

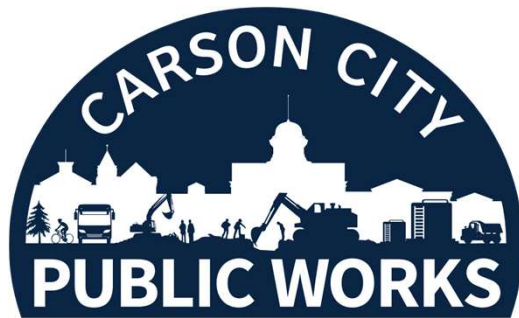
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# CARSON CITY ROADWAY FUNDING

CHRIS MARTINOVICH, PE – TRANSPORTATION MANAGER, CARSON CITY

DARREN SCHULZ, PE – DIRECTOR OF PUBLIC WORKS, CARSON CITY

APRIL 9, 2024



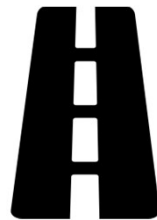
**WHAT DO WE DO?**

# THE CITY IS MORE THAN ROADS – IT’S A TRANSPORTATION SYSTEM!

## Pavement Maintenance

Actions to preserve and prolong pavement life through routine maintenance and preservation

- Pothole sealing, crack filling, slurry sealing



## Road Reconstruction

Design and construction of failed roadways



## Right-of-Way

Sweeping, snow removal



## Access, Mobility and Safety

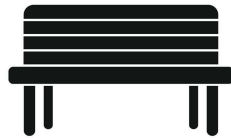
Pedestrian crossings, bike lanes, ADA sidewalks and ramps



## ROAD AND ROAD-RELATED FUNCTIONS

### Landscape and Public Spaces

Weed control, right-of-way maintenance, maintenance of landscaping and public spaces adjacent to roads



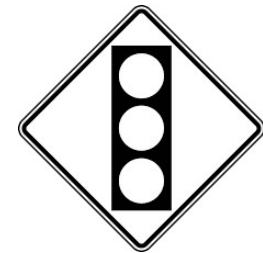
### Sidewalk Management

Inspections and repairs



### Traffic Operations

Signage, pavement markings, street lights, traffic lights



### Transit

Buses, shelters, operations





# ROAD FUNCTIONAL CLASSIFICATIONS

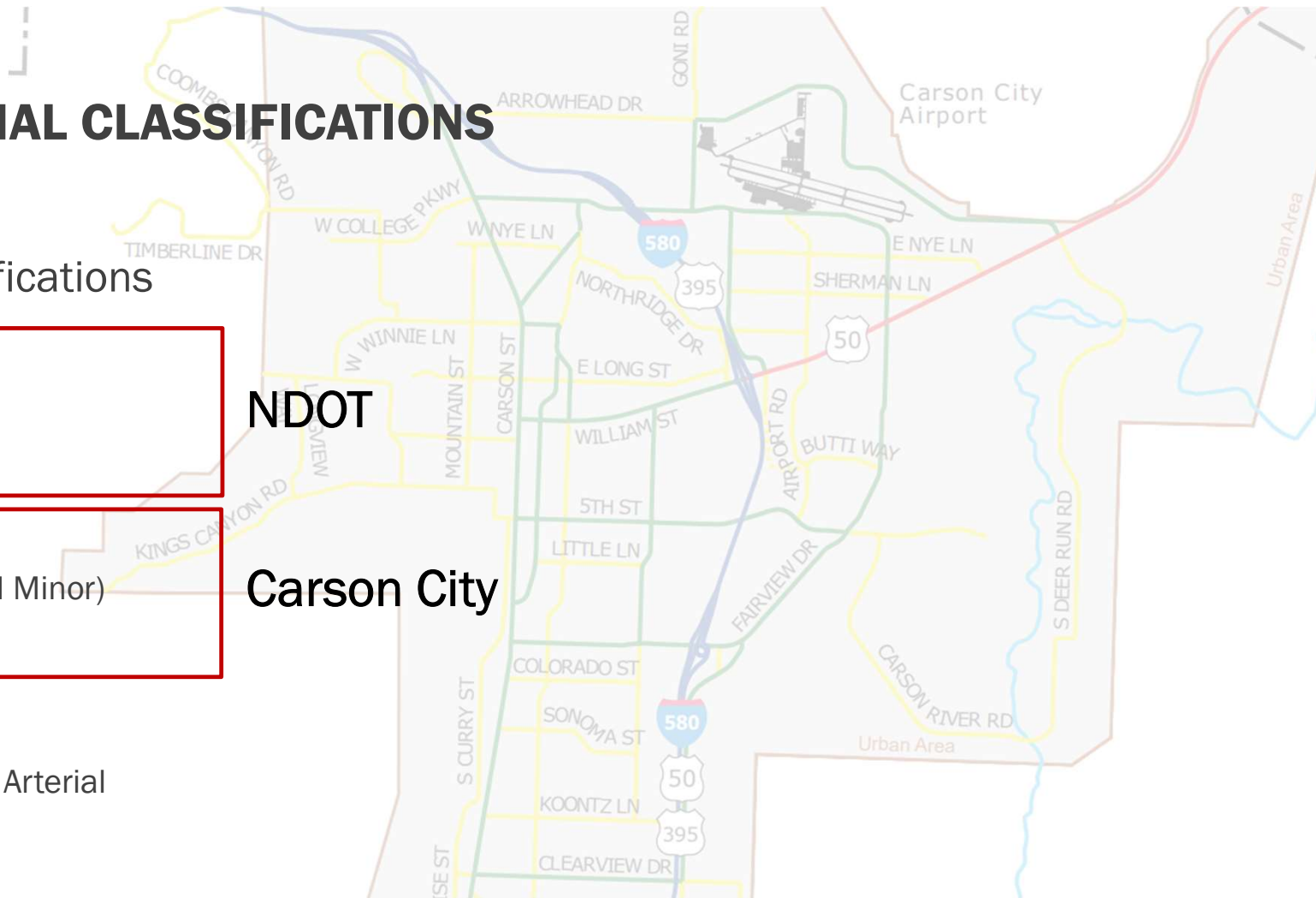
## ■ Functional Classifications

- Freeway
- Expressway
- Principal Arterial
- Minor Arterial
- Collector (Major and Minor)
- Local

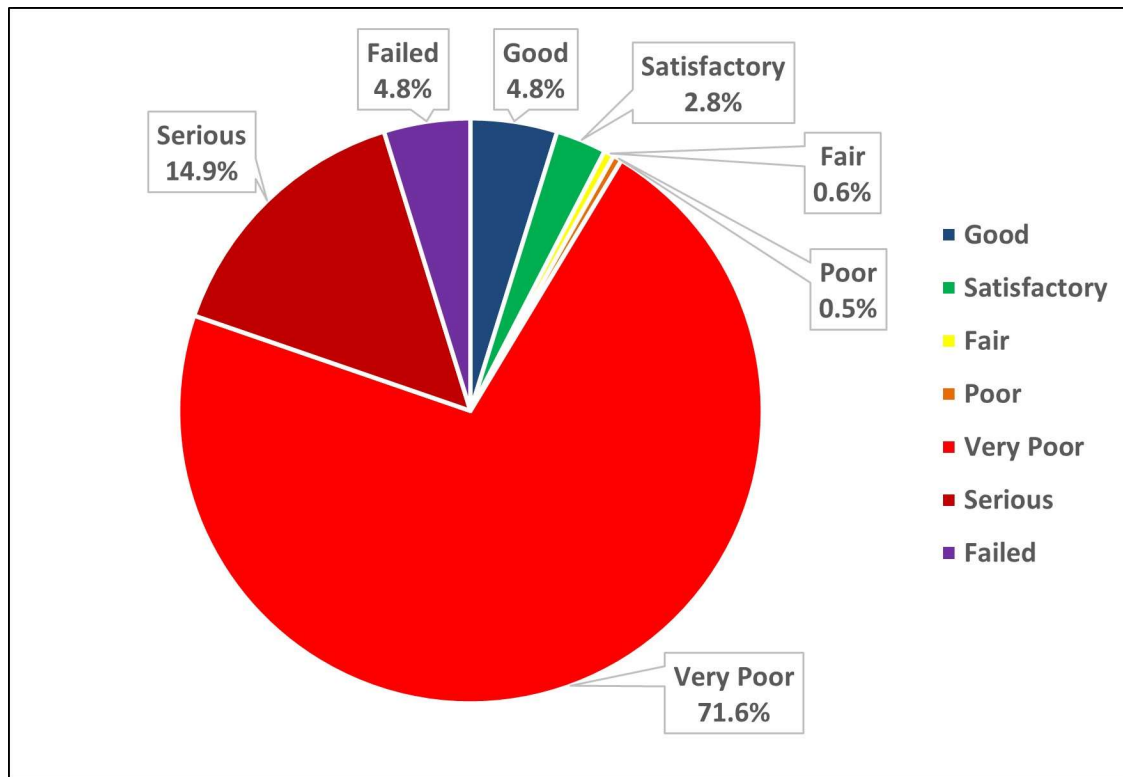
## ■ REGIONAL ROADS

- Collector and Minor Arterial

## ■ LOCAL ROADS



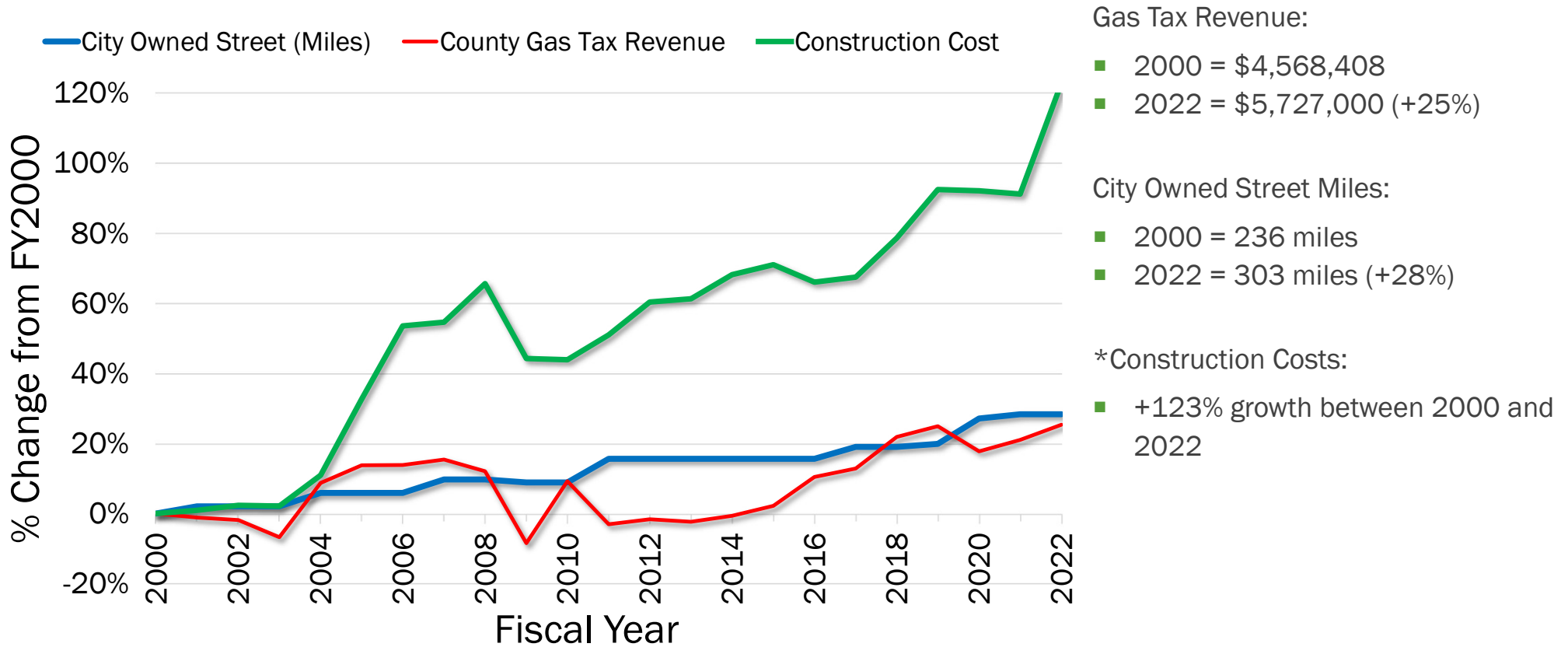
**WHAT IS THE  
PROBLEM?**



**PROJECT  
PAVEMENT  
CONDITION WITH  
CURRENT  
REVENUE**

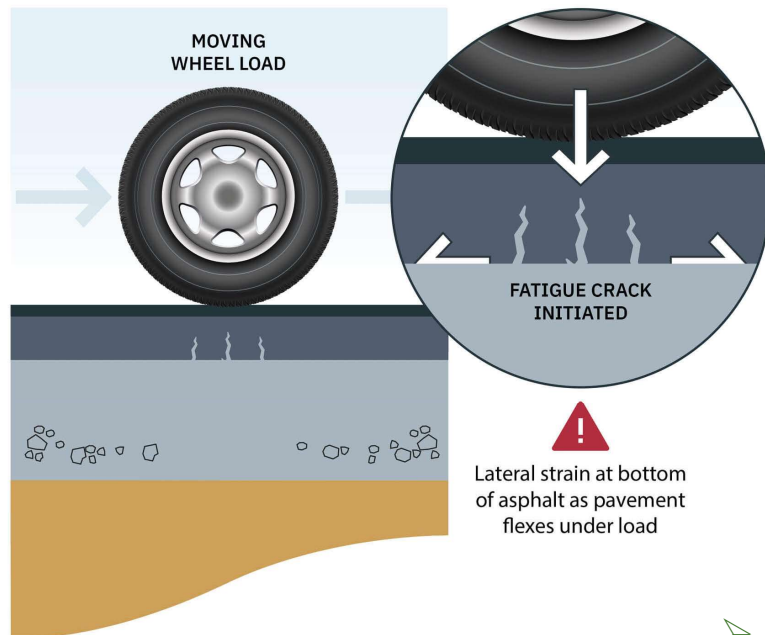
**2050**

## CHANGES IN REVENUE AND CONSTRUCTION COST (FY 2000 TO FY 2022)



\* National Highway Construction Cost Index (NHCCI) provided by FHWA

## WHY DO ROADS FALL APART?



- Weather Conditions
- Vehicle use and loading
- Soil Conditions
- Cuts and patches

➤ Even with no traffic use, roads will still fall apart.

## WAYS PAVEMENTS FALL APART

- Potholes
- Cracking
  - Thermal
  - Block
  - Alligator
- Raveling
- Rutting

Raveling

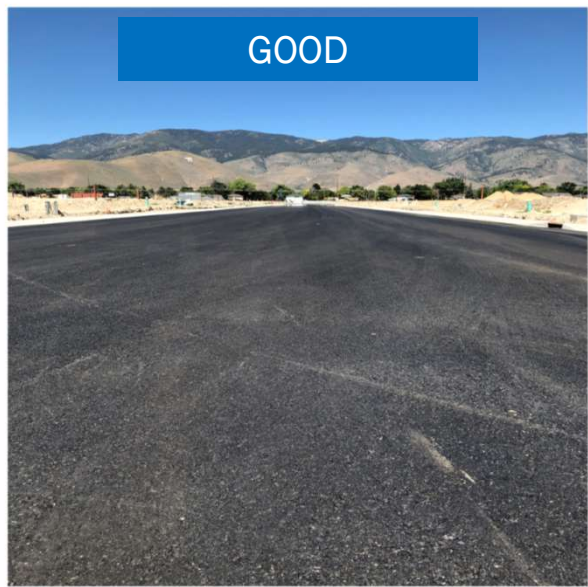


Thermal Crack

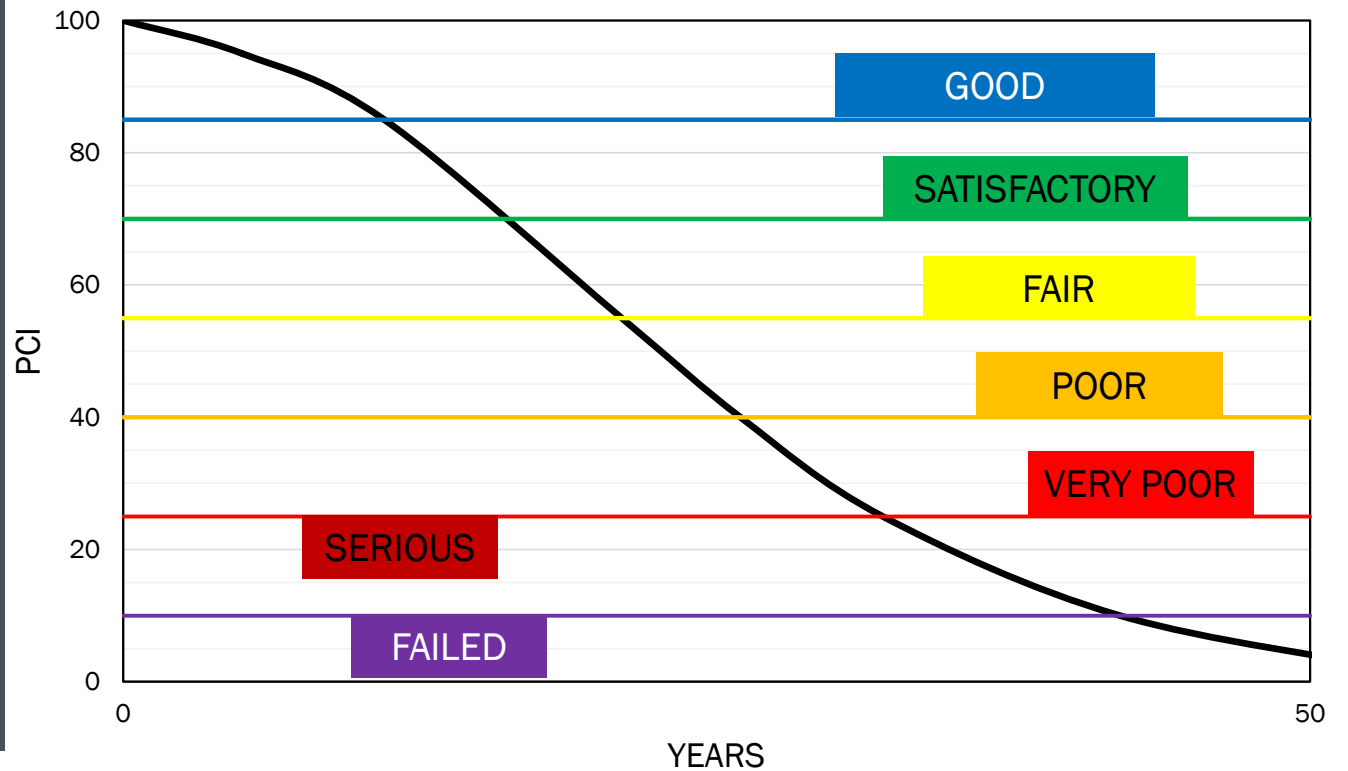
Rutting



# PAVEMENT CONDITIONS AND ANALYSIS



- Pavement Condition Index (PCI)
- PAVER Asset Management Software









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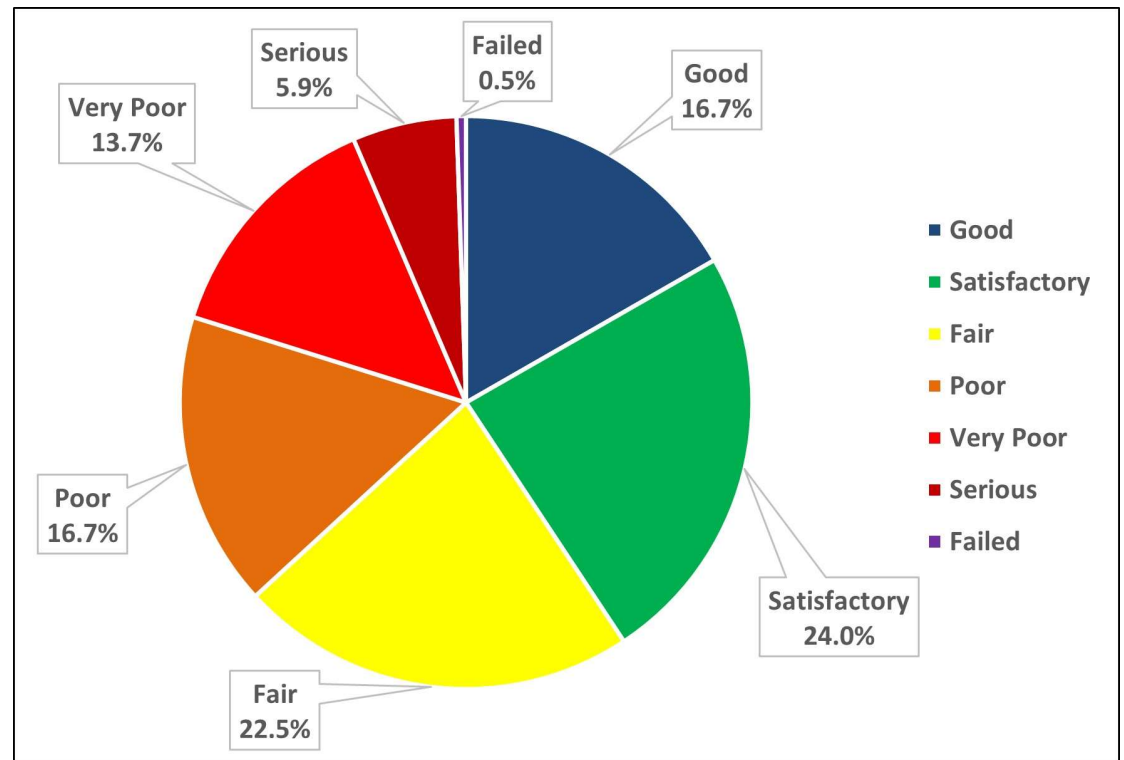
## PAVEMENT SURVEY AND ANALYSIS



- Physical data collection (Survey) completed every few years
- Data collected is input into a pavement management software (PAVER)
- Includes every segment of publicly owned, paved road in Carson City
- Assigns a PCI to each segment of road
- Can predict future conditions based on historical data and age of road

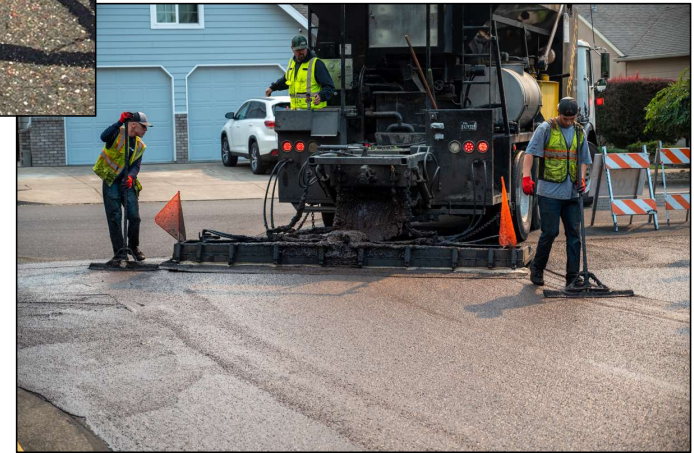
## NETWORK CONDITIONS (SPRING 2022)

Facility Type	PCI		Percent Change 2017 to 2022
	2017	2022	
Regional Roads	67	74	10%
Local Roads	61	56	-9%
All Roads	63	62	-2%

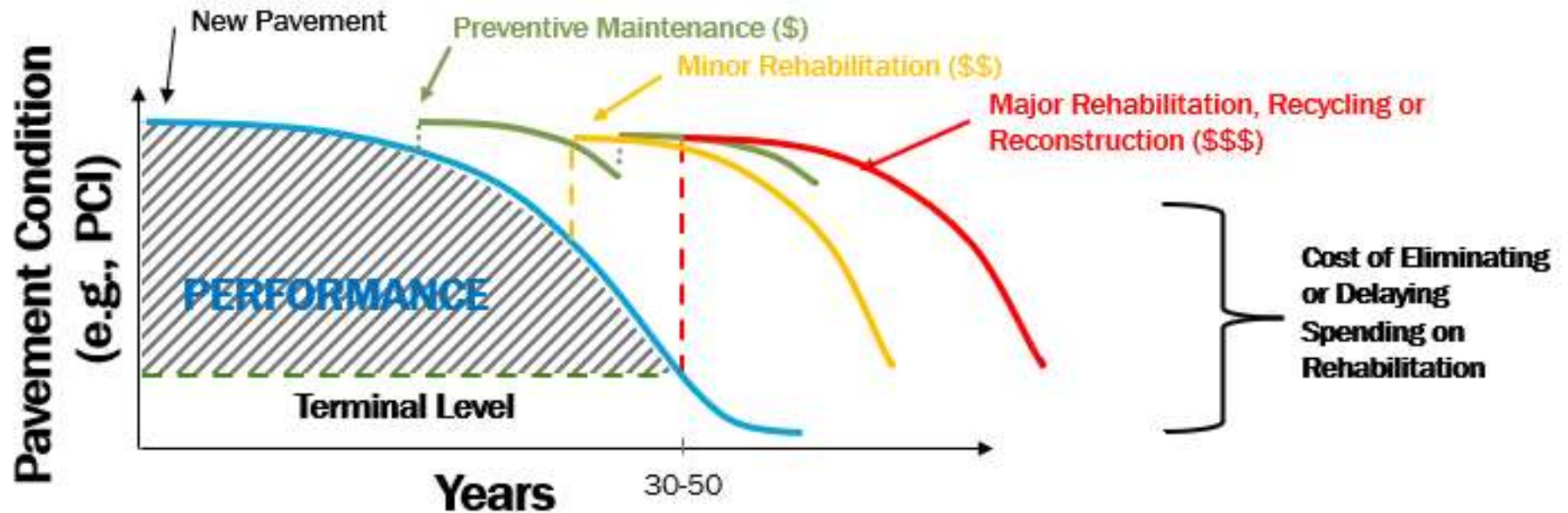


## HOW DO WE FIX ROADS?

- Stop-gap (Crack sealing)
- Preventative (Slurry or Surface Treatment)
- Rehabilitation (Mill and/or Overlay)
- Reconstruction (remove and repave with new pavement)



# Do Nothing Option aka “Maintain the Status Quo”



# MODELING

- Takes condition from survey and assesses need of the segment – 4 categories
  - Stop-gap (Crack sealing)
  - Preventative (Slurry)
  - Rehabilitation (Mill and overlay)
  - Reconstruction (remove and repave)
- Applies the cost parameters input by staff for each of those needs
- Iterates across Carson City over a given time, picking and choosing segments of road that will:
  - 1) meet the target condition, or
  - 2) maximize the available budget
- Results in future modeling scenarios

## Cost Parameters Used in PAVER

- Stop Gap = \$0.75/ ft
- Preventative = \$0.32/ sq ft
- Rehabilitation = \$3.00/ sq ft
- Reconstruction = \$4.00/ sq ft

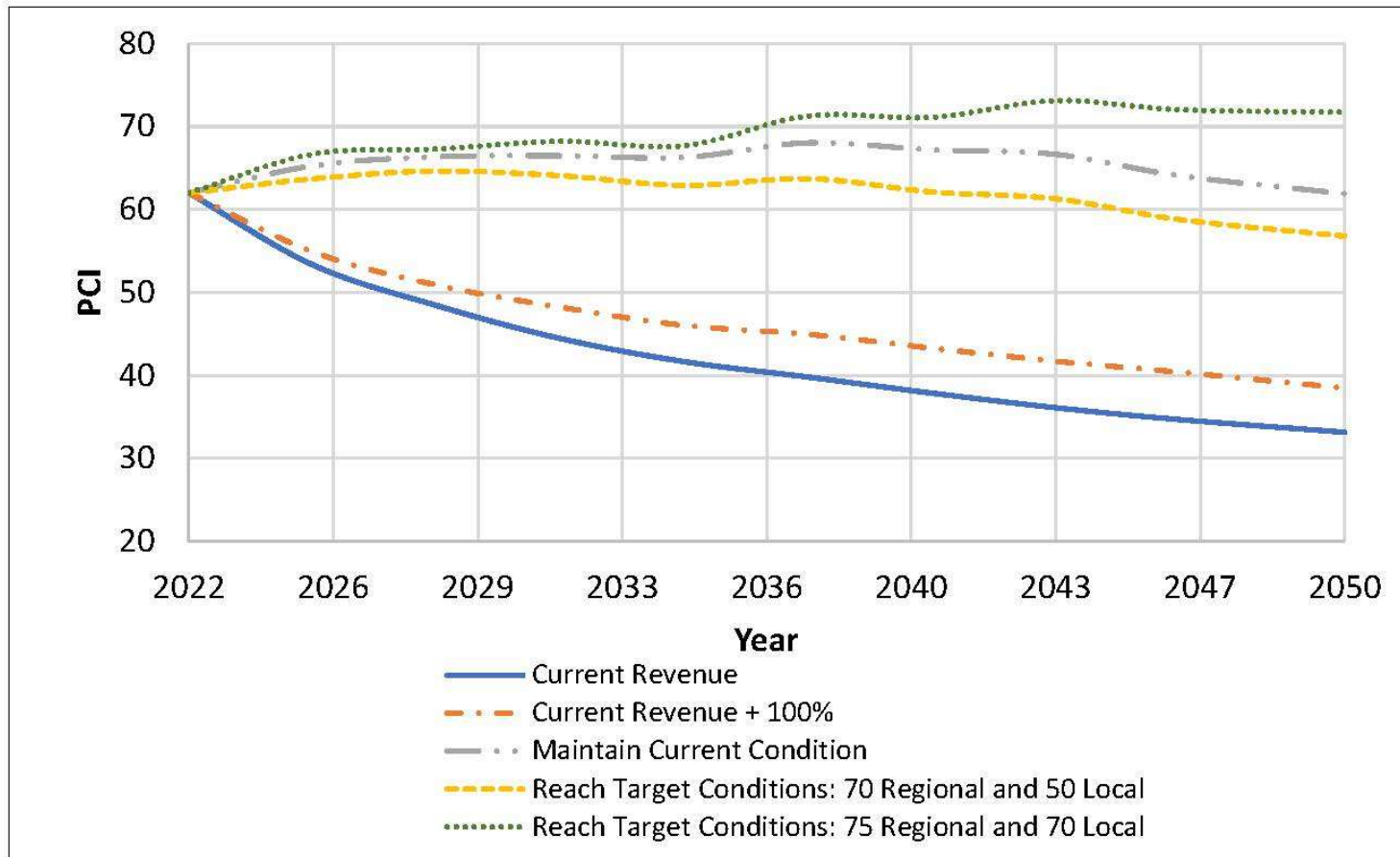
## ANALYSIS BY YEAR

Category	Preventive	Preservation			Major			Total		
Year	Cost (\$)	Cost (\$)	Treated Area (ft <sup>2</sup> )	Centerline Miles Treated	Cost (\$)	Treated Area (ft <sup>2</sup> )	Centerline Miles Treated	Cost (\$)	Treated Area (ft <sup>2</sup> )	Centerline Miles Treated
2024	\$3,369,874	\$7,554,608	9,632,341	48	\$13,843,121	1,486,538	5	\$24,767,603	11,118,879	53
2025	\$2,032,975	\$3,891,443	6,139,325	34	\$18,678,683	2,294,125	11	\$24,603,101	8,433,450	45
2026	\$1,698,309	\$461,296	706,565	2	\$23,479,986	2,557,275	12	\$25,639,590	3,263,840	15
2027	\$2,351,332	\$336,575	500,516	2	\$22,153,027	2,507,847	13	\$24,840,934	3,008,363	15
2028	\$3,190,343	\$749,119	1,081,556	5	\$19,753,294	2,187,091	12	\$23,692,756	3,268,647	17
2029	\$4,092,289	\$1,894,759	2,655,920	13	\$16,345,856	1,795,369	9	\$22,332,904	4,451,289	21
2030	\$4,035,841	\$10,921,377	14,862,822	80	\$5,817,723	713,176	3	\$20,774,941	15,575,998	83

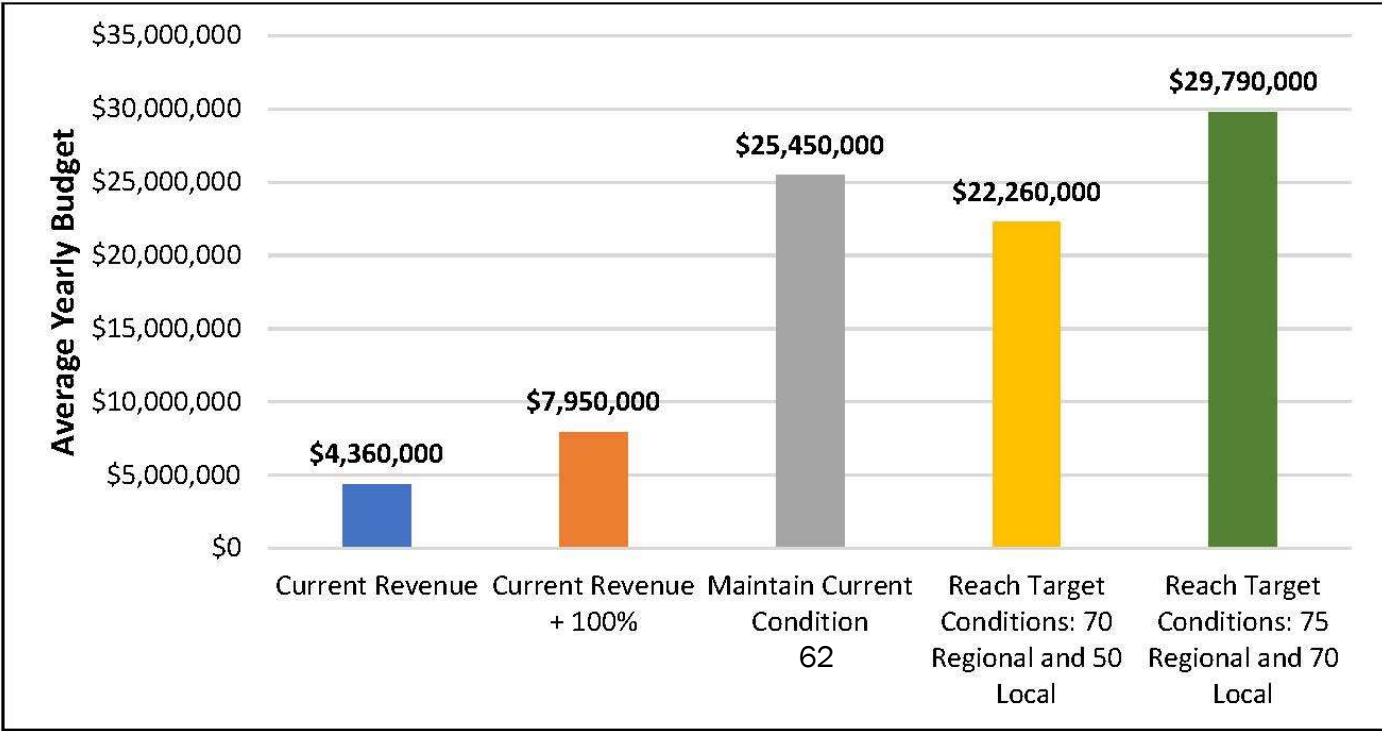
- Results change each time a project gets completed and PAVER database is updated.



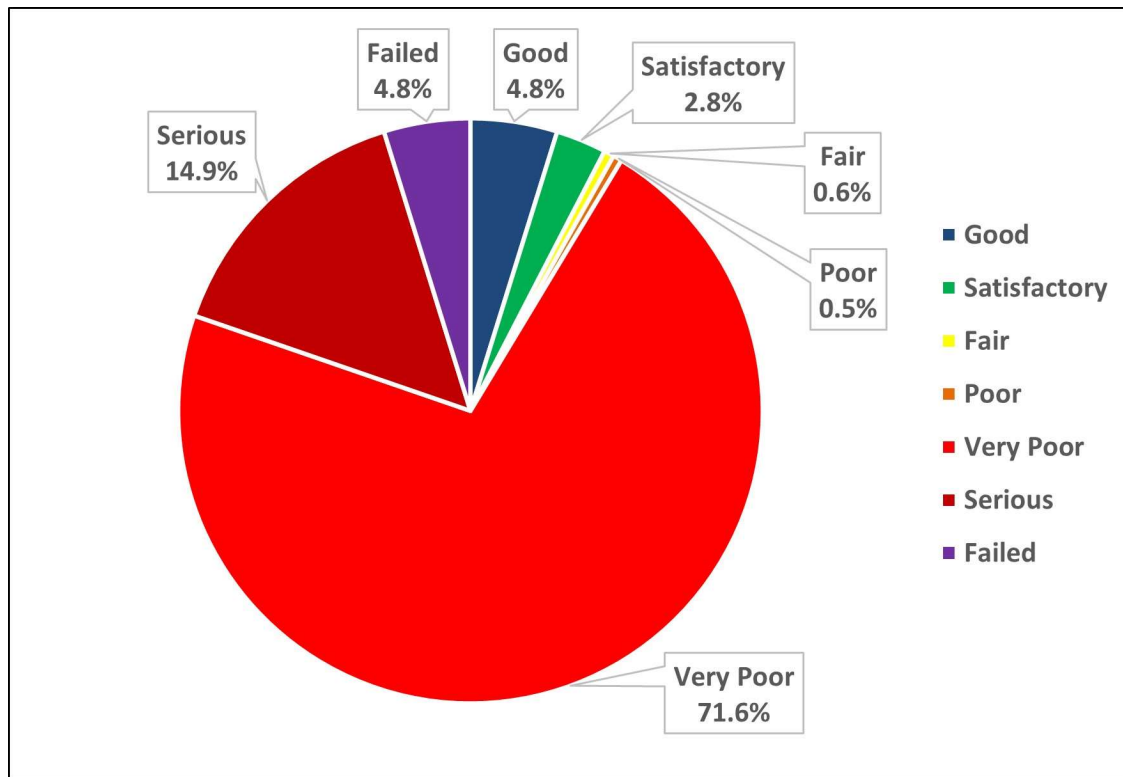
## PCI CONDITION OVER TIME – ALL ROADS



# Cost to Maintain – All Roads







**PROJECT  
PAVEMENT  
CONDITION WITH  
CURRENT  
REVENUE**

**2050 PCI =  
33**

**PAST -  
HISTORY OF ROAD  
FUNDING IN CARSON  
CITY**

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## Primary Revenue Sources for Street Maintenance in Carson City

- City budget includes two funds which pay for street maintenance – RTC and Street Maintenance Funds
  - 1) RTC Fund: Fuel & Diesel Tax is primary funding source – 9 cents per gallon gas, 5 cents per gallon on diesel
  - 2) Street Maintenance Fund:
    - Motor Fuel Tax – 6.35 cents per gallon
    - Sales Tax – .25% citywide sales and use tax (varies with taxable sales in the City, generally more variable than motor fuel tax revenue)



## CARSON CITY FUEL TAX

- Gas tax in Carson City is 15.35 cents per gallon
  - 5.35-cent mandated by NRS
  - 4.0-cent authorized in 1977
  - 1.0-cent authorized in 1986
  - 5.0-cent authorized in 1997
- Diesel tax in Carson City is 5 cents per gallon
  - 5.0-cent authorized in 2022

---

## **PRICE OF GAS IS INCREASING THE TAX ON GAS IS NOT!**

In 2000, a gallon of gas cost \$1.25

- Of that, 15.35 cents went to Carson City for roads; that's 12.3% of the cost of your gallon of gas going to fix Carson City roads.

In 2024, a gallon of gas cost \$4.25

- Of that, 15.35 cents went to Carson City for roads:
  - that's 3.6% of the cost of your gallon of gas going to fix Carson City roads.

## OTHER TAXES ON FUEL:

	Federal *	State of Nevada **
Gasoline	\$0.184/gallon	\$0.24/gallon
Diesel	\$0.244/gallon	\$0.28/gallon

\*Last increase in 1993

\*\*Last increase in 1994



## SALES TAX

- .25% sales tax for Streets Maintenance: authorized in 1986 by voters.
- The total Sales tax for Carson City is 7.6%
  - .25% Quality of Life
  - .25% Street Maintenance
  - .125% V&T and Streets & Highways
  - .125% Infrastructure Projects
  - 2% State
  - 2.6% School District
  - 2.25% Carson City General Fund (Consolidated Tax Distribution)

---

## **FY 2024 COUNTY SALES TAX RATES**

■ Carson City	\$7.600	■ Lyon	\$7.100
■ Churchill	\$7.600	■ Mineral	\$6.850
■ Clark	\$8.375	■ Nye	\$7.600
■ Douglas	\$7.100	■ Pershing	\$7.100
■ Elko	\$7.100	■ Storey	\$7.600
■ Esmeralda	\$6.850	■ Washoe	\$8.265
■ Eureka	\$6.850	■ White Pine	\$7.725
■ Humboldt	\$6.850		
■ Lander	\$7.100		
■ Lincoln	\$7.100		



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## **OTHER REVENUE FOR ROADS:**

- Waste Management Fee: Enacted by BOS in 2019 when new solid waste contract was started. Generates approximately \$360,000/year.
- V&T Fund: Enacted by BOS in 2018 when there was additional funding available in the fund after the V&T Bond payment was made. Generates approximately \$425,000/year.
- BOS allocates additional General Fund towards roads most years from previous years' savings and designated \$2.5M in ARPA funding toward roads.
- Federal and State grants contribute approximately \$3M/year on average toward transportation projects over the past 10 years.

---

## **“DISCUSSION” HISTORY OF ROAD FUNDING IN CARSON CITY:**

- 1) The road funding issue has always been there, but started to get exponentially worse approximately 10-15 years ago.
- 2) During this time the “gap” between roadway funding available and cost for maintenance was growing larger.
- 3) The RTC and BOS recognized the problem and directed staff to create a working resident committee and look for possible solutions.
- 4) Transportation Resource Advisory Forum for Carson City (TRAFCC) was formed in 2016.
- 5) Fuel Revenue Indexing was the selected “new” potential funding source and was put on the ballot in November 2016.

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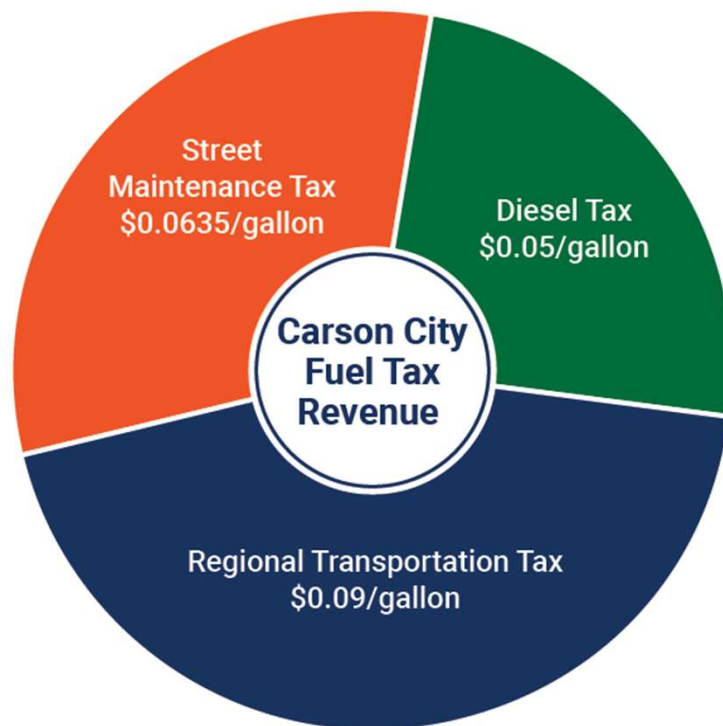
## **“DISCUSSION” HISTORY OF ROAD FUNDING IN CARSON CITY (CONT.):**

- 6) The Ballot measure did not pass.
- 7) RTC requested staff to then focus on funding currently available and prioritization of projects by best-practices. This resulted in funding primarily going to arterials and collectors.
  - 1) Arterials /Collectors – about 30% mileage, 70% traffic
  - 2) Local Roads – about 70% mileage, 30% traffic
- 8) Once majority of resources were directed to arterials/collector roads, local roads degraded even more. Created even more complaints.
- 9) Staff directed by BOS in 2021 to research alternative street funding options.

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# **CURRENT - FUNDING REVENUE AND EXPENSE**

# CURRENT LOCAL REVENUE SOURCES FOR ROAD RELATED FEATURES

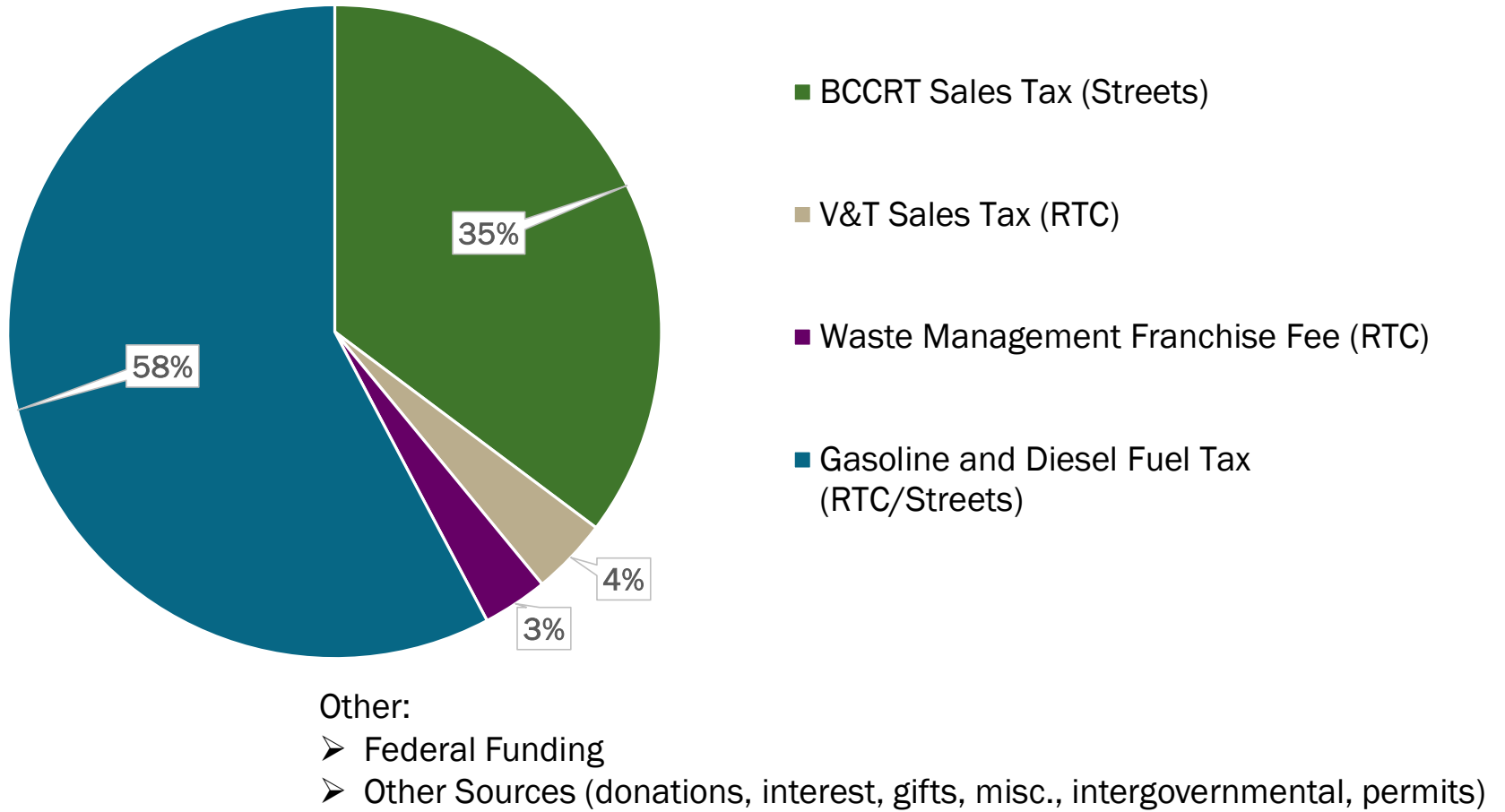


Total Fuel Tax Revenue by Fiscal Year

Fiscal Year	Total Fuel Tax Revenue
2019	\$5,965,014
2020	\$5,379,542
2021	\$6,012,413
2022	\$6,380,804
2023	\$6,475,257

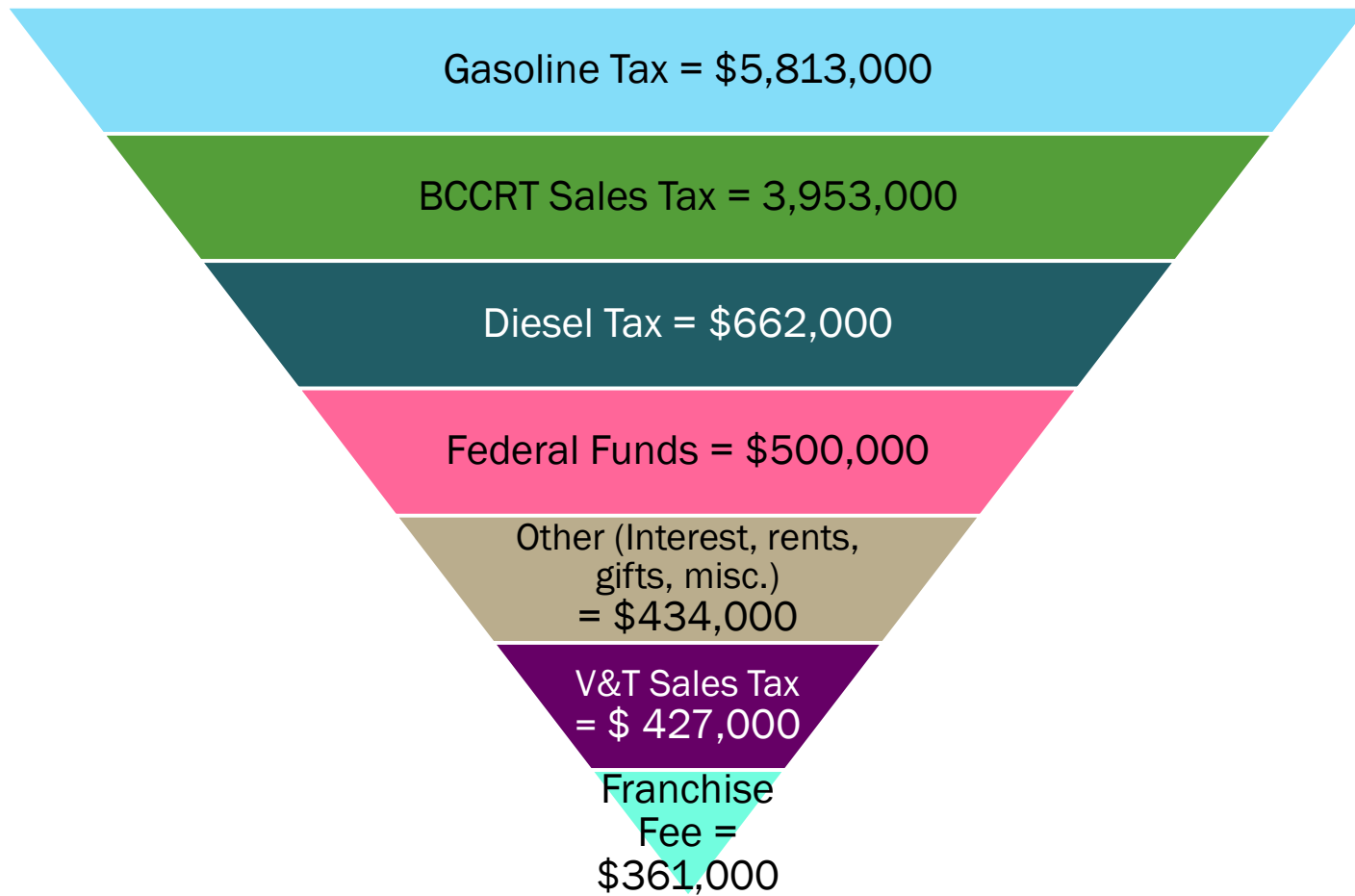
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## Approximate Local Roadway and Maintenance Funding by Source



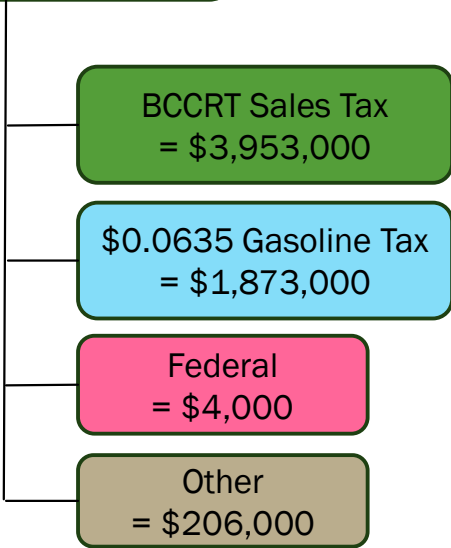
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## FUNDING SOURCE REVENUE (FY 2023)

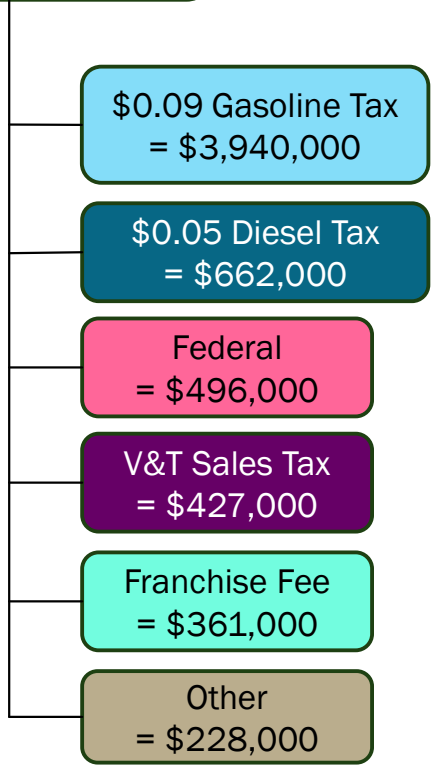


# REVENUE DISTRIBUTION FOR FY 2023

Street Operations Division  
= \$6.04M



Transportation Division (RTC)  
= \$6.11M



FY 2023 Total Local Revenue = \$11.7M

FY 2023 Total Revenue = \$12.2M



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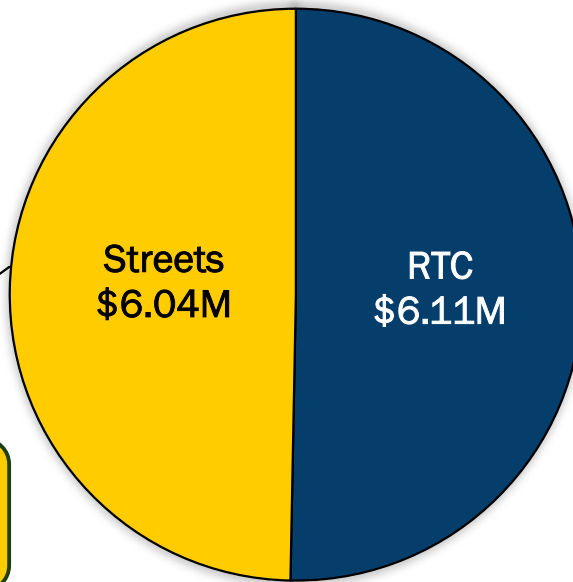
## OTHER POSSIBLE ONE-TIME REVENUE SOURCES

- Example Local, State and Federal Sources
  - General Fund Transfers
  - Surface Transportation Block Grants
  - Community Development Block Grants
  - Transportation Alternatives Grants
  - TIGER/RAISE Grants
  - Safety Grants
  - Congressional Earmarks
  - Federal Transit Administration
- The Good and the Bad of Other Sources
  - High funding potential
  - Can fix large sections of road
  - Project specific
  - Not reliable
  - Limitations on the use of funds
  - Additional tasks
  - Longer project delivery times

➤ Staff will continue to strategically pursue discretionary federal funding.

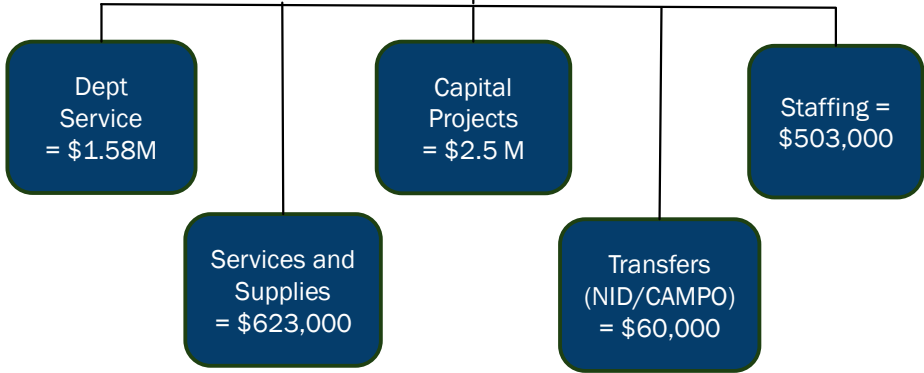
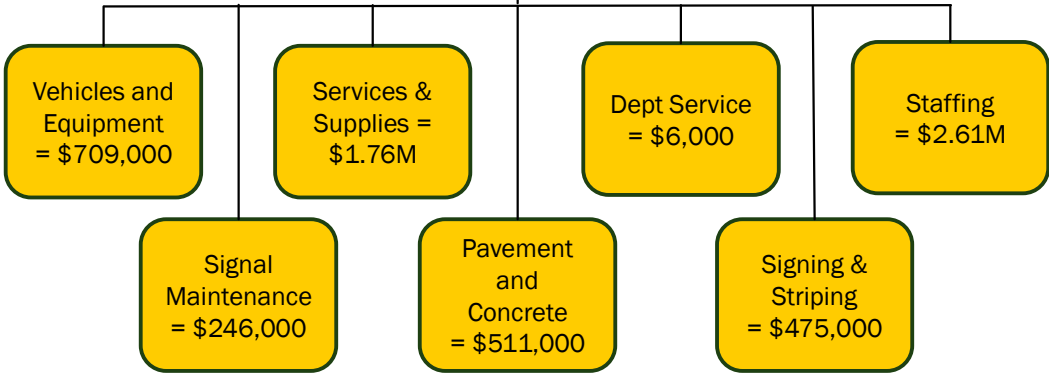
# FY 2023 EXPENSES

➤ FY 2023 Total Expense = \$11.5M



Street Operations Division Expenditures = \$6.3M

Transportation Division Expenditures = \$5.2M



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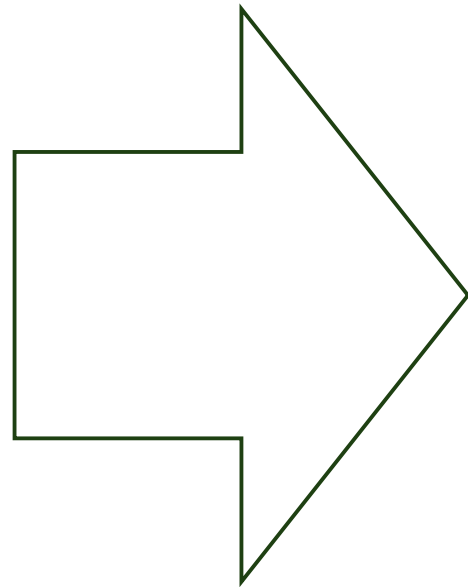
## FUNDING FOR PROJECTS

30% of Staffing  
= \$785,000

Pavement and  
Concrete  
= \$511,000

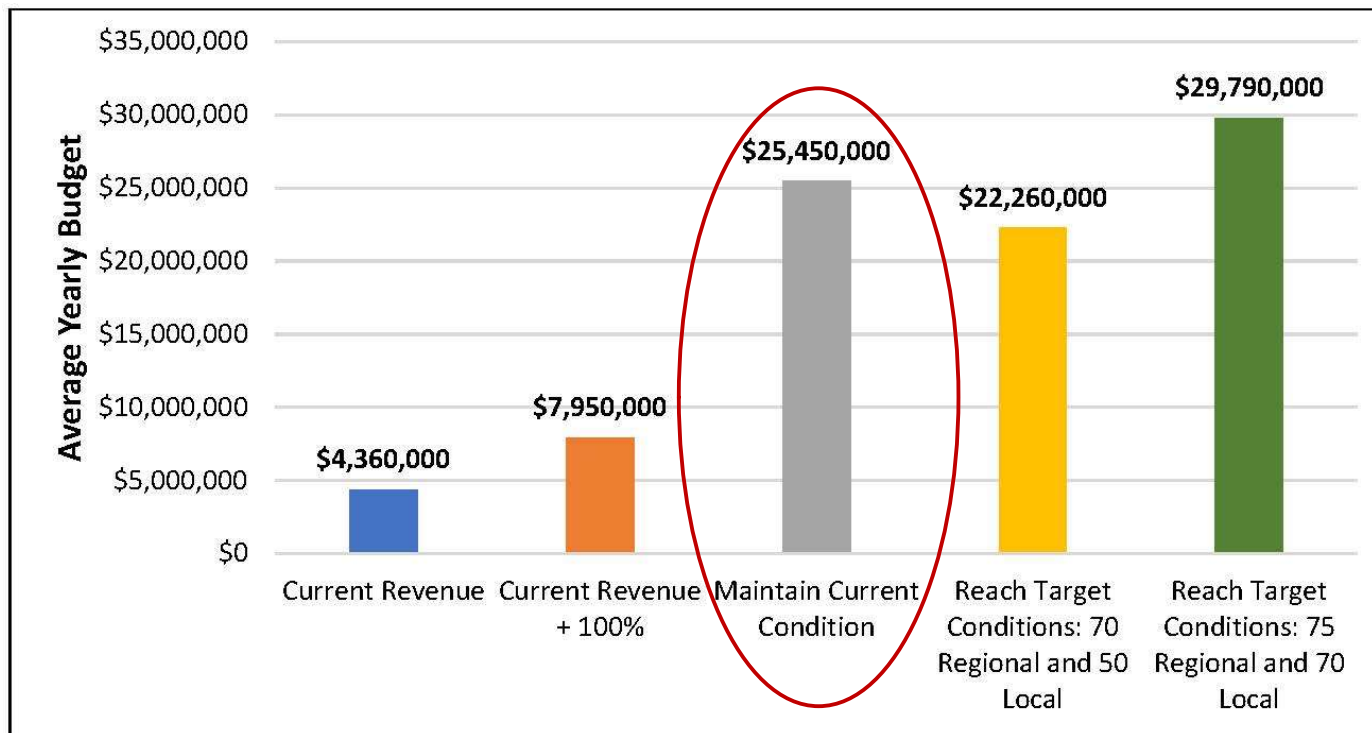
Signing &  
Striping  
= \$475,000

Capital Projects  
= \$2.5 M



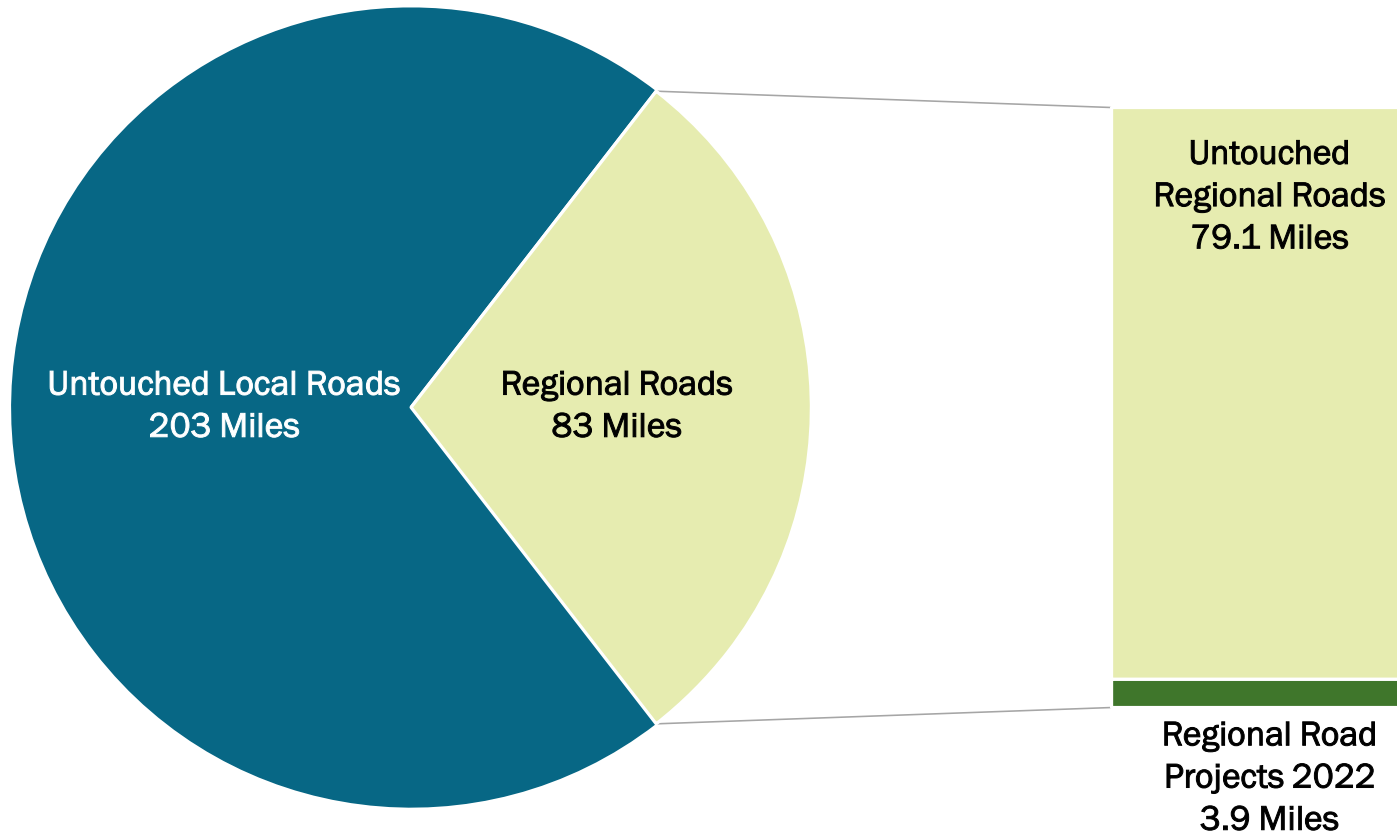
**= \$4.5 M**  
**ON AVERAGE PER FISCAL YEAR**

# Funding Gap – All Roads



**FUNDING GAP: \$25.5 M – \$4.5 M = \$21.0M**

**286 PAVED CENTERLINE MILES OF ROADWAY OWNED AND MAINTAINED BY  
CARSON CITY**



**TODAY –  
LOCAL ROADWAY  
FUNDING PROJECT**

## ROADWAY FUNDING



- Carson City kicked off an educational and outreach campaign designed to educate Carson City residents about current roadway conditions, preservation solutions, funding sources, and what will happen if an investment to preserve Carson City roads is not made.
- Project Website: [www.preservecarsoncityroads.com](http://www.preservecarsoncityroads.com)
- Public Workshops
  - October 2023 and March 2024
- Several past and future RTC and Board of Supervisors Presentations

## POSSIBLE MECHANISMS

- Several Funding Mechanisms
  - New Diesel Tax – PASSED!
  - Increase Gas Tax NRS 373 (Washoe and Clark County)
  - Property Tax Override
  - Local Improvement Districts NRS 271
  - General Improvement District NRS 318
  - Special Purpose Transportation Sales Tax NRS 377A
  - Infrastructure Sales Tax – V&T NRS 377B - Existing
  - Transportation Utility
  - Government Services Tax NRS 371
  - Road User Charge
  - Marijuana Tax



## POSSIBLE MECHANISMS

- BOS approved investigation of 4 possible funding mechanisms
  - NRS 271 (Local Improvement Districts)
  - NRS 318 (General Improvement District- GID)
  - NRS 377A (Special Purpose Transportation Sales Tax)
  - NRS 377B (Infrastructure Sales Tax) – V&T
- Government Services Tax – NRS 371
- Working with a consultant to evaluate the options for these mechanisms. How much funding each could raise, at what cost to residents, and how existing funding sources can be utilized differently in a more efficient manner.

## Local Special Improvements Districts (SID)s

NRS 271 **NEW**

Improvement Districts formed for discrete road and sidewalk projects in defined geographies

### Implementation

Formed at request of neighborhoods

## LOCAL IMPROVEMENT DISTRICTS

- Summary:
  - Small, localized districts formed at the request of neighborhoods.
  - Project specific
  - Those effected by the project pay for the project
  - Project specific assessments for a set length of time
  - When project is complete and paid for, the assessment ends.
- Revenue potential: Varies - project specific
- Notes:
  - Not a long-term, sustainable funding solution
  - Administration by the City
  - Equity
- Implementation: Remains an option if requested. Formed per NRS 271.280

## Infrastructure Sales Tax

NRS 377B **EXISTING**

**Continued** collection of 0.125% sales tax applicable to all taxable transactions within the City that is **currently used for V&T bond repayment**

### Implementation

Board of Supervisors approval following repayment of bonds

# INFRASTRUCTURE SALES TAX

- Summary:
  - Existing 0.125% sales tax.
  - Approved to fund a portion of the V&T Railroad reconstruction – Bonds
  - Tax generates additional revenue than is required to pay the bonds
  - In 2018, BOS approved a plan of expenditures to direct the excess funds to regional roads.
- Revenue Potential: Current = \$450 - \$500k per year. Future = \$2M per year
- Notes:
  - Still paying bonds for a couple more years
- Upon repayment of bonds, sales tax could be redirected to roads with 2/3 majority of Board of Supervisors.

## Special Purposes (Transportation) Sales Tax

NRS 377A **NEW**

Up to an additional 0.25% sales tax applicable to all taxable transactions within the City specifically dedicated to roads funding

### Implementation

Take to ballot in 2024 - Pending Board of Supervisors

# SPECIAL PURPOSES SALES TAX

- Summary:
  - Implement a new 0.25% sales tax on goods and services in Carson City
  - Used for the construction, maintenance and repair of public roads
- Revenue Potential: Similar to existing BCCRT = \$4M - \$4.5M per year
- Notes:
  - RTC recommended that sales tax be used on local roads only.
- Implementation: Voter approval is required. Pending BOS approval to place on the November 2024 ballot.

## Supplemental Government Service Tax

NRS 371 **NEW**

A 1% tax on new and annual vehicle registration (vehicle value depreciated with age) to pay for construction & maintenance of sidewalks & streets, collected by DMV

### Implementation

Take to ballot in 2024 - Pending Board of Supervisors

# SUPPLEMENTAL GOVERNMENT SERVICES TAX

- Summary:
  - A new 1% tax on vehicle registrations for any vehicle registered in Carson City
  - Rate based on purchase price and decreases as vehicle ages.
    - Max is 1% of 35% of vehicle's value.
    - Min is 15% of the max at year 9.
- Revenue Potential: = \$2M per year
- Notes:
  - Some GST is already applied by State of Nevada
- Implementation: Voter approval is required. Pending BOS approval to place on the November 2024 ballot.

#### Car Purchase price = \$50,000

- Initial Sup. GST =  
 $(50,000) * (.35) * (1) * (.01)$   
= \$175 / year
- Year 9+ Sup. GST =  
 $(50,000) * (.35) * (.15) * (.01)$   
= \$26.25 / year

## General Improvement District (GID)

NRS 318 **NEW**

Separate legal entity responsible solely for maintenance of streets and alleys; could include curbs, gutter, and sidewalks, street lighting and snow removal in authorized powers

### Implementation

Board of Supervisors; unless majority effected oppose

## GENERAL IMPROVEMENT DISTRICT (GID)

- Summary:
  - Creating of a new, separate agency solely for maintenance of roads and related elements.
  - Can also perform street lighting and snow removal.
  - Established for a specific purpose and can never do more than that.
  - Assessment methods can vary and be crafted for specific purposes.
- Revenue Potential: Varies depending on assessment value, \$5M - \$12M per year
- Notes:
  - GID holds potential for flexibility, accountability, and creativity
  - Administration by the City staff and existing City boards/commissions
- Implementation: Board of Supervisors by ordinance, unless a majority of those effected object.

Local Special Improvements Districts (SID)s	General Improvement District (GID)	Special Purposes (Transportation) Sales Tax	Supplemental Government Service Tax	Infrastructure Sales Tax
NRS 271 <b>NEW</b>	NRS 318 <b>NEW</b>	NRS 377A <b>NEW</b>	NRS 371 <b>NEW</b>	NRS 377B <b>EXISTING</b>
Improvement Districts formed for discrete road and sidewalk projects in defined geographies	Separate legal entity responsible solely for maintenance of streets and alleys; could include curbs, gutter, and sidewalks, street lighting and snow removal in authorized powers	Up to an additional 0.25% sales tax applicable to all taxable transactions within the City specifically dedicated to roads funding	A 1% tax on new and annual vehicle registration (vehicle value depreciated with age) to pay for construction & maintenance of sidewalks & streets, collected by DMV	<b>Continued</b> collection of 0.125% sales tax applicable to all taxable transactions within the City that is <b>currently used for V&amp;T bond repayment</b>
<b>Implementation</b>	<b>Implementation</b>	<b>Implementation</b>	<b>Implementation</b>	<b>Implementation</b>
Formed at request of neighborhoods	Board of Supervisors; customers can protest to stop formation	Take to ballot in 2024 - Pending Board of Supervisors	Take to ballot in 2024 - Pending Board of Supervisors	Board of Supervisors approval following repayment of bonds



## REVENUE POTENTIAL

Possible Funding Mechanism	Estimated Revenue per Year
Local Improvement Districts	Varies
Infrastructure Sales Tax	\$ 2M
Special Purpose Sales Tax	\$ 4.5M
Supplemental Government Services Tax	\$ 2M
GID	\$ 5M - \$ 12M



## NEXT STEPS WITH FUNDING PROJECT



- Board of Supervisors to consider placement of Sales Tax and Sup. GST on the November 2024 ballot on April 18.
- Compile final public comments from last workshop
- Finalize possible GID assessment methods
- Develop PCI scenarios for different funding levels
- Present final summary of findings to Regional Transportation Commission and Board of Supervisors in Summer, 2024.



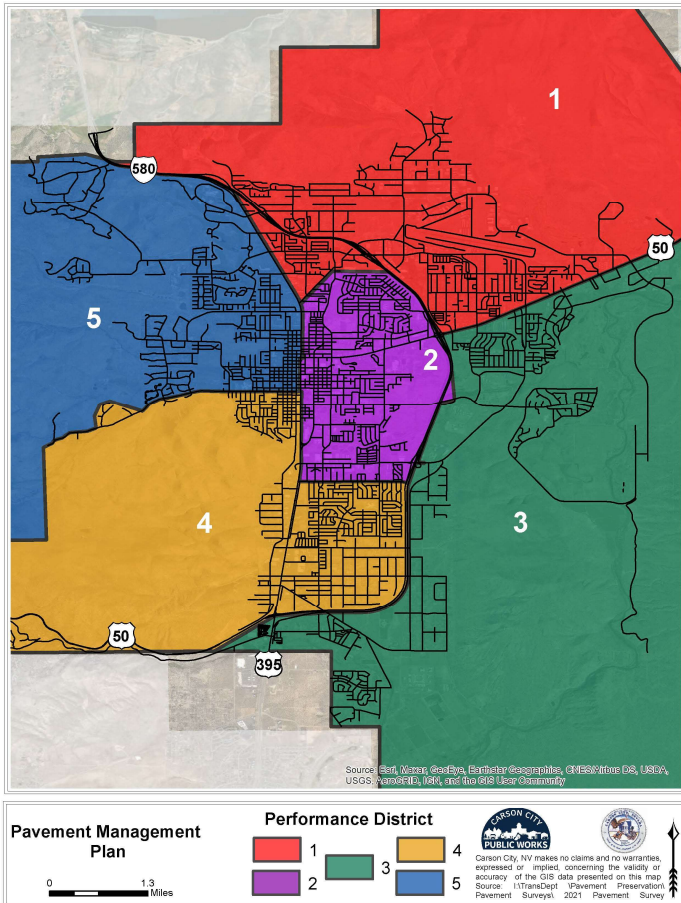
# PROJECT SELECTION

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## REQUIREMENTS

- Considerations and requirements:
  - Safety
  - Federal funding uses and limitations
  - Required American with Disabilities Act (ADA) upgrades with any project other than surface treatment
- Project Status Report – Report Given to RTC every other month (odd months)
  - <https://www.carson.org/government/departments-g-z/public-works/transportation/transportation-resource-advisory-forum-for-carson-city>
- Map of active projects on-line.

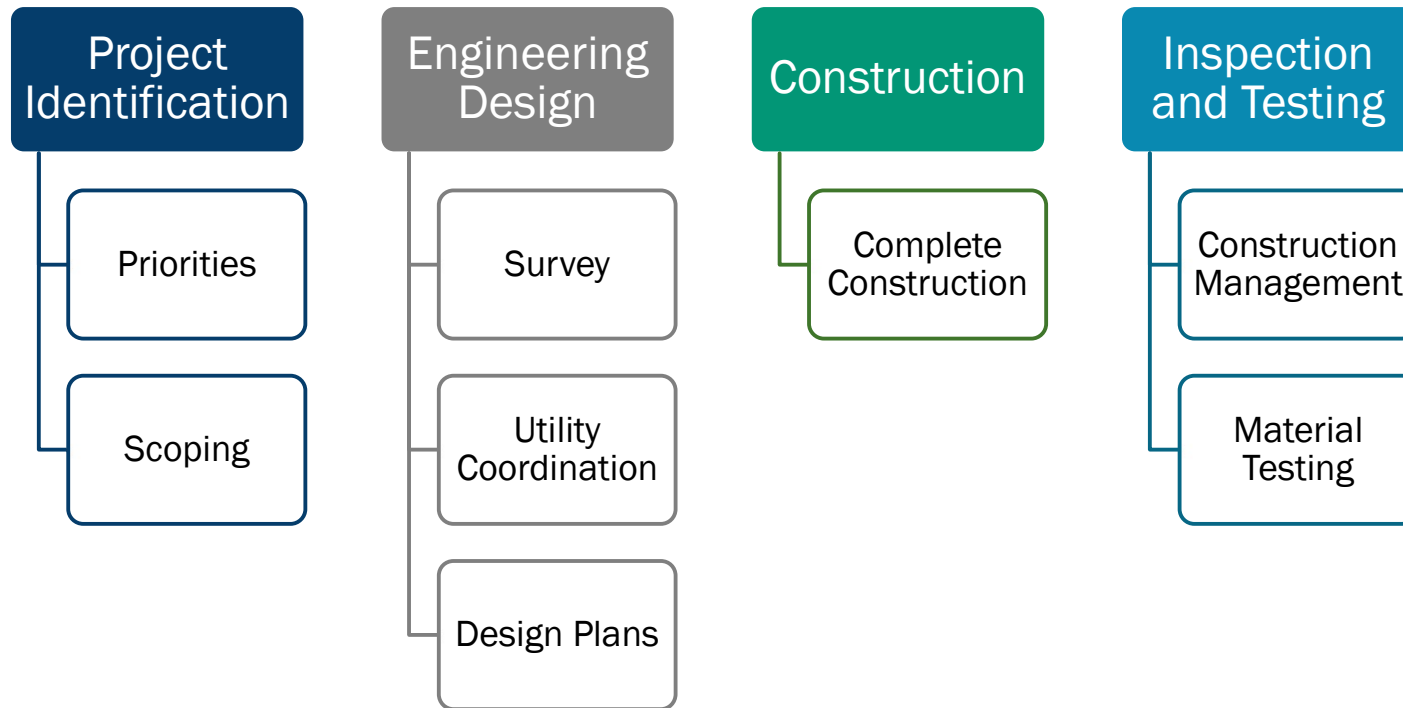
# PROJECT SELECTION – PAVEMENT MANAGEMENT PLAN



- Look at all roads – Regional and Local
- Reduce based on several factors
- Prioritization Factors:
  - Roadway Functional Classification
  - Preventive and Corrective Maintenance Schedule (per industry standards)
  - At-Risk infrastructure
  - Safety Needs/Targets
  - Traffic Volume
  - ADA Accessibility
  - Multimodal Opportunities
  - Connectivity
  - Utility Improvement Coordination
  - Constructability and Construction Efficiencies– Dig once approach
  - Funding Eligibility and Availability
- **Goal – Reconstruction is expensive, so keep the good Roads Good.**

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## PROJECT STEPS



# PROJECT COSTS

**Engineering Design**  
8-12% of Construction Total

## Construction

\$2.1M/mile (2024 dollars)

- Pavement/signing/stripping = \$1.3M/mile
- ADA compliance = \$600K/mile
- Misc. costs (traffic controls, stormwater pollution, survey etc.) = \$200K/mile

**Inspection and Material Testing**  
3-5% of Construction Total

**Total Cost to Reconstruct a Road**  
**\$2.4M/mile**

**Total Cost to Preserve a Good Road**  
**\$380K/mile**



## FINAL THOUGHTS



- Carson City's roads are deteriorating.
- Roads cost money to repair and maintain, and project costs are increasing.
- We no longer have sufficient funding to repair all the roads.
- Evaluated many funding mechanisms to increase funding.
- Narrowed in on 5 mechanisms that can increase funding for street maintenance.
- It takes a community to solve community issues.



# THANK YOU!

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