

# Street Pavement Management Program Analysis

CIP FY24 Update Discussion  
Certificates of Obligation Issuance 2024

January 16, 2024  
City Council Meeting



# Agenda

- Summer 2023 - Capital Improvements Discussion Update
- New Pavement Analysis
- Pavements - What are They
- What is Pavement Management
- City's Current Pavement Maintenance Financing
- City's Pavement Conditions with RoadAI Scans
- Financial Planning
- Future Implementation Projects

# Update - Summer 2023

- Capital Improvement Program (CIP) FY2024 - 2029+ Plan
  - Seascape II, Baybrook III - Age
  - Main Street, Hardesty, N. Meyer - Livable Center Study
  - Commercial Road, Starboard - Developer Driven
- Introduced Pavement Condition - Weather Affected/Drought
  - E. Meyer
  - N. Meyer

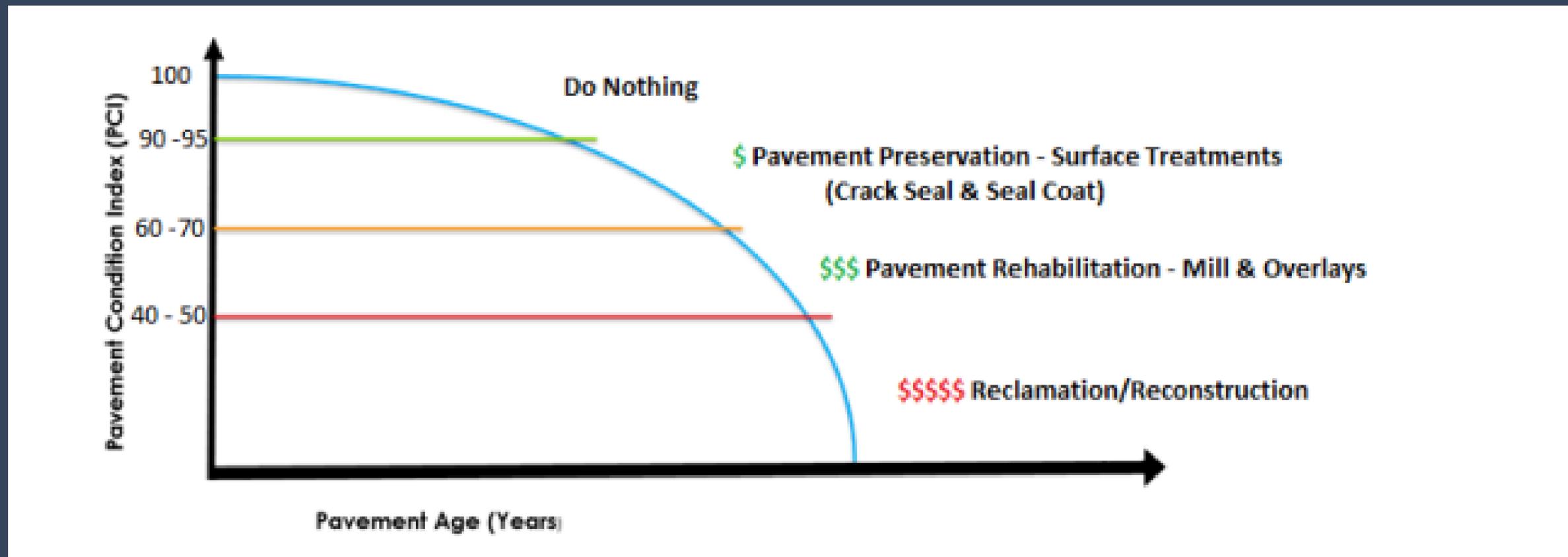
Certificate of Obligation  
Financing Tool for Infrastructure Needs

# New Street Pavement Analysis

- City Public Work staff utilized an AI tool to perform a comprehensive pavement survey using RoadAI
- The data collection using this technology was able to use one employee with 3 business days driving all streets
- The data collected has given the City staff a better analysis and survey to prioritize all city streets based on multiple variables and an overall condition

Systematic approach to forecast maintenance & rehabilitation (M&R) requirements, then optimize and prioritize available funding.

- Pavement failures can be delayed with proper pavement management



# City Streets

- 49 Total Miles of Streets
  - 19 miles are Concrete
  - 13 miles are Asphalt
  - 17 miles are combination of dirt, asphalt/concrete
- Average Overall Condition Index is 87% (1% to 100%)
- Street Maintained by County
  - Red Bluff and Todville
- Streets Maintained by State
  - NASA Pkwy and SH146

# Pavements - What are They?

- A surface material that transfers load to the underlying soil.
- Can be made from gravel, asphalt, concrete, stone, or any other material that will transfer the load.
- Each material has its own engineering properties that require different designs to transfer the loads.
- No matter how well the pavement is designed or constructed...it will fail
- Pavement distress falls into two main categories:



Weathering Failure



Load Failure

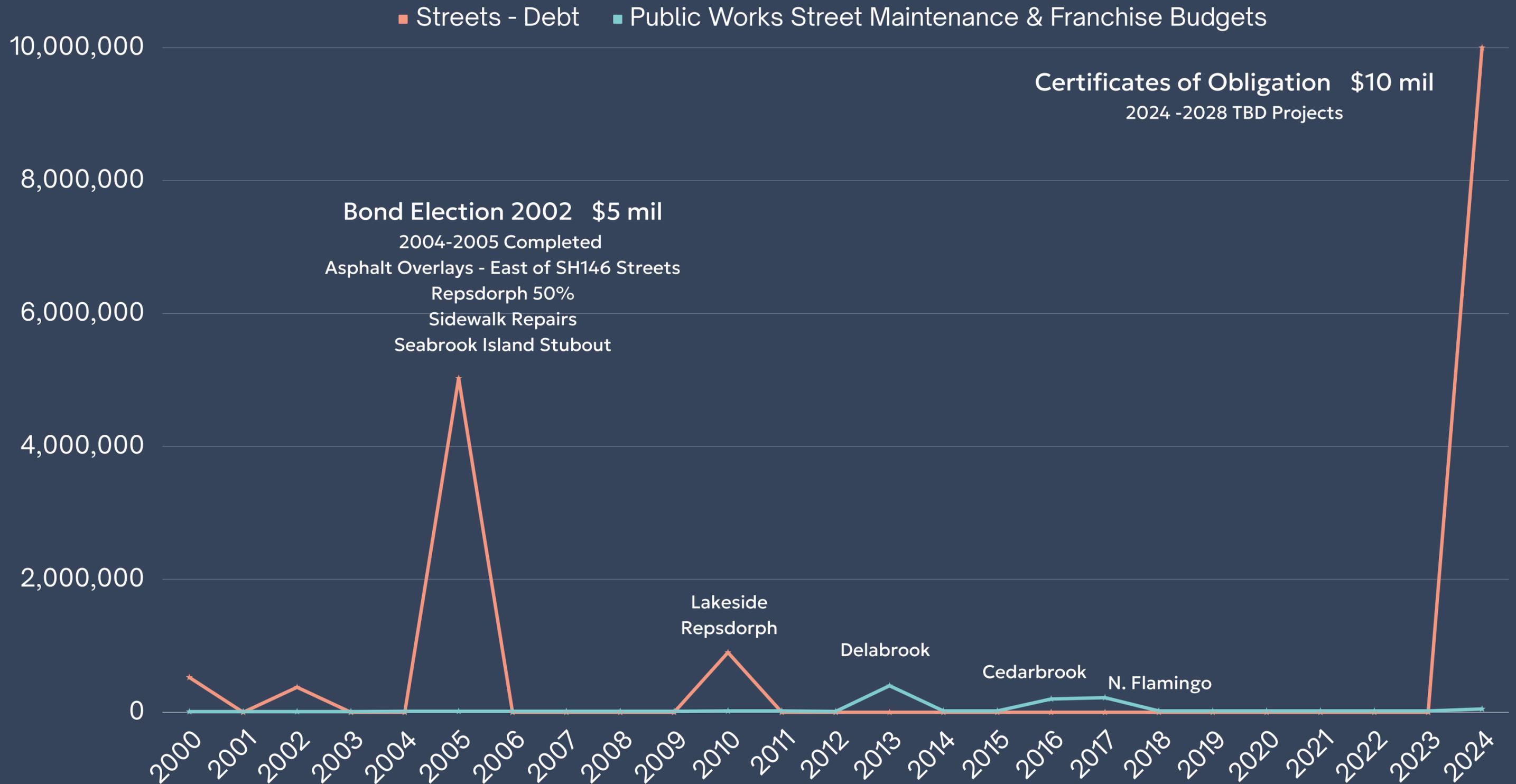
# City's Current Pavement Maintenance Financing

## Street Maintenance Funding Background

- **Primary Street Improvement Program**
  - Public Works-Streets Department - Maintenance Line Item
  - Waste Management Franchise Fees - Saved for Street Projects
- **Public Works Street Maintenance**
  - \$50,000 total line item FY24

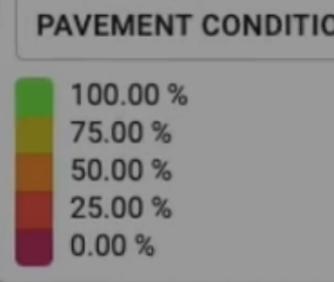
# Maintenance Financing

## Historical Street Maintenance

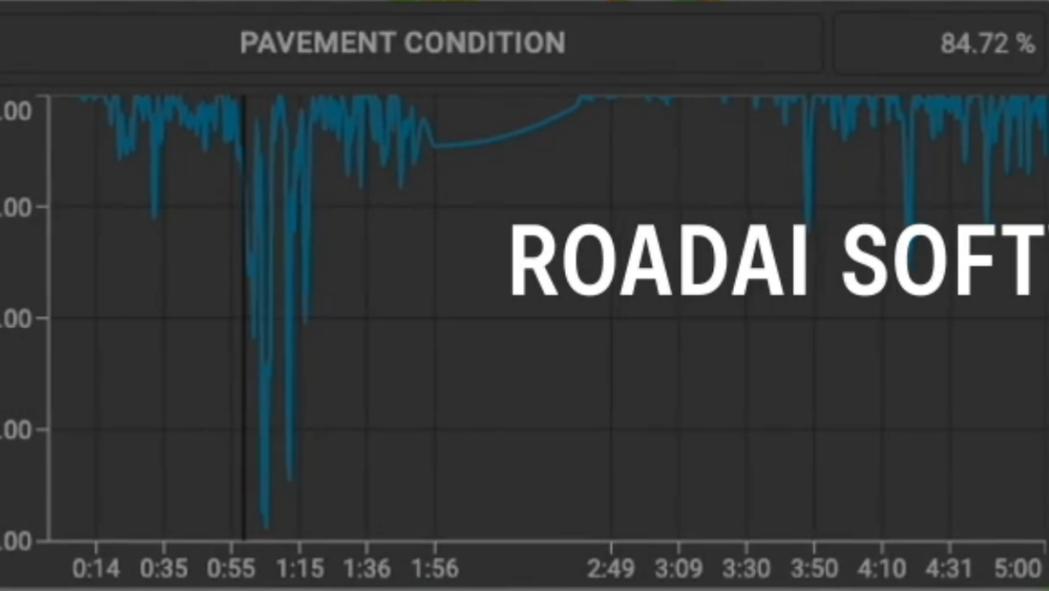


# Maintenance Financing (cont.)

- New engineering policy that arterial roads and higher will be constructed with concrete pavement
- Going forward, street improvement selection will be driven by asset management data, not ad hoc, unless partnership driven
- From FY2025, strive for funding levels to be increased in Street Maintenance to better maintain streets at Surface Treatment



# ROADAI SOFTWARE ENABLES QUICK, DETAILED ANALYSIS OF THE ENTIRE NETWORK



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# City's Pavement Conditions

Pavement Class	Surface Type	Length
Principal Arterial and Minor Arterial	Concrete	2 miles
Principal Arterial	Asphalt (City Owned)	6 miles
Minor Arterial	Asphalt and Concrete	7 miles
Local Streets	Asphalt and Concrete	34 miles
<b>Total</b>		<b>49 miles</b>

# Pavement Condition Index (PCI)



# City's Pavement Condition Summary

## Good News

- 87% of City's pavement is in Good or Satisfactory Condition
- The City's network is generally well maintained

## Bad News

- Local Streets are in worse shape and need significant funding to rehabilitate
- On average, the City will estimate a 2-5% loss in overall rating
- Majority of pavement distress is weathering related (lack of sealing)
- Majority of asphalt pavement ride quality is marginal or rough

# Financial Planning

- 2023 Condition will start at Distress Index or Pavement Condition Index (PCI) Very Poor to Poor Rankings
- Critical Condition set at 75% and annual maintenance will try to preserve with earlier prevention maintenance
- Software prioritizes any safety maintenance in general budgets
- Unit costs will be increased as CPI decreases annually in Pavement Management Plan
- Unit costs will be higher for arterial and collector street to account for added work (adding sidewalks)
- 3% inflation will be applied annually to keep new scoped CIP cost estimates current

# Steps Moving Forward on Pavement Management Program

- Exhibit - Listing of Priority Projects
- Staff will further review and prioritize future street pavement improvement projects
- Staff will review current paving specifications and standards to look for improvements
- Staff will bring recommendations back to Council each fiscal CIP Planning season for modifications in the form of
  - Update to Street Pavement Management Program

Thank you