

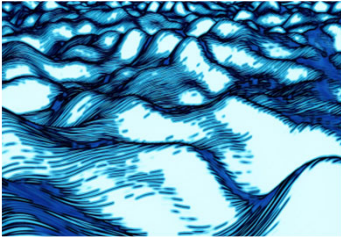
Public Works

Growth Management Commission Update



December 20, 2022

AGENDA



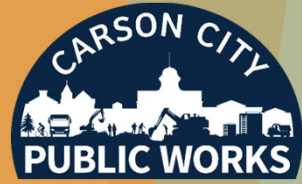
WATER USAGE THRESHOLD



BUILDING IN FLOODPLAINS

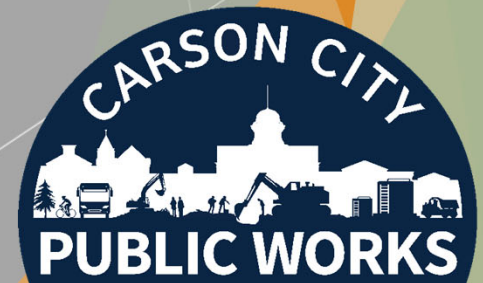
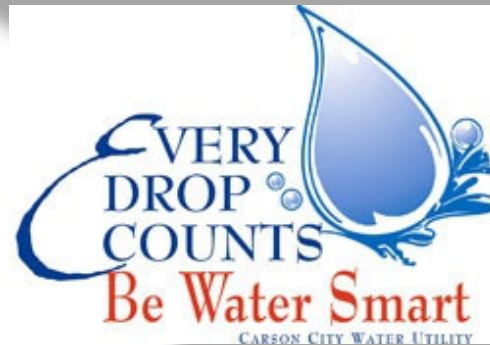


LOCAL ROADWAY FUNDING



WATER USAGE THRESHOLD

Randall Rice, PE, City Engineer



BACKGROUND

- ⦿ BOS establishes maximum average daily water usage threshold for commercial and industrial building permits for GMC review
- ⦿ Prior to 2016, threshold = 7,500 gallons per day
- ⦿ 2016 to current, threshold = 15,000 gallons per day
- ⦿ Since 2014, the Growth Management Commission has reviewed and approved 9 requests for building permits that exceeds the water usage threshold (1-2 per year)
- ⦿ Last year the GMC asked for feedback on the process and if the current limit is appropriate



ANALYSIS



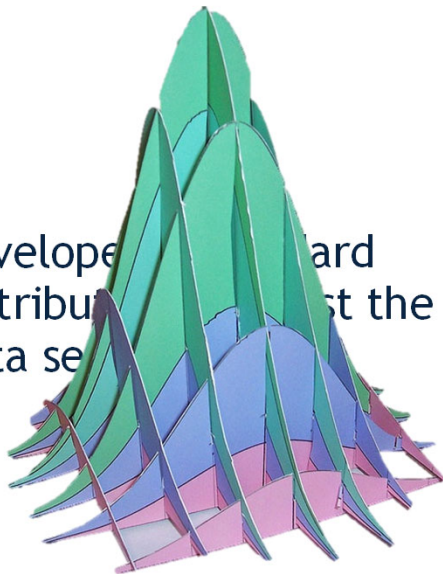
Analyzed over 1,100 commercial and industrial use cases in Carson City



Created a numerical filter from lowest to highest average use



Developed a standard distribution of the data set



Evaluated results to recommend approach that is:

- (1) Data driven
- (2) Values our precious water resources
- (3) Balances the number of applications reviewed by GMC

RESULTS AND RECOMMENDATIONS



Percentiles	Water Usage (GPD)	# of Businesses Exceeding Water Usage
50th Percentile =	1,500	373
60th Percentile =	1,933	308
70th Percentile =	2,570	228
75th Percentile =	3,142	190
80th Percentile =	4,013	152
90th Percentile =	7,947	76
95th Percentile =	13,728	38
98th Percentile =	24,638	15
99th Percentile =	37,251	7

7,500 gpd ~ 89.1 percentile
15,000 gpd ~ 95.3 percentile

- ◎ Based on typical uses and looking at the number of potential applications: **10,000 to 12,000 GPD may be a more appropriate threshold**
- ◎ Impacts:
 1. Adjusted for current water usage trends (recommend re-evaluate every 3-5 years)
 2. Increase # of GMC reviews from approximately 1-2 per year to 2-3 per year
 3. Capture near 90% percentile of largest commercial and industrial water users: hotels/casinos, car washes, large industrial, large medical/office and other outliers

NEXT STEPS

- ⦿ **December 20, 2022** - Update to Planning Commission/Growth Management Commission to discuss findings
- ⦿ **January 2023 to May 2023** - Outreach to builders and development community as part of Land Development Round Table sessions
- ⦿ **May/June 2023** - Action item at Planning Commission/Growth Management Commission to recommend annual threshold to BOS
- ⦿ **June/July 2023**- Action item at BOS to establish threshold



BUILDING IN FLOODPLAINS

Randall Rice, PE, City Engineer



Any structure built in the Special Flood Hazard Area (high risk flood zone) must comply with CCMC 12.09



PARTS OF A FLOODWAY

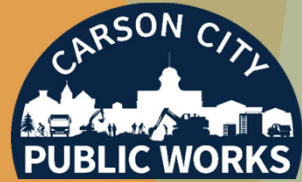
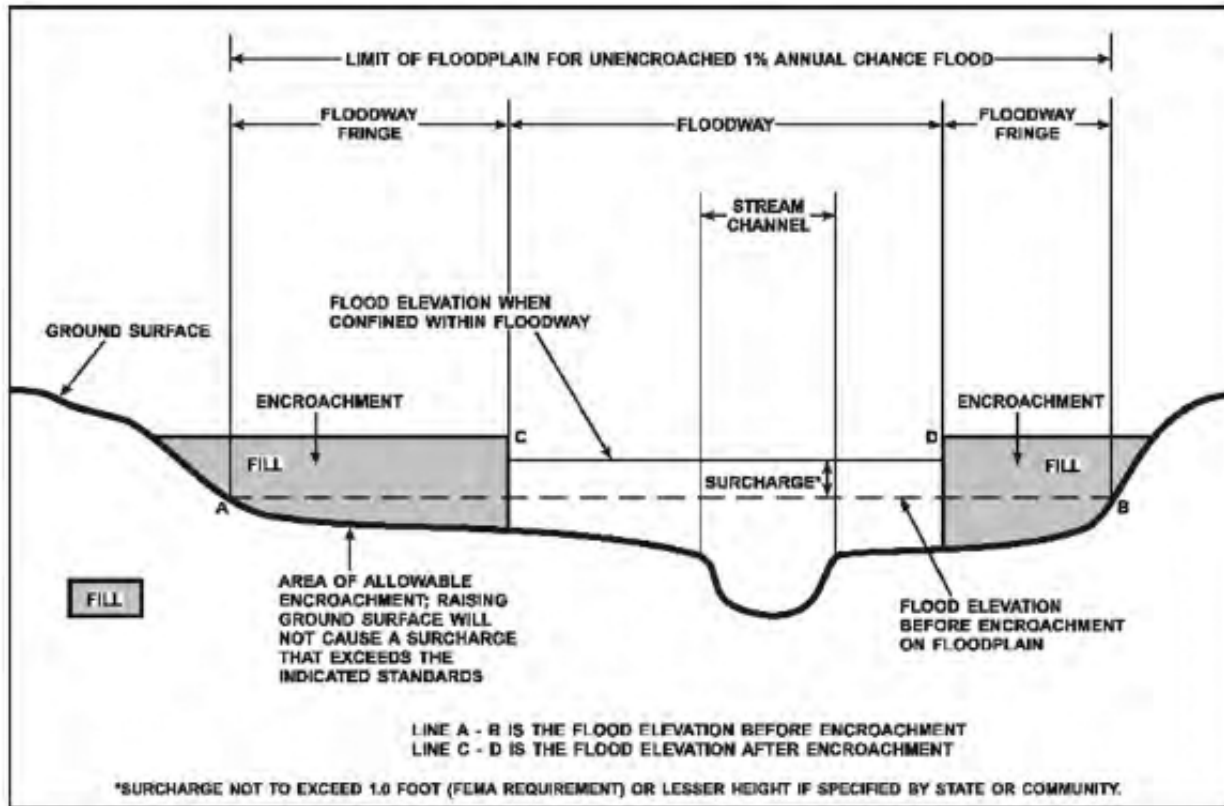
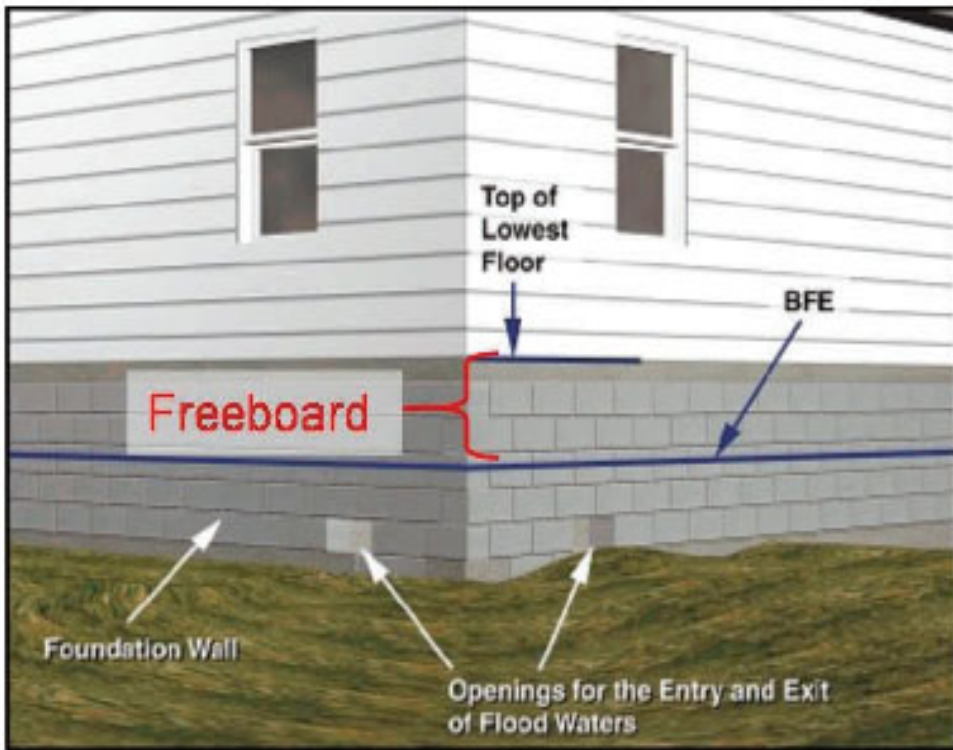


Figure 4: Floodway Schematic



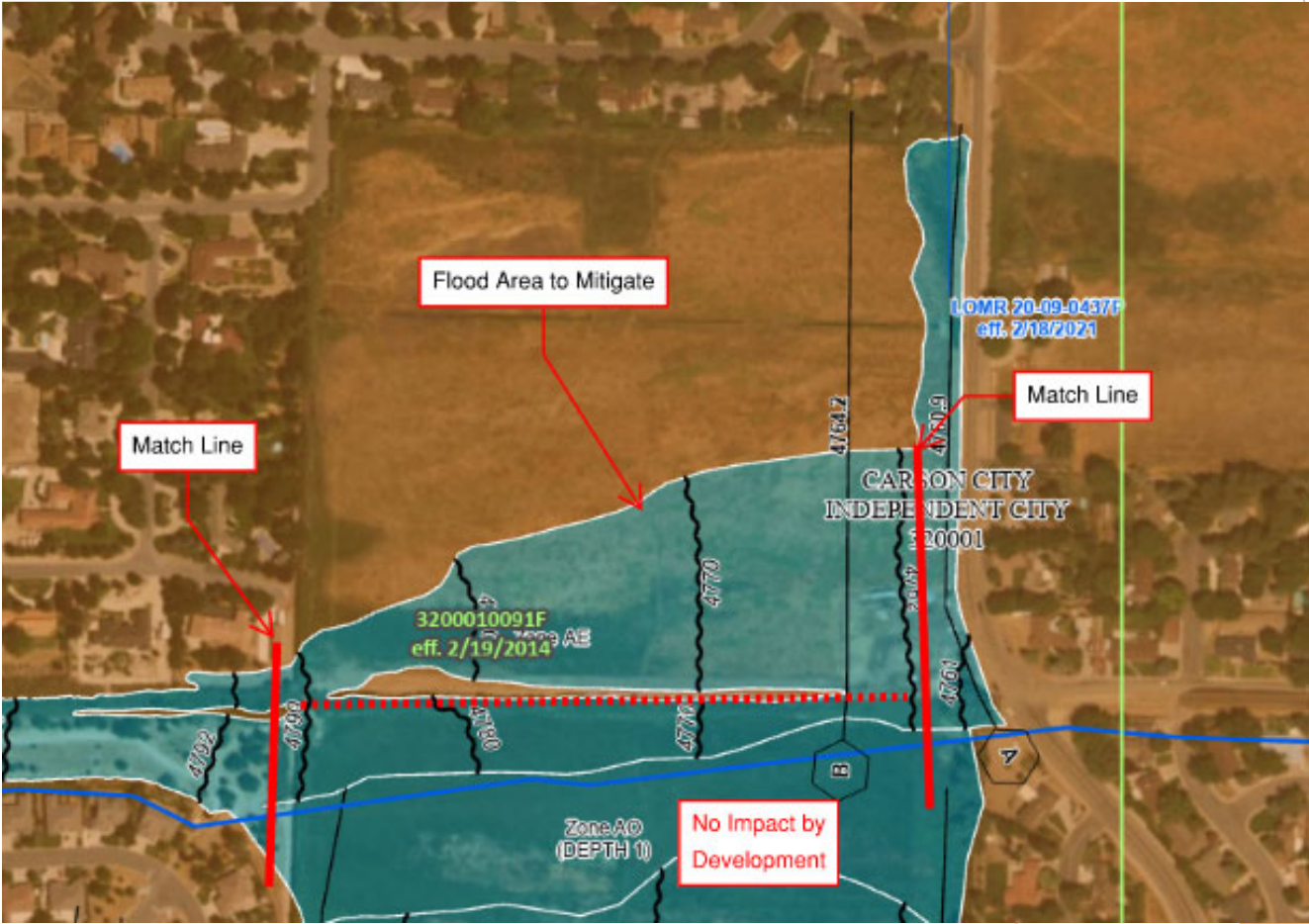
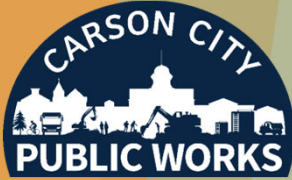
REQUIRED FREEBOARD



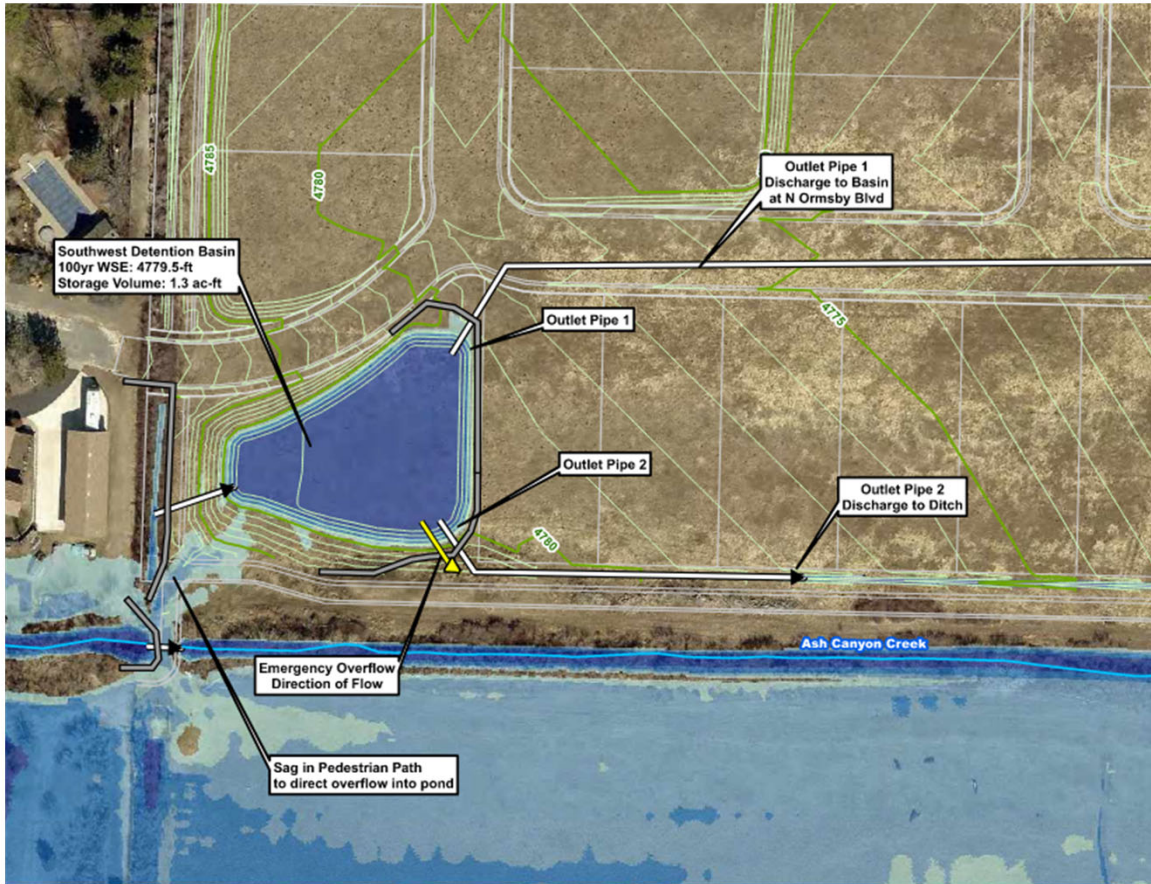
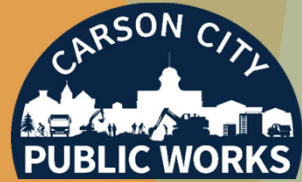
Courtesy of VTDEC River Management Program

- Carson City requires 2 feet of freeboard between the lowest structure floor and the flood waters. Any utility needed for the structure to function must also be elevated at least 1 foot above the flood waters
- Carson City requires a technical analysis of the subdivision impacts to the floodplain. All impacts must be mitigated including the floodplain storage volume

SUBDIVISIONS



SUBDIVISIONS



- Legend**
- HEC-RAS 2D Connections - Proposed
 - ➔ HEC-RAS Culvert Barrels - Proposed
 - Proposed Grading Plan Layers
- Contours - Proposed**
- Major (5-ft)
 - Minor (1-ft)
- 100yr Flood Depths - Proposed (ft)**
- 0 - 0.5
 - 0.6 - 1
 - 1.1 - 2
 - 2.1 - 5
 - 5.1 - 7.4



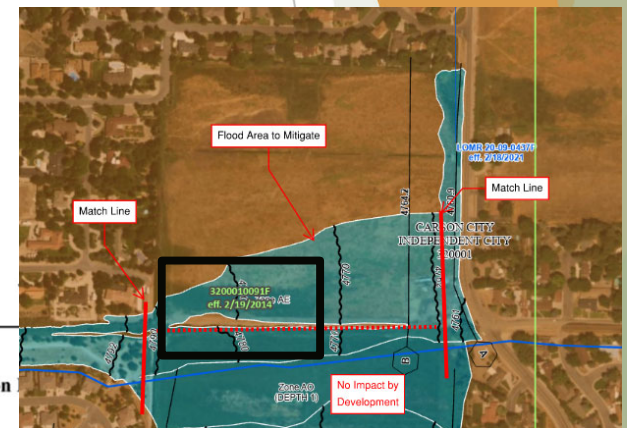
Exhibit 01
Southwest Detention

Andersen Ranch West

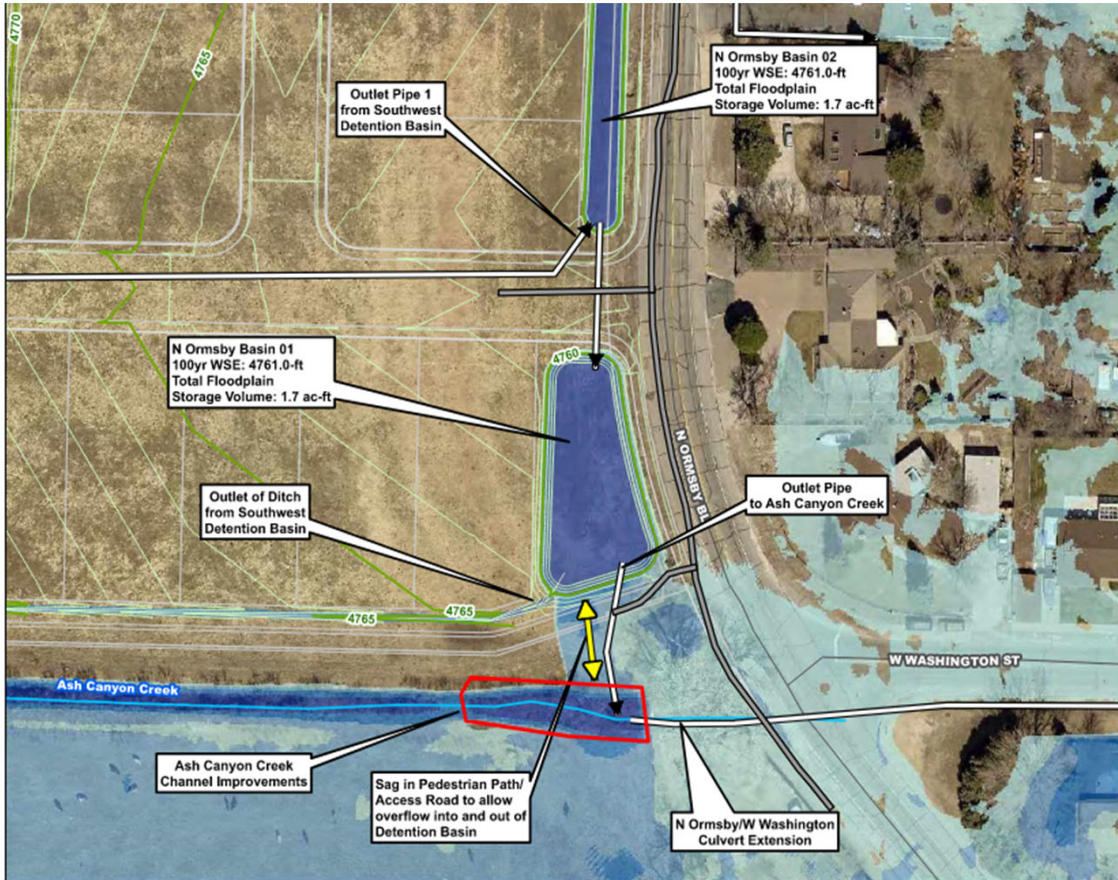
Prepared By:

House Moran Consulting, Inc.
Water Resources and Environmental Engineering
10399 Double R Boulevard Suite 110
Reno, NV 89521
Office: (775) 293-4000

Prepared On: 9/13/2022



SUBDIVISIONS



- Legend**
- Streets
 - HEC-RAS 2D Connections - Proposed
 - ➔ HEC-RAS Culvert Barrels - Proposed
 - Proposed Grading Plan Layers
- Contours - Proposed**
- Major (5-ft)
 - Minor (1-ft)
- 100yr Flood Depths - Proposed (ft)**
- 0 - 0.5
 - 0.6 - 1
 - 1.1 - 2
 - 2.1 - 5
 - 5.1 - 7.4

0 30 60 Feet

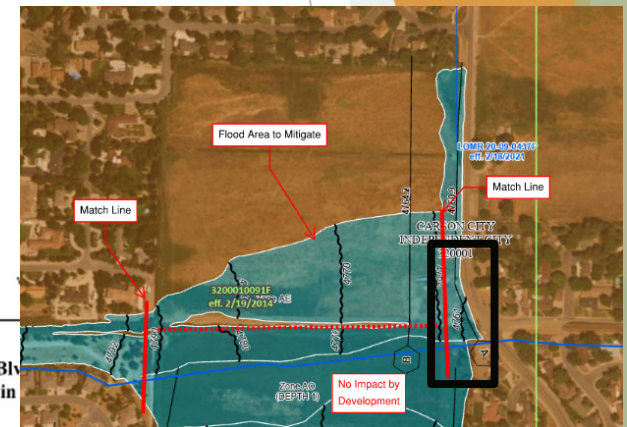
Exhibit 02 North Ormsby Blvd Detention Basin

Andersen Ranch West

Prepared By:

House Moran Consulting, Inc.
 Basic Restoration and Environmental Engineering
 10399 DuBois R Boulevard Suite 110
 Reno, NV 89521
 Office: (775) 293-4000

Prepared On: 9/13/2022



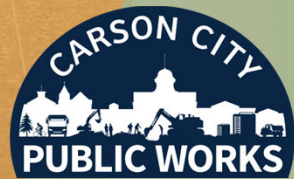
SUBDIVISIONS

- FEMA CLOMR (conditional letter of map revision) process takes 2-4 years to complete
- FEMA LOMR (letter of map revision) Process takes 1-2 years to complete
- High risk flood zones are more accurately depicted than previously shown on older FEMA maps; this often results in reduced insurance rates
- In the next few years, all of Carson City will have been remapped to better understand real flood risk (since 2008)

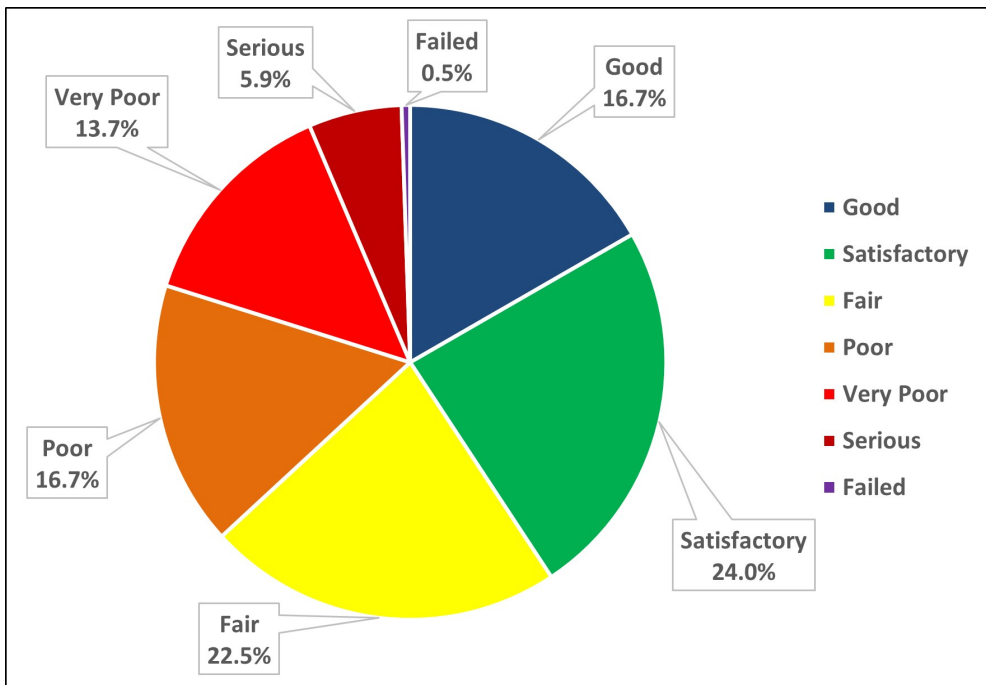


LOCAL ROADWAY FUNDING

Chris Martinovich, PE, Transportation Manager

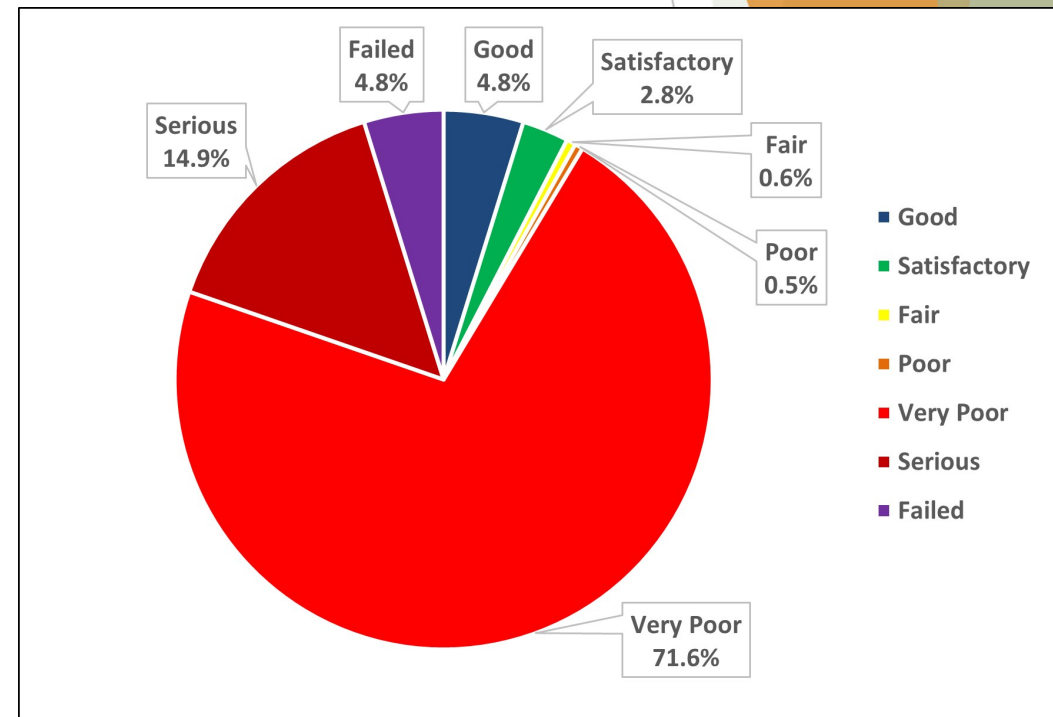


Pavement Conditions



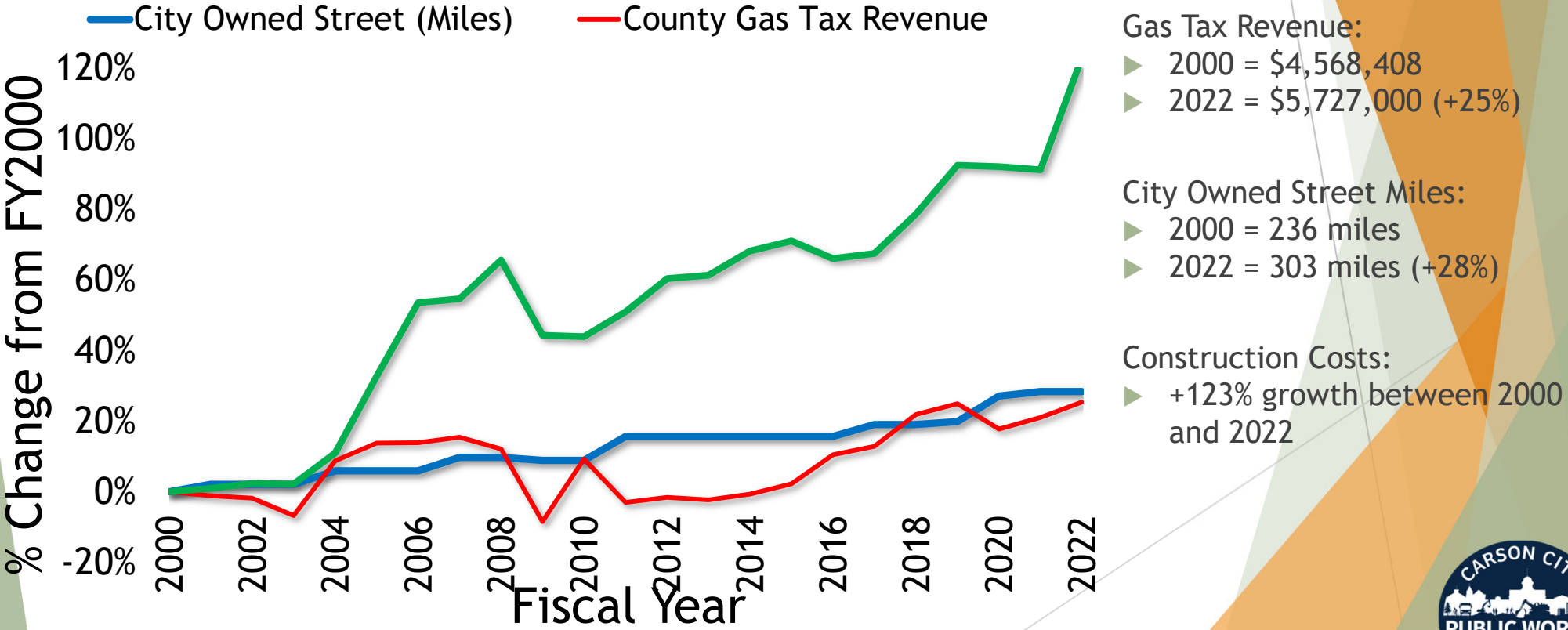
Current Pavement Condition
2022

Projected by 2050



Funding Gap

◎ **\$21.5M** annual funding gap to Maintain our Roads in their current condition



Four Potential Funding Options

Local Improvements Special Districts (SID)s	General Improvement District (GID)	Special Purposes (Transportation) Sales Tax	Infrastructure Sales Tax
NRS 271 NEW	NRS 318 NEW	NRS 377A NEW	NRS 377B EXISTING
Improvement Districts formed for discrete projects in defined geographies. Two types: (1) Infrastructure SID (2) Maintenance NID	Roads GID responsible for 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	Continued collection of 0.125% sales tax applicable to all taxable transactions within the City that is currently used for V&T bond repayment



History and Next Steps

- 2020 BOS Retreat: BOS directed staff to explore funding mechanisms
- 2021: BOS reviewed 8 mechanisms and directed staff to proceed with review of 4 mechanisms
- 11/2022: Presented update on 4 mechanisms to RTC
- Now: Public Outreach and Survey
- 2023: Presentation to BOS on 4 remaining mechanisms



Project Website:

www.preservecarsoncityroads.com



Traffic Impact Study (TIS) Considerations



Goals and Objectives

1. Provide development projects a clearer picture of how they participate in transportation improvements.
2. Ensure consistency in the application of methodology used to assess and measure impacts.
3. Provide a framework to offset transportation related impacts and to mitigate existing gaps and deficiencies resulting from the cumulative effect of development.
4. Allow for flexibility to make improvements that are really needed for a particular location.
5. Develop a process that is straight-forward and understandable with defined impacts and defined mitigations that do not overburden the City or the Development.



Relationship & Work Plan

Planning Commission

- Provides perspective on land-use as it relates to transportation
- Reviews applicant-submitted materials
- Ensures mitigations to the transportation network

RTC

- Identifies transportation needs and policy
- Ensures transportation improvements are consistent with with Regional Transportation Plan

Board Of Supervisors

- Considers input from RTC, PC, and Advisory Committee
- Selects an option and directs staff to create a framework for selected option

Advisory Committee

- Analyzes potential details of identified options
- Recommends thresholds, values, and level for the different options
- Reviews draft versions of processes/tools

- ▶ Review project types and need for TIS
- ▶ Trip Generation process
- ▶ Frontage Improvements
- ▶ Mitigation of impacts from development

◎ Coalescing around a Pro-Rata Concept

