



Asset Management Pavement Improvement Program Update

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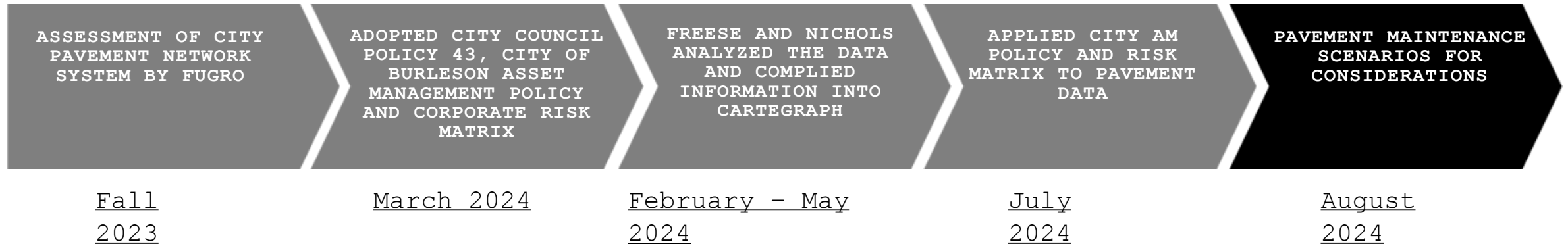
AUGUST 21, 2024

OUTLINE

- History
- Pavement Condition Assessment
- Pavement Management Plan
- Maintenance and Capital Improvement Activities
- Scenario Outline
- Next Steps



HISTORY



CONDITION ASSESSMENT

2023 Assessment

Overall Network OCI	Group	Description	OCI
69	Pavement Type	Asphalt	51
		Concrete	83
	Functional Class	Arterial	71
		Collector	65
		Local	68

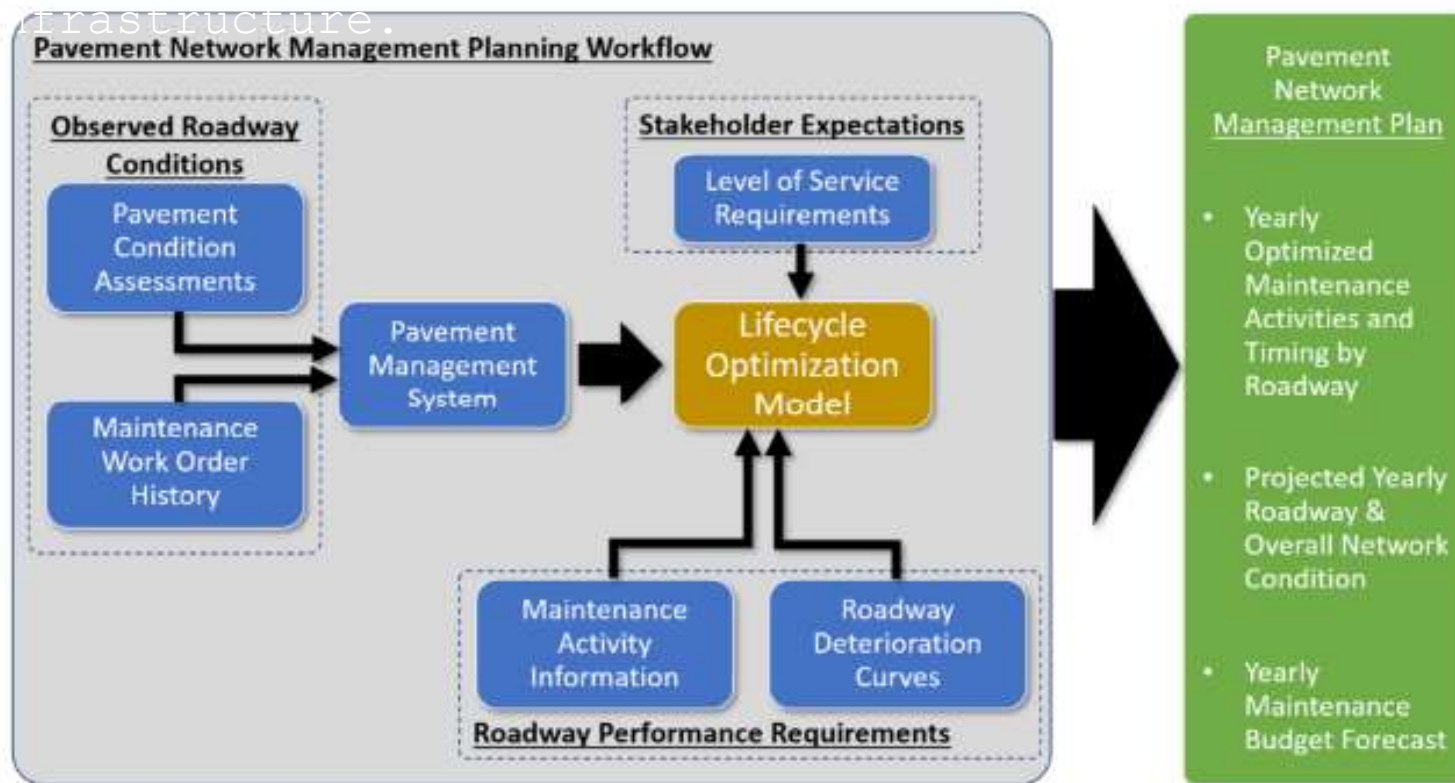
Approximately 567
lane miles of roadway

51% Asphalt
49% Concrete

*Some ETJ roads are not included in the above OCI numbers and are still being assessed.

PAVEMENT MANAGEMENT PLAN

A comprehensive program allowing city staff to provide optimized maintenance recommendations to reduce overall lifecycle cost of the roadway network, and extend the life of the city's roadway



Incorporated completed pavement condition results into Cartegraph

Utilize Cartegraph to evaluate strategies and build an efficient maintenance plan

- Use budgets efficiently for maintenance activities
- Achieve an overall network condition target
- Maintain network conditions long-term

PAVEMENT MAINTENANCE AND CAPITAL IMPROVEMENT ACTIVITIES



Asphalt

Concrete

Maintenance Activity	Applicable Condition Range (PCI)	Condition Impact Type	Condition Impact (PCI)
Crack Seal	91-100	Modifier	+5 pts
Rejuvenator Application & Crack Seal	81-90	Modifier	+8 pts
Microsurface	71-80	Modifier	+15 pts
Mill & 2" Overlay	51-70	Modifier	+20 pts
Reconstruction	0-50	Absolute	100

Maintenance Activity	Applicable Condition Range (PCI)	Condition Impact Type	Condition Impact (PCI)
Joint Sealing	81-90	Modifier	+5 pts
Small Full Depth Repair	71-80	Absolute	90
Medium Full Depth Repair	61-70	Absolute	90
Large Full Depth Repair	41-60	Absolute	90
Reconstruction	0-40	Absolute	100

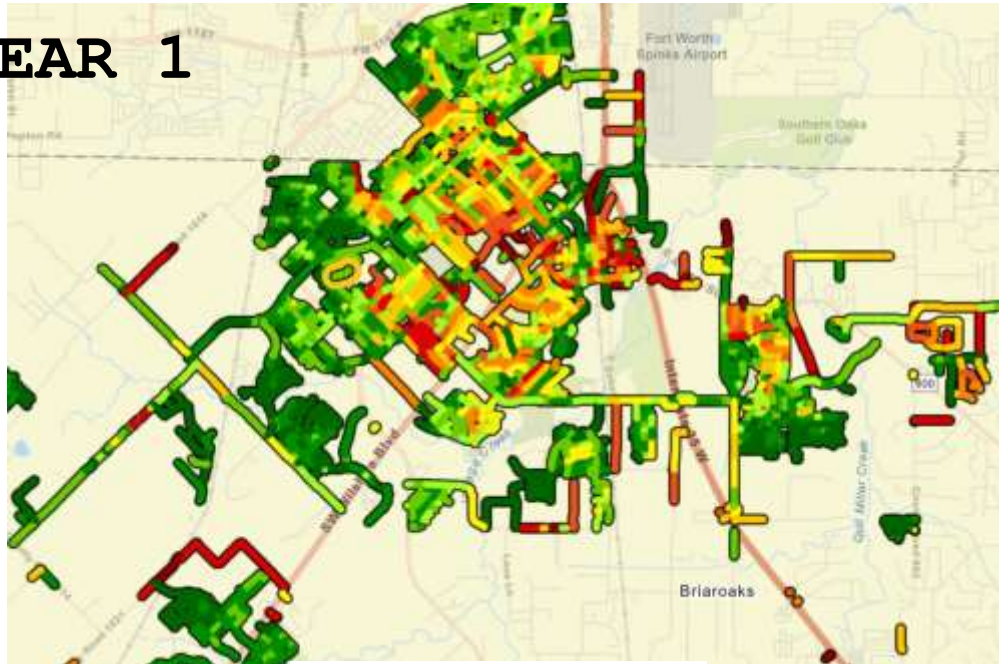
SCENARIO ASSUMPTIONS

<p>SCENARIO 1: <i>Do Nothing</i> O&M Budget - \$0 Capital Budget - \$0</p> <hr/> <p>SCENARIO 4: <i>Increased Capital</i> O&M Budget - \$1.1m <i>Annually</i> Capital Budget - \$5.0m <i>Annually</i> <hr/> Escalation - 3% Maintenance Cost</p>	<p>SCENARIO 2: <i>Current Budget</i> O&M Budget - \$1.1m <i>Annually</i> Capital Budget - 5 YR Capital Plan Escalation - 3% Maintenance</p> <hr/> <p>SCENARIO 5: <i>Increased O&M & Capital</i> O&M Budget - \$2.7m <i>Annually</i> Capital Budget - \$5.0m <hr/> <i>Annually</i> Escalation - 3% Maintenance Cost</p>	<p>SCENARIO 3: <i>Increased O&M</i> O&M Budget - \$2.7m <i>Annually</i> Capital Budget - 5 YR Capital Plan Escalation - 3% Maintenance</p> <hr/> <p>SCENARIO 6: <i>OCI 75 in 5 Years</i> O&M Budget - ~\$5.0m <i>Annually</i> Capital Budget - ~\$14.3m <i>Annually</i></p>	<p>SCENARIO 7: <i>OCI 75 in 10 Years</i> O&M Budget - ~\$3.3m <i>Annually</i></p>
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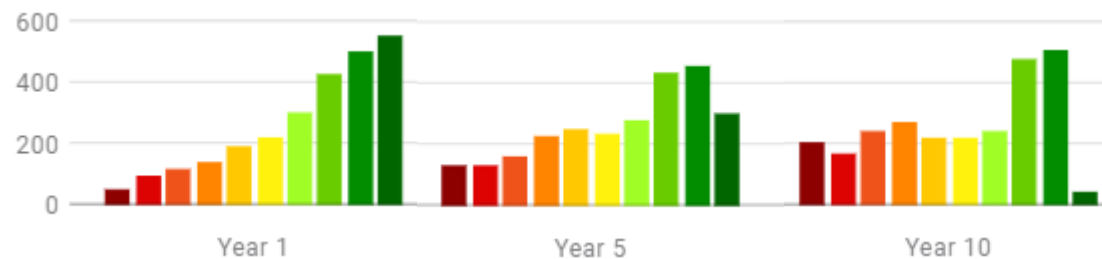
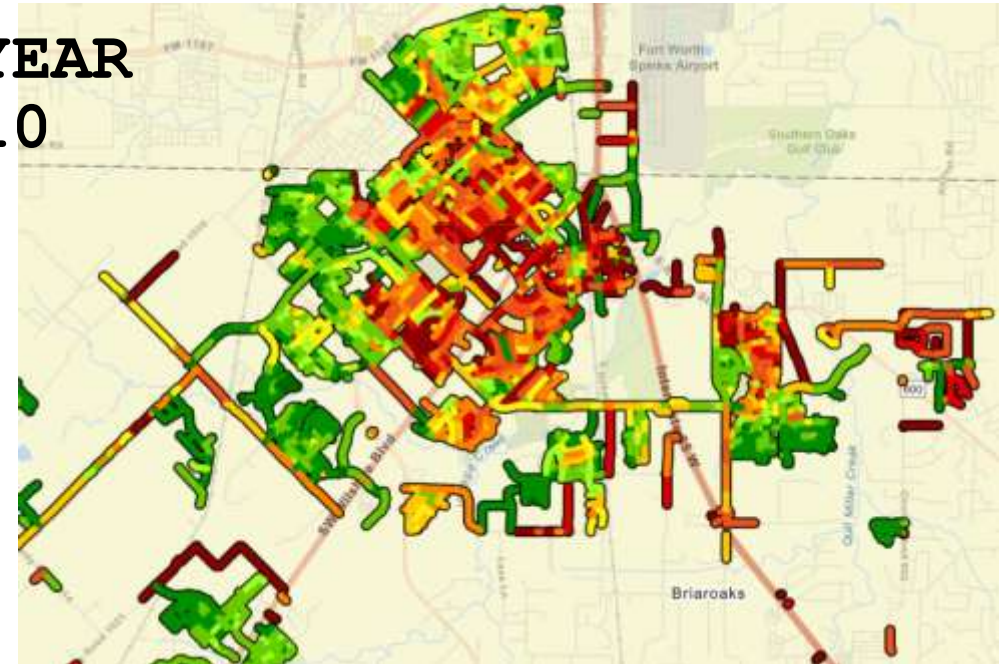
SCENARIO 1

Do Nothing - No Budget

YEAR 1



YEAR 10



Beginning OCI:

69

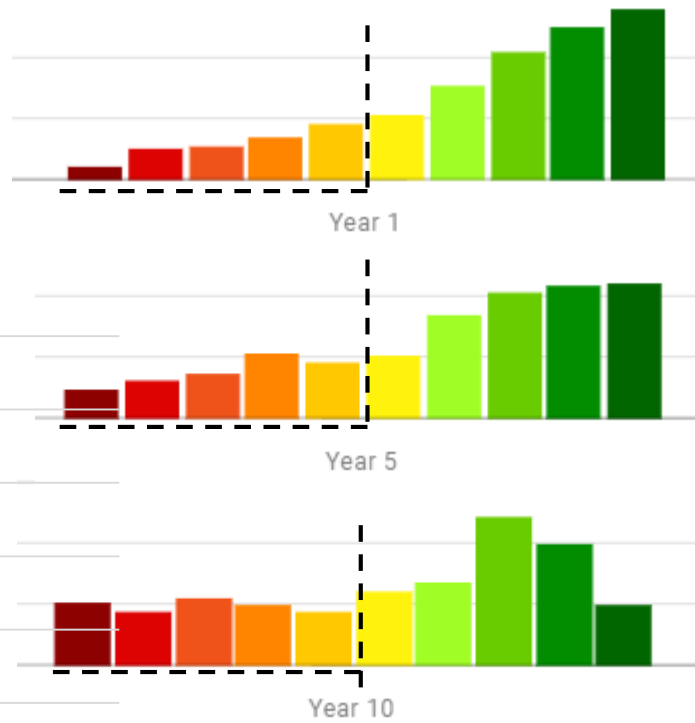
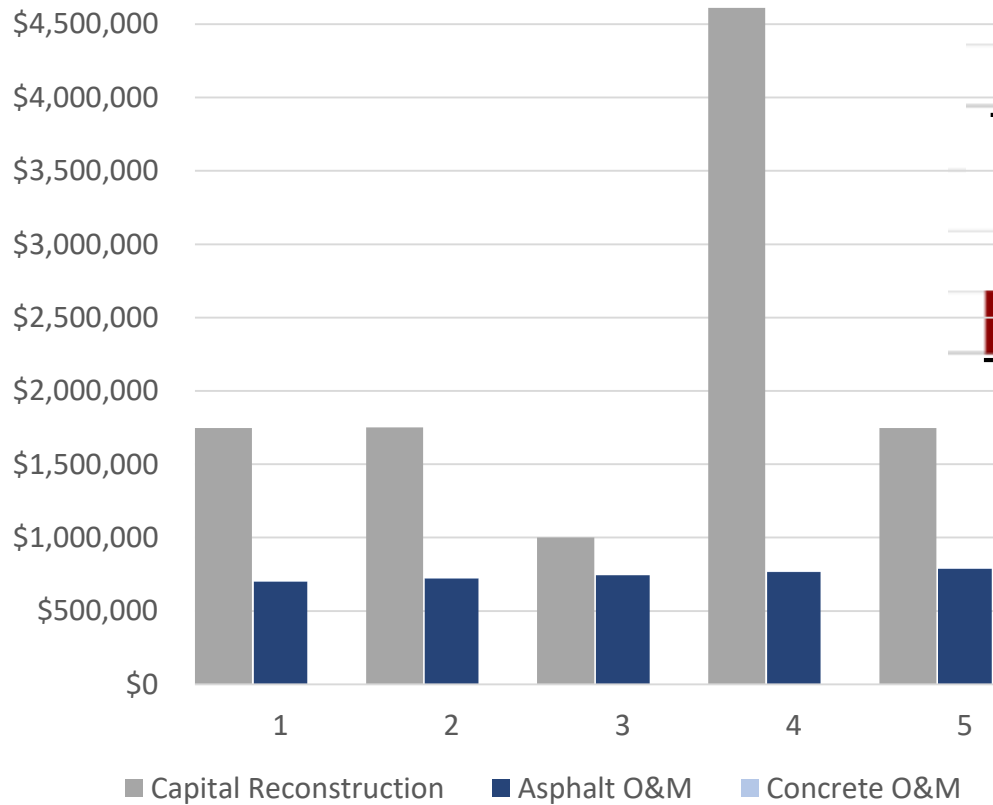
5 Year OCI: 60

10 Year OCI: 52

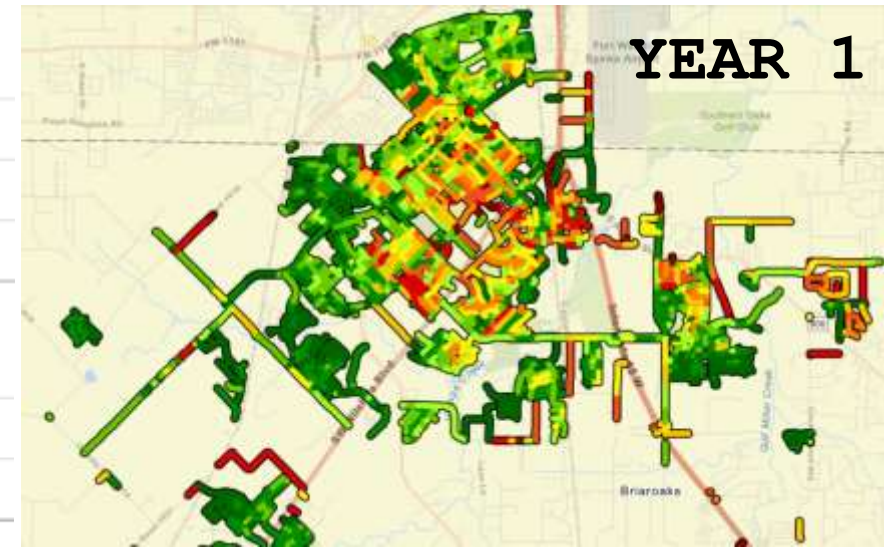
Budget: \$0

SCENARIO 2

O&M 700k
(1.1m)
Capital Plan



<u>O&M Budget</u>
\$3,716,394
<u>Capital Budget</u>
\$10,855,620
<u>Total 5-Year Budget</u>
\$14,572,014



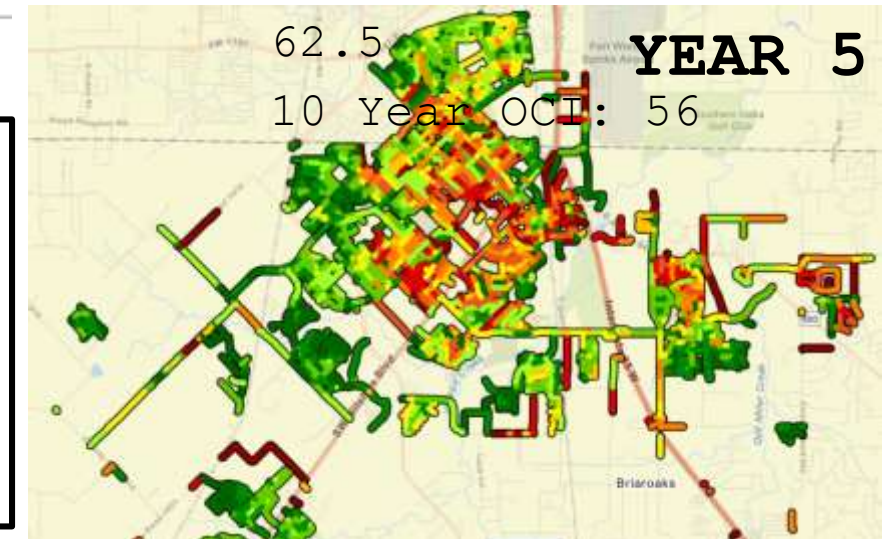
Beginning OCI:

69

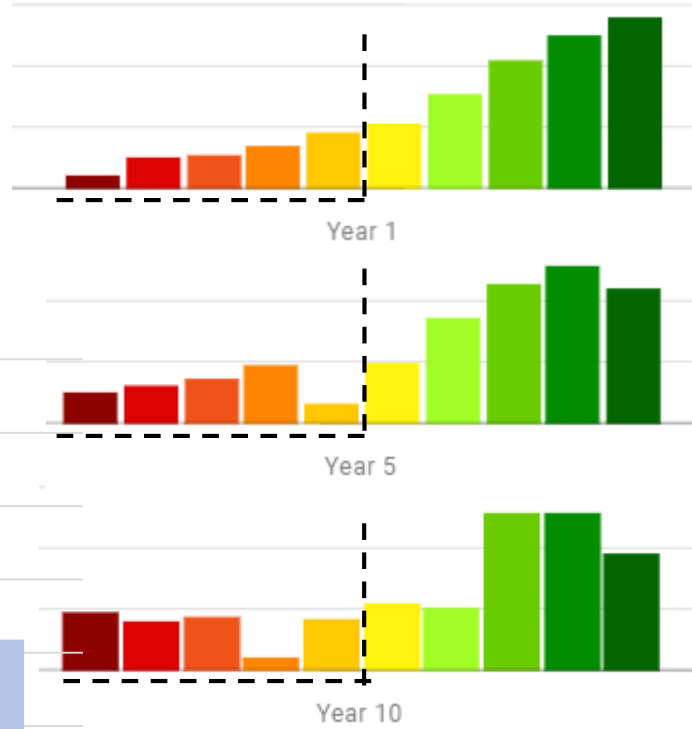
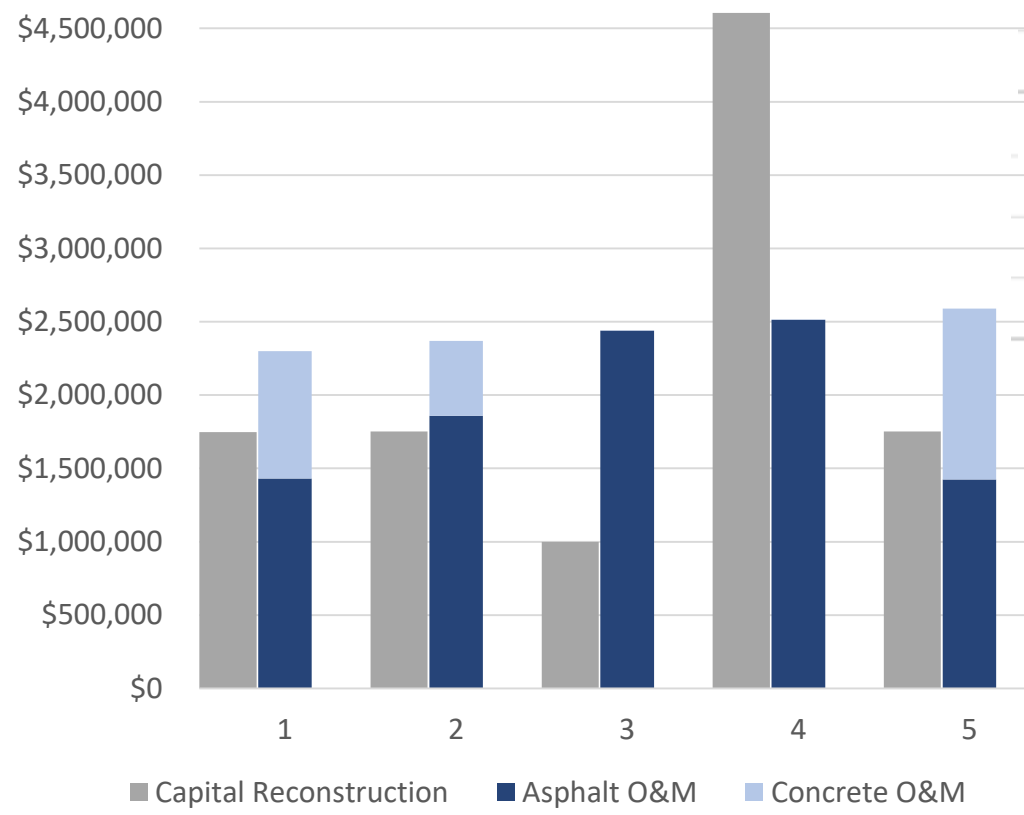
5 Year OCI:

62.5

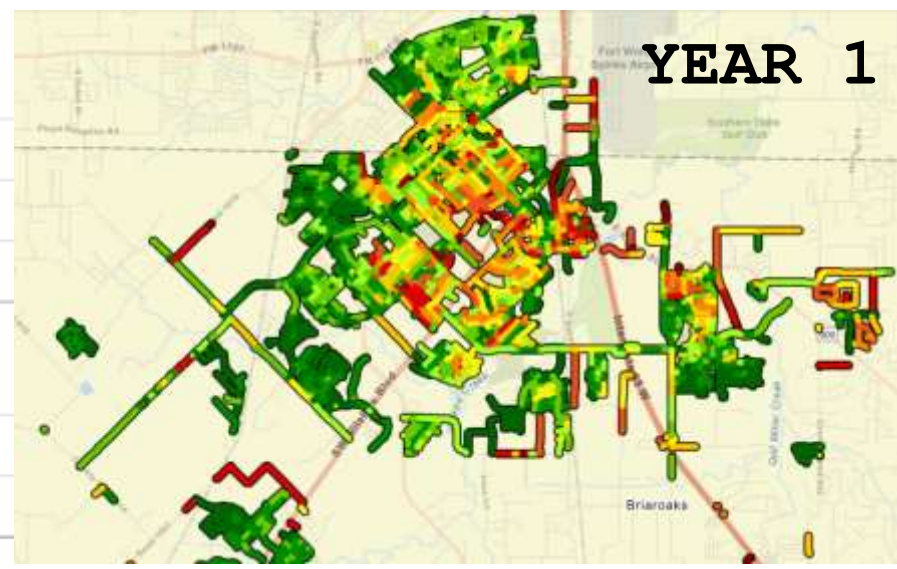
10 Year OCI: 56



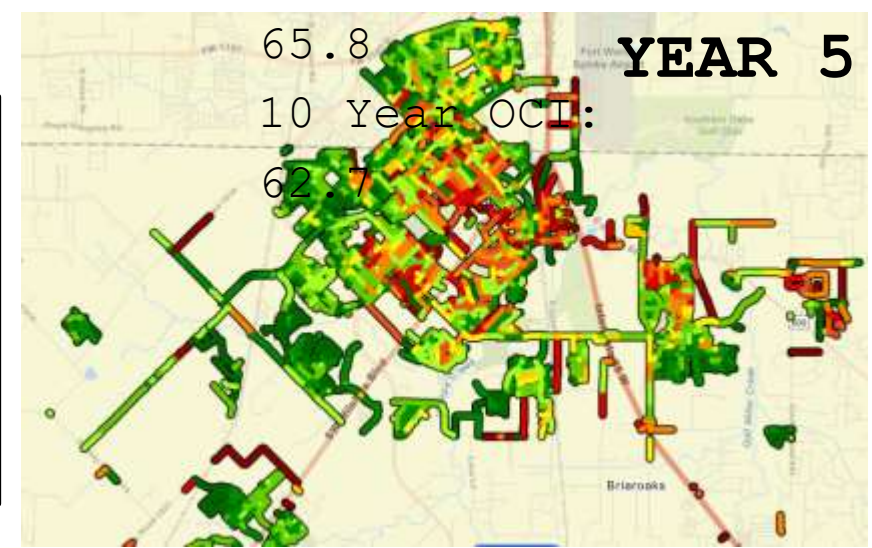
SCENARIO 3
 O&M 2.3m
 (2.7m)
 Capital Plan



O&M Budget	\$12,211,011
Capital Budget	\$10,855,146
Total 5-Year Budget	\$23,066,157



Beginning OCI:
 69
 5 Year OCI:
 65.8
 10 Year OCI:
 62.7

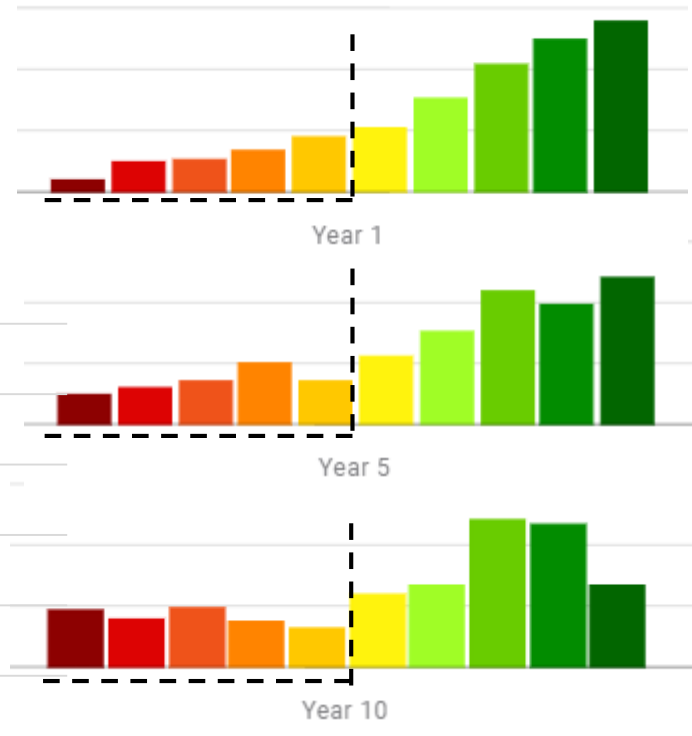
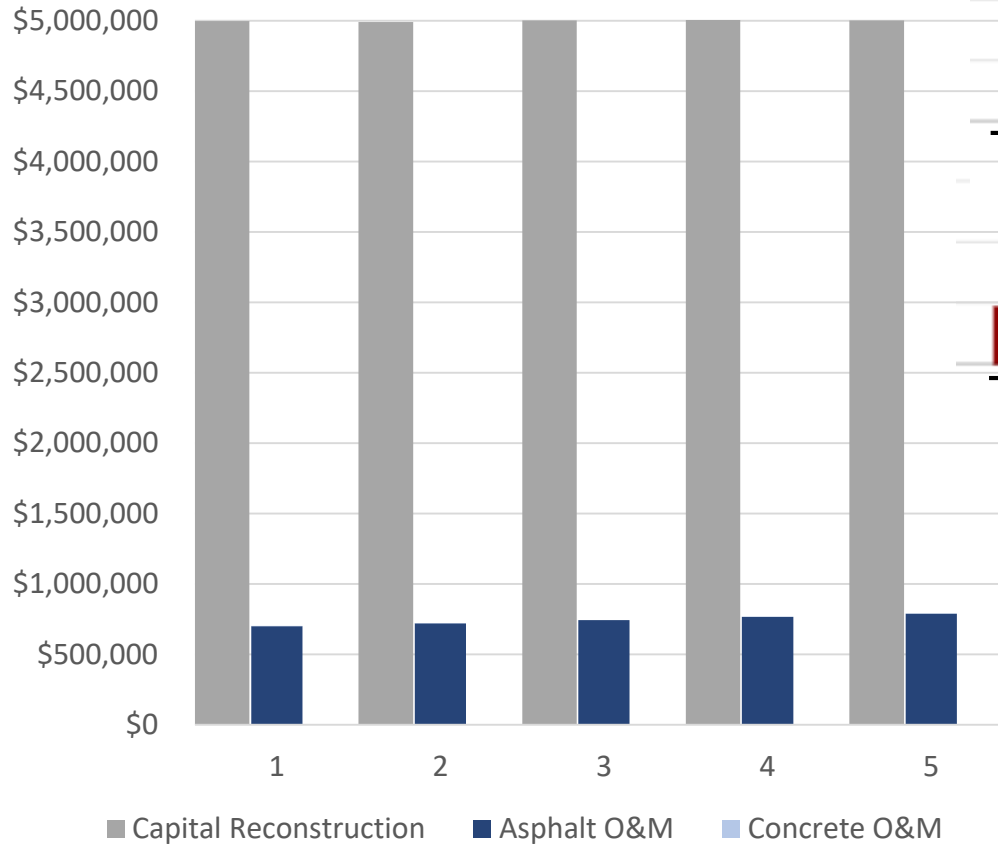


SCENARIO 4

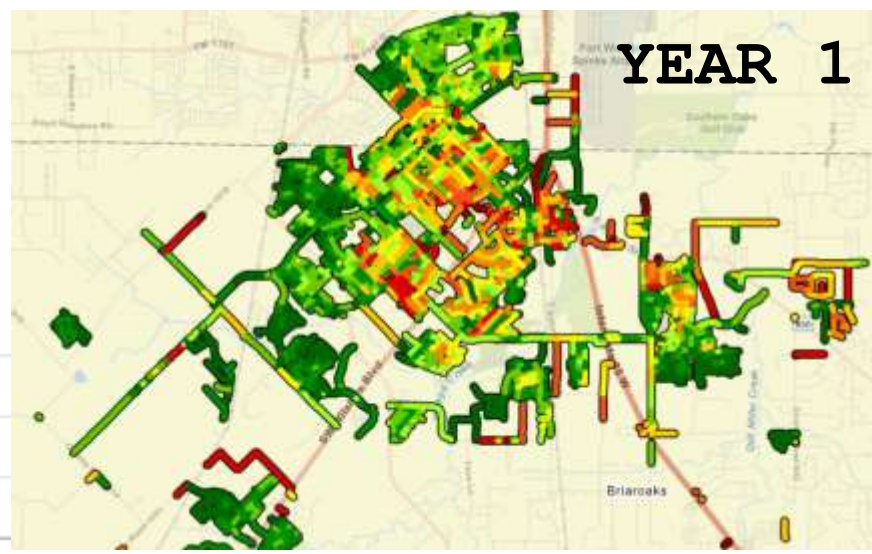
O&M 700k

(1.1m)

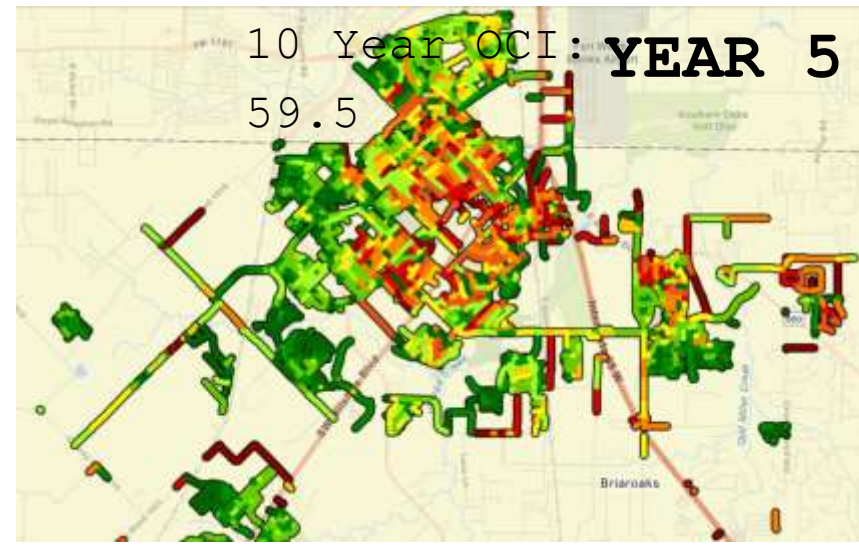
Capital 5.0m



<u>O&M Budget</u>
\$3,716,395
<u>Capital Budget</u>
\$24,998,033
<u>Total 5-Year Budget</u>
\$28,714,428



Beginning OCI: 69
 5 Year OCI: 64
 10 Year OCI: 59.5

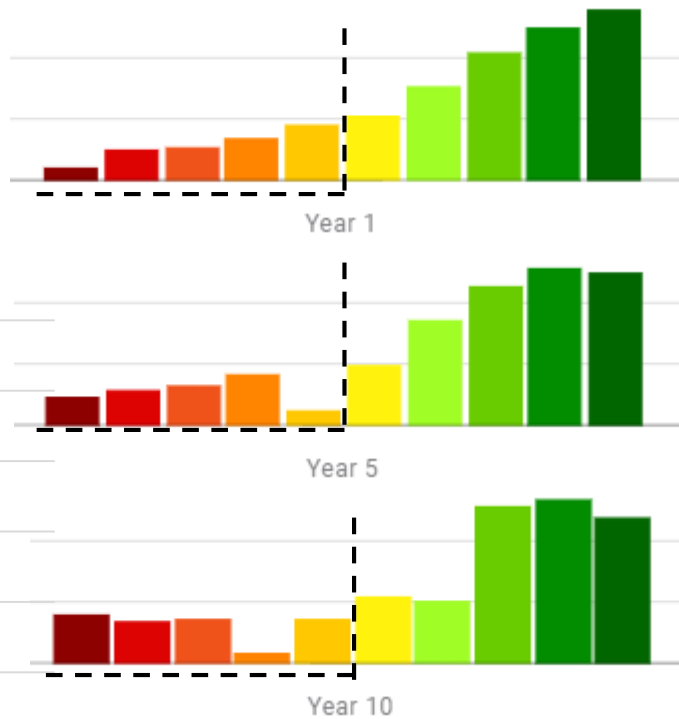
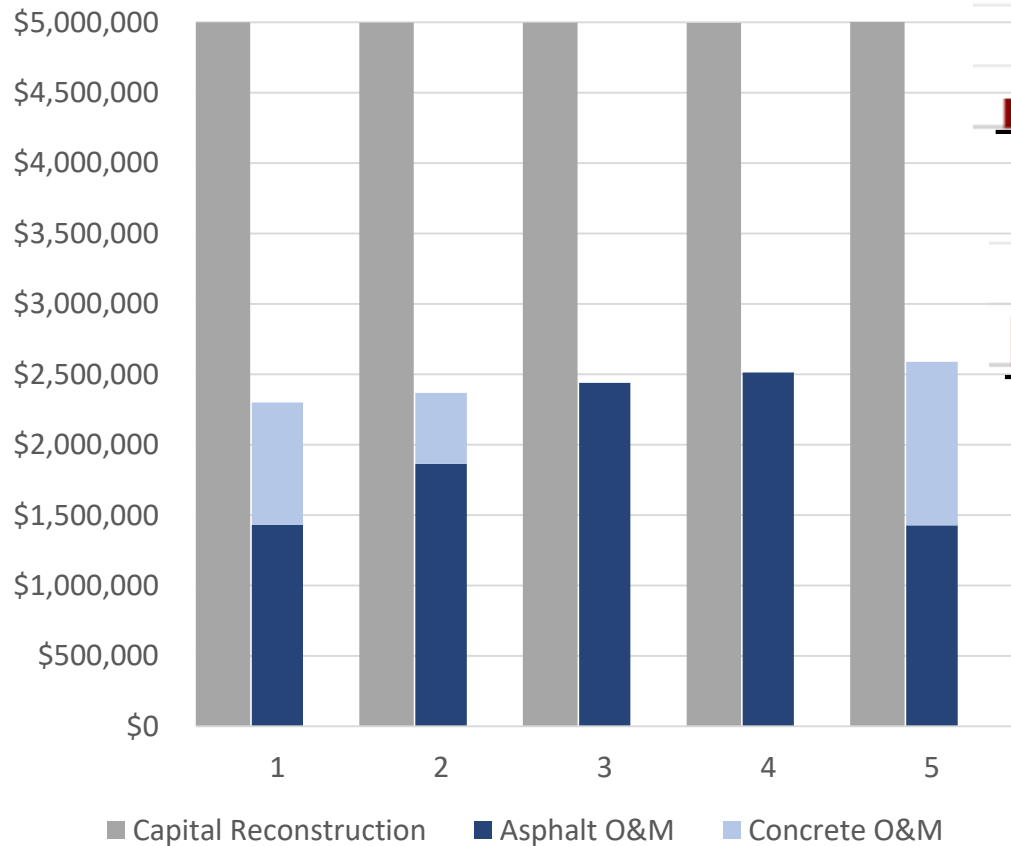


SCENARIO 3

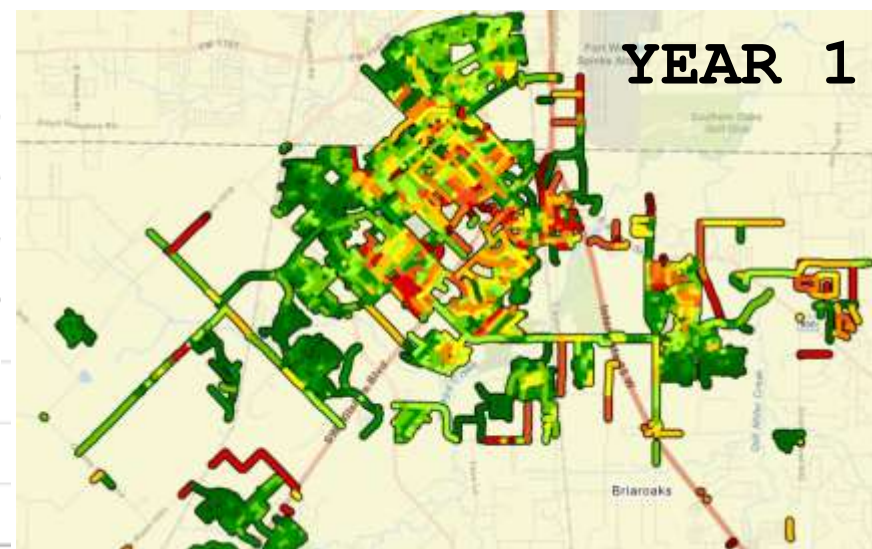
O&M 2.3m

(2.7m)

Capital 5.0m



<u>O&M Budget</u>
\$12,211,011
<u>Capital Budget</u>
\$24,993,389
<u>Total 5-Year Budget</u>
\$37,204,400



Beginning OCI:

69

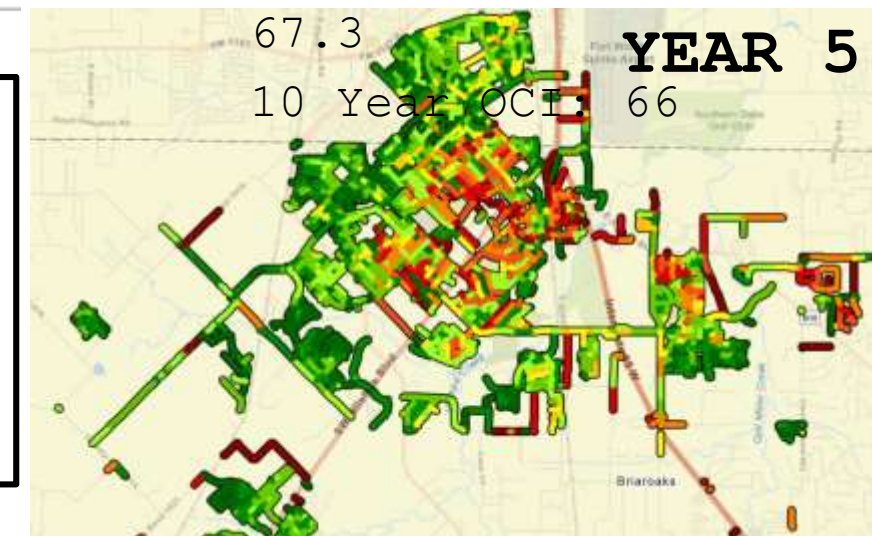
5 Year OCI:

67.3

10 Year OCI:

YEAR 5

66

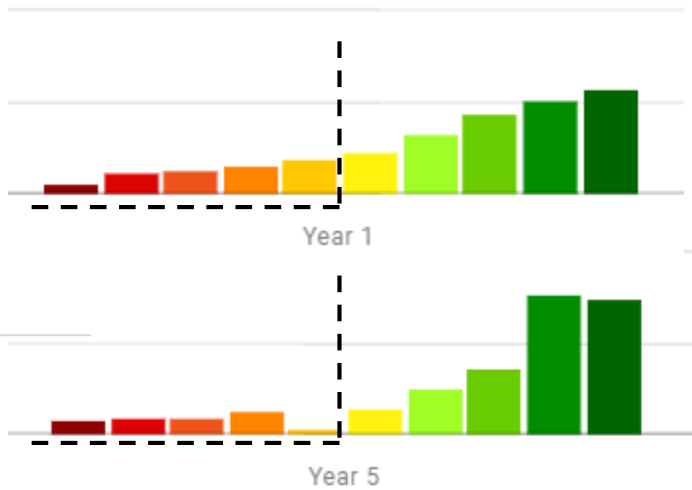
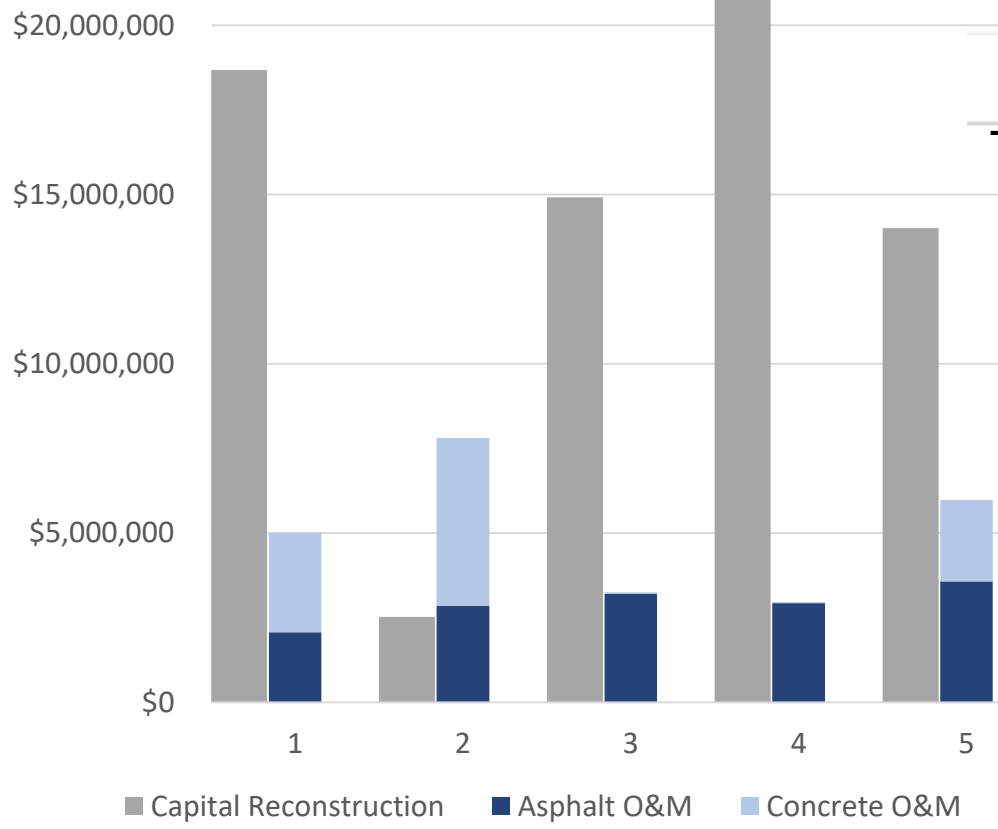


SCENARIO 0

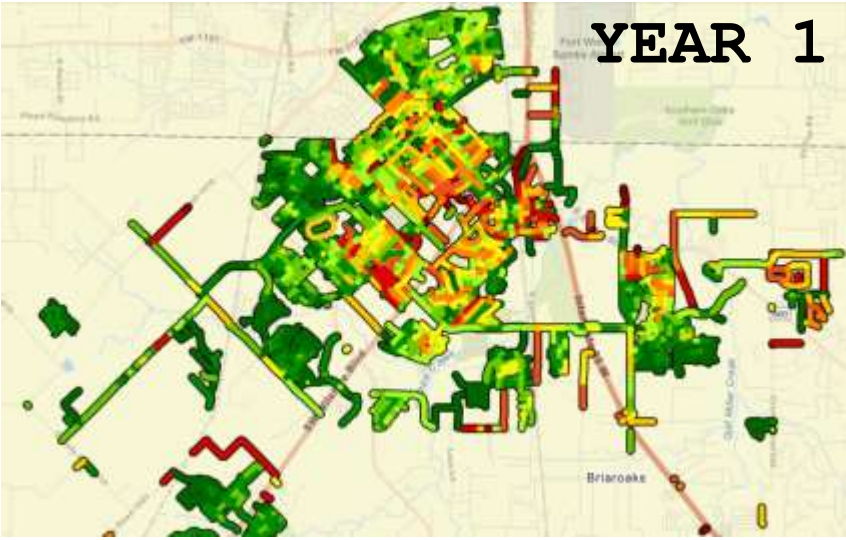
75 OCI

Score 5

YRS



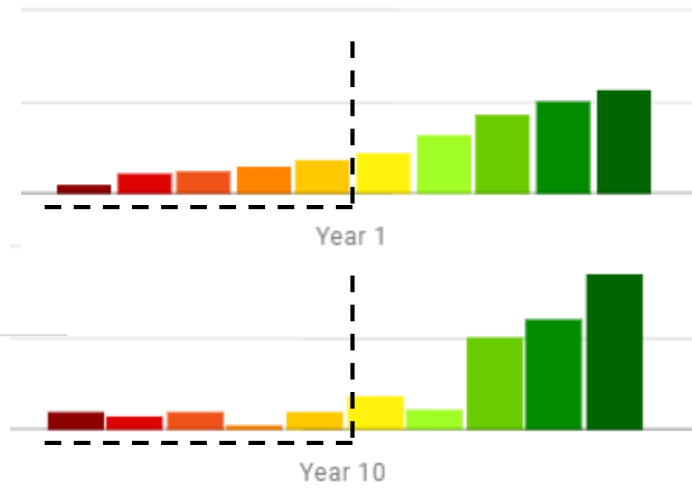
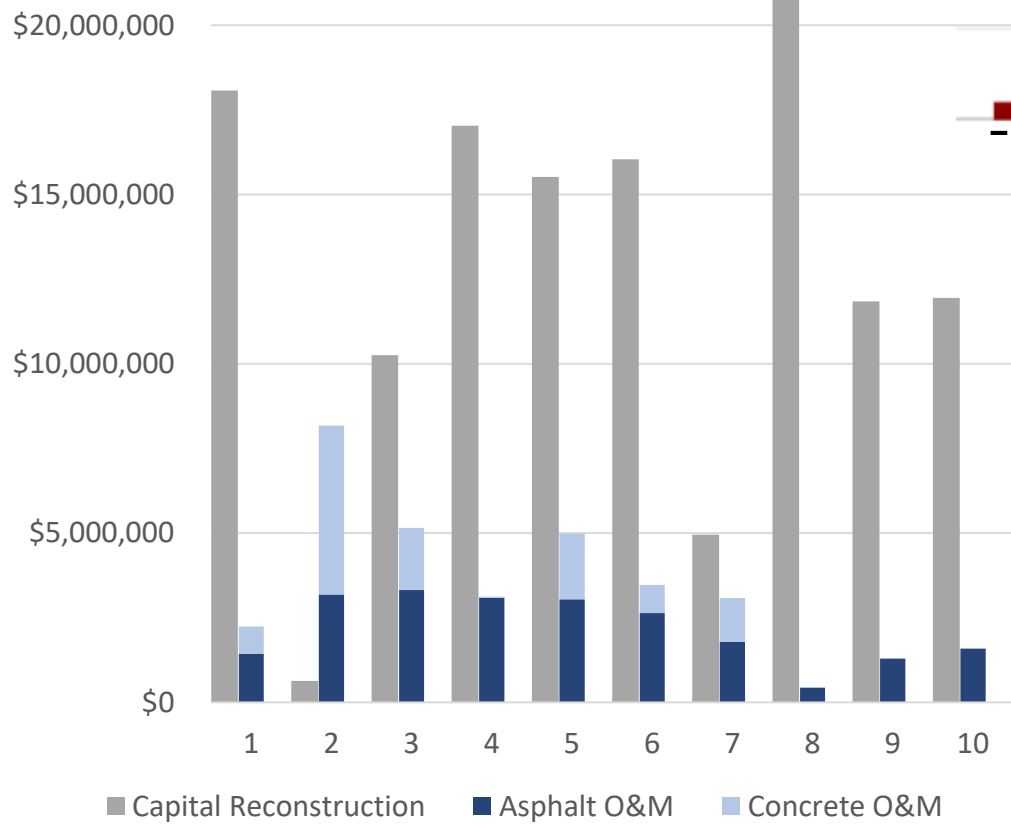
O&M Budget
 \$24,984,410
Capital Budget
 \$71,869,910
Total 5-Year Budget
 \$96,854,320



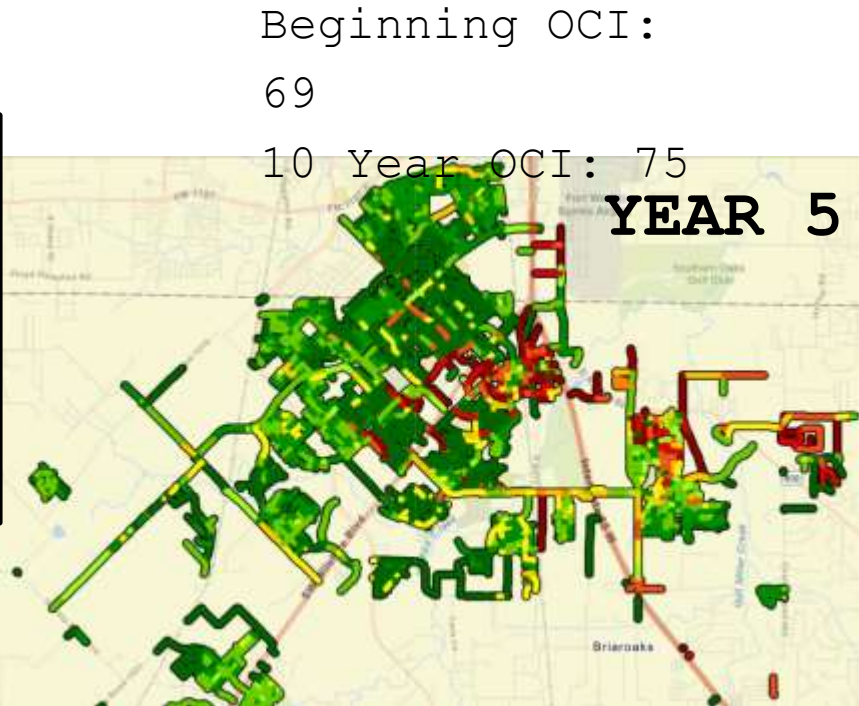
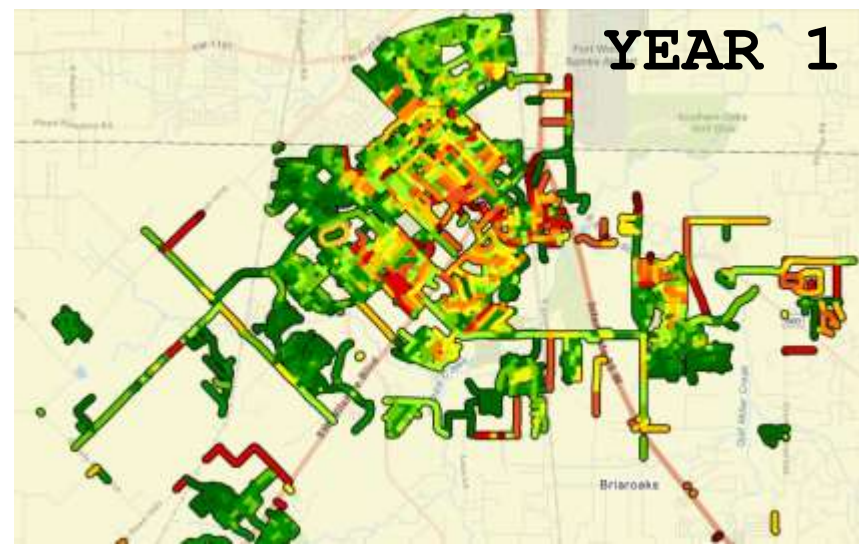
Beginning OCI:
69
5 Year OCI: 75



SCENARIO 75 OCI Score 10 YRS



O&M Budget
 \$33,554,832
Capital Budget
 \$127,444,231
Total 10-Year Budget
 \$160,999,063



Summary of Scenarios

Scenario	Years	O&M Dollars	Capital Dollars	Total Budget	Beginning OCI	5 Year OCI	10 Year OCI
1	10	\$ -	\$ -	\$ -	69.0	60.0	52.0
2	5	\$ 3,716,394	\$ 10,855,620	\$ 14,572,014	69.0	62.5	56.0
3	5	\$ 12,211,011	\$ 10,855,146	\$ 23,066,157	69.0	65.8	62.7
4	5	\$ 3,716,395	\$ 24,998,033	\$ 28,714,428	69.0	64.0	59.5
5	5	\$ 12,211,011	\$ 24,993,389	\$ 37,204,400	69.0	67.3	66.0
6	5	\$ 24,984,410	\$ 71,869,910	\$ 96,854,320	69.0	75.0	--
7	10	\$ 33,554,832	\$ 127,444,231	\$ 160,999,063	69.0	--	75.0

Next Steps

- Discuss the Optimal level of OCI goal
- Discuss budget options
- Based on the adopted budget staff will be presenting to council the pavement management plan and pavement maintenance schedule for FY 24/25 in October

Questions / Comments

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