

Pavement Management Update

December 1, 2015



Davis Streets
MOVING FORWARD TOGETHER

- Ms. Yapp managed the street and path survey and the pavement report in 2012.
- She presented the report to Council in December of 2012.
- She has been involved with the design of the 2015 Pavement Project.
- She also managed the recent survey and report and is here to give an update of our street and path condition.

Margot Yapp, PE
NCE Vice President



City of Davis "State of the Pavements"

Presented by:
Margot Yapp, P.E.
December 1st, 2015

What is a Pavement Mgmt. Program?

- A tool to help make cost-effective decisions
- Answers 4 main questions
 - What does City own/maintain in street/bike network?
 - What condition is it in?
 - What repairs are needed and when?
 - How much money is required to maintain or improve streets cost-effectively?

■ StreetSaver[®] software utilized

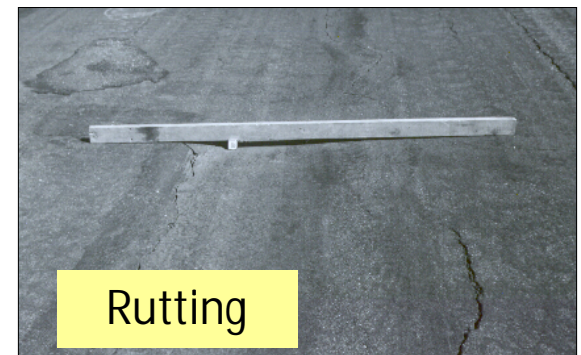


Street/Bike Path Network

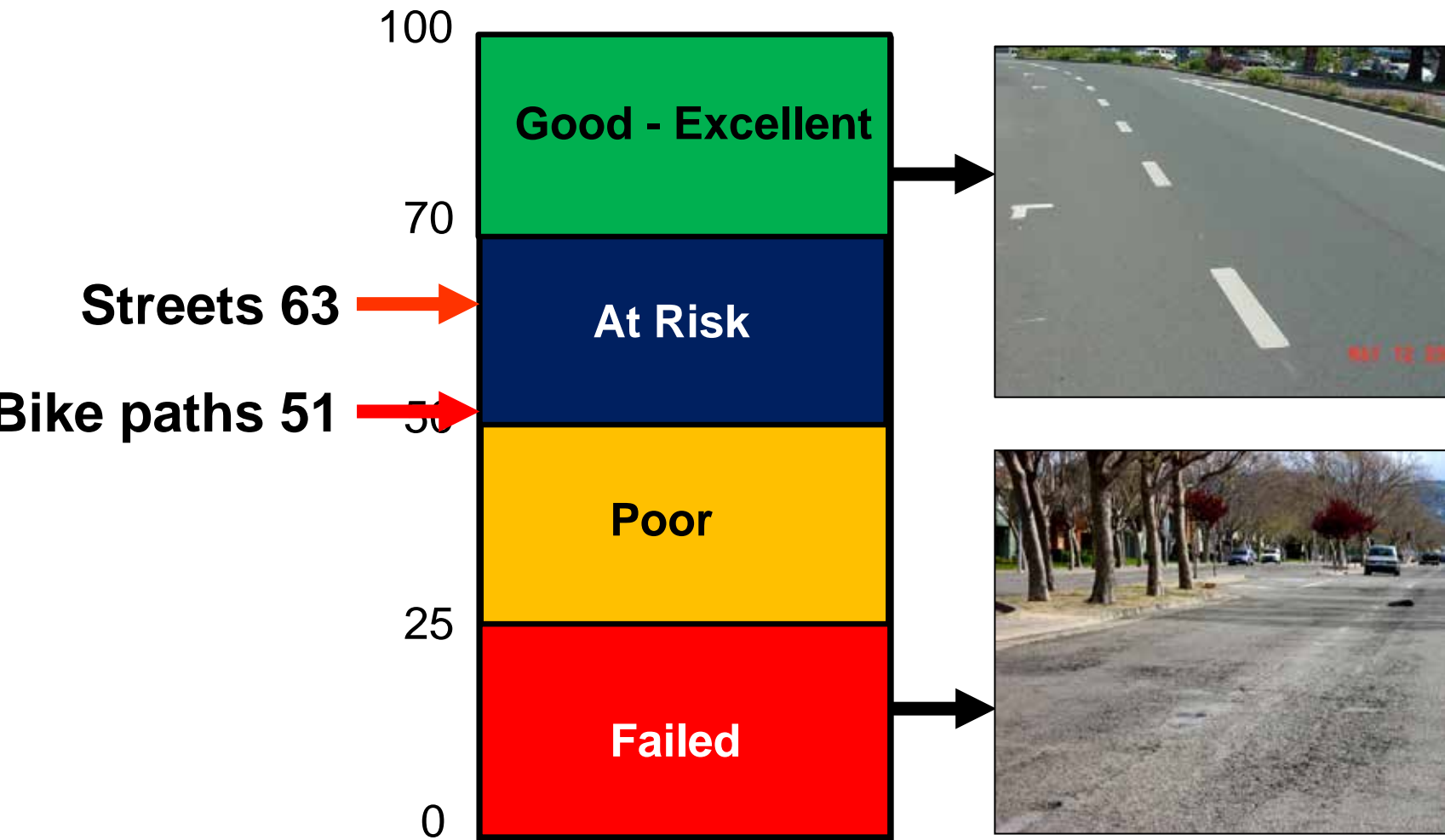
Functional Class	Centerline Miles	Lane Miles	% of the Entire Network (Area)
Arterials			3%
C			25.8%
Res		185.7	50.6%
A	1.1	1.7	0.3%
Total	159.5	338.9	100%
Bike Paths	51.8	99.1	-

Asset value is \$233 million!

Types of Pavement Distresses



How is Condition Measured?





PCI > 90

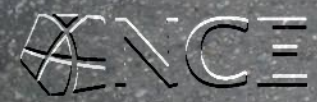


PCI = 75



MAIN STREET CHURCH
CITY HALL

PCI = 54





PCI = 40

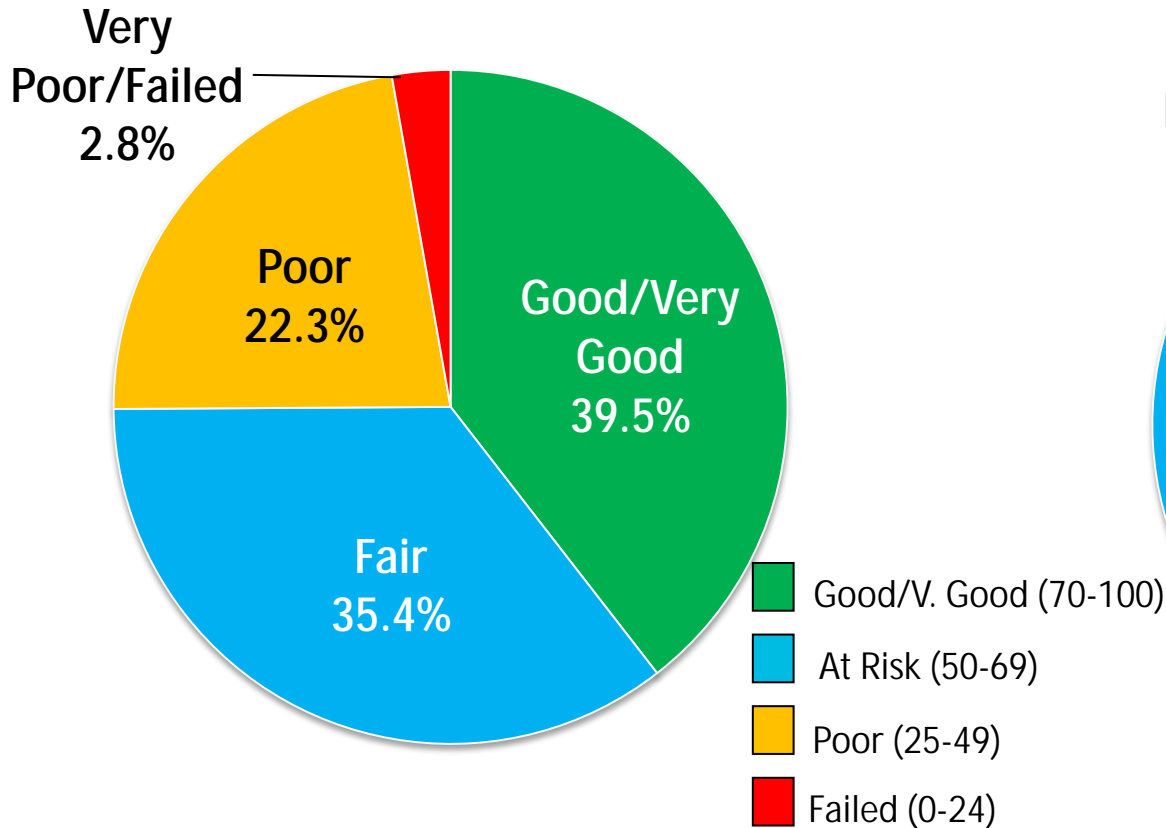
 NCE



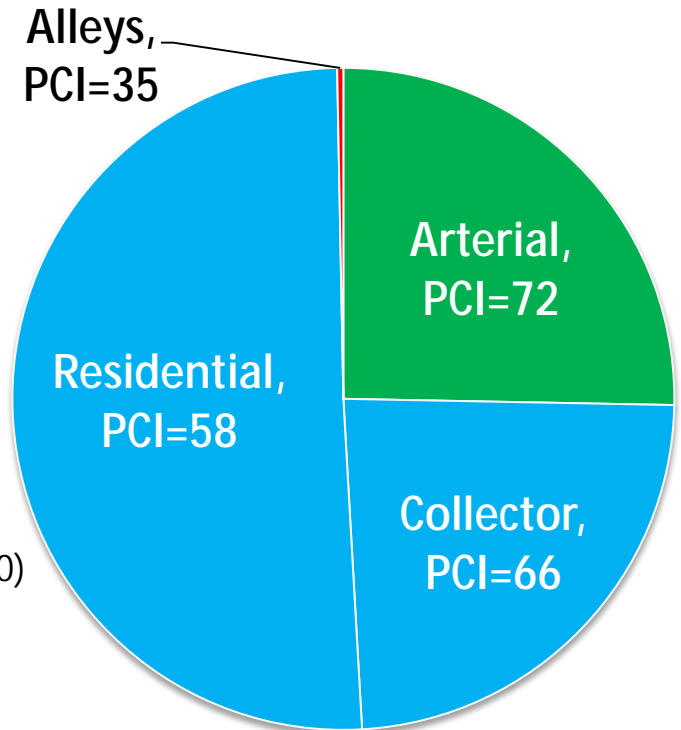
PCI < 20

PCI Breakdown (Streets)

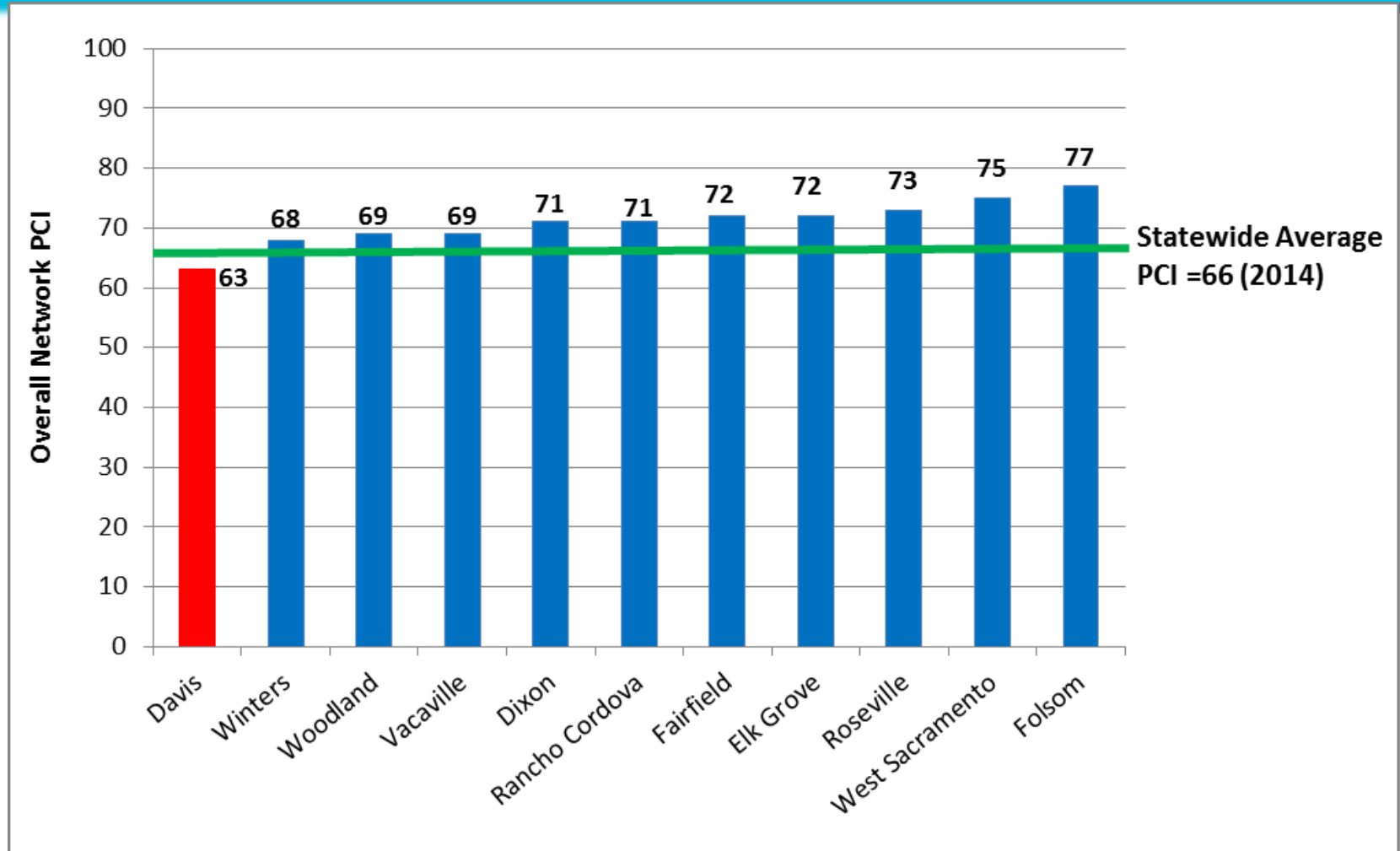
- 40% is in good condition
- 25% is poor/very poor



- Arterials are in better condition. Improved since 2012



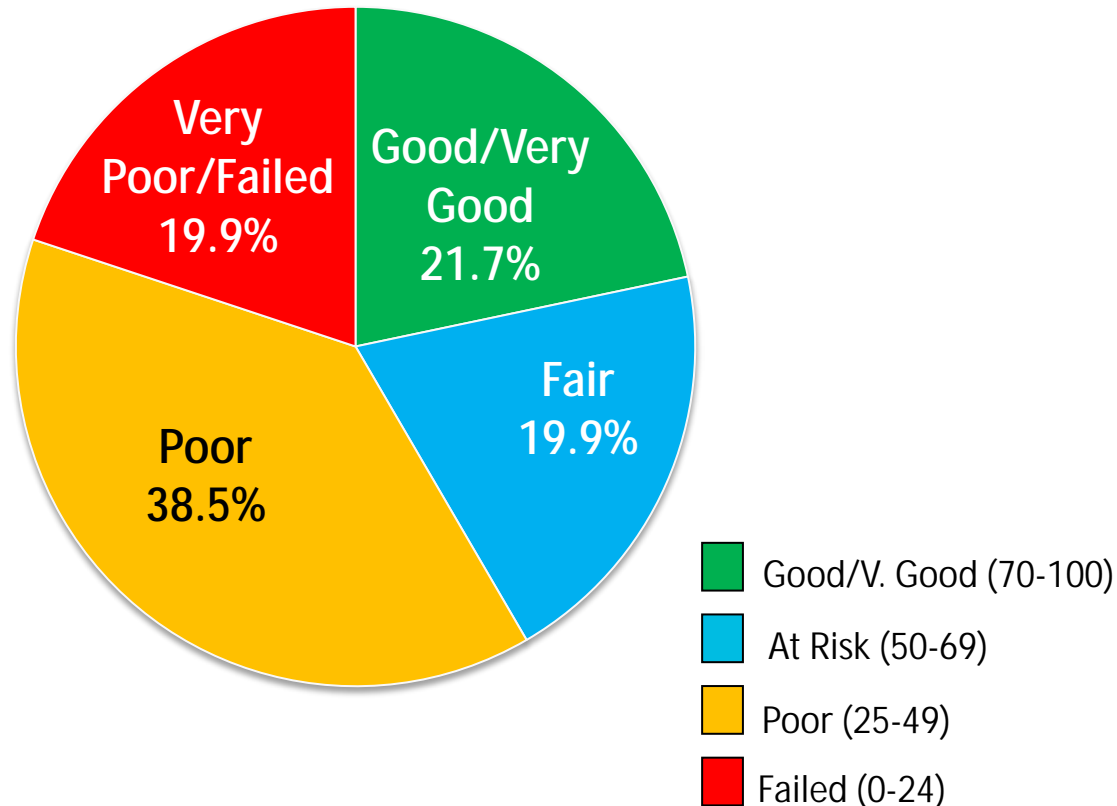
How do Other Cities Compare?



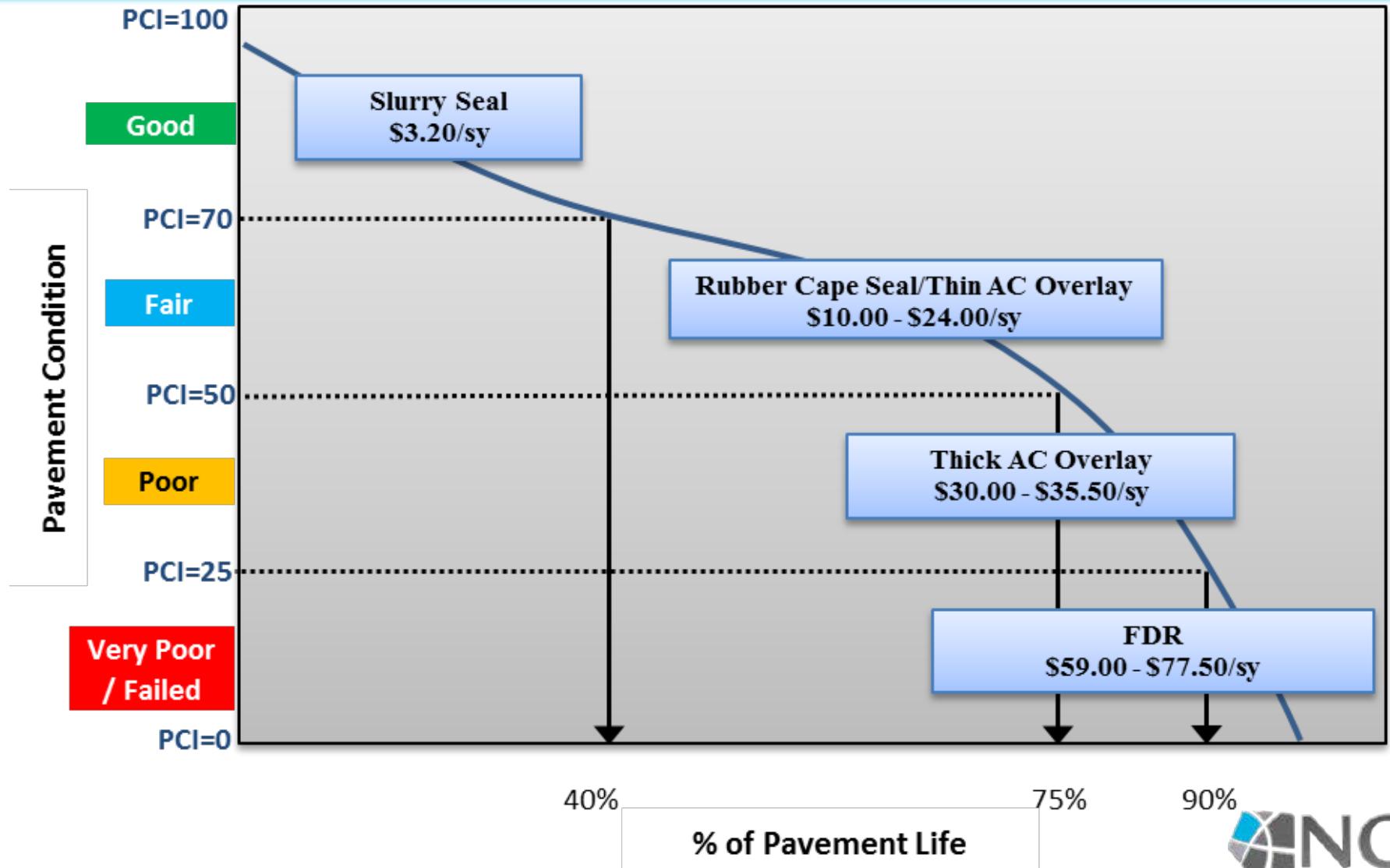
Data from 2014 Statewide Needs Survey

PCI Breakdown (Bike Paths)

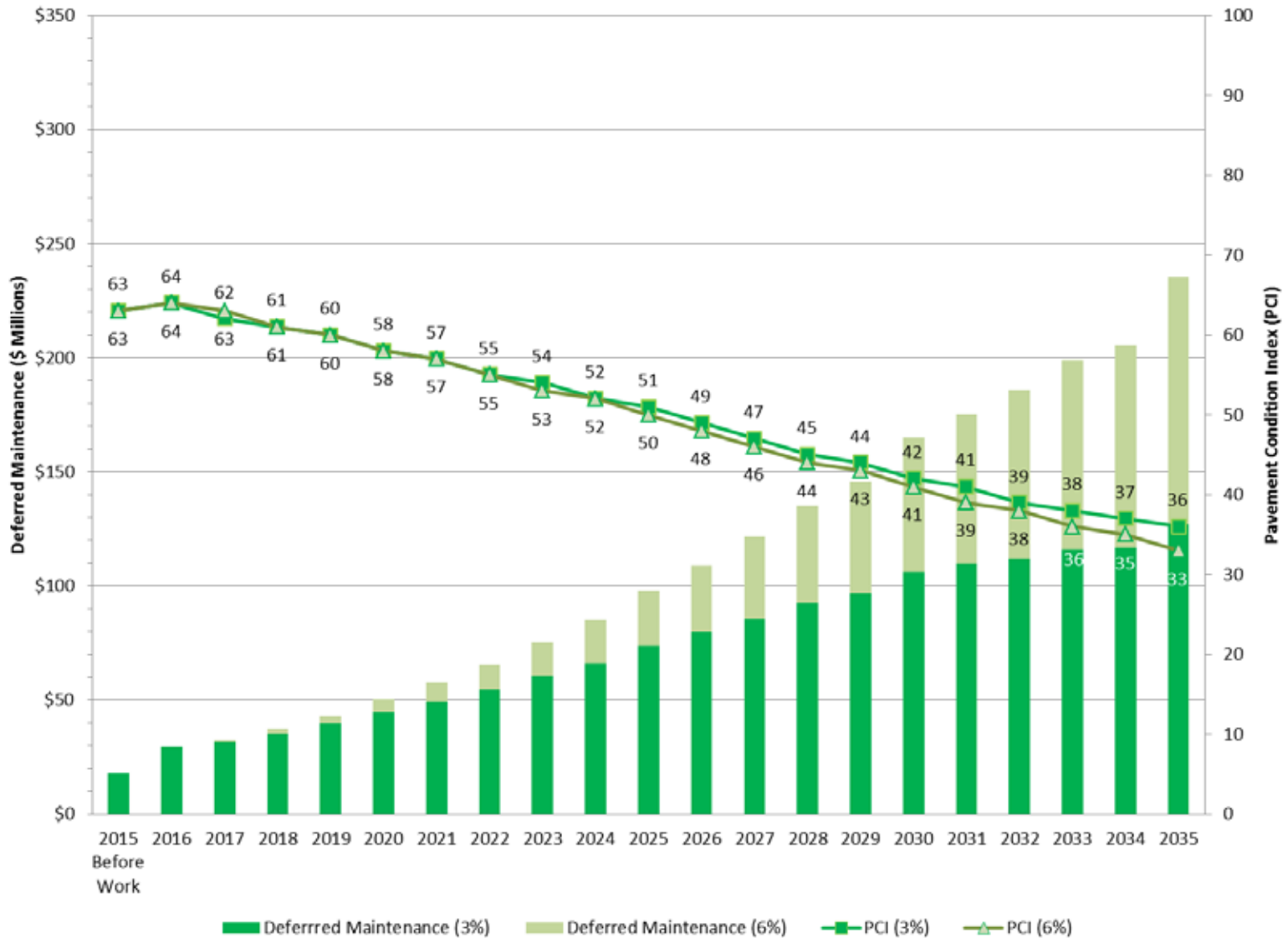
- Only 22% is in good condition
- 58% is poor/very poor



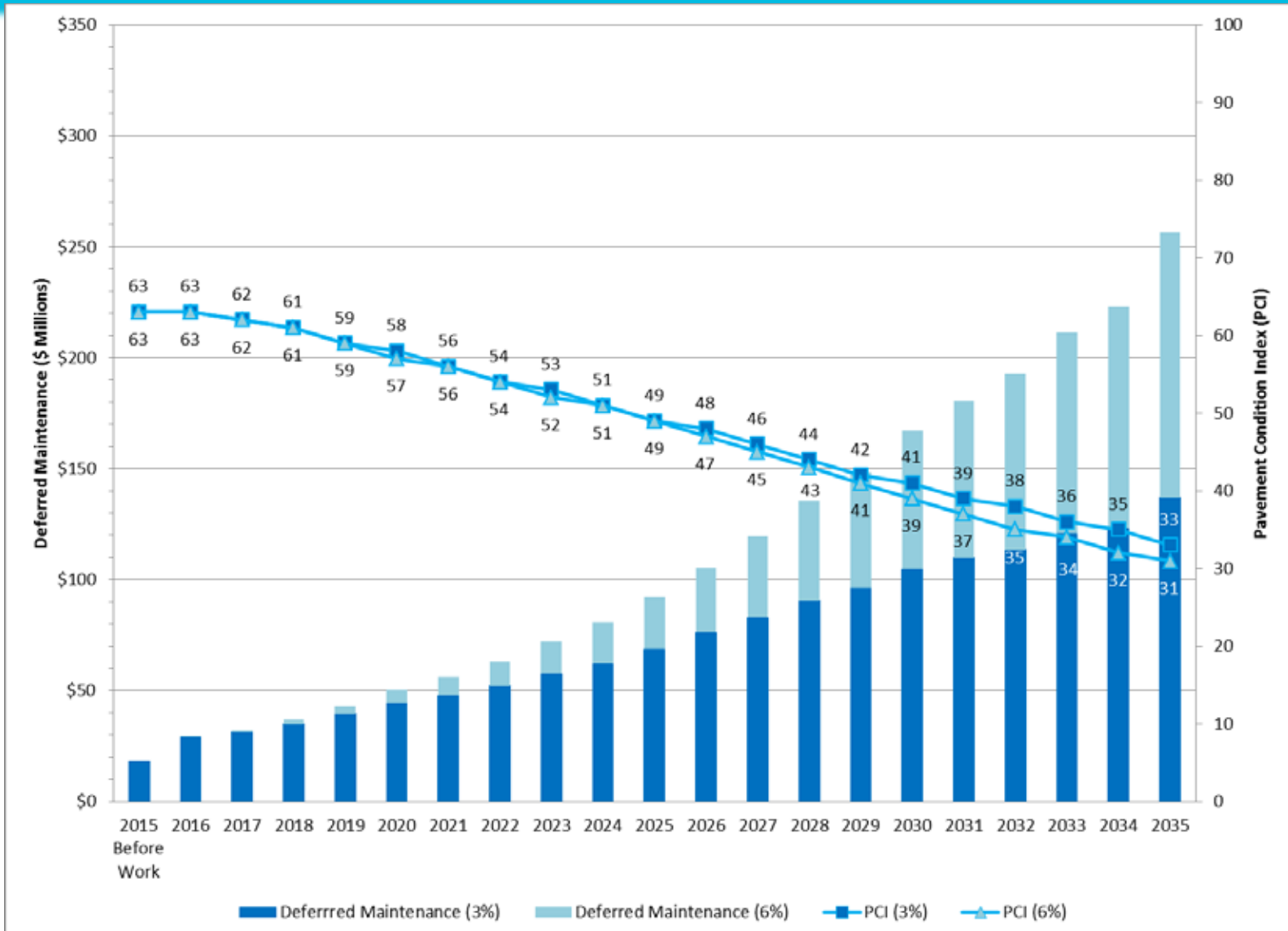
"Pay Now or Pay More Later"



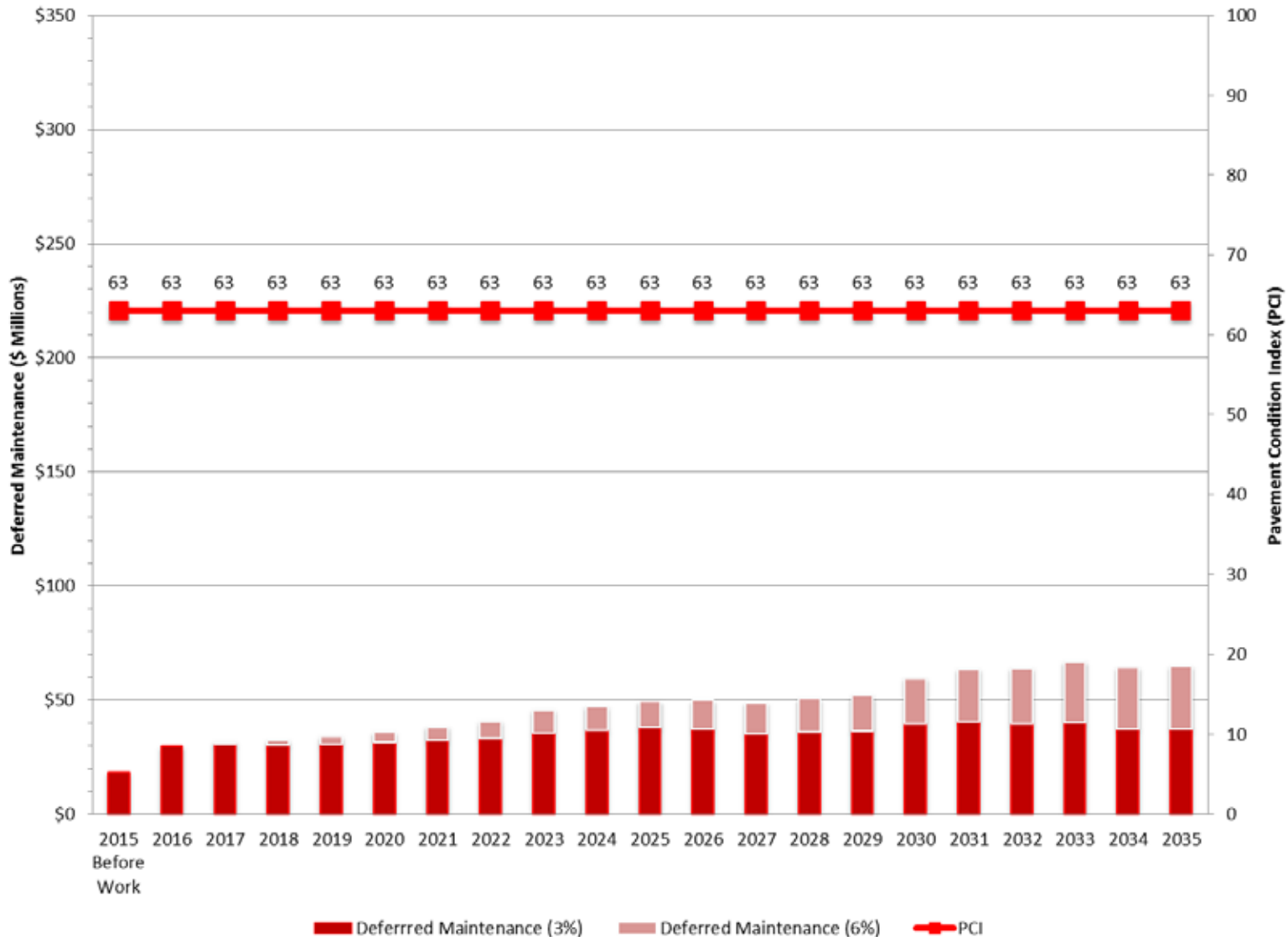
Scenario 1A: Current City Budget (\$1.8M/Year)



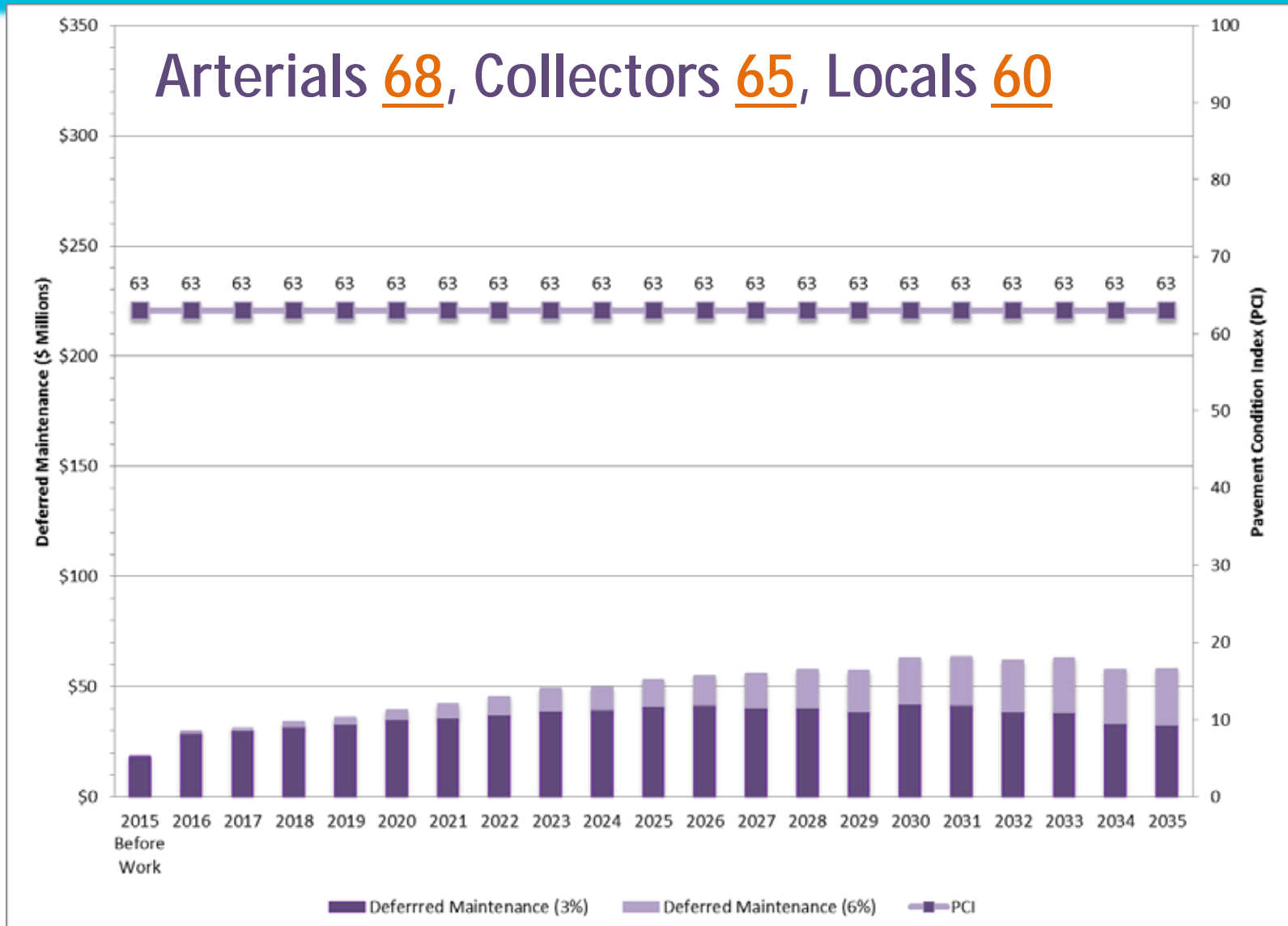
Scenario 1B: Current City Budget (\$1.8M/Year - Arterials & Collectors Only)



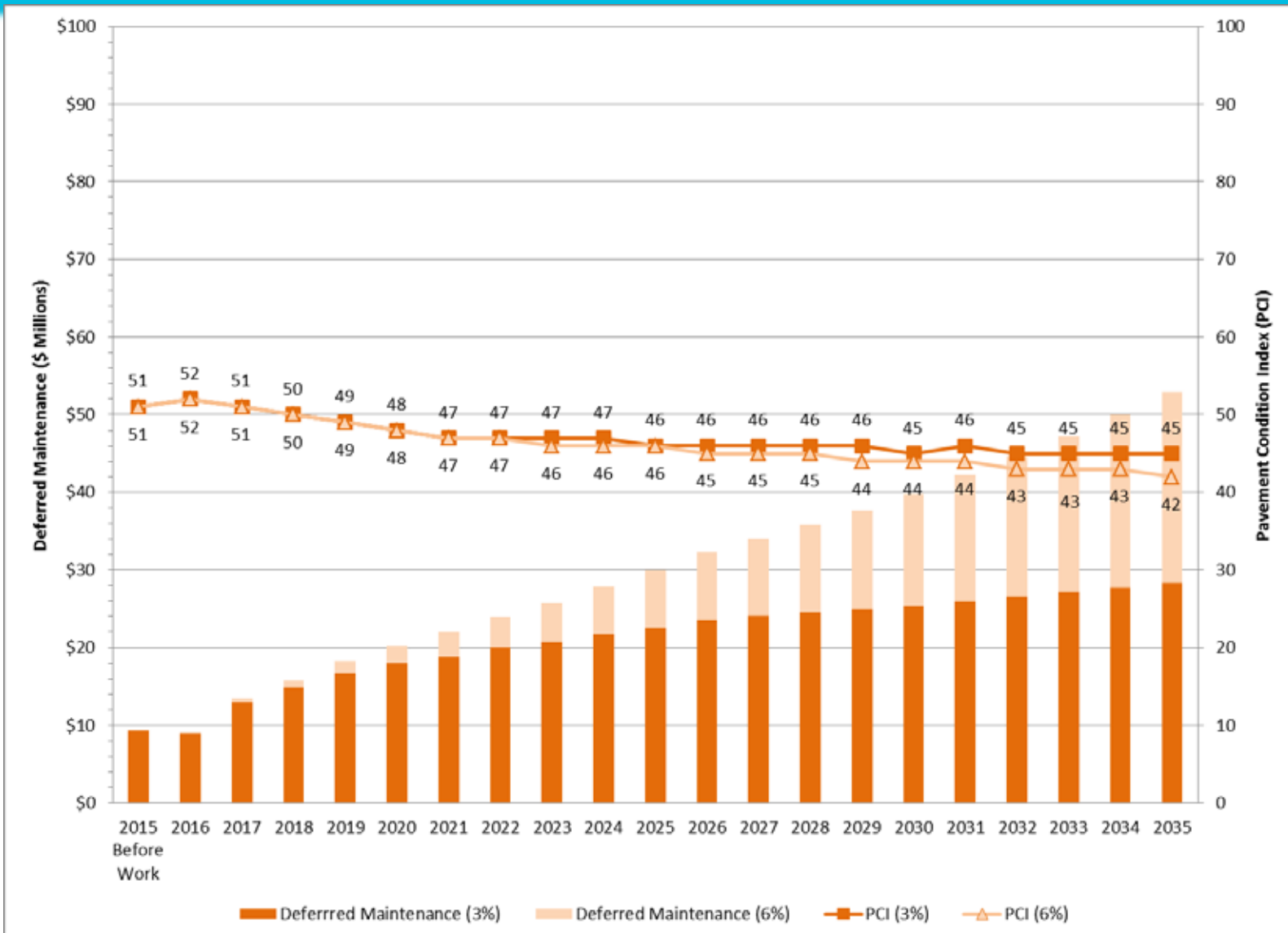
Scenario 2: Maintain PCI at 63



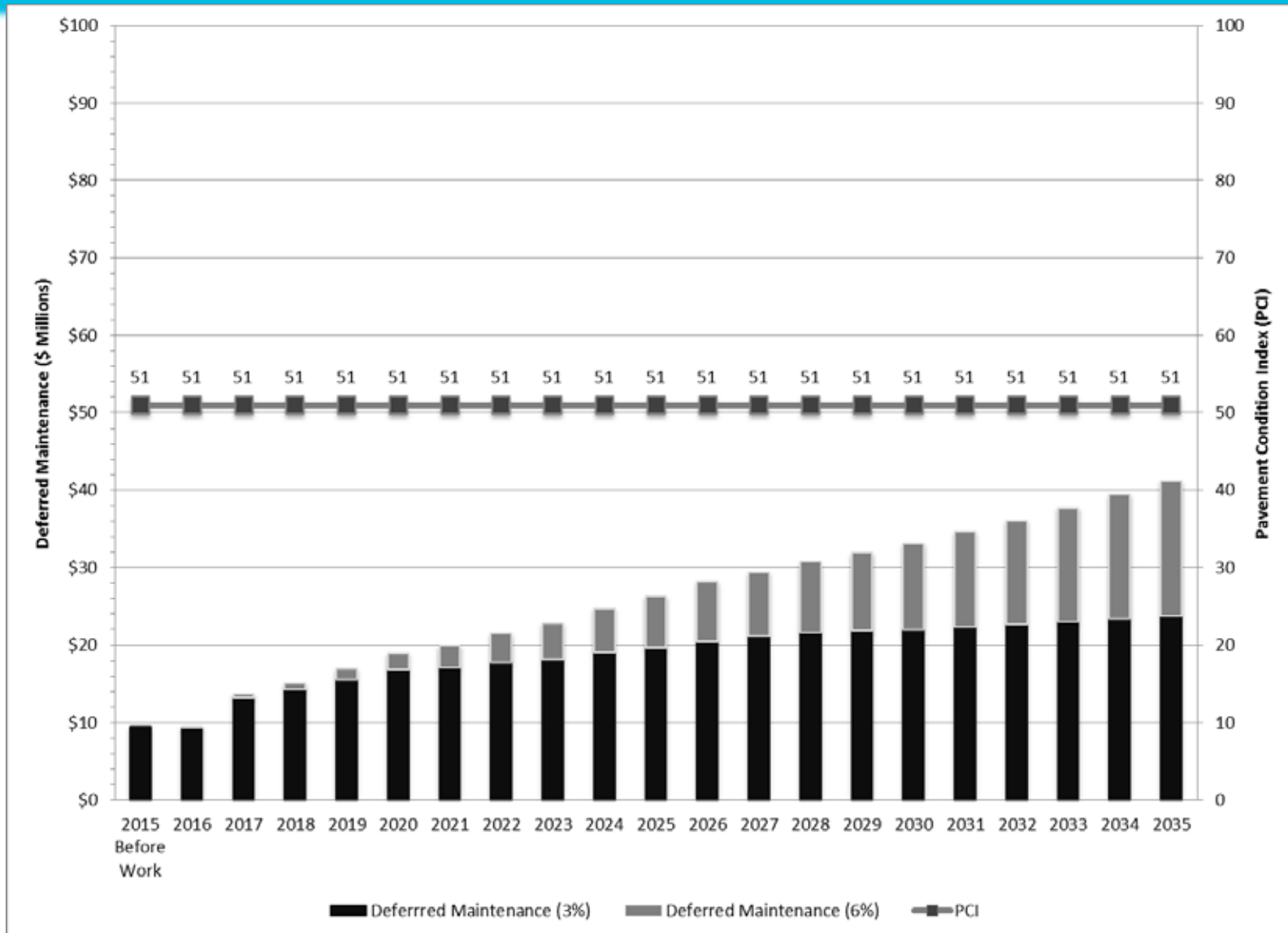
Scenario 3: ReachTarget PCIs



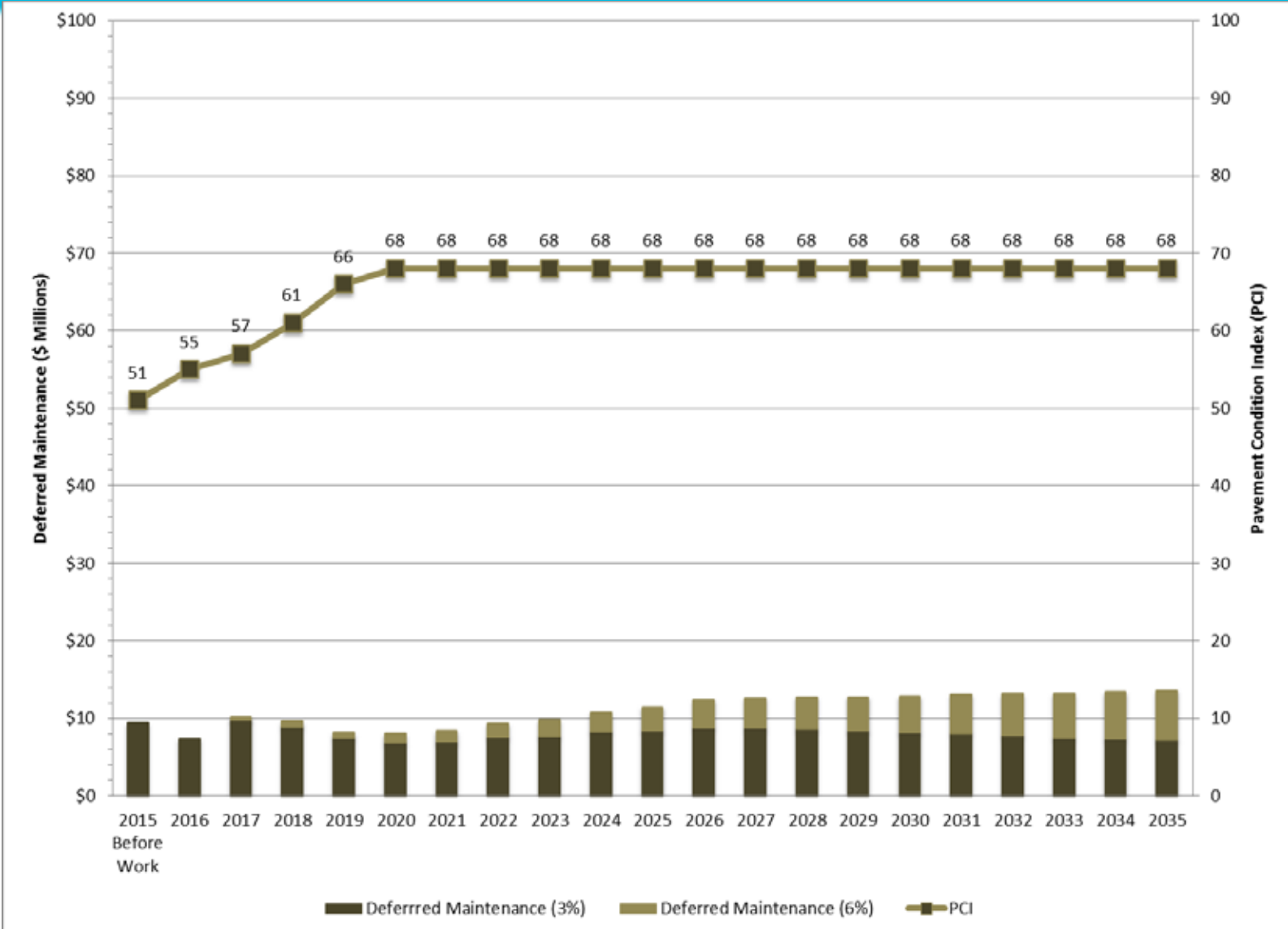
Scenario 4: Current City Budget (\$397K/Year - Bike Paths)



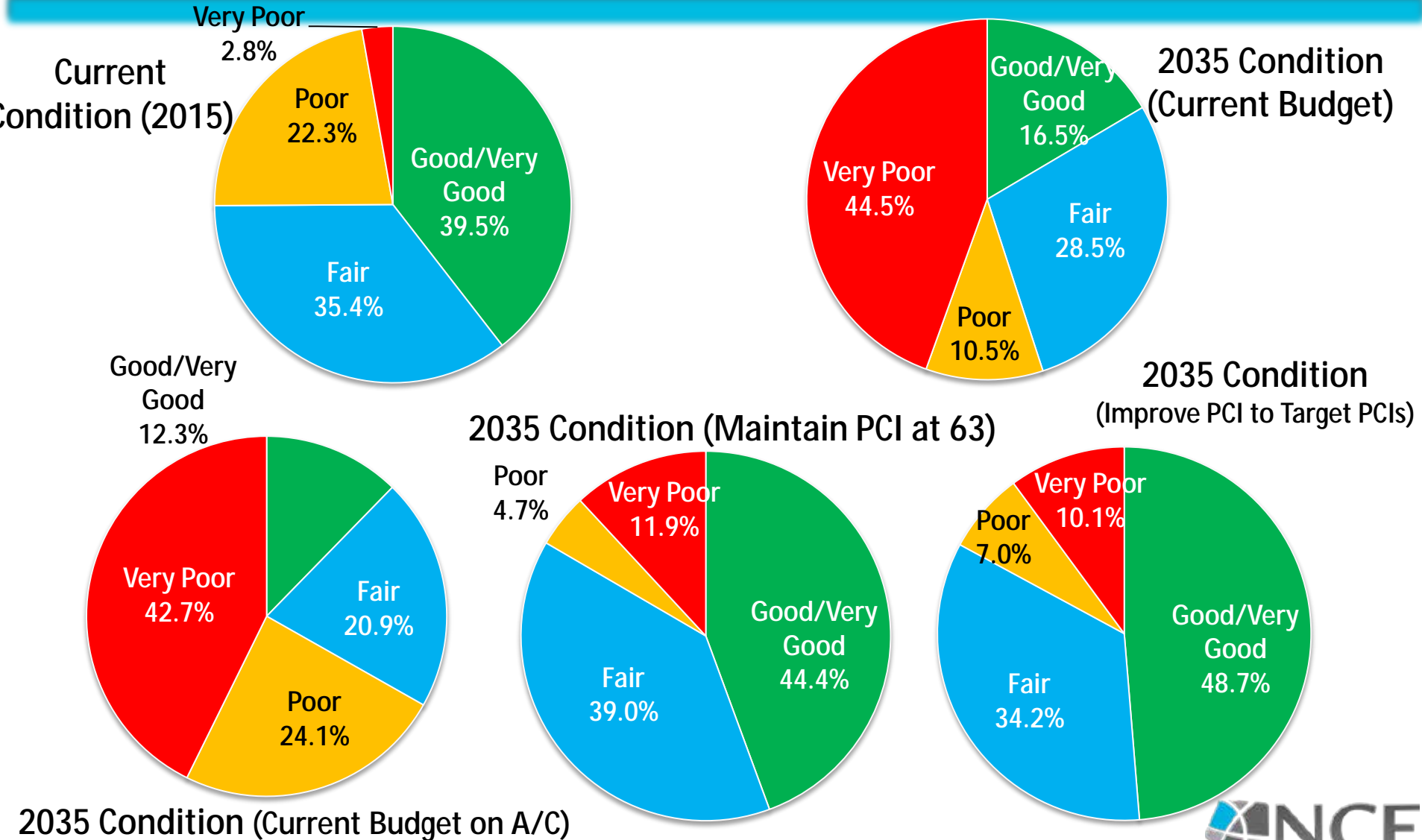
Scenario 5: Maintain PCI at 51 Bike Paths



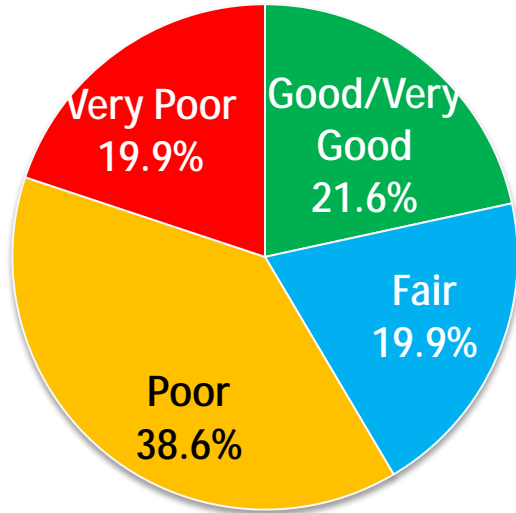
Scenario 6: Improve PCI to 68 Bike Paths



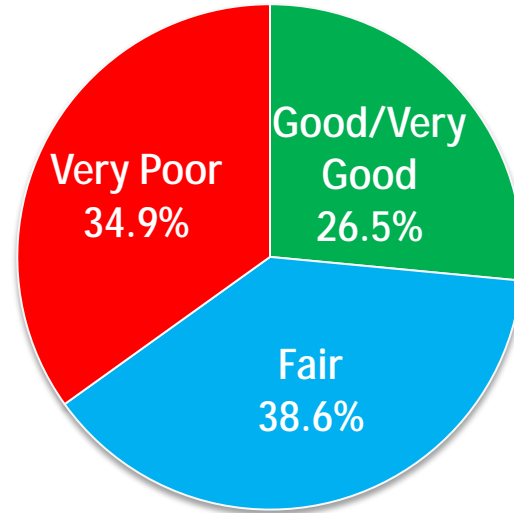
Impacts of Different Funding Level



Current Condition (2015)

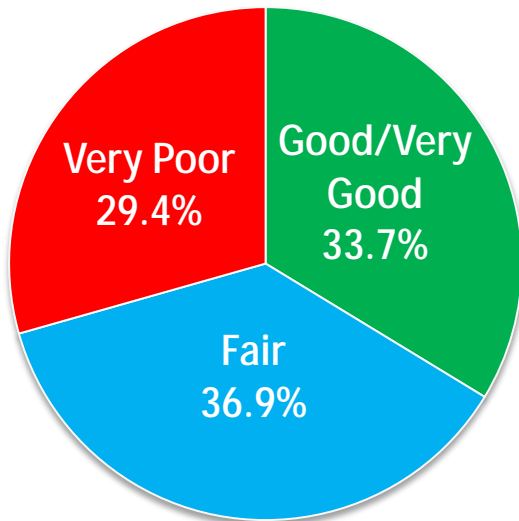


2035 Condition (Current Budget)

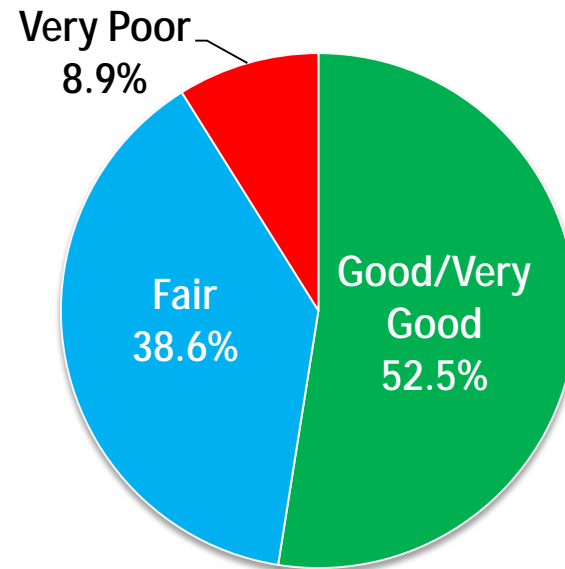


Bike Paths

2035 Condition (Maintain PCI at 51)

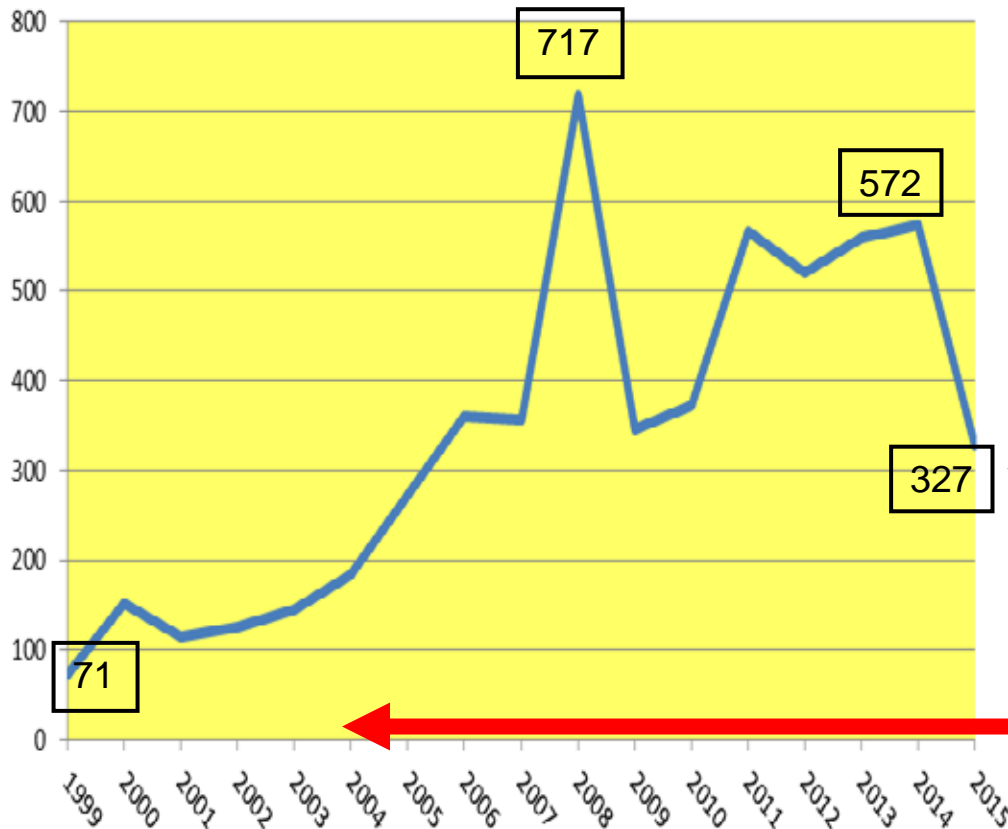


2035 Condition (Improve PCI to 68)



How Did We Get Here?

Caltrans Asphalt Price Index/Oil Price Index

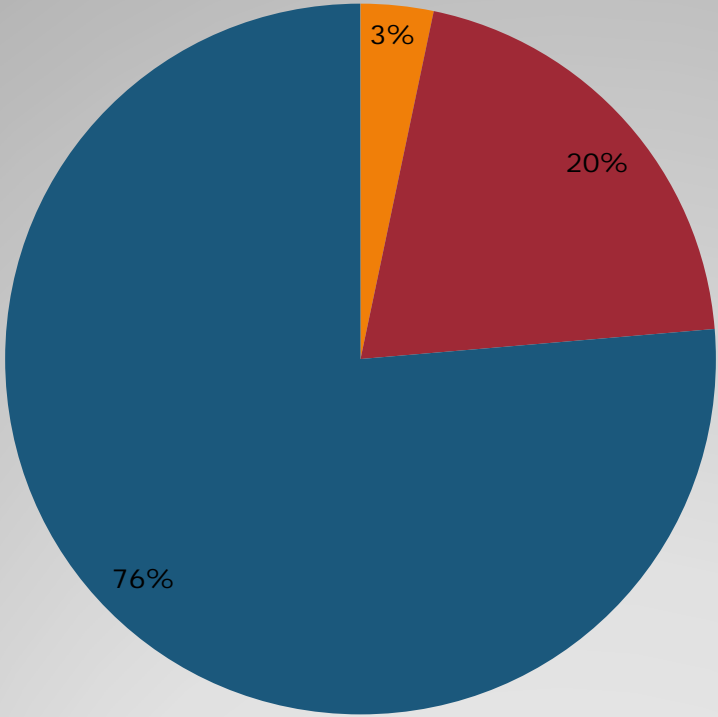


- Pavements are deteriorating rapidly
- Asphalt prices have increased almost five-fold since 1999
- Funding has not kept up

Conclusions

-  Davis City has a substantial investment in street and bike path network (\$233 million)
-  Streets (\$1.8M/year)
 - Streets will deteriorate to 36 by 2035
 - Unfunded backlog grows to \$127.1 million
 - Very poor streets grow 15 times to 45%
-  Bike Paths (\$397K/year)
 - Paths will deteriorate to 45 by 2035
 - Unfunded backlog grows to \$25.3 million
 - Very poor paths increase to 35%

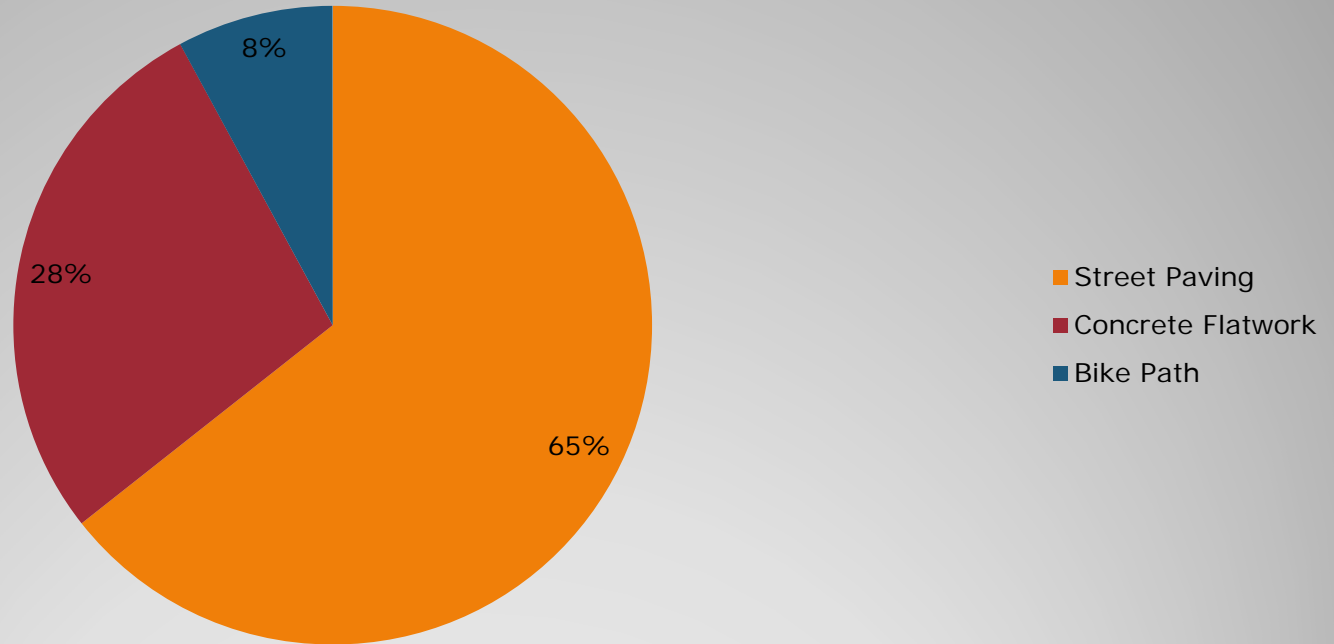
\$3,930,000 Total



- Construction Tax
- Development Impact Fees
- General Fund

Average Annual Budget for Pavement Program

Percent Total Contract



Goal is to get Bike Path costs to 15% or higher.

Project Cost Breakdown, 2015 Pavement Project

Pavement Condition Index (PCI) Comparison

Street Classification	Percent of All Streets	2012 Average PCI	2015 Average PCI	Target PCI ²
Arterials	21%	63	72	68
Collectors	14%	60	66	65
Local Streets	65%	62	58 ¹	60
All Streets	100%	62	63	-
Bike Paths	-	59	51 ¹	68 ³

1 PCI number derived from StreetSaver extrapolation, not from the survey.

2 Discussed in next section.

3 Council adopted goals in 2013 that the target PCI for bike paths be equal or greater than the highest street PCI.

Pavement Condition Index Comparison

- Budgeting the Program
- Priority Local Streets
- Target PCIs
- Pavement Management Scenarios

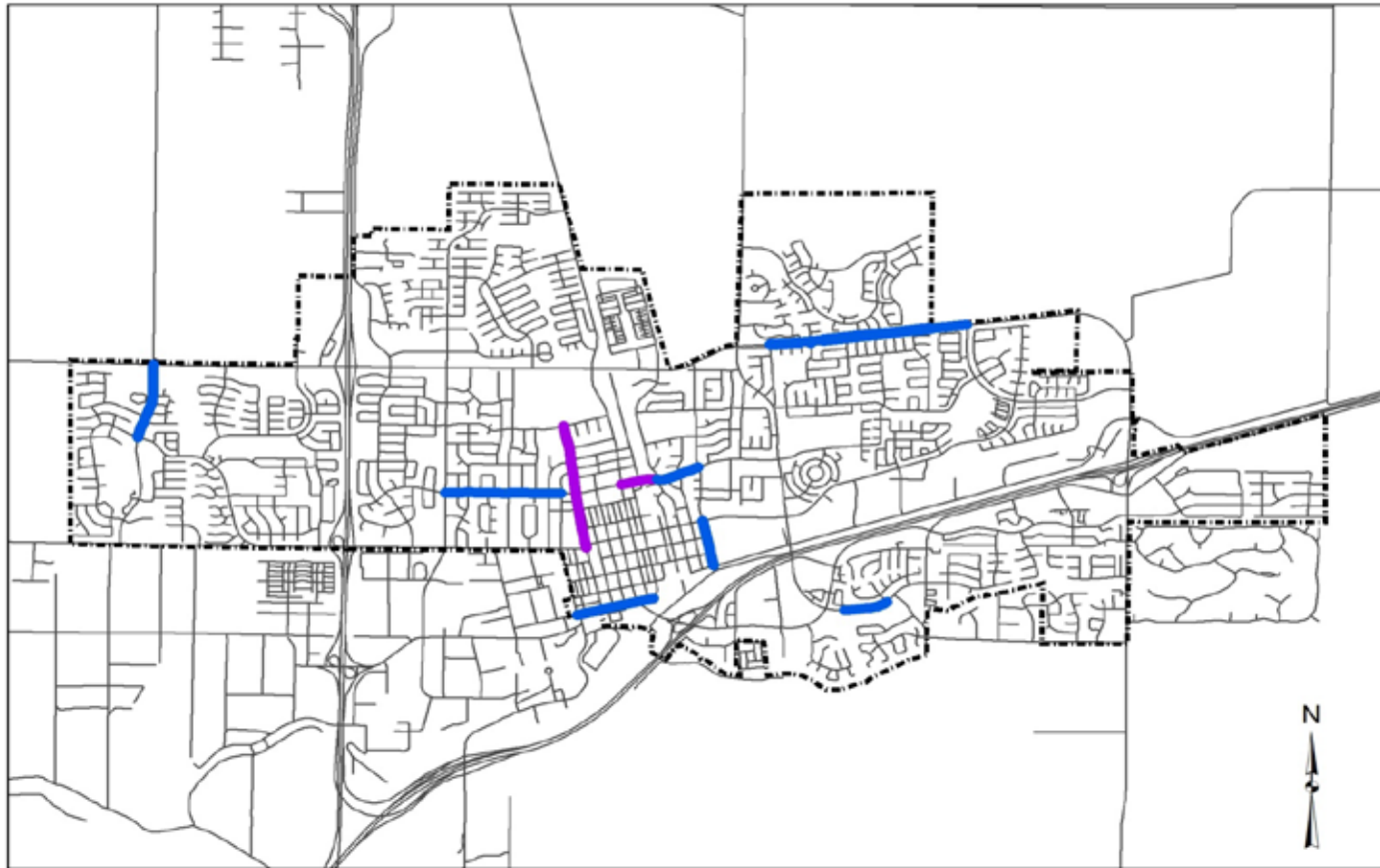
2013: A Year of Decisions

- First Street, A Street to G Street
- B Street, Fifth Street to Fourteenth Street^{1,2}
- East Eighth Street, F Street to J Street²
- Base Repair and Crack Seal, various streets
- East Covell Boulevard, Birch Lane to Alhambra Drive
- L Street, Second Street to Fifth Street
- West Eighth Street, Anderson Road to A Street
- East Eighth Street, J Street to L Street
- Lillard Drive, Farragut Circle to 2761 Lillard
- Lake Boulevard, Arlington Boulevard to West Covell Boulevard

¹ Partially funded by the Community Development Block (CDBG) Program.

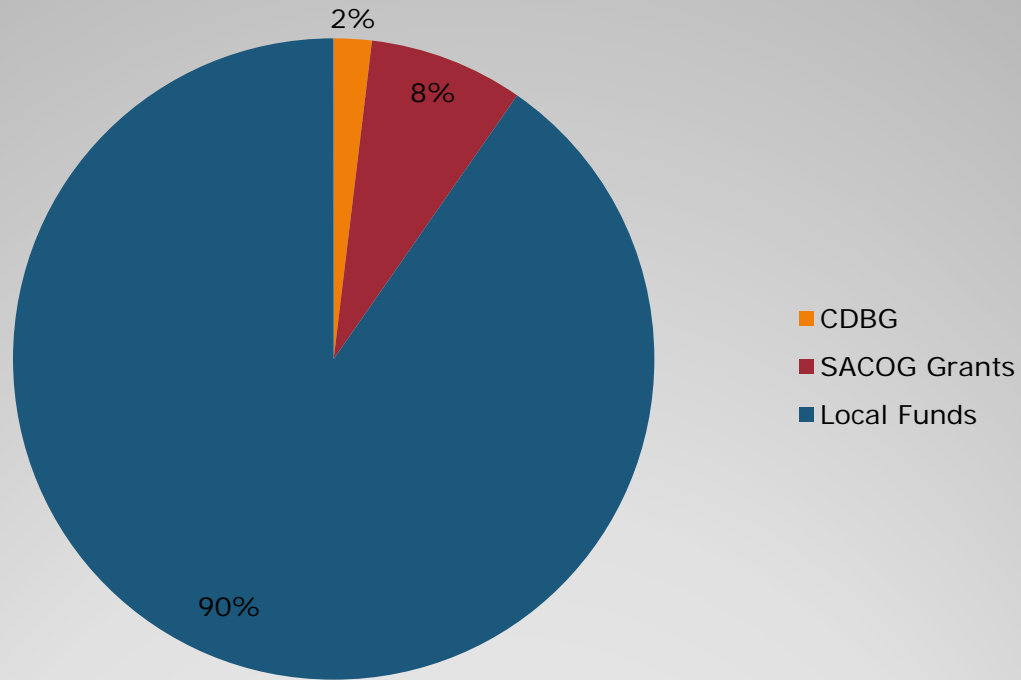
² Partially funded by a grant from SACOG.

Improved Streets 2012-2015



— 2012-2015 — 2012-2015 (partially grant funded)

Improved Streets 2012-2015



Funding for Improved Streets 2012-2015

- Third Street, from A Street to B Street (CIP 8164) – partially funded by a SACOG grant - \$3.3M grant funding a \$6.5M project
- L Street, from Fifth Street to Covell Boulevard (CIP 8256) – partially funded by a SACOG grant - \$1.5M grant funding a \$2.0M project
- Mace Boulevard, from Montgomery Avenue to Chiles Road (CIP 8257) – partially funded by a SACOG grant - \$2.0M grant funding a \$2.7M project.

Upcoming Projects



— Partially grant funded

Upcoming Projects

- The condition of the arterials and collectors are currently above the Council approved goals.
- The condition of the local streets and bike paths are below the approved goals
- SACOG funded projects will improve the conditions of an arterial (Mace Boulevard) and a collector (L Street).

Considering the 2016 Paving Project



Staff recommends that the 2016 Paving Project focus on local streets and bike paths.

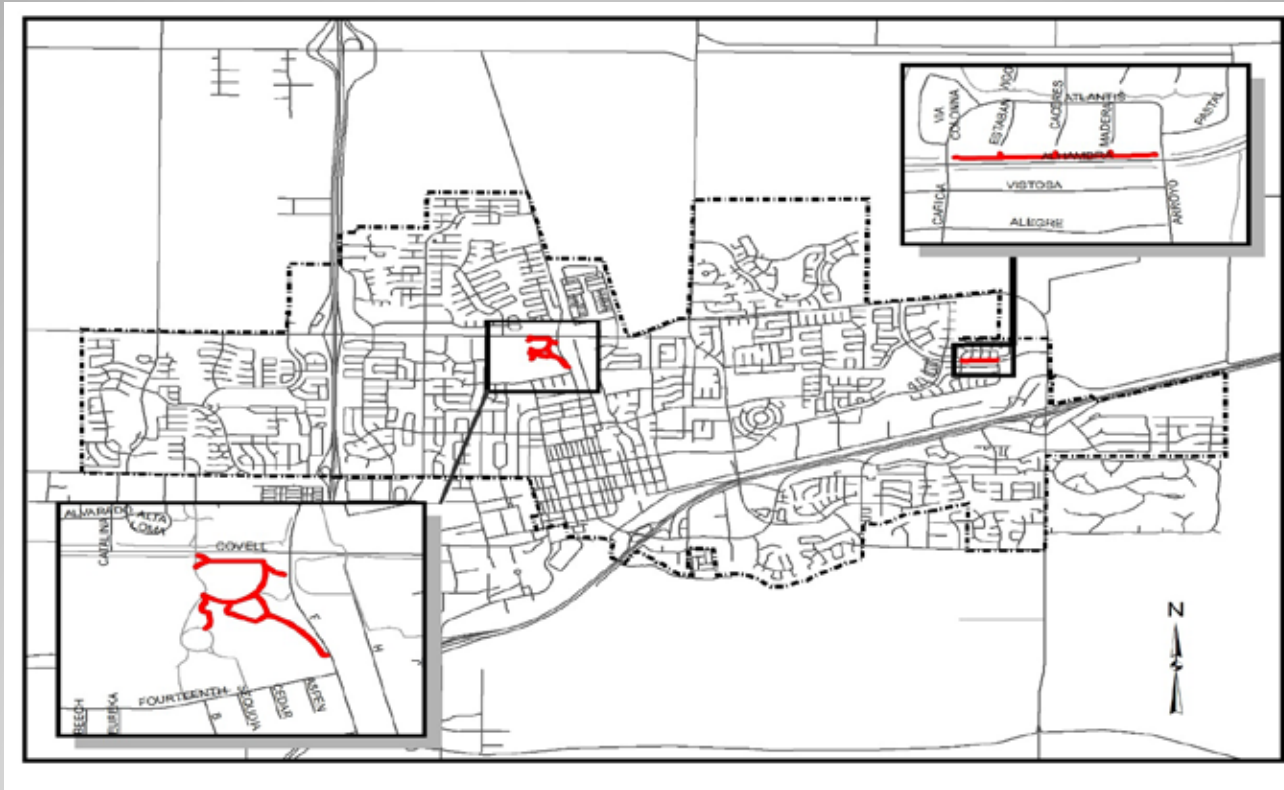


– Paving Cost: \$435,000



**Sample 2015 Paving Project –
Local Streets – Slurry Seal**

– Paving Cost: \$1,200,000



Sample 2015 Paving Project – Bike Paths – Replace with Concrete

– Paving Cost: \$762,000



Sample 2015 Paving Project – City Selected Streets – Mill and Fill

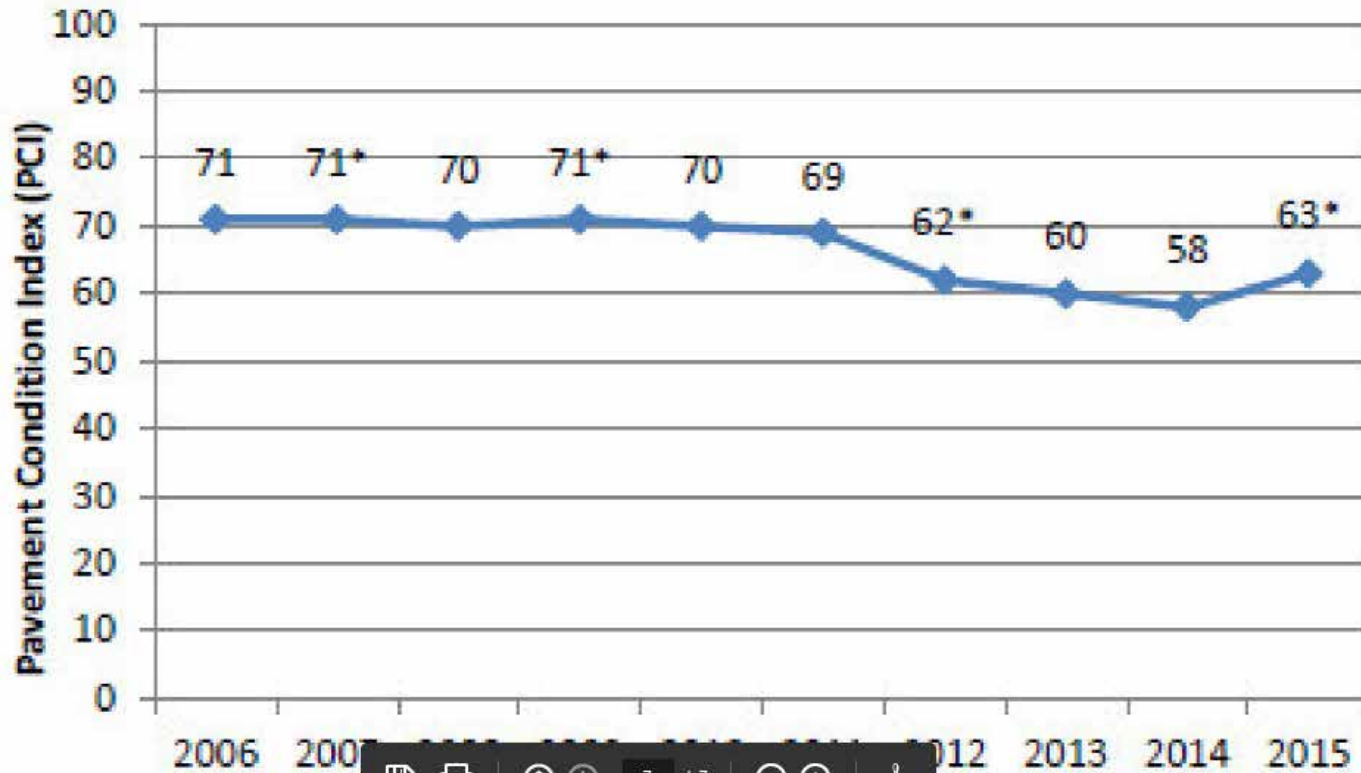
Description	Estimated % of Constr. Contract	Example Cost
Paving (Scenario 3)		\$5,460,000
Bike Path (Scenario 6)		\$1,060,000
Curb, gutter, sidewalk, ramps	15%	\$819,000
Construction Contract		\$7,339,000
Construction Contingency	10%	\$733,900
TOTAL CONSTRUCTION BUDGET		\$8,072,900
Planning / Study	5%	\$366,950
Engineering and Design	10%	\$733,900
Construction Admin and Inspection	10%	\$733,900
SUBTOTAL SOFT COSTS		\$1,834,750
GRAND TOTAL		\$9,907,650

Budget Planning Cost Breakdown



Davis Streets
MOVING FORWARD TOGETHER





History of Average PCI