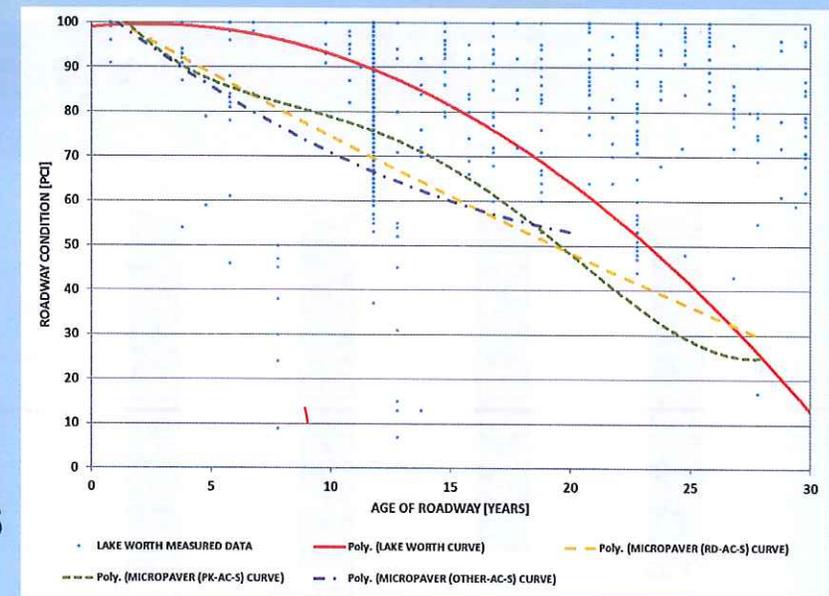
- Develop GIS network and segmentation plan
- Collect as-built information and records on existing roadways
- Drive all lane-miles (over 100 miles) of city streets with multifunction pavement survey vehicle





# Original 2013 Plan: Summary

- **Roadway Condition in 2013**
  - Network Average PCI of 74.7
  - 10% of Network in Poor Condition
- **Roadway Deterioration Curve**
  - Comparing pavement age with condition
  - Optimistic curve likely due to extended life with micro-surfacing
- **Cost of Repairs**
  - Industry based construction and repair costs
- **Funding**
  - Available funding for maintenance and capital investment (\$525,000 per year)
- **Final Recommendations**
  - Increase maintenance and repair budget



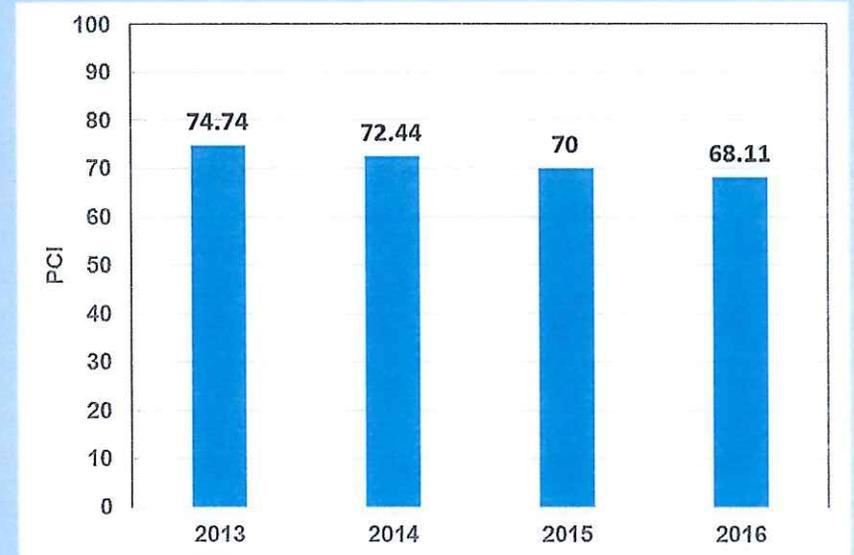
**LW - Deterioration Curve**





# 2016 Plan Update: Pavement Condition

- Input All Major Roadway Repairs
- Forecast 3 years of deterioration
- Roadway Condition in 2016
  - Network Average PCI dropped from 74.7 to 68.1
  - Network in Poor Condition up from 10% to 22%



TREATMENT BAND	PCI RANGE	2013	2014	2015	2016
BASE REHABILITATION	0-55	10%	14%	18%	22%
STRUCTURAL IMPROVEMENT	55-70	28%	33%	34%	32%
PREVENTATIVE MAINTENANCE	70-81	26%	24%	23%	28%
ROUTINE MAINTENANCE	81-90	25%	22%	21%	16%
NO MAINTENANCE REQUIRED	90-100	10%	6%	3%	1%

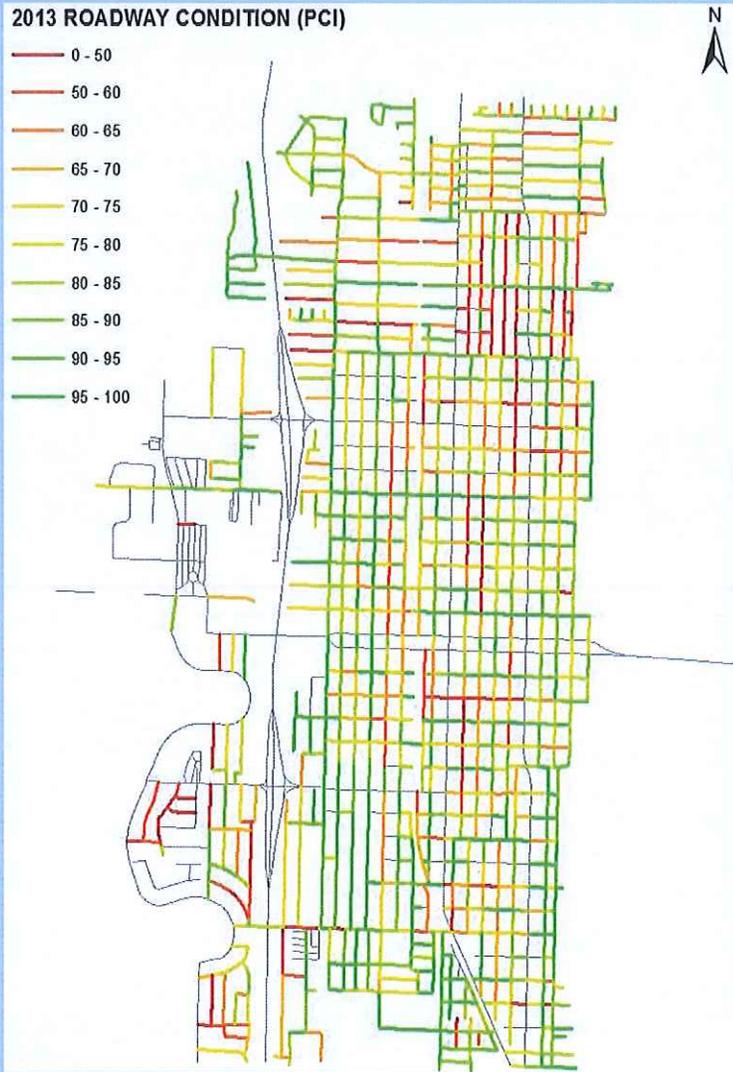




# 2016 Plan Update: Pavement Condition

2013 ROADWAY CONDITION (PCI)

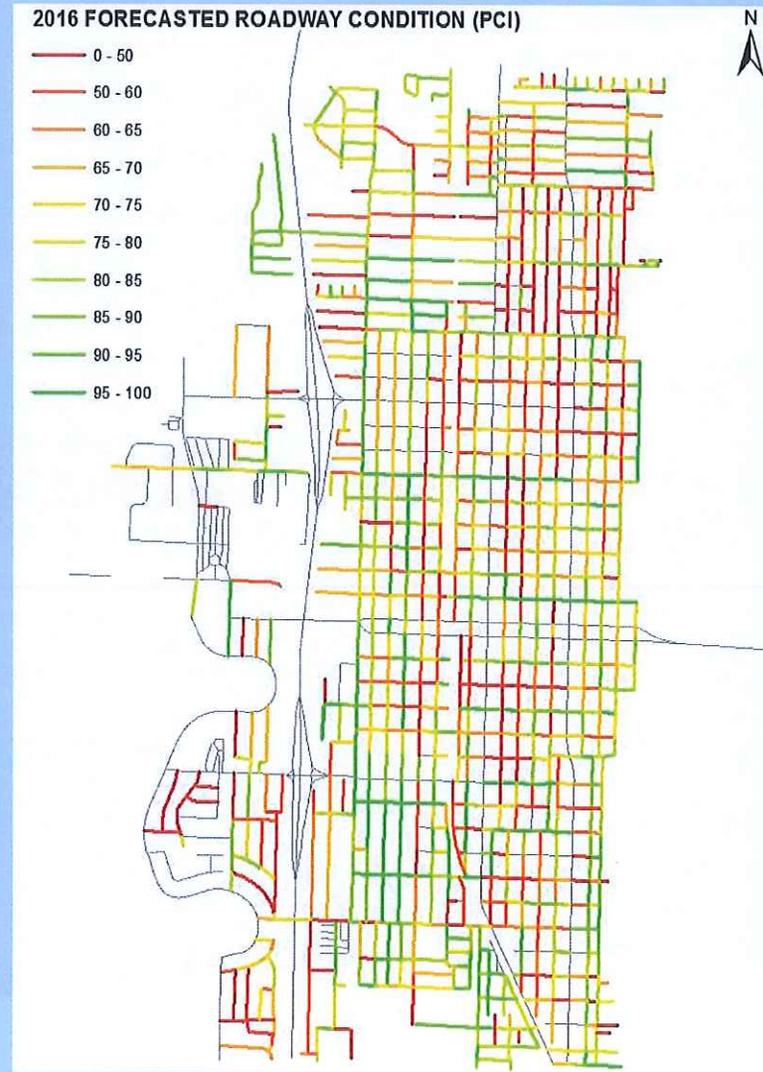
- 0 - 50
- 50 - 60
- 60 - 65
- 65 - 70
- 70 - 75
- 75 - 80
- 80 - 85
- 85 - 90
- 90 - 95
- 95 - 100



2013

2016 FORECASTED ROADWAY CONDITION (PCI)

- 0 - 50
- 50 - 60
- 60 - 65
- 65 - 70
- 70 - 75
- 75 - 80
- 80 - 85
- 85 - 90
- 90 - 95
- 95 - 100



2016 (Forecasted)





# Questions

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