City of Ann Arbor
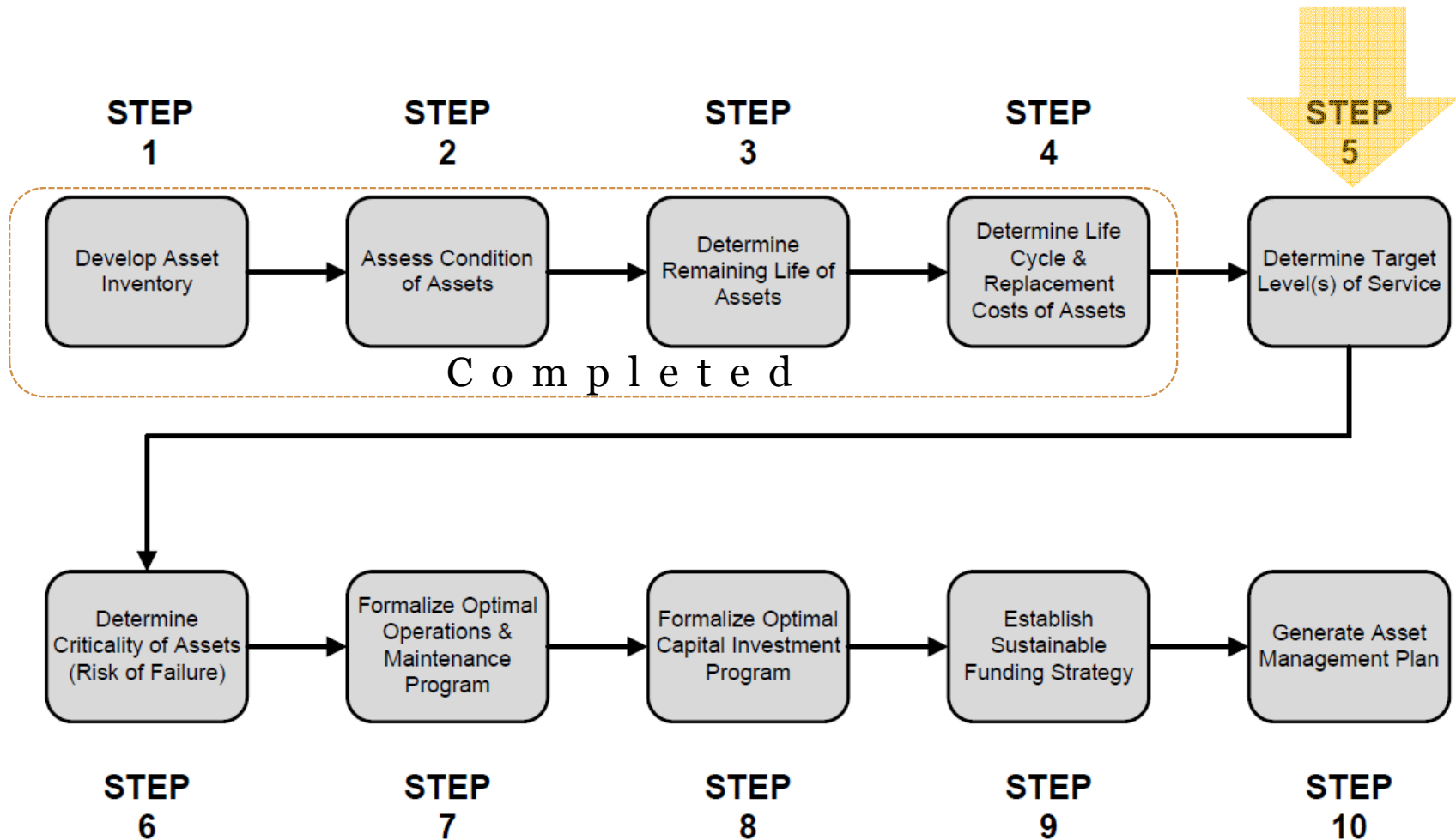# Pavement Asset Management Update
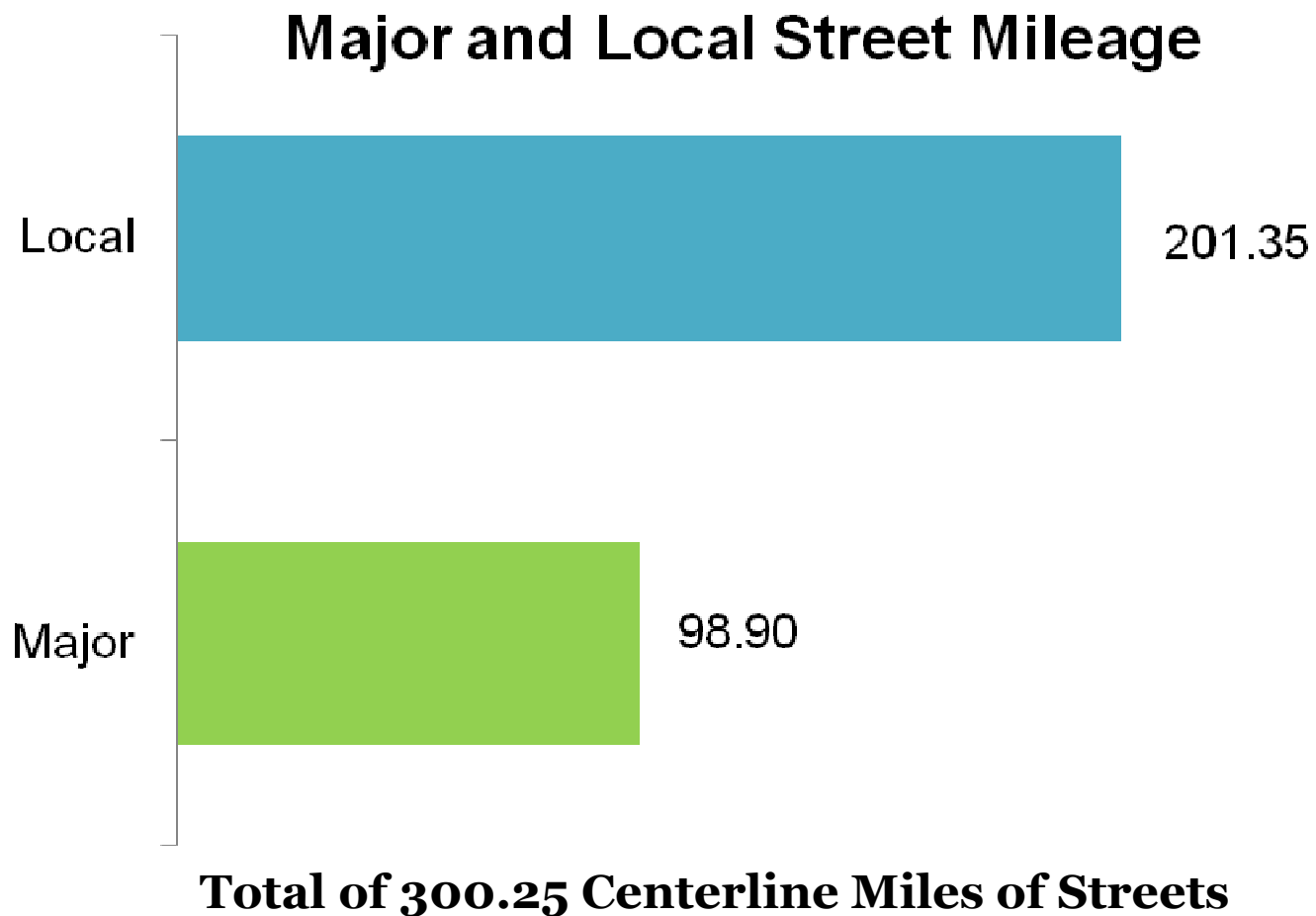
PRESENTATION TO CITY COUNCIL

CITY OF ANN ARBOR
ASSET MANAGEMENT PLAN
DEVELOPMENT PROCESS

STEP 1 | **STEP 2** | **STEP 3** | **STEP 4** | **STEP 5**

| Develop Asset Inventory | → | Assess Condition of Assets | → | Determine Remaining Life of Assets | → | Determine Life Cycle & Replacement Costs of Assets | → | Determine Target Level(s) of Service |

C o m p l e t e d

| Determine Criticality of Assets (Risk of Failure) | → | Formalize Optimal Operations & Maintenance Program | → | Formalize Optimal Capital Investment Program | → | Establish Sustainable Funding Strategy | → | Generate Asset Management Plan |

STEP 6 | **STEP 7** | **STEP 8** | **STEP 9** | **STEP 10**

Major and Local Street Inventory
(Centerline Miles)

Major and Local Street Mileage

Category	Centerline Miles
Local	201.35
Major	98.90

**Total of 300.25 Centerline Miles of Streets**

Utilized PASER Rating System for Pavement Condition Assessment

- **"PASER" is short for Pavement Surface Evaluation and Rating**

- **The Michigan Department of Transportation ("MDOT") has adopted the PASER system to rate street pavement condition**

Paser Ratings Scale

Rating 10 – Excellent
Rating 9 – Excellent
Rating 8 – Very Good
Rating 7 – Good
Rating 6 – Good
Rating 5 – Fair
Rating 4 – Fair
Rating 3 – Poor
Rating 2 – Very Poor
Rating 1 – Failed
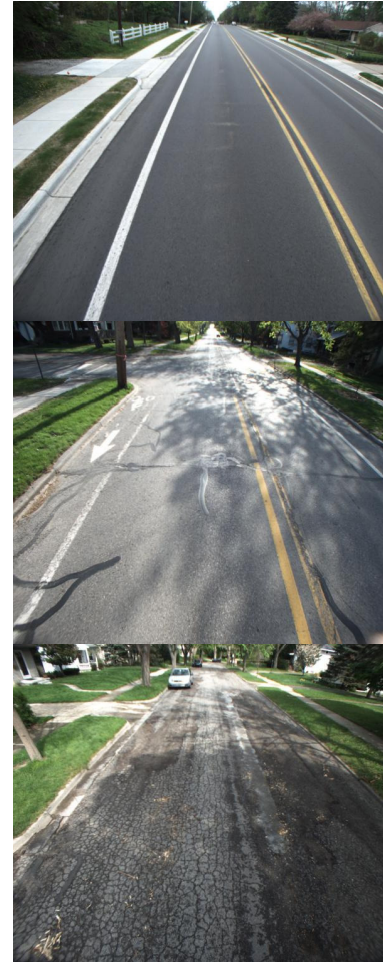
Source: Adapted From ""Paser Manual:" Transportation Information Center; University of Wisconsin Madison

Paser Ratings: All Paved Streets

Rating	Description	Miles	Percent
9,10	Excellent	44.91	16%
6,7,8	Good	103.93	36%
4,5	Fair	59.44	21%
1,2,3	Poor	79.05	27%
	Totals:	287.32	100%

Adding Capital Preventive Maintenance

- "The right fix at the right time" is the pavement asset management mantra

- The City is expanding its "mix of fixes" beyond the three basic treatments of Routine Maintenance, Resurfacing, and Reconstruction

- An intermediate fix category called Capital Preventive Maintenance ("CPM") has begun to be utilized

The "Food Chain" of Fixes

Routine Maintenance:
Pothole Repair
and Patching

Capital Preventive Maintenance: Crack Sealing

Capital Preventive Maintenance:
Road Surface Sealing

Capital Preventive Maintenance: Thin Mill and Fill (Less than 2")

Resurfacing:
Replace Paving Surface

Reconstruction

Fixes and Triggers

Treatment:	(Position cursor on splitter line above this text to adjust data shown.)						
Treatment	Type	Min Trigger	Max Trigger	Reset	New Surf	Surface
Crack Seal	PM (CPM)	7	7	8	No	$0.83
Slurry Seal	PM (CPM)	6	6	8	No	$5.20
Microsurface	PM (CPM)	6	6	8	No	$5.20
Cape Seal	PM (CPM)	5	6	9	Yes	$8.40
Mill & Fill - <2" Thick	PM (CPM)	5	5	9	Yes	$25.00
Resurfacing- Mill & replace >=2" & <total)	RH (SI)	3	4	9	Yes	$52.00
Mill and Fill >1.5"	RH (SI)	3	4	9	Yes	$65.00
Rehabilitation (Remove & Replace full depth)	RH (SI)	2	3	10	Yes	$62.00
Reconstruction (Major)	RC (SI)	1	2	10	Yes	$170.00

Building the Pavement
Asset Management Model

Basis of Annual Budget for Model

- Street Millage: $10,000,000

- Surface Transportation Funds (STP): $2,000,000

- Present Act 51 Capital Maintenance/Other: $1,000,000

Total: $13,000,000

Note: Act 51 largely supports routine maintenance (snow plowing, street sweeping, pavement marking, pothole repair, patching, signs and signals etc.) but is not included in this model which only addresses capital projects.

Testing Various Models

In the slides that follow:

Green = Good

Blue = Fair

Red = Poor

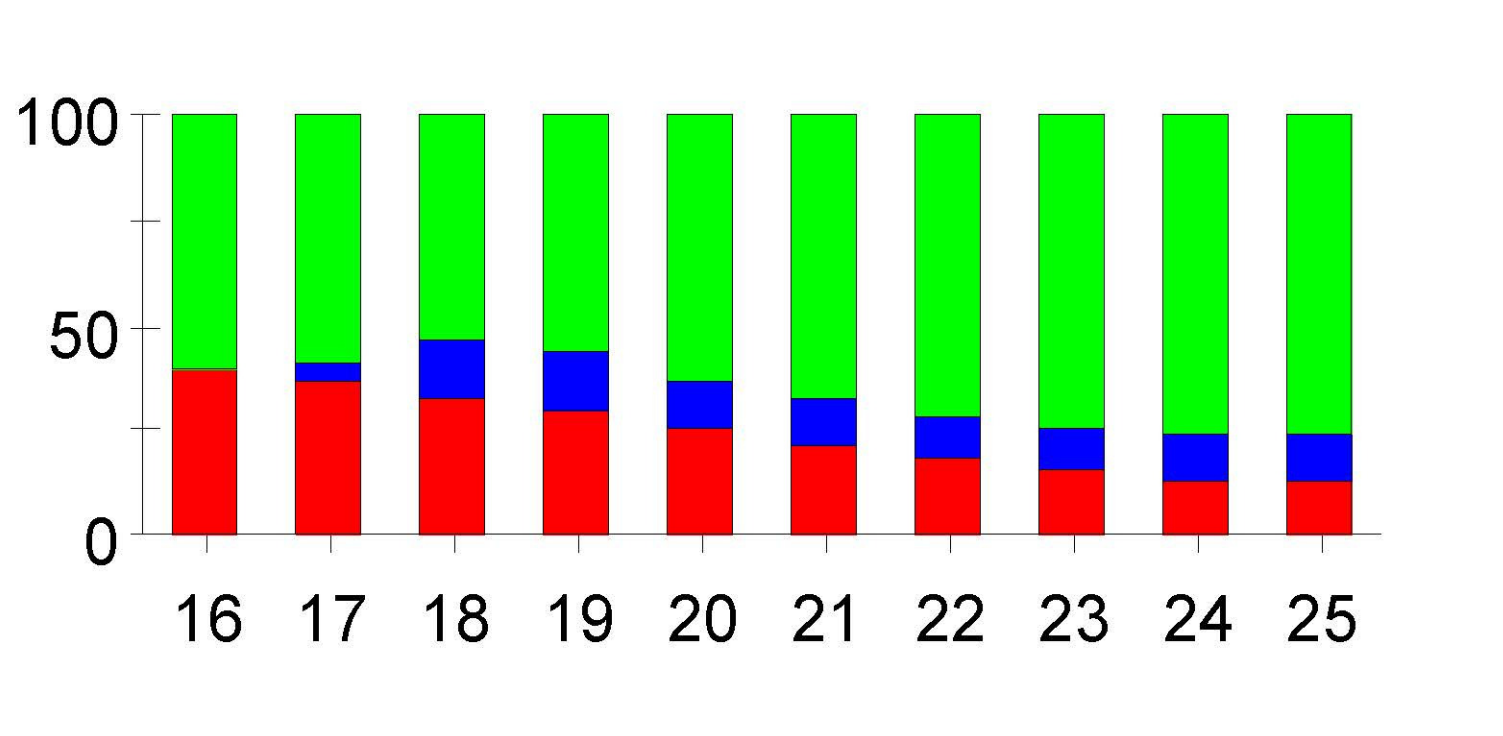Models show change from the end of FY 2016 to the end of FY 2025

No Capital Spending Strategy
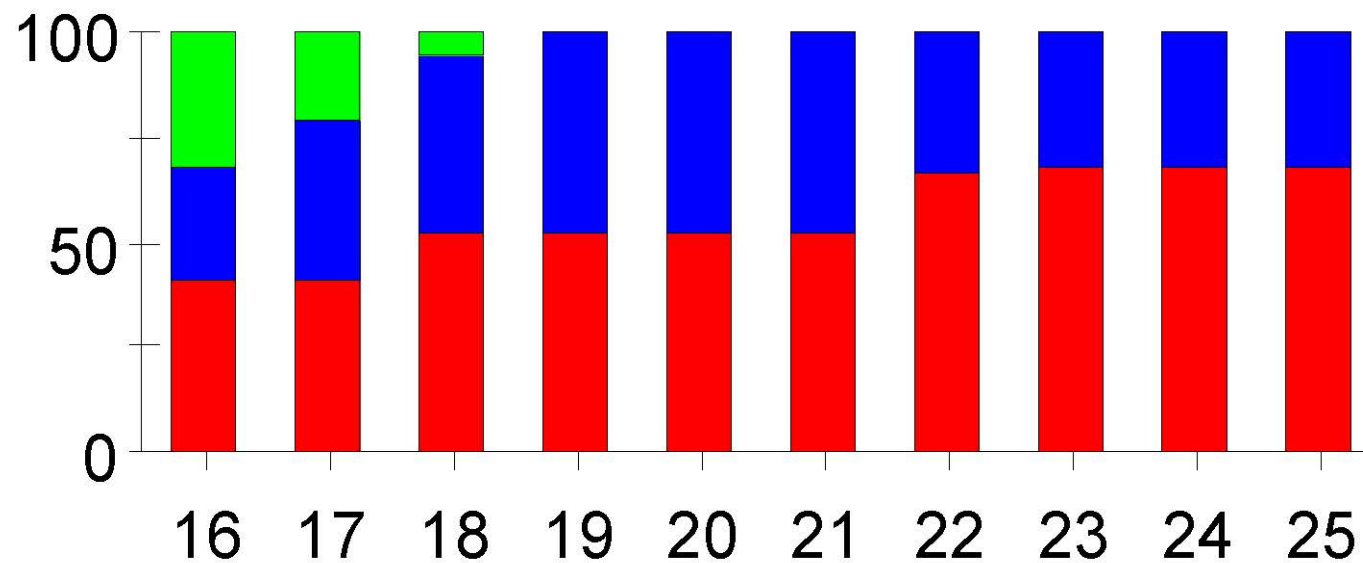
Strategy Through FY14: Resurfacing and Reconstruction with No Capital Preventive Maintenance (CPM): $13M/Annual
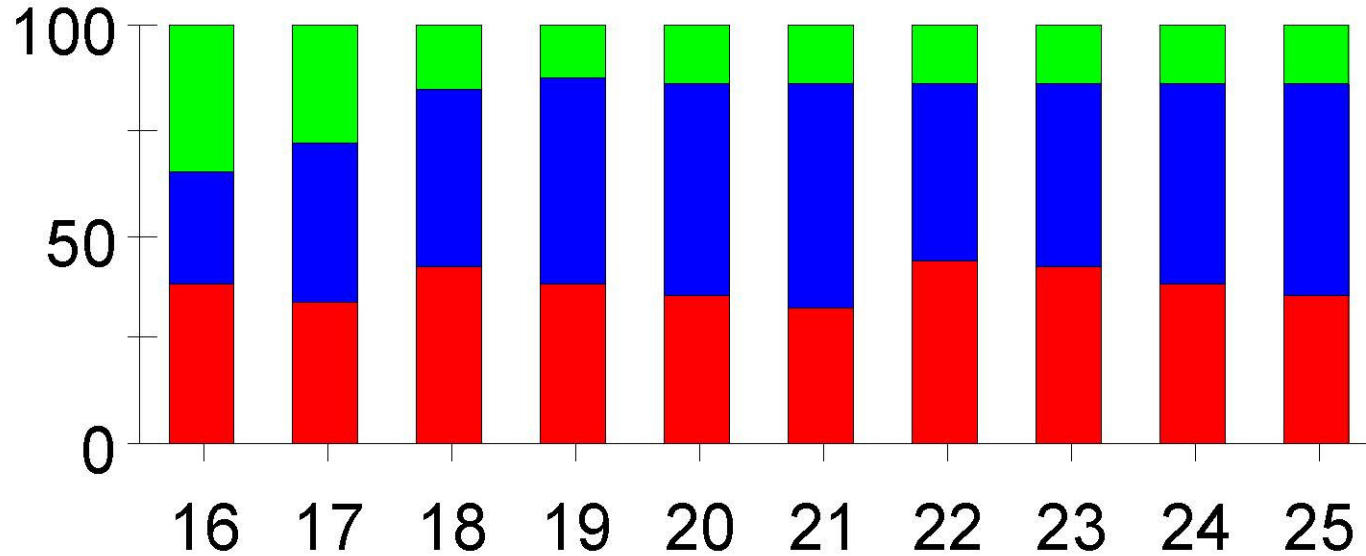
Model Ideal Strategy: $13M/Annual

Now We Have the Perfect Strategy....Right?

NOT YET!!!

ADJUSTMENTS NEEDED TO IDEAL MODEL

- Adjust for committed road projects
- Adjust to allow for coordination with utility projects
- Adjust to local contracting capacity
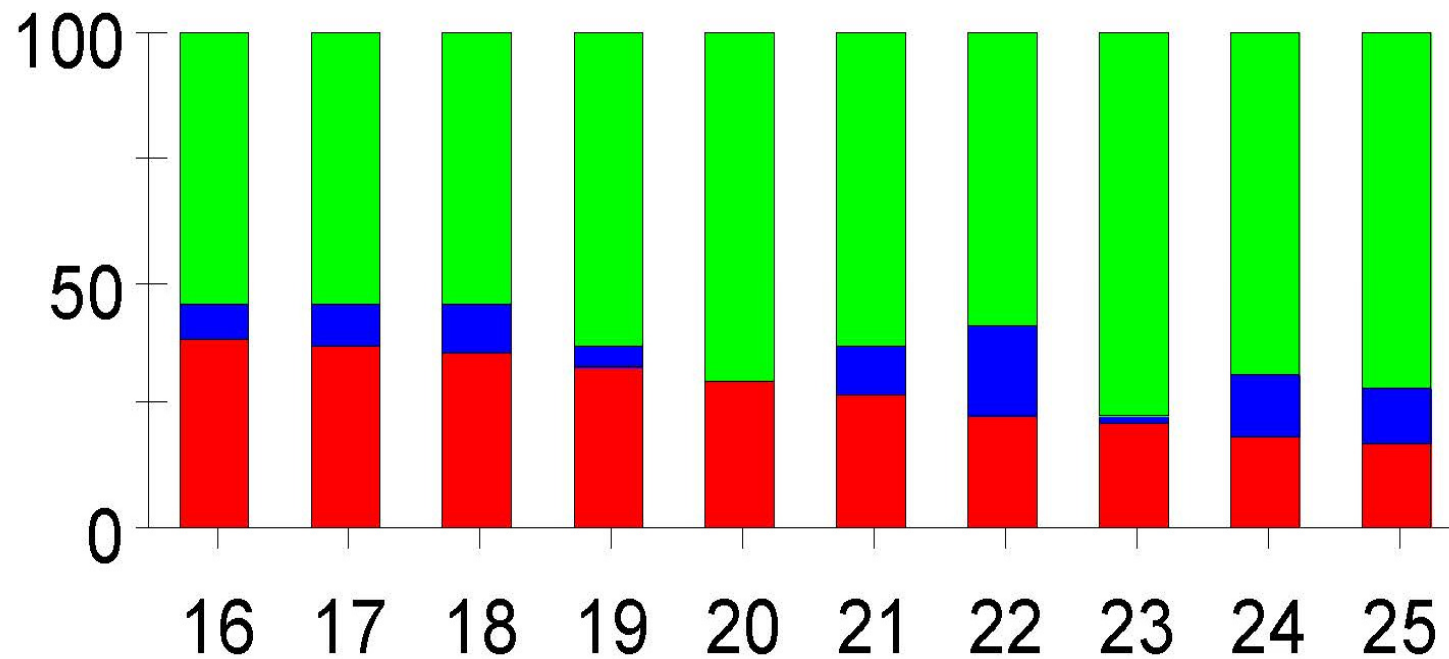- Adjust to ease into fixes new to A2
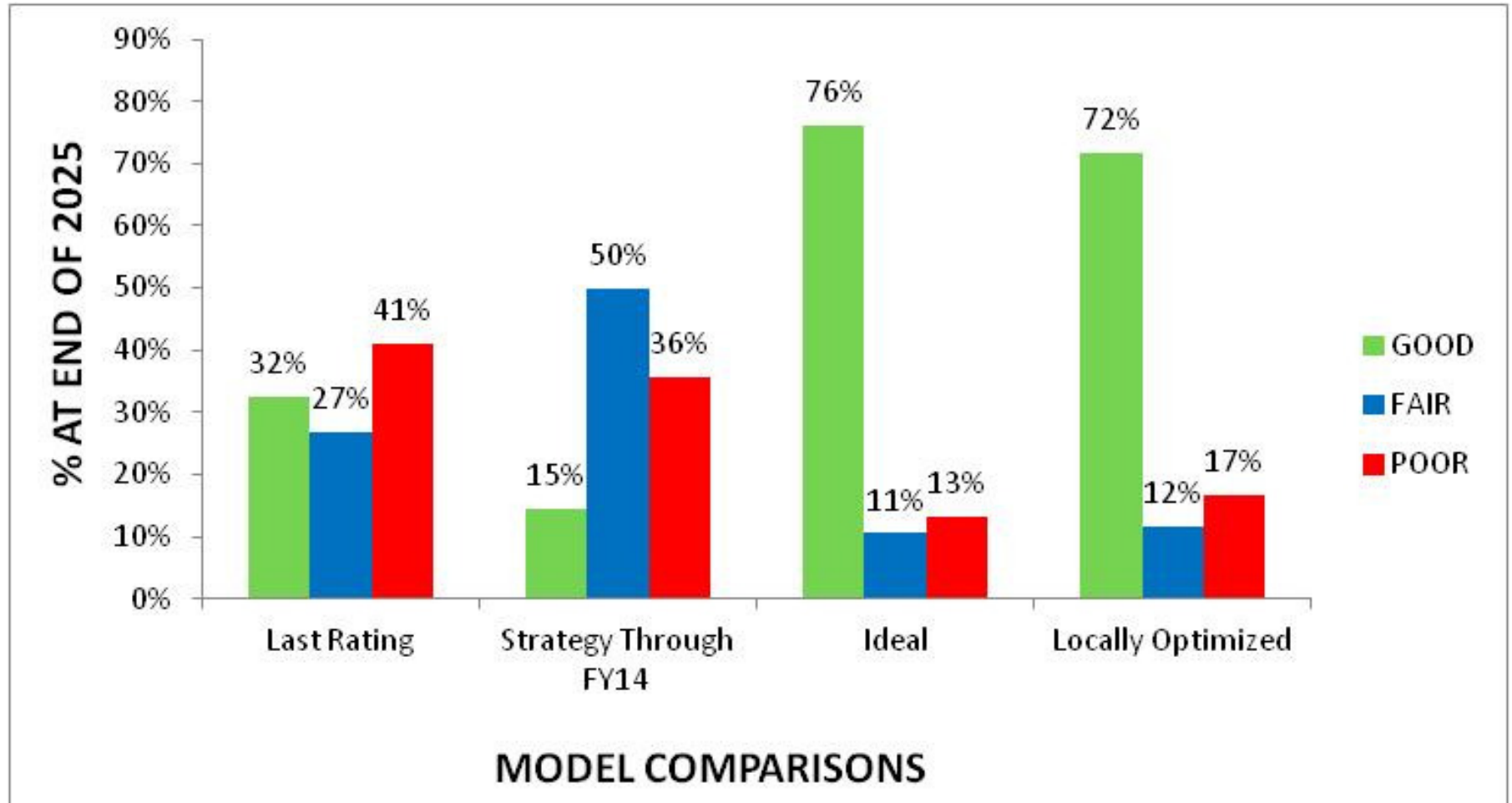
CREATE LOCALLY OPTIMIZED STRATEGY

IN ESSENCE:

BE GUIDED BY THE PRINCIPALS OF THE IDEAL MODEL

BUT ADJUST TO LOCAL CONDITIONS
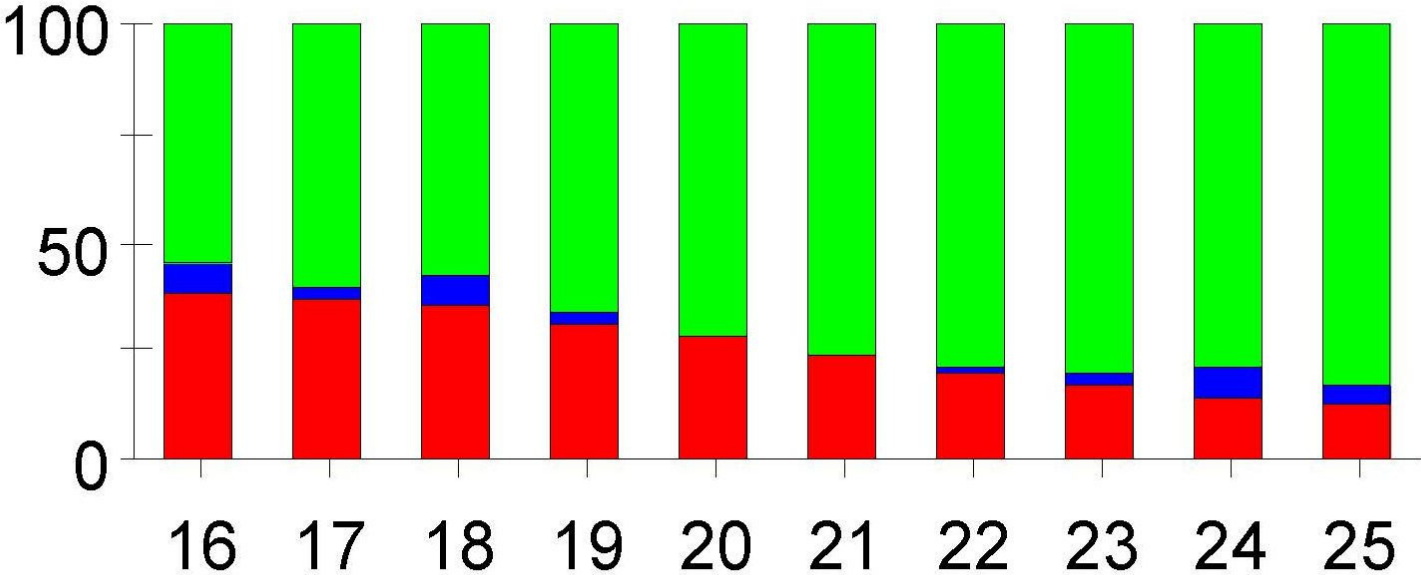
Locally Optimized Model: $13M/Annual
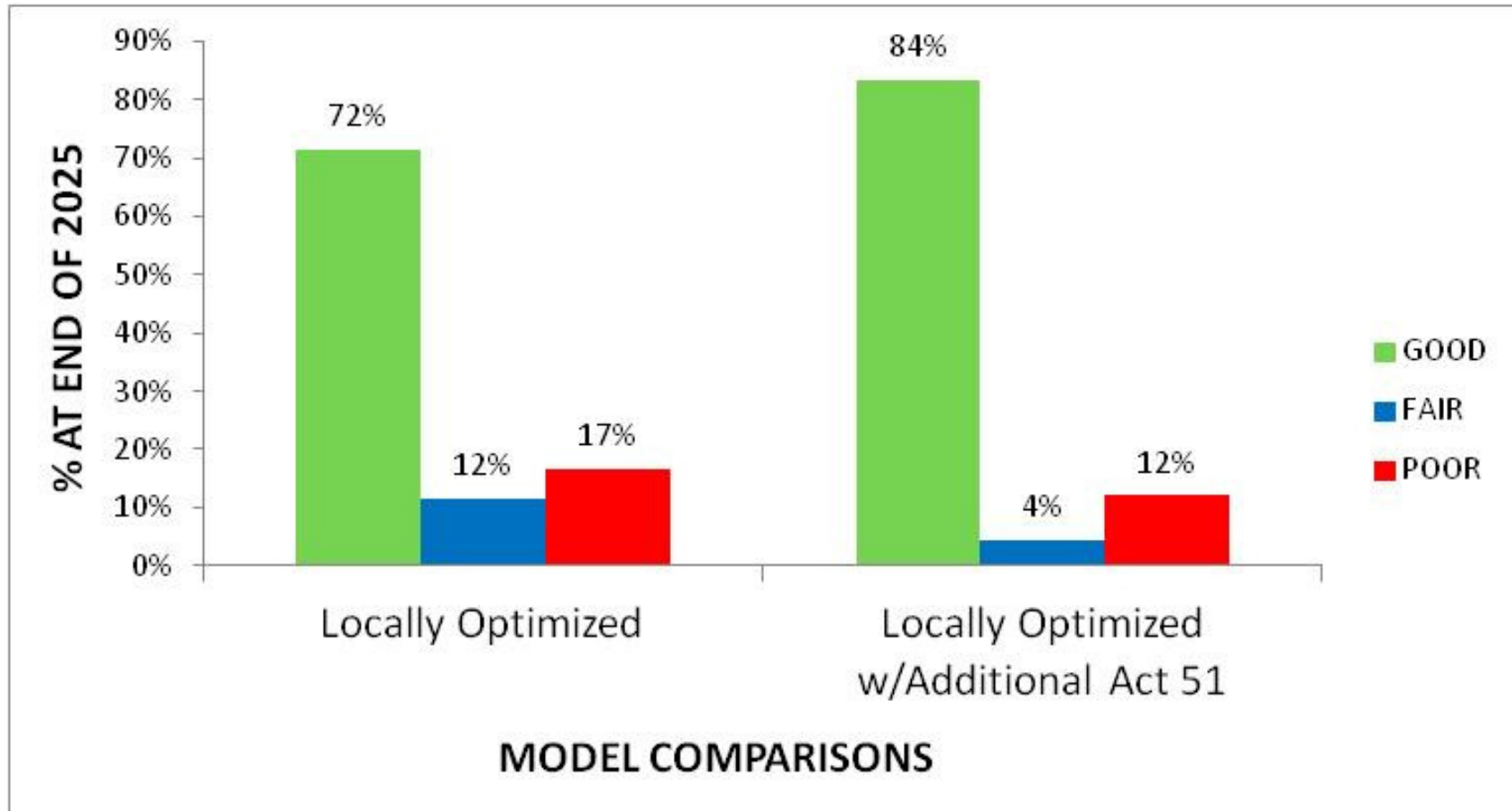
Model Comparisons:

Effects on Model with Additional Act 51 Funds

Effects of Using 50% of Additional Act 51 Funds on the Locally Optimized Model

Locally Optimized Model Comparisons

Setting Target Level of Service

- Council set a dashboard goal to strive for "Roads that are rated better than fair"

- As of Last PASER Rating:
- Local = 39% are 7 or better
- Majors = 45% are 7 or better

- Staff Recommended LOS by 2025:
- Locals = 80% are 7 (Good) or better
- Majors = 80% are 7 (Good) or better

Model Adjustments and Check-Ins

To Assess Progress Towards Target Level of Service:

- We will obtain PASER ratings every 3 years

- Based on new ratings, treatment performances will be assessed

- Global progress towards 10 year target Level of Service will be evaluated

- Model will be adjusted as needed

The 2016 Paving Season

- Stadium (Hutchins to Kipke) and Geddes (Huntington to Hickory) will be major street **reconstruction** projects
- The annual Major and Local Street **Resurfacing** program will continue
- $2.4 million of County millage funding will be utilized on Capital Preventive Maintenance (CPM) projects using **thin mill and fill**
- A $2 M Capital Preventive Maintenance treatment program utilizing **crack sealing, cape sealing,** and **micro-surfacing** is planned

Miles of Roadway Receiving Treatment

Miles of Road Treated by Treatment Type
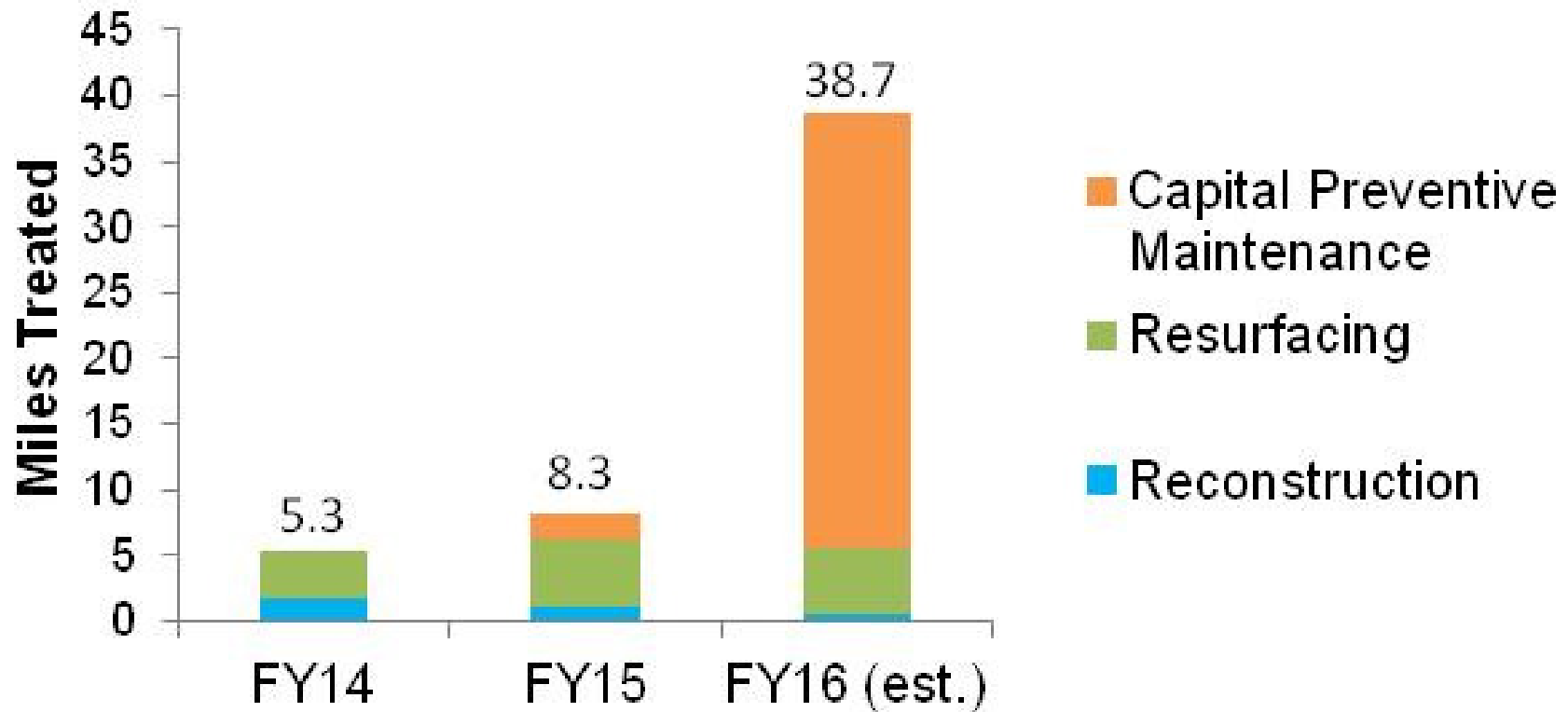
Questions?

THANK YOU SO MUCH FOR YOUR TIME