

# STREET CONDITIONS

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August 8<sup>th</sup>, 2019

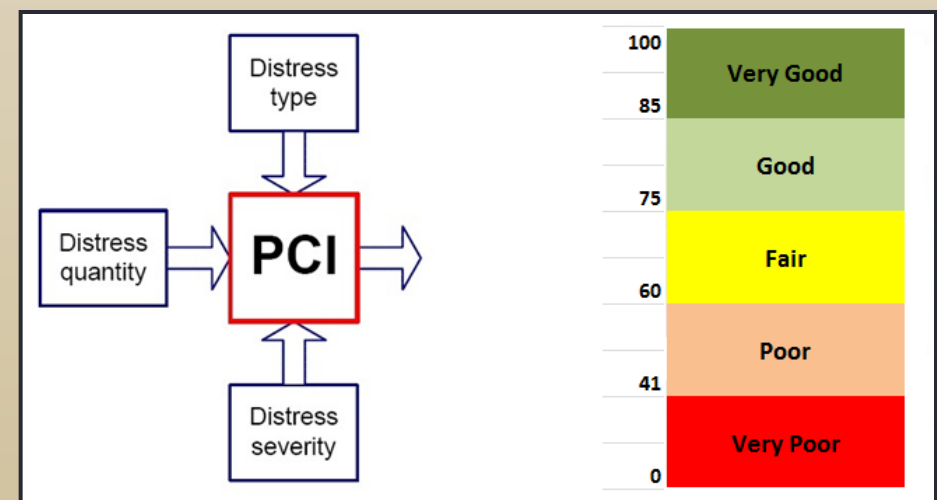


# Background

- City maintains approximately 68 miles of arterial roads and 226 miles of local roads (residential/industrial roads)
- Typical design 'life' of a roadway surface is 20-25 years.
  - Regular maintenance (e.g. slurry seal & overlay) can continuously extend the pavement 'life', thereby reducing the need for significant rehabilitation.
- Public Works prepares and updates the Pavement Management Program (PMP) every two years.
  - Update is required by OCTA to remain eligible for Measure M2 funds.
  - Latest PMP was completed in May 2018,
  - Next update is due May 2020.

# Pavement Management Program

- PMP includes inspections of the arterial roads every two years and the local roads every six years.
- The program determines the existing roadway condition and assigns a Pavement Conditions Index (PCI) rating from 0-100 for each roadway segment.
- The PCI is a function of overall condition of the pavement. Condition problems include potholes, cracking, failures, rutting, etc.
- Fewer problems = higher PCI rating



# Factors That Effect Pavement Life

- *Delay of Preventive Maintenance*
- *Traffic Volume and Loading*
- *Age of Pavement*
- *Type of Pavement (PCC vs AC)*
- *Soil and Base Material Under Pavement*
- *Storm Water Infiltration into Subgrade*
- *Utility Trench Cuts*

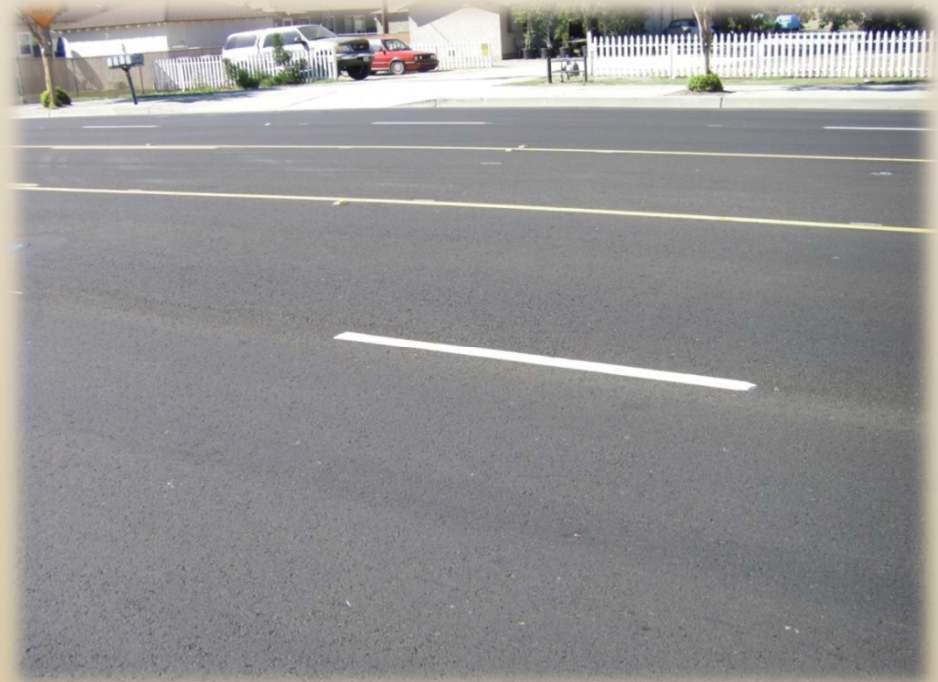




# PCI Ratings

## *PCI 86-100 – Very Good*

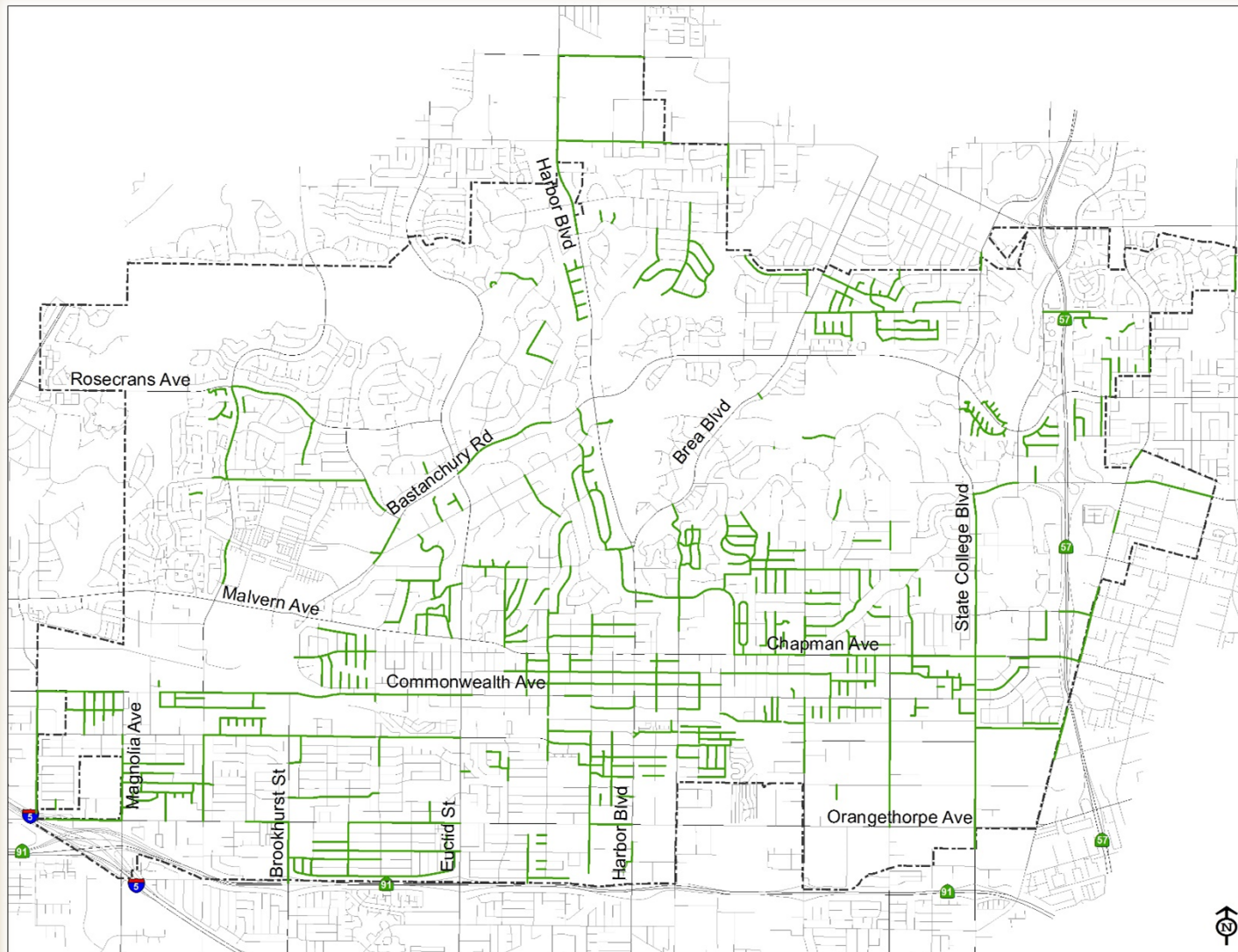
- Typical rehabilitation – Slurry Seal application after 10 years
- 28% of all streets (82 mi)
- 33% of arterial roads (22 mi)
- 27% of local roads (61 mi)



*State College Boulevard  
(north of Commonwealth Avenue)*

*PCI = 100*

# Streets with PCI Rating 86-100 (V. Good)



# PCI Ratings

## *PCI 75-85 - Good*

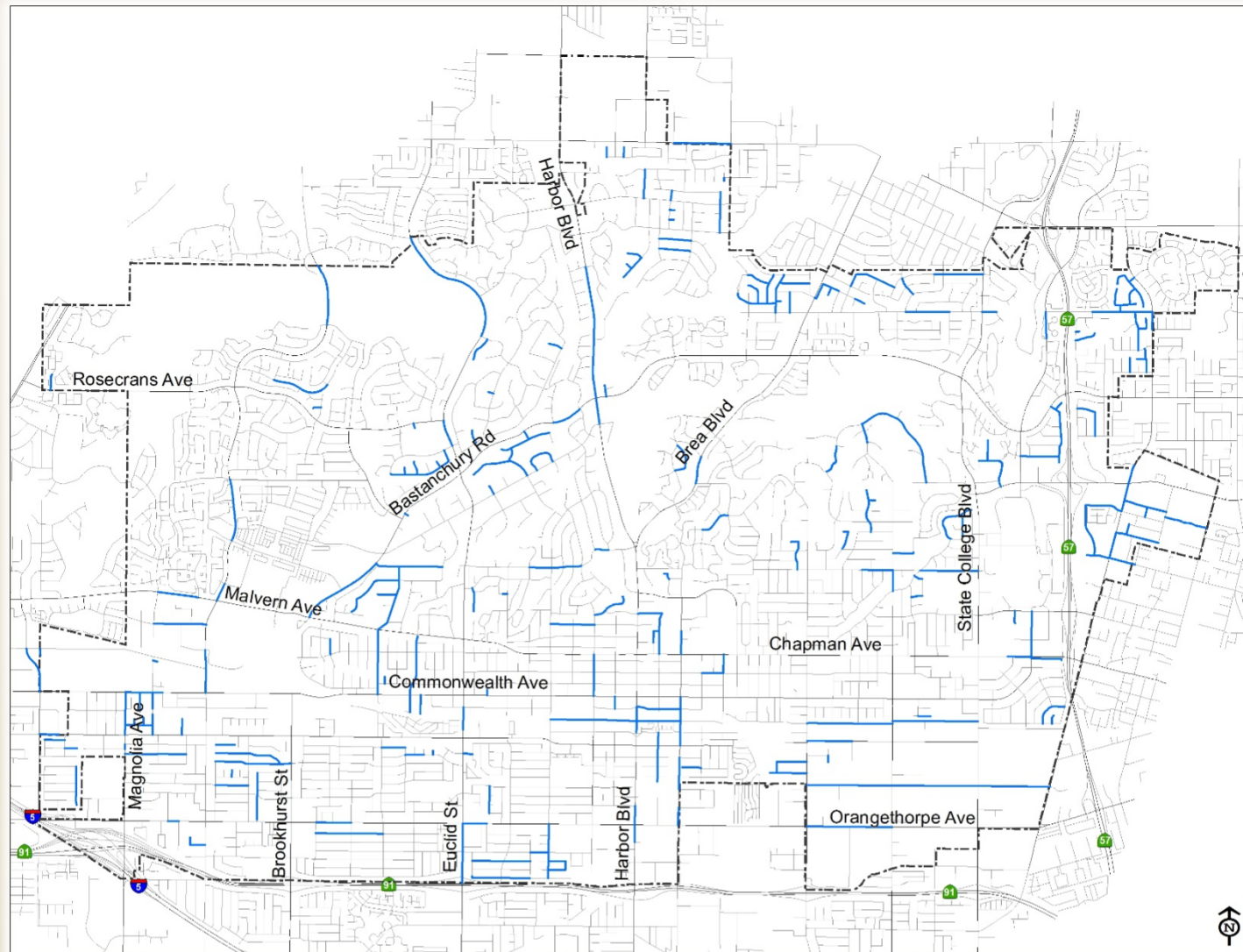
- Typical rehabilitation - Crack Seal and Slurry Seal
- 13% of all streets (39 mi)
- 14% of arterial roads (9 miles)
- 13% of local roads (29 miles)



*Highland Avenue  
(north of Commonwealth Avenue)  
PCI = 80*



# Streets with PCI Rating 75-85 (Good)



# PCI Ratings

## *PCI 60-74 - Fair*

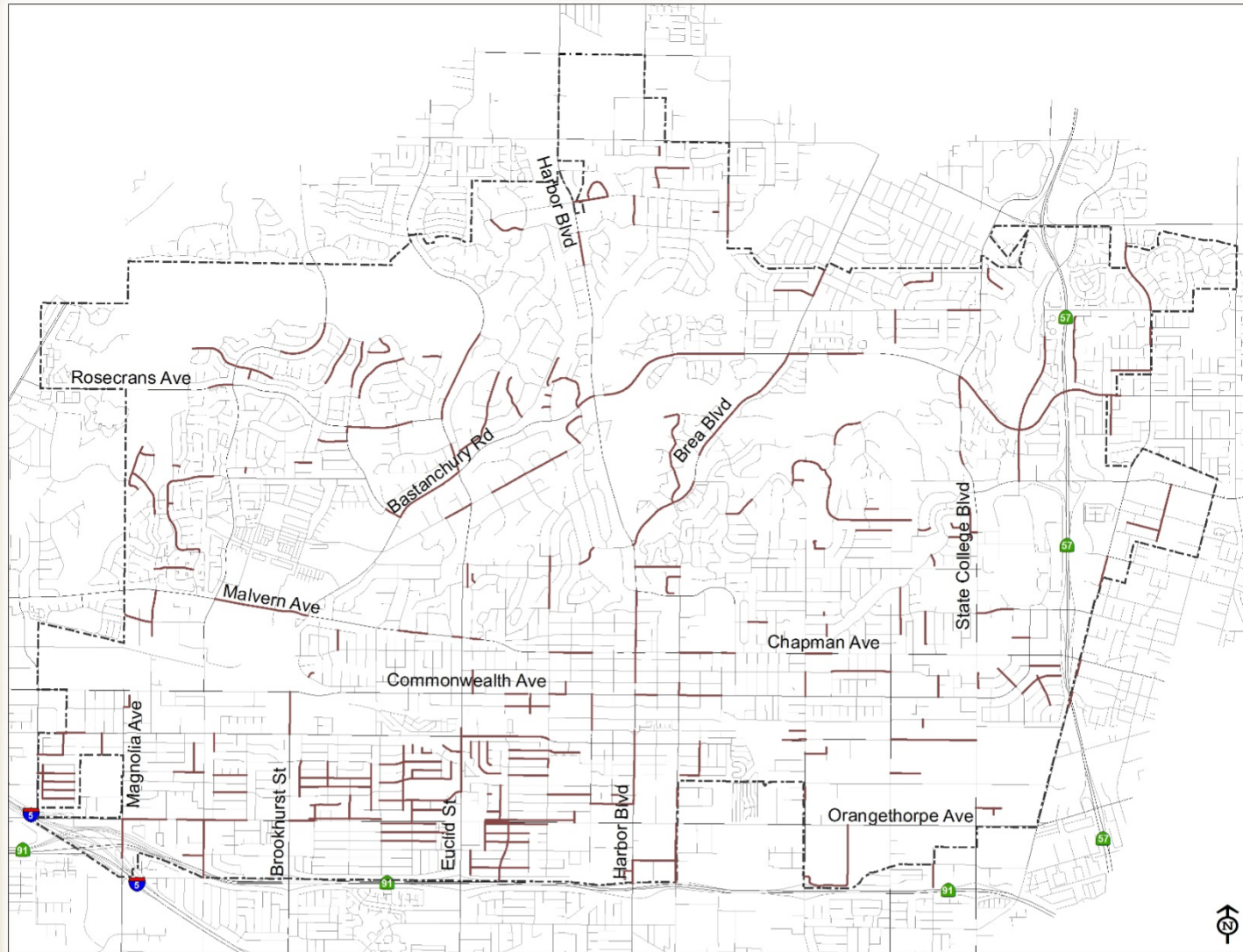
- Typical rehabilitation - Thin Overlay/Spot Repairs
- 17% of all streets (48 mi)
- 23% of arterial roads (16 miles)
- 14% of local roads (32 miles)



*Harbor Boulevard  
(north of Chapman Ave)*

*PCI = 71*

# Streets with PCI Rating 60-74 (Fair)





# PCI Ratings

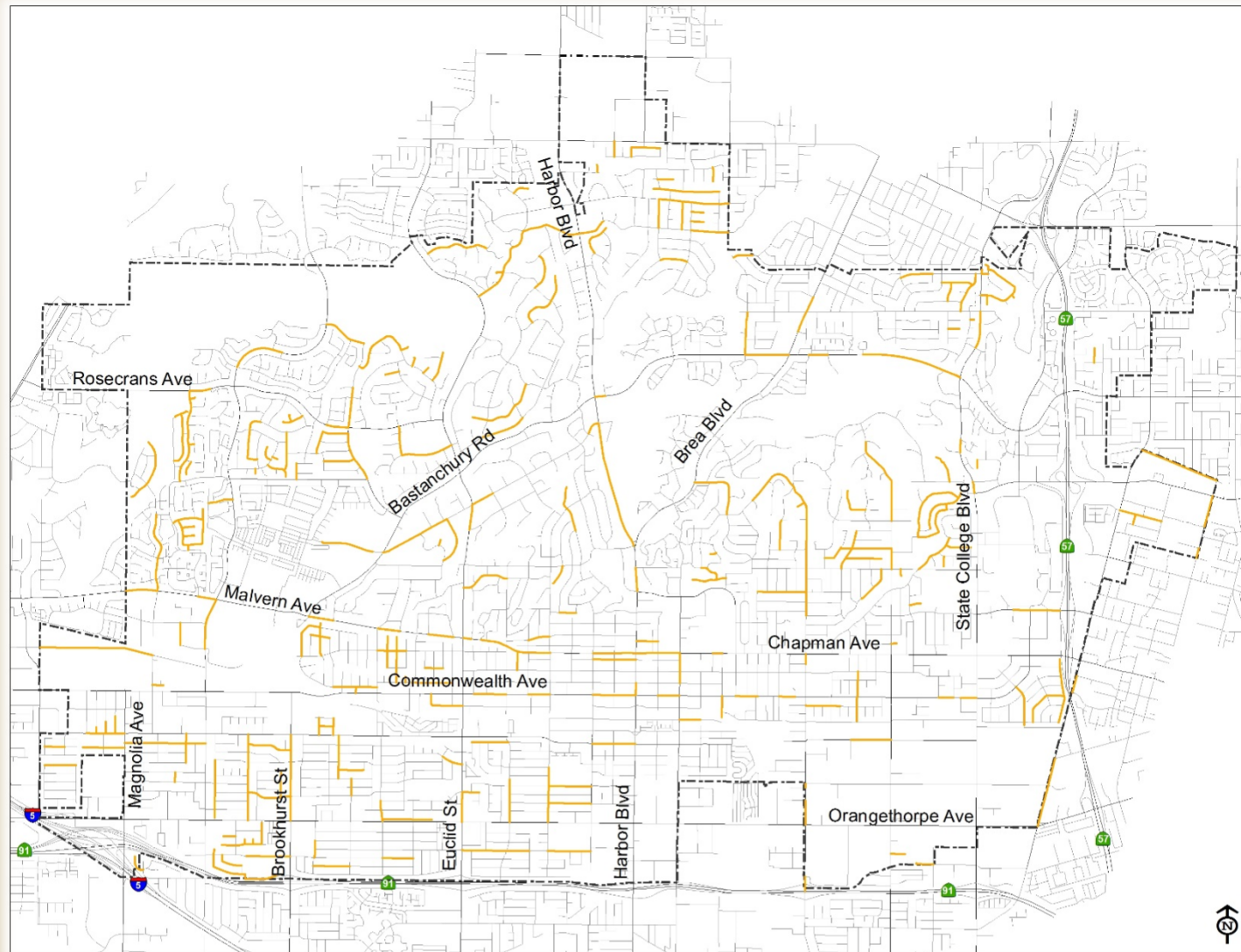
## *PCI 41-59 - Poor*

- Typical rehabilitation = Thick Overlay
- 15% of all streets (45 mi)
- 14% of arterial roads (10 miles)
- 16% of local roads (36 miles)



*Chapman Avenue  
(west of Harbor Boulevard)  
PCI = 46*

# Streets with PCI Rating 41-59 (Poor)





# PCI Ratings

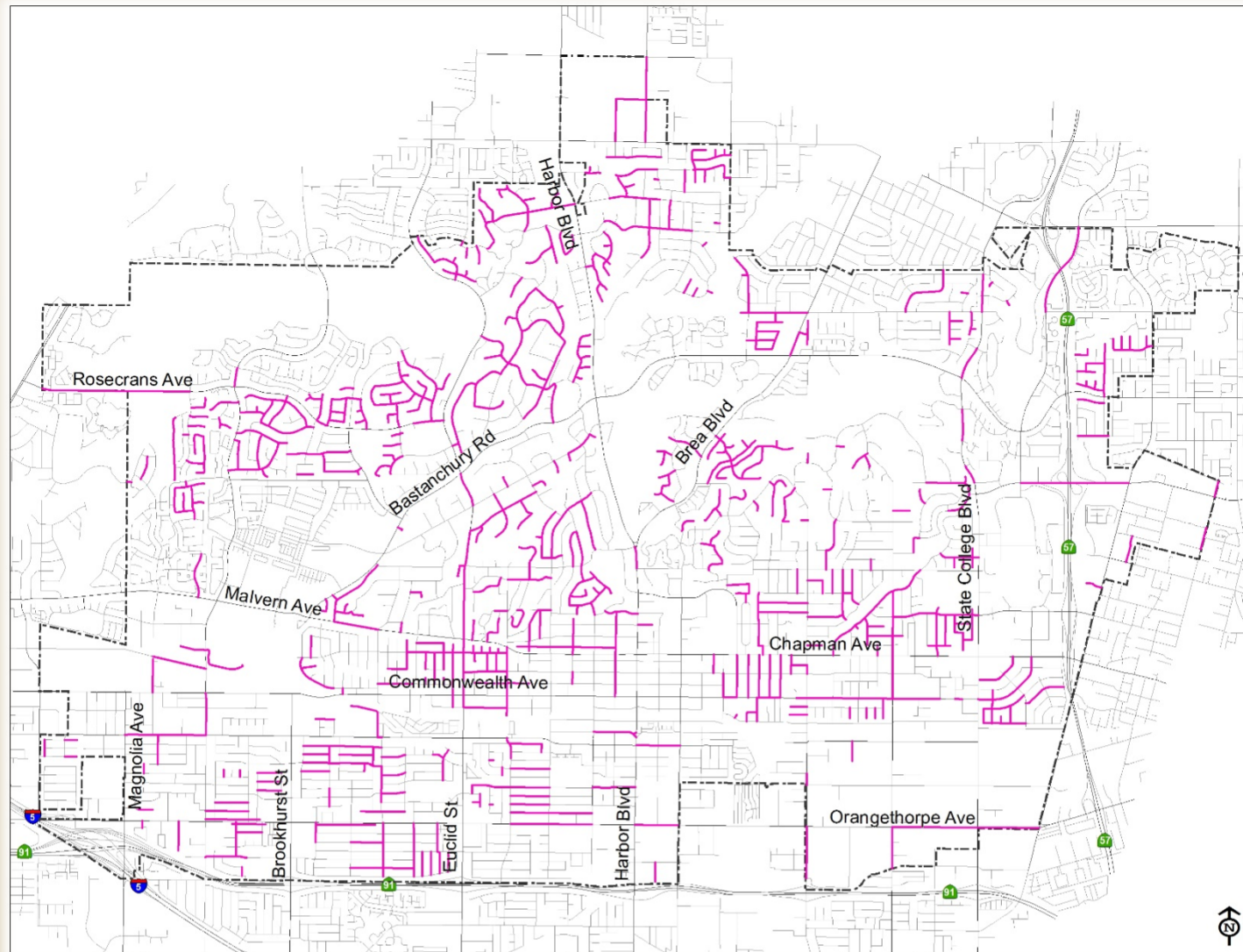
## *PCI 0-40 – Very Poor*

- Typical rehabilitation = Full Reconstruction / Remove & Replace
- 27% of all streets (80 mi)
- 16% of arterial roads (11 miles)
- 30% of local roads (68 miles)



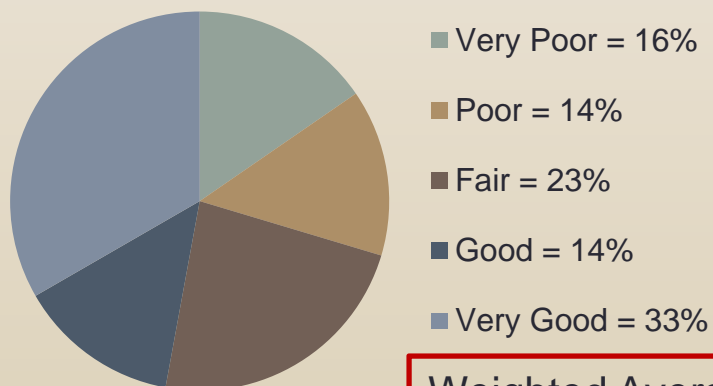
*Victoria Drive  
(west of Dorothy Lane)  
PCI = 13*

# Streets with PCI Rating 0-40 (Very Poor)



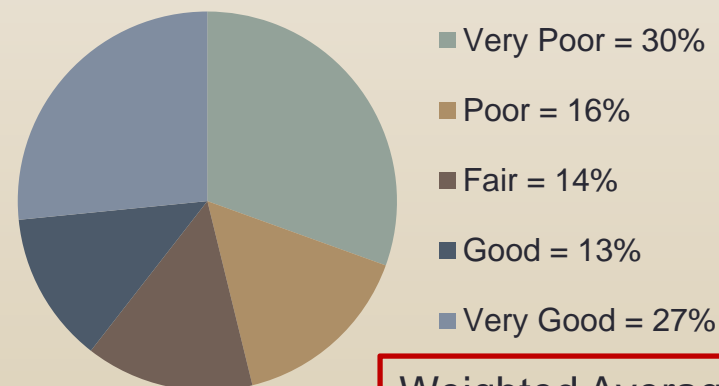
# PCI Rating Summary

## PCI - Arterial Roads



**Weighted Average  
PCI = 69.4 (Fair)**

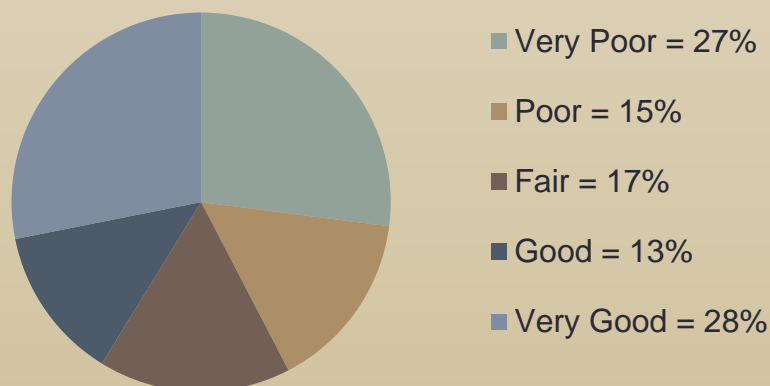
## PCI - Local Roads



**Weighted Average  
PCI = 61.8 (Fair)**

*\*Significant arterial street improvements in 2017 were funded by private development and other agencies (OCSD, OCTA, cities).*

## PCI - All Roads (Weighted)



**Overall Weighted  
City Average  
PCI = 64.7 (Fair)**

# Street Improvement Methods

Typical Pavement Condition Improvement Methods		
Condition Category	PCI Levels	Improvement Method
Very Good	86-100	None
Good	75-85	Slurry Seal
Fair	60-74	Thin Overlay (2")
Poor	41-59	Thick Overlay (4")
Very Poor	0-40	Reconstruction

## In General:

- Slurry Seal adds 5-20 points to a street's PCI rank (depending on existing condition)
- Thin Overlay resets the street's PCI rank at 100.
- Thick Overlay resets the street's PCI rank at 100.
- Reconstruction resets the street's PCI rank at 100.

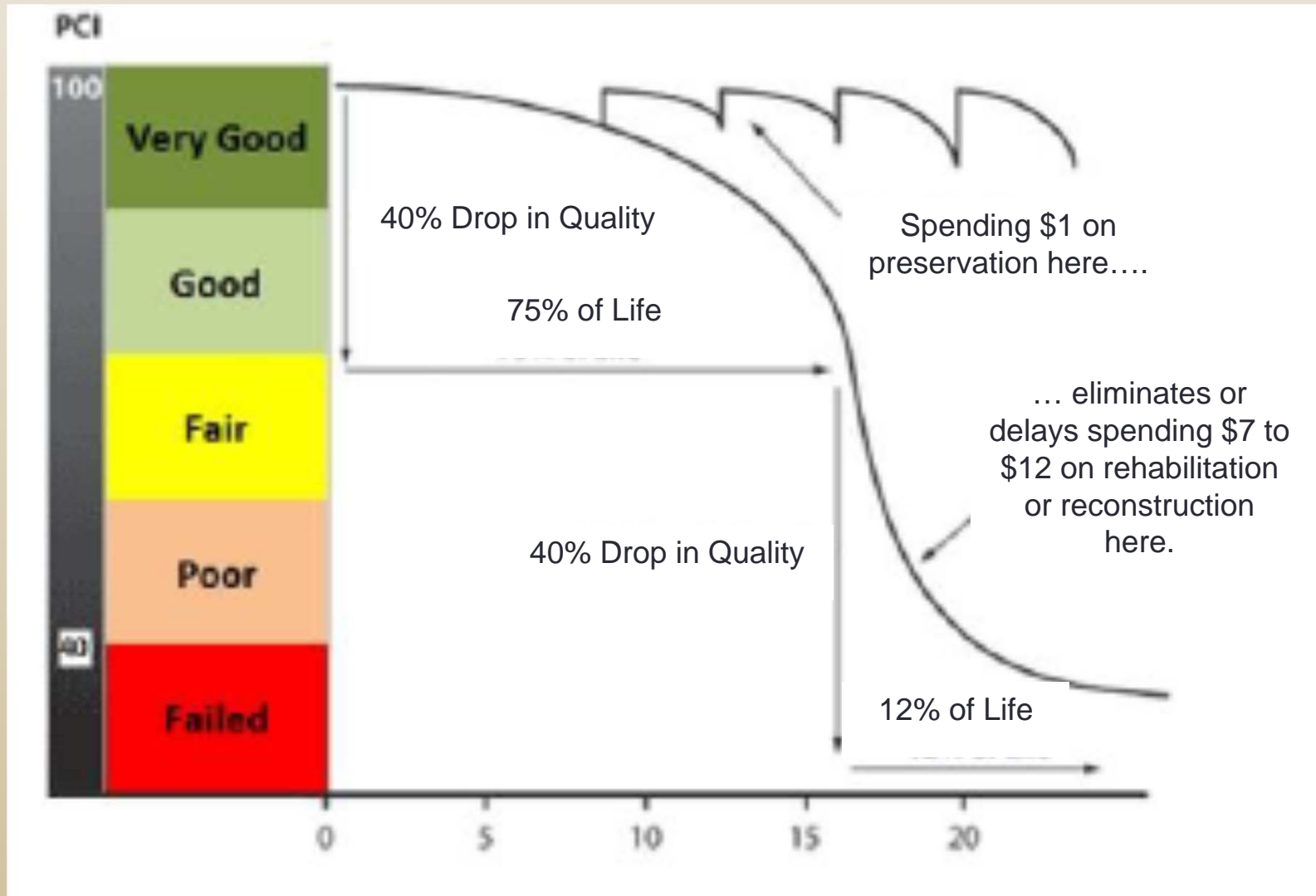
# Major Street Improvement Costs

## Budgetary Costs for Major Street Improvements

<i>Road Type</i>	<i>Treatment Type</i>	<i>PCI</i>	<i>\$ per Mile</i>	<i>\$ per SF</i>
Local/ Residential	Typically No Work	86-100	-	-
	Slurry Seal	75-85	\$128,000	\$0.76
	2" Edge Grind & Overlay*	60-74	\$674,000 to \$1,094,000	\$3.99 to \$6.47
	4" Grind & Overlay*			
	6" Grind & Overlay*	41-59	\$1,322,000	\$7.82
	Full Reconstruction*	0-40	\$1,538,000	\$9.10
Arterial/ Major	Typically No Work	75-100	-	-
	3" Grind & Overlay*	60-74	\$1,440,000 to \$1,642,000	\$4.55 to \$5.18
	4" Grind & Overlay*			
	6" Grind & Overlay*	41-59	\$2,102,000	\$6.64
	Full Reconstruction*	0-40	\$3,316,000	\$10.47

\* ADA improvements required

# Pavement Life Cycle Costs



**Questions?**