

2022 State of the Infrastructure Presentation



State of the Infrastructure



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What Infrastructure?

- Water
- Wastewater Treatment/Collection System
- Mineral Water
- Stormwater
- Transportation
- Parks
- Funding for infrastructure





Typical Infrastructure Funding Sources

- Ecology State Revolving Fund (SRF) Wastewater & Stormwater
- Drinking Water State Revolving Fund (DWSRF) Water Treatment, Source & Reservoirs
- Public Works Trust Fund (PWTF) Water, Wastewater, Collections, Transportation somewhat unlimited
- Community Development Block Grant (CDBG) Water, Wastewater, Community Facilities, and Transportation
- Rural Development
- Community Economic Revitalization Board (CERB) Economic Development projects
- Grant County SIP grant/loan program Economic Development projects
- Transportation Improvement Board
- WSDOT Ped Bike Safety, Safe Routes to Schools, Highway Safety Program





How Have We Funded Soap Lake's Projects?

Using almost EVERY Program Available!

12 Years – Approximatley \$23 million in Projects 51% Grant, 39% Ioan, 10% City Match

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- Public Works Trust Fund (PWTF) Water, Wastewater, Collections, Transportation
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- Washington State Recreation and Conservation Office





Water

- Planning, Source, Storage, Telemetry, Distribution
- Water Highlights
 - 2019: Completed Water System Plan
 - 2020/2021: Distribution (Phase II) and AMR Improvements
 - 2022: Distribution (Phase III) Improvements







Water – Source

	Well No. 1	Well No. 3	
Date Drilled	1940	1997	
Depth	466 ft	901 ft	
Capacity	1,000 gpm	1,100 gpm	
Water right, Qi	2,050 gpm		
Water right, Qa	896 ac-ft/yr		



Well No. 3



Well No. 1





Water – Storage

	East Reservoir	West Reservoir
Material	Welded Steel	Bolted Steel
Capacity	500,000 gal	500,000 gal
Date Constructed	1974	1996
Overflow Elevation	1246.7 ft	1248.2 ft



East Reservoir (Welded Steel)



West Reservoir (Bolted Steel)









Water – Summary

- Source:
 - Adequate source and water rights for 20 years
 - May need to replace Well No. 1 due to age
- Storage:
 - Adequate storage for 20 years
 - City anticipates replacing West Reservoir due to maintenance and leakage
- Telemetry
 - Improvements constructed as a part of Phase III
- Distribution
 - Improvements will result in 52% ductile/PVC (started out at 40%, 84,000 LF of pipe total)





Water – Where next?

Water System Project Report

- Recommended to be complete in 2022/2023
- Evaluate Well No. 1
 - Water Level data analysis
 - Potential well video/pump test
- West Reservoir
 - Leaks, contributes to City's distribution system leakage
 - Evaluate options for replacement
- Southside water pressure/source improvements for development
 - Evaluate options for a third pressure zone





Wastewater – Collection System

- 1999 Comprehensive Sewer Plan
- 2016 General Sewer Plan
- 11 miles of gravity sewer
- 2 lift stations/force mains











Wastewater-Treatment

- 2013 Wastewater Engineering Report
- Facility Originally constructed in 1946
- Upgraded in 1978, 2003 and 2014 (Phase I)
 - Influent Fine Screen
 - Oxidation Ditch (activated sludge system)
 - Secondary Clarifiers Sludge Recirculation System
 - Rapid Infiltration Lagoons
 - Aerobic Digester
 - Sludge Drying Beds







Wastewater Collection/Treatment - Summary

- Lift Stations No. 1 and No. 2 need upgrades (and force mains)
- Overall Treatment plant is near or at capacity
- Age/Capacity of the Oxidation Ditch
- Age/Performance of the Secondary Clarifier
- Reliability/Redundancy of Secondary Effluent Pumps
- Sludge Accumulation/Condition of Aerobic Digester
- SWD Permit Limits





Sewer Collection/WWTF – Where next?

Lift Station/Force Main Study

- Recommended to be complete in Spring 2022
- Evaluate existing lift stations for upgrades
- Evaluate costs/alternatives for new force mains
- Develop Financing Plan

WWTF Facility Plan Update

- Recommended to be complete in 2023
- Evaluate flows/loadings
- Evaluate current performance
- Update Phase III CIP
- Develop Financing Plan





Other Municipal Project Funding Sources

- Utility Rates
 - Water Rates, Sewer Rates
 - FCS Rate Study 2017

Utility	2018	2019	2020	2021	2022
Water	18.0%	18.0%	18.0%	3.5%	3.5%
Sewer	15.5%	15.5%	15.5%	3.5%	3.5%

- Utility Tax
- General Obligation Bonds
- Local Improvement Districts
- Transportation Benefit District \$20 Car Tabs





Mineral Water System

- 2020 Mineral Water System Plan
- Source 7.5 Hp Surface Water Pump
- Storage 95,000 gal Concrete Reservoir
- 6 miles of distribution pipe
 - Most of which has been abandoned
- 5 Active Connections







Mineral Water System - Highlights

- Mineral Water System
 - Separated financially from the Water System (2016?)
 - System is in need of significant repair to be sustainable
 - Mineral Water System Plan
 - Funded by CERB (Community Economic Revitalization Board)
 - Adopted February 2020
 - Developed a series of options for improvement/future development
 - No current or active projects at this time





Mineral Water System - CIP

	CAPITAL IMPROVEMENT PROJECTS		POTENTIAL SERVICE ALTERNATIVES							
No.	Improvement	Costs	1 - Status Quo	2 - On-Demand System	3- Downtown	4- Private Developments	5- Buildout	6 - New Spa Facility	7 - New Spa with New Withdrawal	8 - Private Entity Operation
Source Imp	rovements					-	196 - 196 198 - 198	1		
SO-1	Suction Line and Pump Improvements	\$66,000	0	X	X	x	X	X		
SO-2	Pump-house Improvements and Heating Installation	\$78,000	0		X	x	X	X		
SO-3	On-Demand System Improvements	\$544,000		X						
SO-4	Telemetry Improvements	\$68,000		0	0	0	X]]		
SO-5	Water Filter Installation On Suction Line	\$37,000		0	0	0	0			
Storage Imp	rovements									
ST-1	Complete Reservoir Inspection and Cleaning	\$30,000			X	x	X			
ST-1	Complete Reservoir Inspection and Cleaning	\$30,000			T.		X			
Distribution	System Improvements	10 X					A		· · · · · · · · · · · · · · · · · · ·	
DS-0	Meter Installation	\$0	X	X	X	X	X			
DS-1	Business Distribution Line	\$464,000	0	X	X	X	X			
DS-2	Reservoir Distribution Line	\$986,000			X	X	X			
DS-3	Hospital Distribution Line	\$365,000				X	X			
DS-4	Hotel Distribution Line	\$847,000				X	X			
DS-5	Spa Facility Line with Connection to DS-1	\$202,000								
DS-6	Spa Facility Line Directly from Existing Pump House	\$317,000			[X		
DS-7	Spa Facility Line from New Withdrawal Point and Pump House	\$489,000							x	
DS-8	Mineral Water System Buildout to Existing Limits	\$5,750,000					X			
DS-9	Mineral Water System Buildout to City Limits	\$9,900,000					0			
Spa Develop	ments									
DV-1	Spa Development	\$3,703,000		-				D	D	D
DV-2	Wellness Resort (Incl. Hotel, Spa, Dining, and Pools)	\$17,675,000								
	REQUIR	ED CITY COST	50	\$1,074,000	\$1,624,000	\$3,602,000	\$9,694,000	\$461,000	\$489,000	\$489,000
COSTS	OPTIONAL ADD	ED CITY COST	\$608,000	\$105,000	\$105,000	\$105,000	\$9,937,000	\$0	\$0	50
00515	DEV	ELOPER COST	0	\$3,703,000	\$3,703,000	\$3,703,000	\$3,703,000	\$3,703,000	\$3,703,000	\$3,703,000
	ТОТА	L (ALL) COSTS	\$608,000	\$4,882,000	\$5,432,000	\$7,410,000	\$23,334,000	\$4,164,000	\$4,192,000	\$4,192,000

(X) = Required City Cost

(O) =Optional Added City Cost

(D) = Developer Cost







Stormwater System

- 2019 Stormwater Management Plan
- 4 miles of gravity stormwater pipe, 1,930 feet open channel/ditch
- 5 Outfalls in Soap Lake
- Stormwater System
 - There is no separate utility established financially









Stormwater System - CIP



Capital Improvement Projects	Total Project Cost, Alternative A (2019 dollars) ⁽¹⁾	Total Project Cost, Alternative B (2019 dollars)
CIP 1A – Eastern Outfall Bioswale and Infiltration Facility	\$609,000	N/A
CIP 1B – 6 th Avenue SE to 1 st Avenue NE Bioretention Ditches and East Basin Infiltration Facility	N/A	\$747,000
CIP 2 – Central Outfall Bioswale and Infiltration Facility	\$360,000	\$360,000
TOTAL	\$969,000	\$1,107,000







Stormwater Management– Where next?

Evaluate easements

- Recommended to be complete in 2022/2023
- Evaluate the needs for easements for various storm sewers

Apply for Ecology Funds for CIP

• Recommended to be complete upon City's financial capability to match the Ecology funding (15%)





City Parks – Limited Involvement

- 2019/2020 Capital Improvement Plan
- G&O assisted with the Paul Lauzier Park Improvements
- Completed West Beach, Smokiam Survey
- Supported the City with the Trail project funding applications
- On-going basketball court project at Smokiam Park.







Transportation

- Streets
- Sidewalks/Pathways
- Bicycle Facilities







Transportation

- Soap Lake has Approximately 16 miles of roadways
- Average Pavement Condition Rating (PCR) was 40 out of 100 (2008)
- Now PCR is 63.6 (Aug 2019)
 - Worst in Grant County
 - 9th worst Statewide









WSDOT Functional Classification Map





Name that Street!



2nd Ave SW (PCR 68) by McKay's

Elder Street S (PCR 72) Lauzier Park in the distance



1st Ave NE (PCR 52) Daisy Street Intx. – looking west To be replaced!



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Streets - Sidewalks

- Extensive sidewalk network
- Completed some planning efforts with walk routes identified
- Received \$515,000 in Complete Streets Awards for ped/bike facilities.



Gray & Osborne, Inc.

WASHINGTON

Golf Club Rd

Name that SIDEWALK!

Daisy Street 3rd Ave SE – looking North To be replaced!

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1st Ave NE Intersection with Marinas Drive in the distance

To be replaced!

Ash Street N West Beach Park in the distance Replaced! (2021)

Streets – Bicycle Facilities

- Dedicated bicycle facilities (where appropriate)
- Funding is available for bike facilities
- Need to identify priority Bike Routes.
 - High-volume, higher speed routes are good candidates!

Street Design

- Narrower Streets are now encouraged by funding and design standards
 - Encourages slower traffic = safer
 - Less expensive to construct and reconstruct and maintain
 - Less impervious area for stormwater
 - Important, but not the ONLY option!
- Narrow Streets take some getting used to!
 - Public education is important!

How does the City select projects?

- Safety
- Condition
- Classification (Importance)
- Dependent on funding (TIB/WSDOT)
 - Competitive Process
- "Right place, right time, right treatment" TIB

Right Place	Right Time	Right Treatment
Correction of safety issue	Pavement condition warrants rehabilitation	Proper pavement design or resurfacing technique
Network development	Utilities within roadway are in satisfactory condition (Outlast pavement life)	Suitable roadway sections ("Road Diet" where it makes sense)
Extension of improvements	Development in the area warrants roadway rehabilitation	Sustainable aesthetic improvements
Completion of Gaps		
Traffic generators in the area		
Removal of obstruction		
Local Support of the Project		

Right Treatment?

- Cheap fixes may not be the right fixes depending on roadway condition
 - Structural issues, excessive cracking, etc.

#	Treatment	Typical cost per Block	PCR Range
1	Fog seal/Chip Seal	\$4,000-\$10,000	75-90
2	Mill & Overlay	\$50,000-\$100,000	40-75
3	Reconstruction/Full-depth Reclamation	\$120,000 - \$200,000	0-50

Preventative vs. Reactive Maintenance

Year	Preventative	Reactive
12	Crack Seal (\$2.5k)	-
20	Fog Seal (\$5k)	-
25	-	Reconstruct (\$120k)
30	Chip Seal (\$10k)	
45	Overlay (\$100k)	
50	-	Reconstruct (\$120k)
Total Cost	\$120k	\$240k

The Match Game

- The City has successfully leveraged matching funds to deliver otherwise costly transportation projects
- Since 2009:
 - 19 Funded Transportation Projects
 - \$8 million+ Funding Agency Contributions
 - \$307k City Matching Funds
 - 3.8% Average City Match

The Match Game

Year	Project	City Funds	Funding Agency	Total Project
2009	Main Ave Overlay Project	\$0	\$318,604	\$318,604
2009	FY 2009 Seal Coat Project	\$0	\$57,005	\$57,005
2009	FY 2009 Sidewalk Maintenance Project	\$0	\$0	\$0
2010	FY 2010 Overlay Project	\$0	\$178,009	\$178,009
2010	Division Street	\$95,474	\$791,227	\$886,701
2013	Main Avenue/Division Street	\$112,661	\$1,656,069	\$1,768,730
2014	FY 2014 Red Town Project	\$0	\$0	\$0
2015	FY 2015 Overlay Project	\$0	\$297,472	\$297,472
2015	FY 2015 Sidewalk Maintenance Project	\$0	\$0	\$0
2018	Complete Streets Award	\$0	\$250,000	\$250,000
2018	Division Street	\$45,901	\$937,633	\$983,534
2019	FY 2019 Rehabilitation Project	\$0	\$333,034	\$333,034
2020	West Beach Park Access Improvements (Complete Streets Portion)	\$500	\$159,885	\$160,385
2020	Gingko Street and FEMA Repairs	\$0	\$1,455,209	\$1,455,209
2021	Daisy Street Pedestrian Crossing Improvements	\$0	\$63,400	\$63,400
2022	West Beach Park Access Improvements	\$11,500	\$400,662	\$412,162
2022	Daisy Street (SR 17) Sidewalk Improvements, Phase I	\$13,750	\$261,250	\$275,000
2023	Marinas Drive and 1st Avenue NE	\$26,960	\$871,740	\$898,700
2023	2021 Small City Maintenance	\$0	\$15,000	\$15,000
	Total	\$306,746	\$8,046,199	\$8,352,945

Funding

FUNDING SOURCE	Program	Match
vizshington state	Small City Arterial Program	0%-5%
Transportation Improvement Board (TIB)	Small City Preservation Program	0%
Washington State	Safe Routes to School	0%-10%
WSDOT	Pedestrian/Bicycle Safety	10%-25%
U.S. Department of Transportation Federal Highway	Surface Transportation Block Grant	13.5%
FHWA (STBG)	Surface Transportation Block Grant Transportation Alternatives	0%-13.5%

Funding (cont.)

- City-Funded (limited)
 - ~\$32k per year \$20 car tabs (2022)
 - ~\$30k per year (pending 0.2% sales tax increase)
- Local Improvement District (LID)
- Bonding
 - Revenue stream for repayment (TBD)

Streets – Current Projects

- West Beach Park
 Access Improvements
 - Project is substantially completed.
 - Contractor working on punch list items.
 - Punch list work to resume in Spring.

Streets – Current Projects

- Daisy Street Sidewalk & Crossing Improvements
 - Estimated bid date: May 2022

Streets – Current Projects

- Marinas Drive and 1st Ave NE Reconstruction
 - Funded by TIB
 - Construction: 2023

Streets – Public Input for Future Projects

6 Year Transportation Improvement Plan (TIP)

- Due June 30
- Requires a public hearing and resolution to adopt

