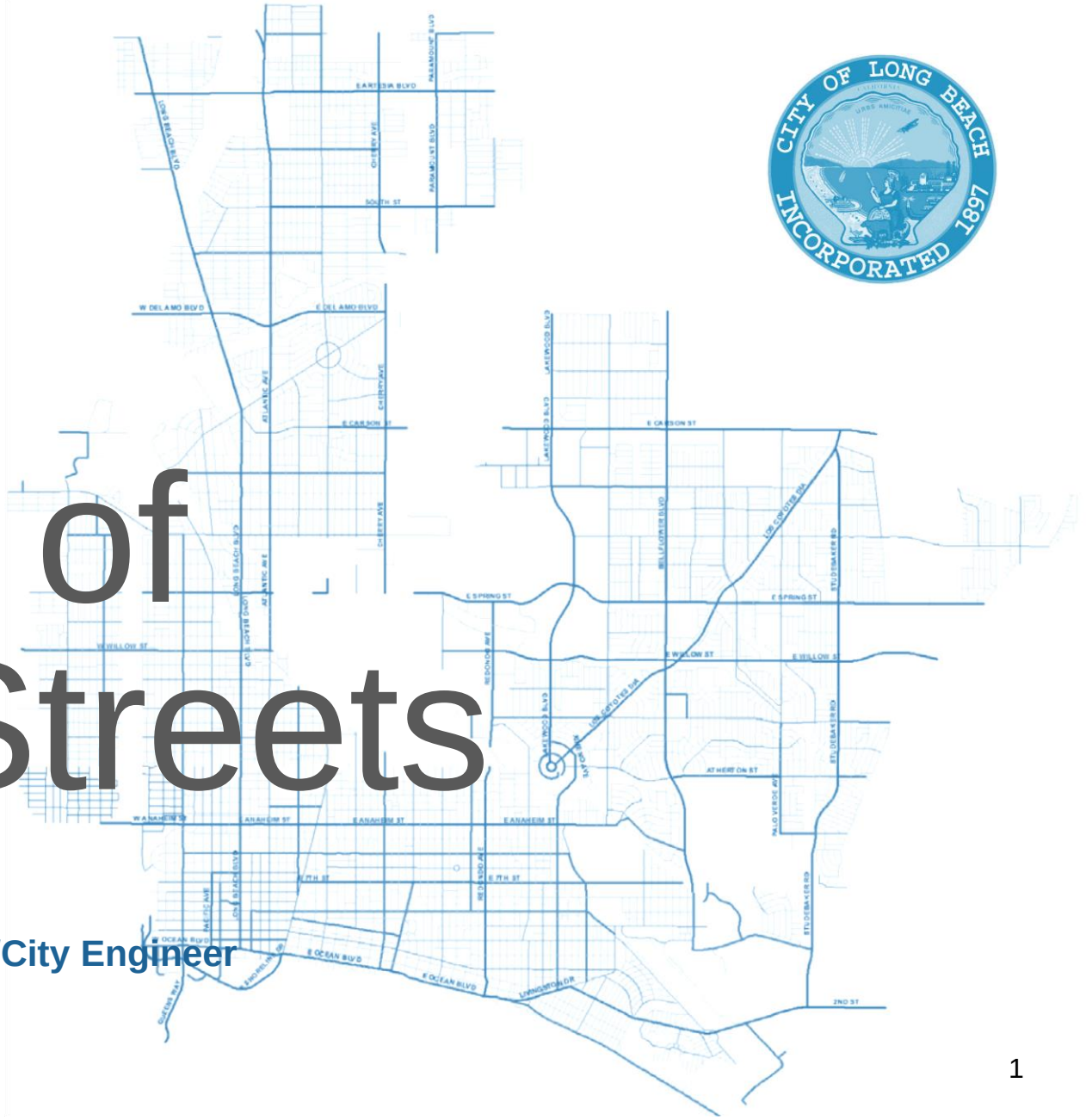

State of Our Streets

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Director of Public Works/City Engineer

March 24, 2015

Overview

- Background
  - State Requirement
  - Methodology
  - Types of Streets
- Street Condition
  - Street Inventory
  - Street Conditions
- Street Asset Management
  - Pavement Management Plan
- Findings
  - Historical Investments
  - Going Forward

Background

STATE REQUIREMENT | METHODOLOGY

Regulatory Requirement

- Federal, State of California, and regional planning agencies require cities to develop and adopt a Pavement Management Program (PMP) to manage local streets or highways
- These programs include the federal Surface Transportation Local Fund (STPL) Program, a multi-year capital improvement program that is funded with the revenues of the Transportation Investment Fund and other sources
- Long Beach receives $1.4 million annually in federal STPL funds
- All arterial/collector streets must be re-inspected every two (2) years and the PMP updated

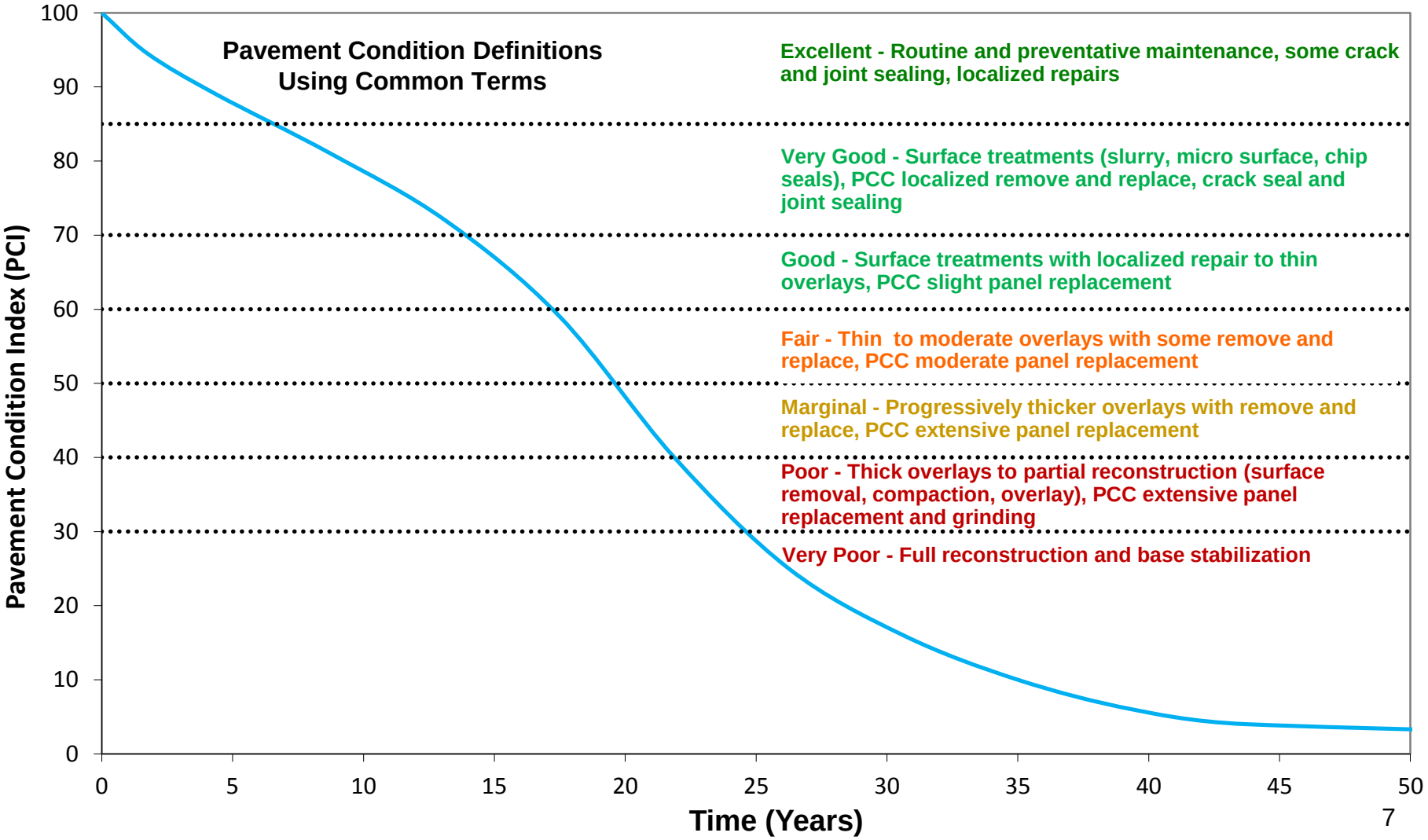
Methodology - Then

- Past evaluation of road conditions reflected industry standards that relied on **subjective** observations of the human eye
- Inspectors evaluated road conditions based on established criteria, but…
  - Subject to human interpretation, and
  - Different inspectors could arrive at different conclusions

Methodology - Now

- **Latest technology**, Laser Road Surface Tester (RST) and Dynaflects, obtain data
- **Objective** collection of observations on the pavement surface, digital imagery, spatial coordinate information
- **Data** used to develop Pavement Condition Index (PCI), which includes the roughness of the road and the surface distress, and added to GIS

Pavement Condition Index (PCI) Criteria



PCI: Very Poor (0-30)

- Base and/or structural failures with rutting and excessive cracking
- Past point of overlay based rehabilitation
- Rehabs often driven by citizen complaints
- Safety becomes a concern at very low PCI

Loma Vista Drive

E. 29th Street

PCI: Poor to Marginal (30-50)

- Localized base failures
- Rutting at intersections
- Extensive cracking and patching
- Tiered streets due for a thicker overlay with possibly surface removal and replacement
- High priority to avoid reconstruction

Vernon Street

Locust Avenue

PCI: Fair (50-60)

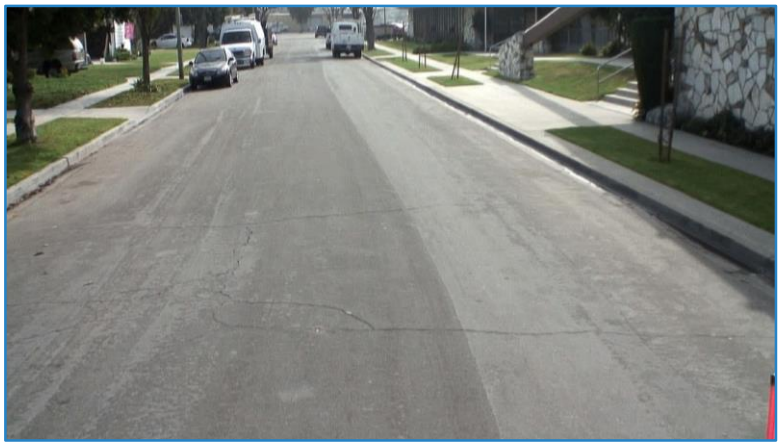
- Progressive cracking, few base failures, and localized distresses
- Optimum timing for thin to moderate overlay
- Many benefits to selecting these streets: early lower costs to repair with greater returns
- Repair involves less grinding and drainage

Chestnut Avenue

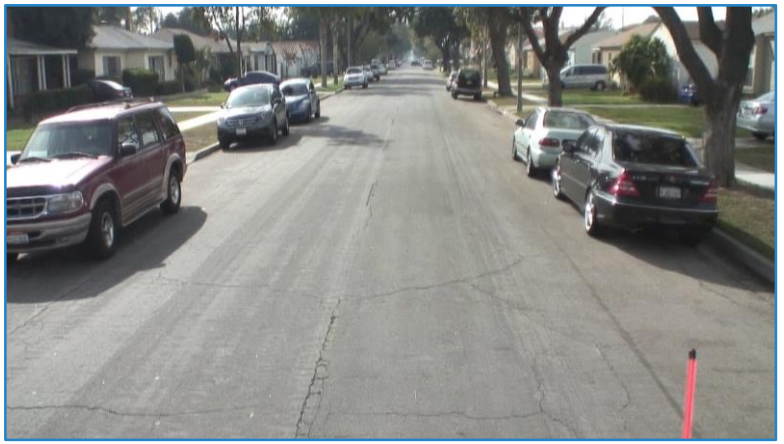
Cerritos Avenue

PCI: Good (60-70)

- Localized distresses but minimal base failures
- If the road is distressed due to loading, the street may need a thin overlay
- Seal and surface treat will maintain roadway



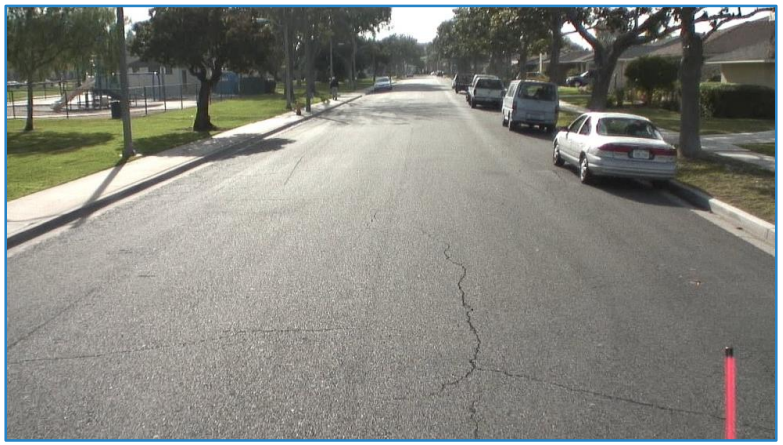
Rutgers Avenue



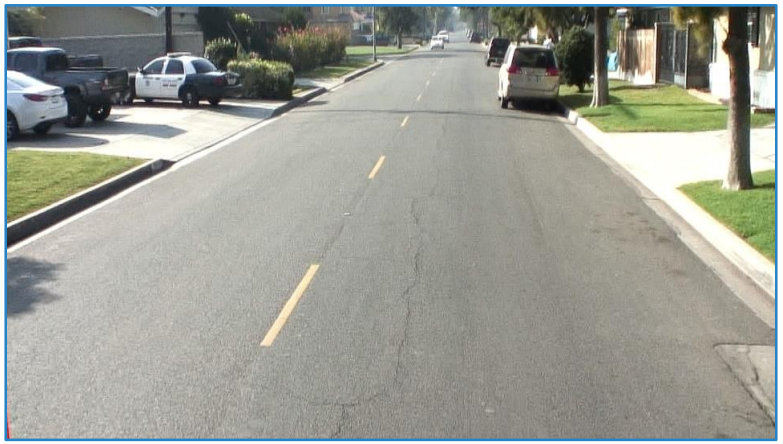
Chestnut Avenue

PCI: Very Good (70-85)

- Very few distresses with no rutting or base failures
- Maintenance would include crack seal with a surface treatment
- This treatment extends pavement life at lowest cost



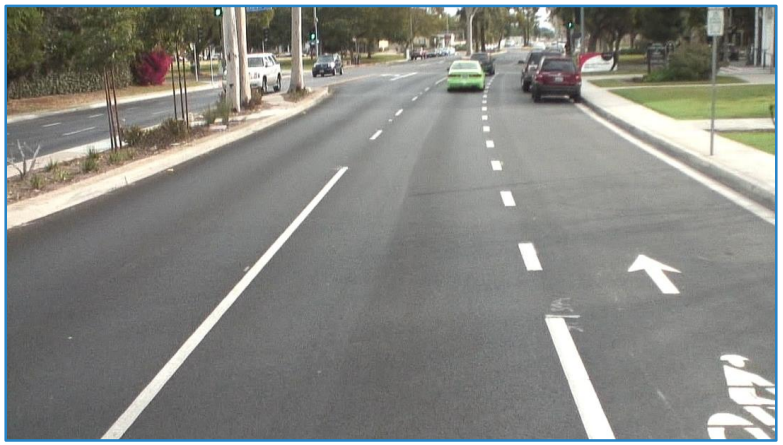
Freeland Street



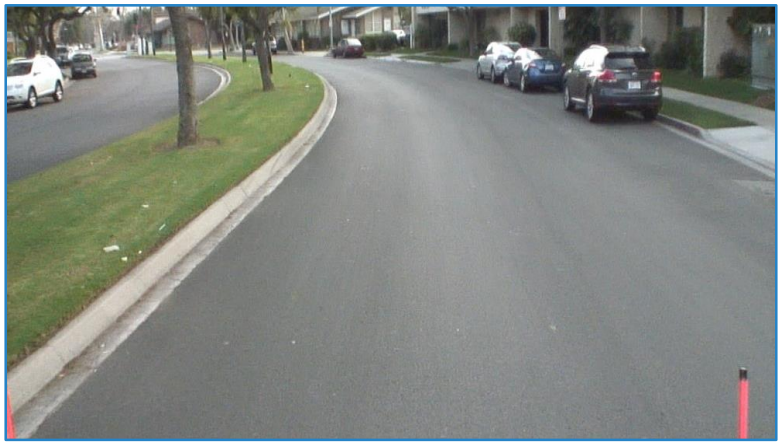
Centralia Street

PCI: Excellent (85-100)

- Like new condition with few minor distresses
- Offers a smooth ride
- Good drainage
- Provides 5 to 10 years prior to first rehabilitation with routine maintenance



Atherton Street



California Avenue

Street Condition

STREET INVENTORY | STREET CONDITIONS

Types of Streets

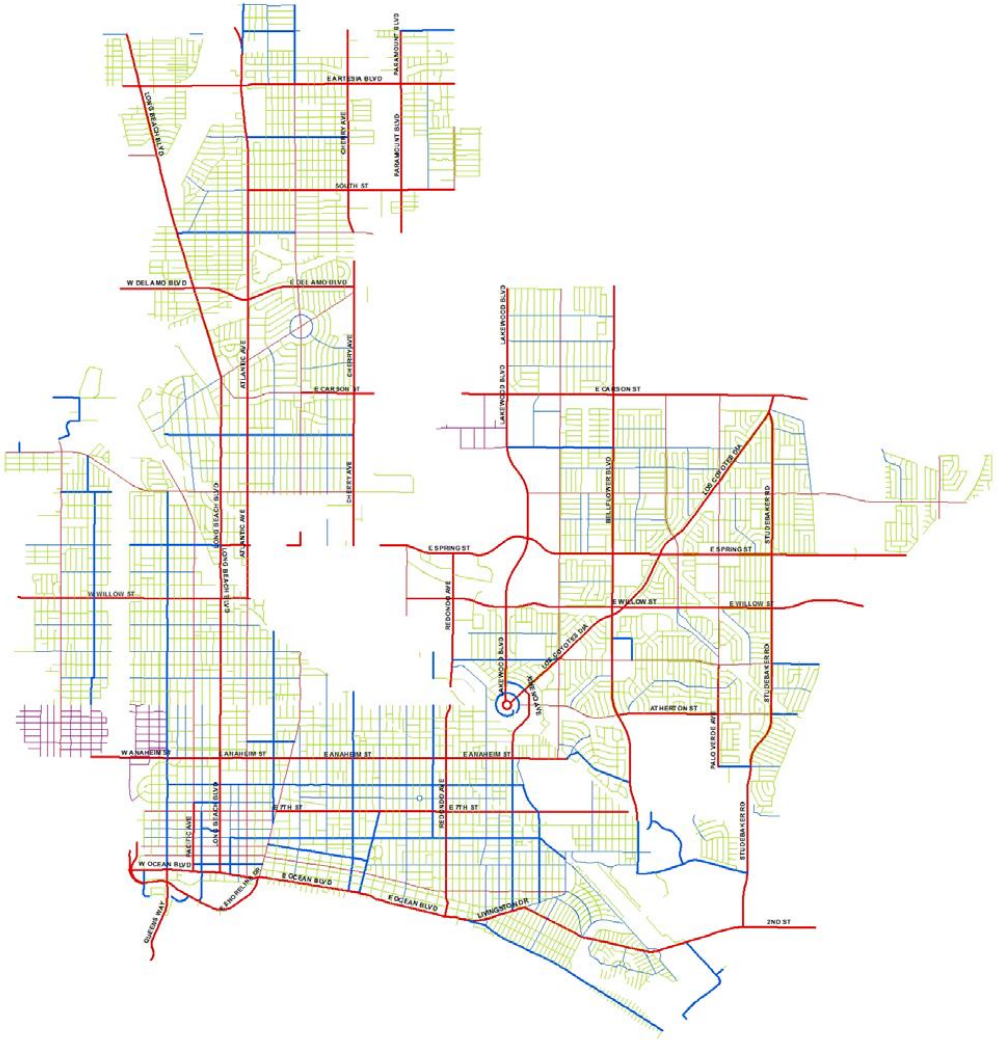
- Arterial: Cross city corridors
  - Major: 4 or more lanes with approximately 20,000 vehicles per day
  - Minor: 2 to 4 lanes with approximately 10,000 to 20,000 vehicles per day
- Collector: Cross city and inter-district corridors
  - Major: 2 to 4 lanes with approximately 5,000 to 10,000 vehicles per day, and designated bus routes
  - Minor: Street segments that link local streets to arterial or major collectors with traffic volumes of 1,000 to 5,000 per day
- Locals: residential and frontage roads
- Industrial: Selected streets near the Port of Long Beach or Long Beach Airport with low traffic volumes, but generally carry a higher percentage of trucks


Legend
ADT Volumes
0 - 5,000
5,001 - 10,000
10,001 - 15,000
15,001 - 20,000
20,001 - 25,000
25,001 - 30,000
30,001 - 35,000
35,001 - 40,000
40,001 - 45,000
45,0001 - 50,000
Longbeach City Boundary
Downtown Area
City of
Long Beach CA
Street Network
2014 Citywide Traffic Flow

Street Inventory

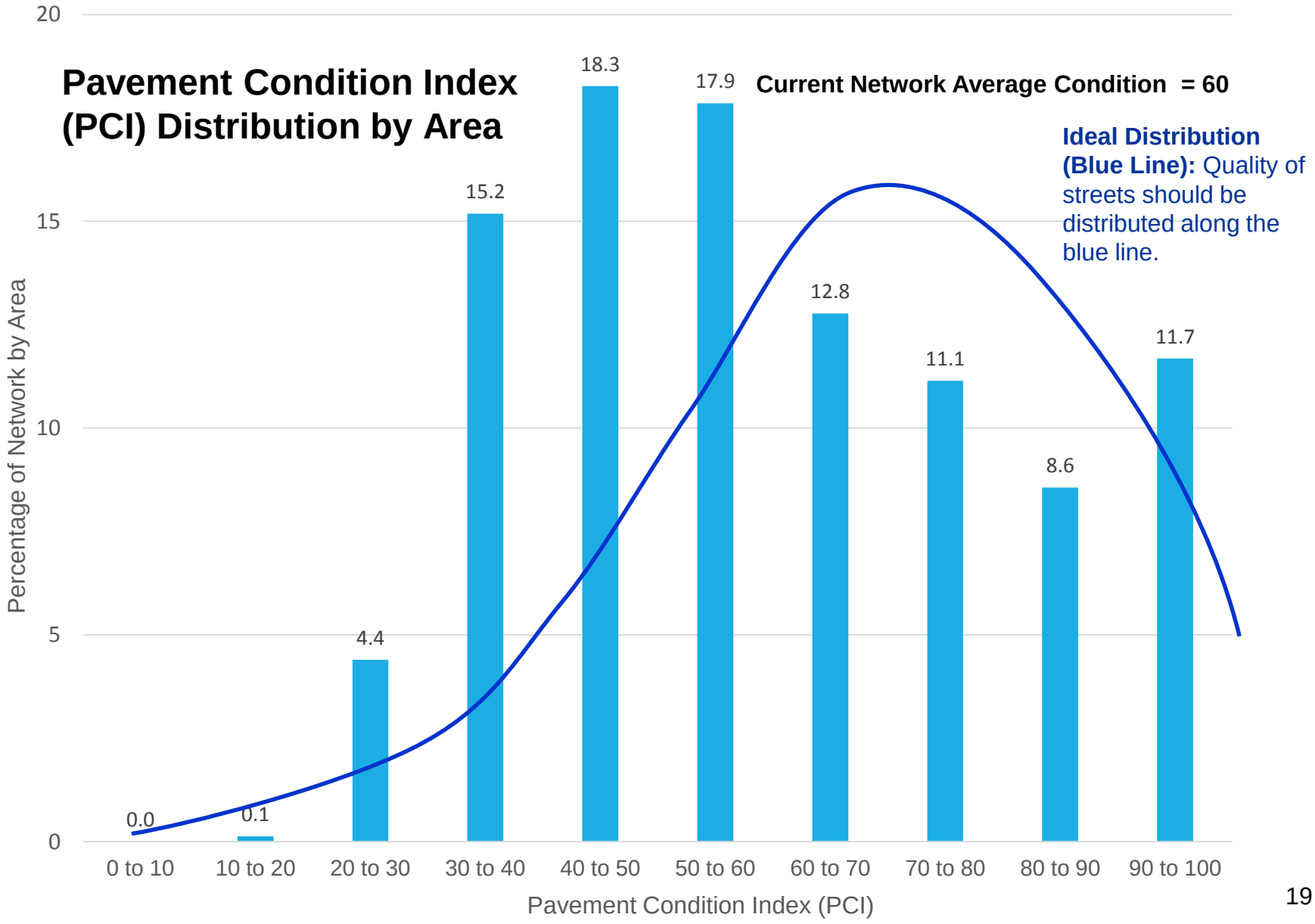
- The City's paved roadway network is valued at approximately $981 million

- Inventory includes:
  - Major Roadways (arterials, collectors, and industrial): 177 miles
  - Local Roadways (local): 609 miles
  - **Total: 786 miles**



Street Conditions

- Current average PCI for the network is **60 (Fair/Good)**
  - Major roadways are in good condition with PCI score of 63
  - Minor roadways are in fair condition with a PCI score of 56
- Current backlog of **20 percent** for street repairs
  - Backlog is defined as the percentage of streets in need of repair
  - A backlog of 10 to 15 percent is considered manageable from a funding point of view
  - Backlogs approaching 20 percent and above tend to become unmanageable, unless aggressively checked through larger rehabilitation programs


Pavement Condition Index (PCI) Distribution by Area
Current Network Average Condition = 60
Ideal Distribution (Blue Line): Quality of streets should be distributed along the blue line.
Percentage of Network by Area
20
15
10
5
0
0.0
0.1
4.4
15.2
18.3
17.9
12.8
11.1
8.6
11.7
0 to 10
10 to 20
20 to 30
30 to 40
40 to 50
50 to 60
60 to 70
70 to 80
80 to 90
90 to 100
Pavement Condition Index (PCI)

Street Asset Management

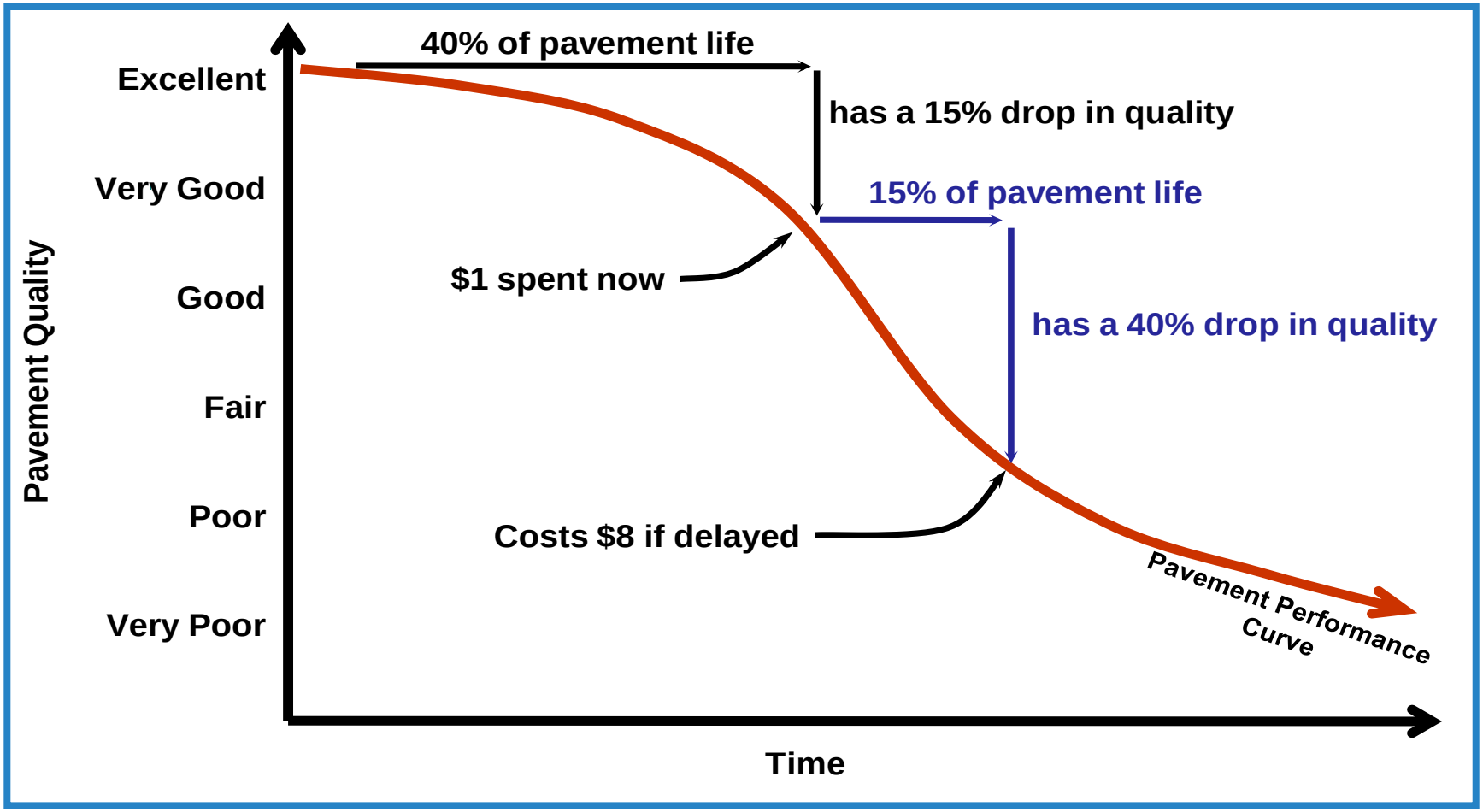
PAVEMENT MANAGEMENT PLAN

Pavement Management Plan (PMP)

Management of an asset requires investment and growth, not simply maintenance

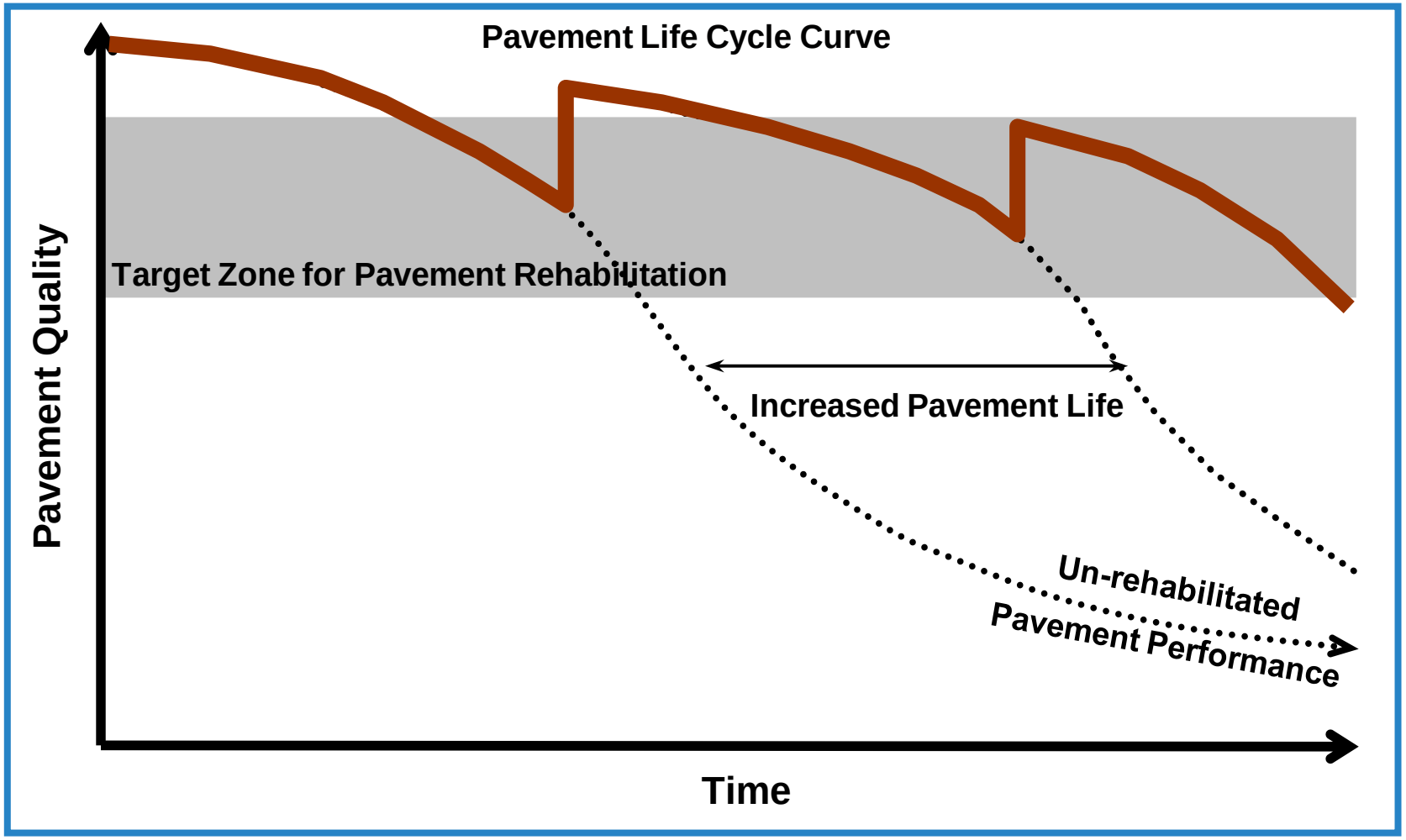
- Our streets are assets that need to be **managed**
- A Pavement Management Plan (PMP) guides the management of our street assets with a set of tools and methods that assist the City in finding **optimum strategies** for providing and maintaining our streets in a serviceable condition over a given time period
- Investment in our assets *today* saves the City from costs *tomorrow*

Understanding the PMP



Maintenance versus Repair

Pavement Life Cycle Curve



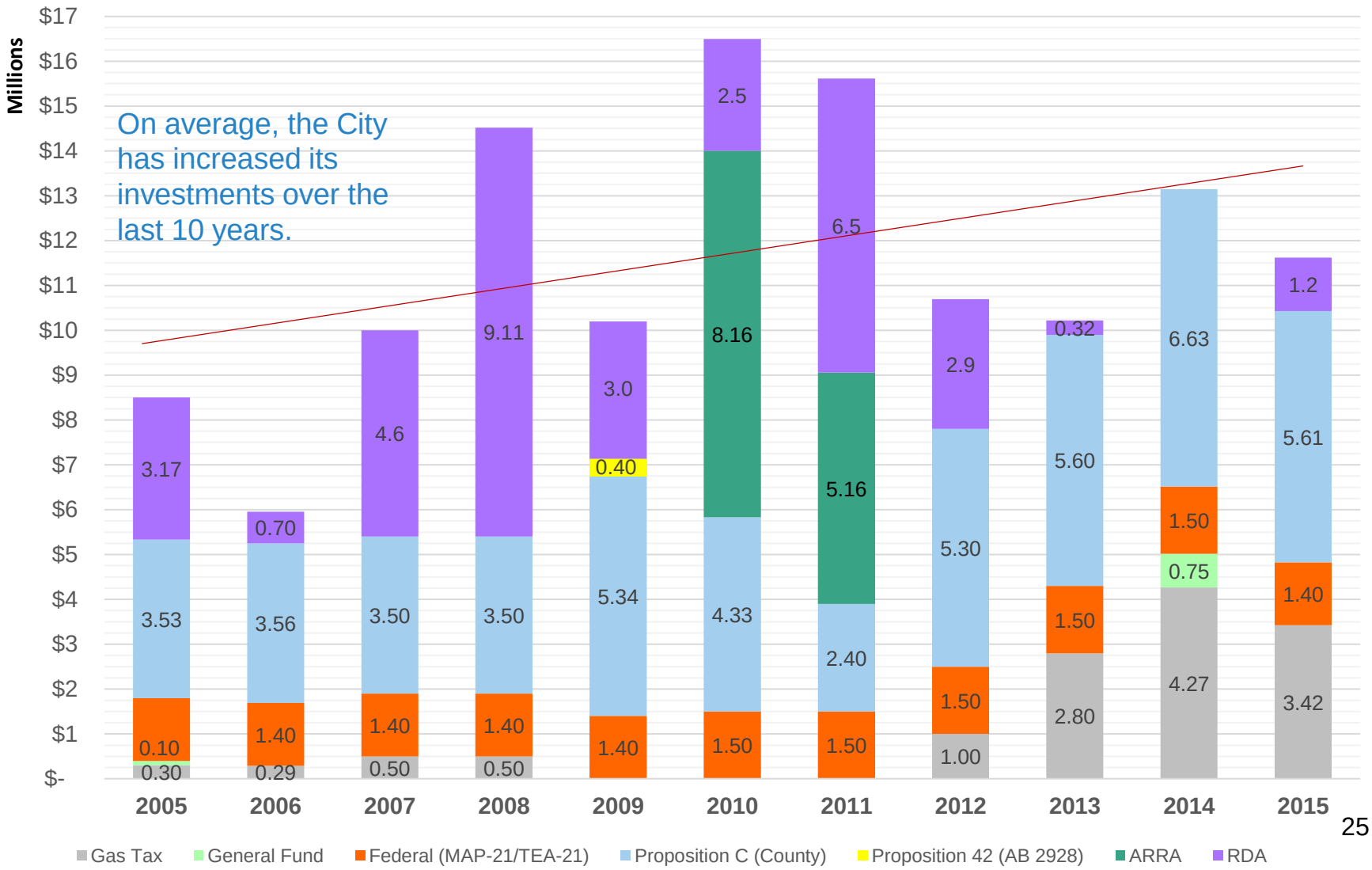
Historical Investment

(Adopted budgets, three-year averages for FY13-15)

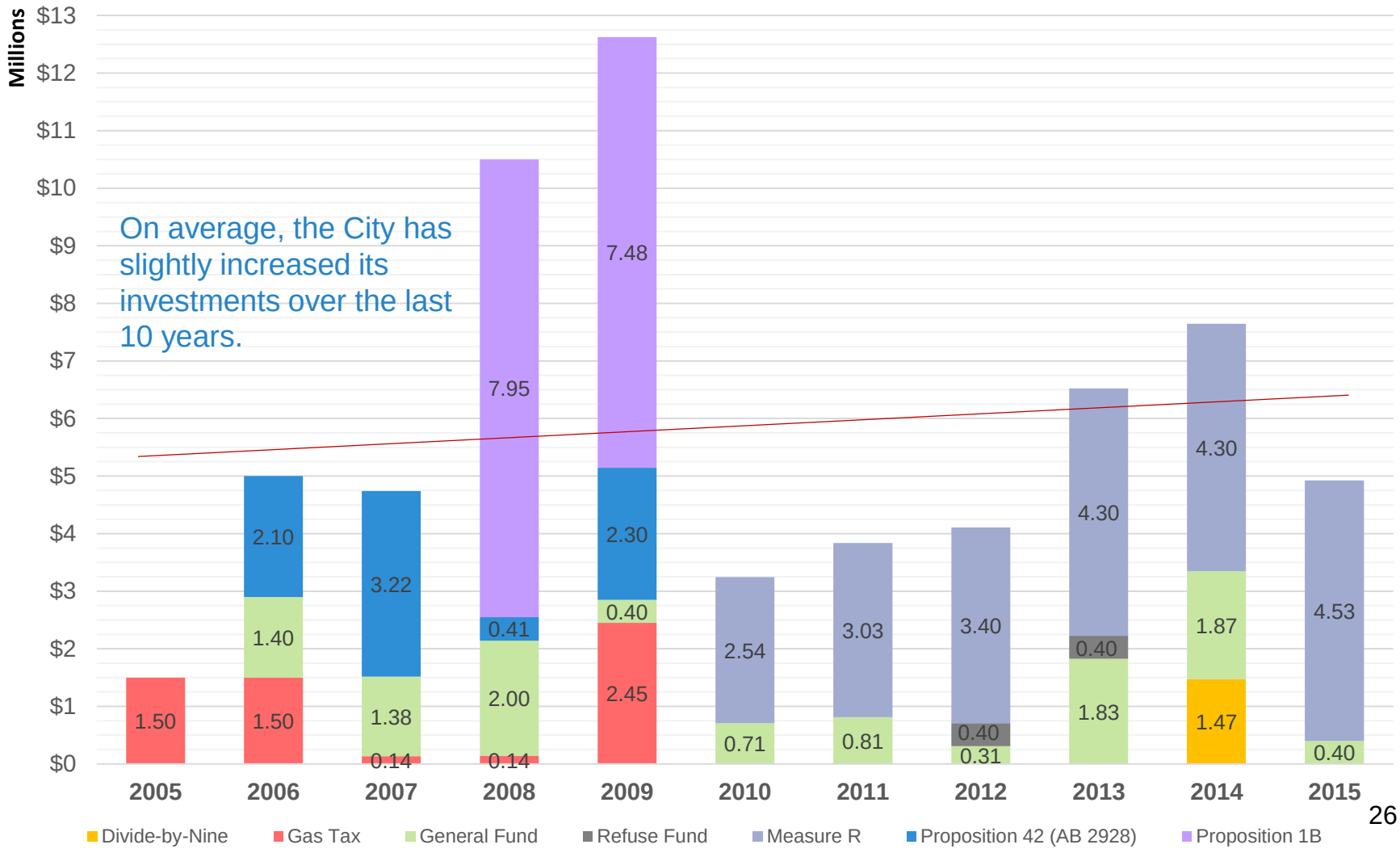
Major Streets and Secondary Highway - $11.7 million	
Source	**Percent of Total Budget**
Proposition C (County)	51 percent ($5.9 million)
Gas Tax (State)	30 percent ($3.5 million)
TEA-21/MAP-21 (Federal)	13 percent ($1.5 million)
Other (City one-time)	6 percent ($0.8 million)

Residential Streets - $6.4 million	
Source	**Percent of Total Budget**
Measure R (County)	70 percent ($4.4 million)
General Fund (City)	21 percent ($1.4 million)
Other (City and State one-time)	9 percent ($0.6 million)

Historical Investment – Major Roads



Historical Investment – Minor Roads



Findings

Findings

Annual Average CIP Budget Needs for 10 Years

MAJOR ROADWAYS			
	CURRENT	SUSTAIN	INVEST
Average PCI	60	63	69
Backlog	24%	21%	13%
Budget	$10.4 million	$11.4 million	$14.3 million
∆Current	-	$1 million	$3.9 million

MINOR ROADWAYS			
	CURRENT	SUSTAIN	INVEST
Average PCI	47.5	56	70
Backlog	53%	37%	20%
Budget	$4.9 million	$9.75 million	$16.6 million
∆Current	-	$4.85 million	$11.7 million

Going Forward

- **Investing** in our street assets today will:
  - **Yield** a higher return for the future
  - **Reduce** costs of repairing roads later
  - **Save** the City money

Going Forward

- **Develop** a policy that focuses on prioritizing streets with low PCI scores, and consolidating funds to reduce backlog of poor and very poor streets
  - Council took the first step by including an extra $1 million for PMP implementation from FY 14 fund balance
  - City Manager will make recommendations through the budget process for funding PMP to the extent possible to reduce the backlog of a 10 year horizon
  - Any significant investment will require an identified funding source
  - Staff will use the PMP as the roadmap to most efficiently fund street repairs and will bring forward a formal policy to the Council for consideration and adoption

Questions