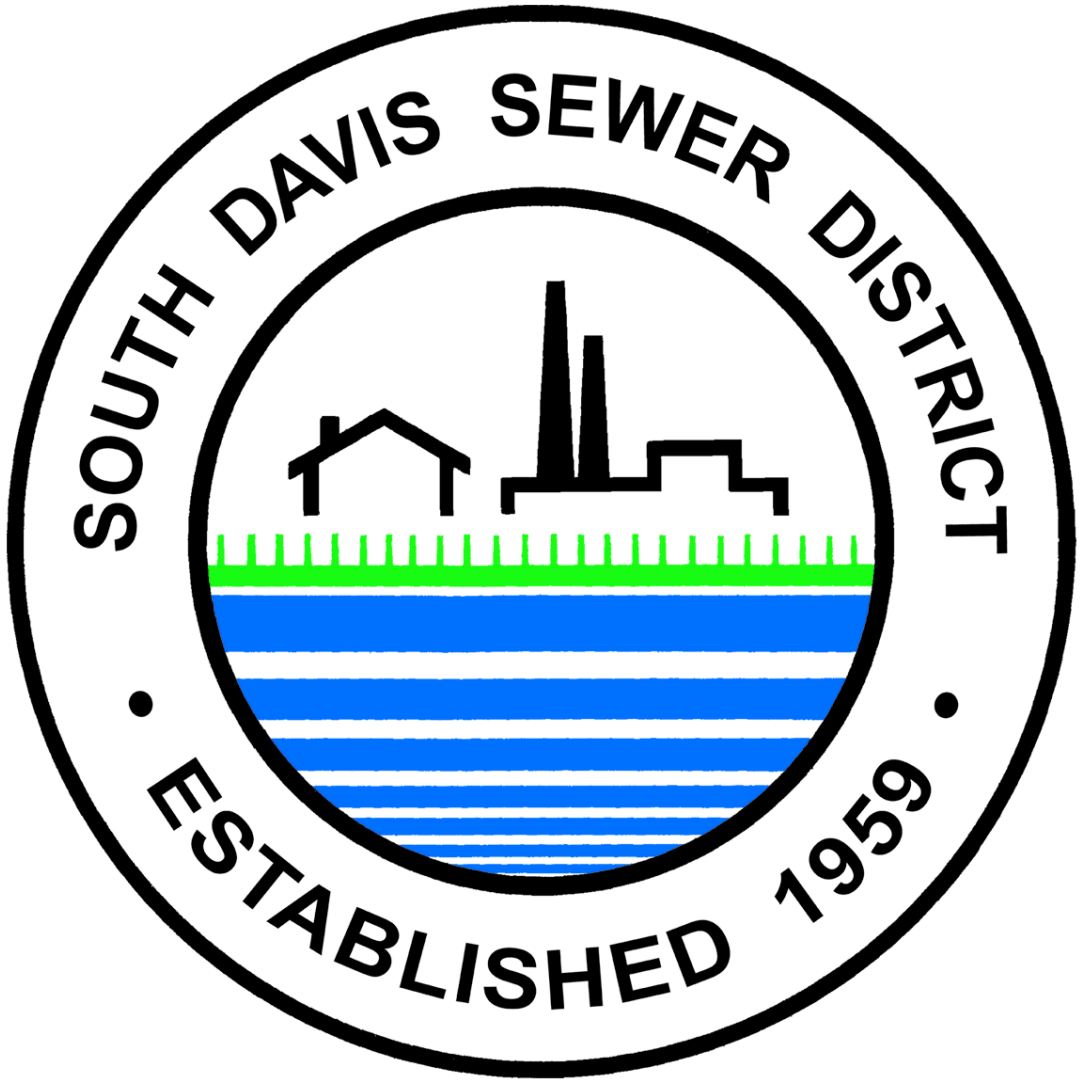
South Davis Sewer District



Local Government: General Purpose vs. Special Districts

While cities and counties handle many daily needs, special districts focus on doing one specific job.

CITIES & COUNTIES

PURPOSE



General Purpose: Manage a broad, diverse range of daily community services, such as police, road maintenance, parks, zoning, and local courts.

GOVERNANCE



General Governance: Governed by elected City Councils or County Commissions who oversee multiple issues and represent all local residents.

SPECIAL DISTRICTS

PURPOSE



Single Focus: Created to provide just one specialized service, such as wastewater treatment, fire protection, library systems, or mosquito control.

GOVERNANCE



Focused Governance: Governed by a dedicated Board of Trustees or Directors who only manage that single service and its specific budget, independent of general politics.

WHY FORM A SPECIAL DISTRICT INSTEAD?



1. Border-Crossing Services

Some needs (like water watersheds Some needs (like water watersheds or transit) naturally cross city or county lines, requiring a unified service area that political borders cannot accommodate.



2. Specialized Expertise & Dedicated Funding

Highly technical operations (like sewage or fire dispatch) require **expert oversight and dedicated funding** that can't be diverted to other municipal projects.



3. Service Outside City Limits

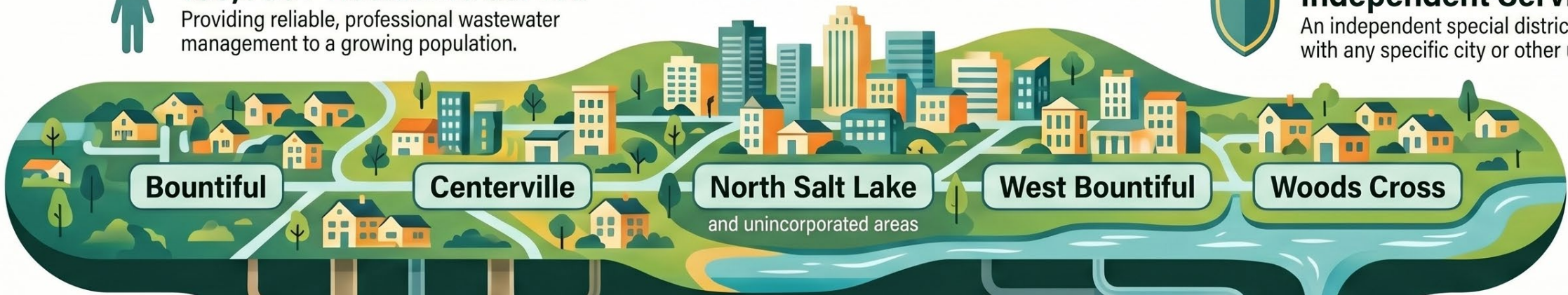
Rural and: distant boundaries. Rural and unincorporated areas may **require fire protection** or water without wanting full city taxation and urban zoning laws.

Community Connections: Serving Southern Davis County

100,000+ Residents Served

Providing reliable, professional wastewater management to a growing population.

5 Major Cities & Beyond



Independent Service

An independent special district not affiliated with any specific city or other utility.

380+ Miles of Sewer Lines

A massive underground collection system including 9,000 manholes and 11 lift stations.



Wasatch Resource Recovery

Utah's first facility converting food waste into renewable biogas and bio-based fertilizer.



Expanding for the Future

Major upgrades at the North Plant began in 2024 to meet new regulations.

Design Capacity: **12 Million** Gallons/Day

North Plant
West Bountiful

Design Capacity: **4 Million** Gallons/Day

South Plant
North Salt Lake

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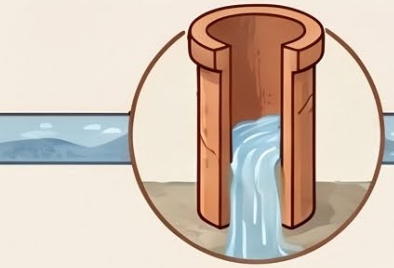
From Open Ditches to Engineered Health: The Evolution of Sanitary Sewers

Illustrating how the historical development of sewer systems directly enabled urban growth and triggered the single greatest rise in human life expectancy.

ANCIENT FOUNDATIONS (3500 BC – 500 AD)



Mohenjo-Daro's Pioneer Plumbing (c. 2500 BC)

The Inddus Valley civilization built the first complex sewage systems, vertical terracotta pipes.





Rome's Cloaca Maxima

Roman engineers created "Great Bewers" to drain the city, perfecting integrated water system that rivaled modern technology for centuries.



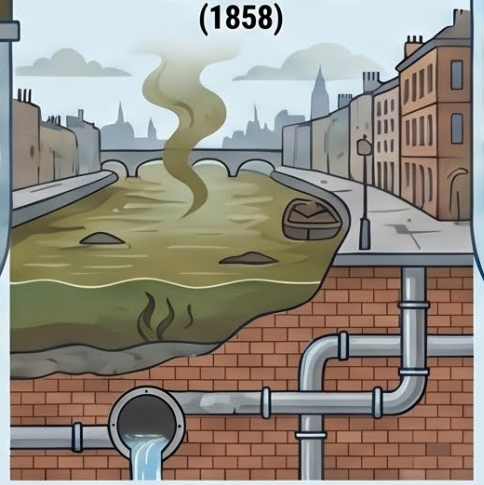
Public Health as a Pillar

Ancient Roman administration established "medici publici" (public doctors) specifically to oversee sanitation and identify zoonotic disease outbreaks.

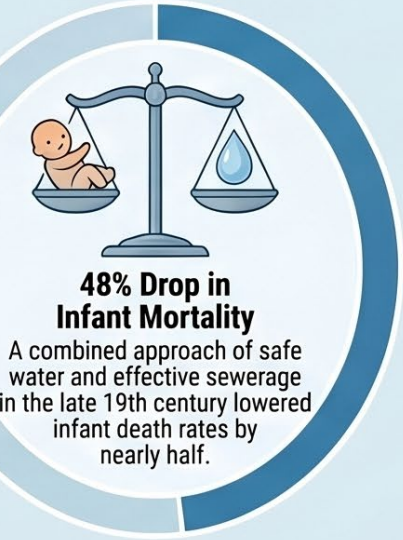
THE SANITARY ENLIGHTENMENT (1850 – 1920)



London's "Great Stink" (1858)



The overwhelming smell of the Thames forced Parliament to act, leading Joseph Bazalgette to build 1,100 miles of sewers that ended cholera outbreaks.



48% Drop in Infant Mortality

A combined approach of safe water and effective sewerage in the late 19th century lowered infant death rates by nearly half.



The "Greatest Benefit" to Longevity

The British and American Medical Associations both cite wastewater treatment as the single innovation with the greatest benefit to public health in history.

DISEASE & MORTALITY IMPACT AFTER SEWERAGE



Chieage, IL: Typhoid death rates cut in haff within 30 years (post-1900).



Massachueetts: 33.6% total decline in Child Mortality attributed to water/sewer district.



London, UK: Complete cessation of major Cholera outbreaks after system completion.

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From Flames to Federal Law:

The Cuyahoga River and the Birth of the Clean Water Act

1969–1970: The Breaking Point

The 1969 Cuyahoga Fire: On June 22, 1969, an oil-slicked debris fire in Cleveland sparked national outrage despite lasting only 30 minutes.





Media as a Catalyst: *Time* magazine's coverage used a dramatic 1952 fire photo, searing the image of "burning water" into the national consciousness.

1970–1972: The Federal Solution

Creation of the EPA (1970): Established in January 1970, the agency consolidated federal environmental research, monitoring, and enforcement under one roof.





State Regulatory Failure: Prior to 1970, states issued permits that effectively "licensed pollution," leaving local officials powerless to stop industrial dumping.

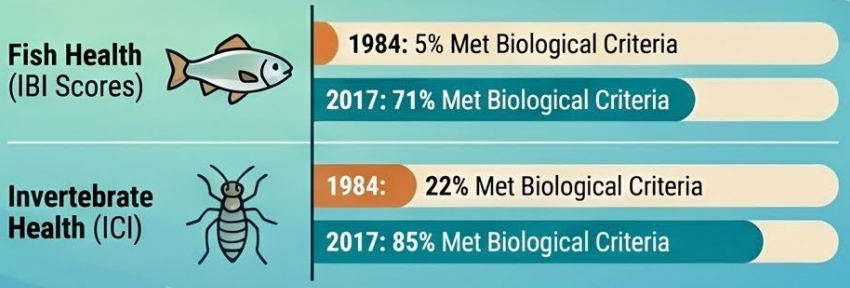


Clean Water Act of 1972: Formally the Federal Water Pollution Control Act Amendments, it was passed after Congress overrode a presidential veto.



The NPDES Permit System: The Act introduced the National Pollutant Discharge Elimination System, requiring individual plants to obtain federal permits for all discharges.

Biological Health: Before and After Federal Regulation



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The Evolution of Clean Water:
A History of the EPA and the Clean Water Act

Since its inception, the Clean Water Act (CWA) has evolved from a federal grant program building the nation's wastewater infrastructure into a complex regulatory framework. It now manages modern environmental threats like phosphorus runoff and "forever chemicals" (PFAS) while balancing environmental goals with regional economic impacts.

1970s – 1990s: Building the Foundation

2010 – Present: The Era of Nutrients and PFAS

The $60 Billion Infrastructure Boom

1987 CWA Amendments & Funding Shift

1991: The Birth of "Biosolids"

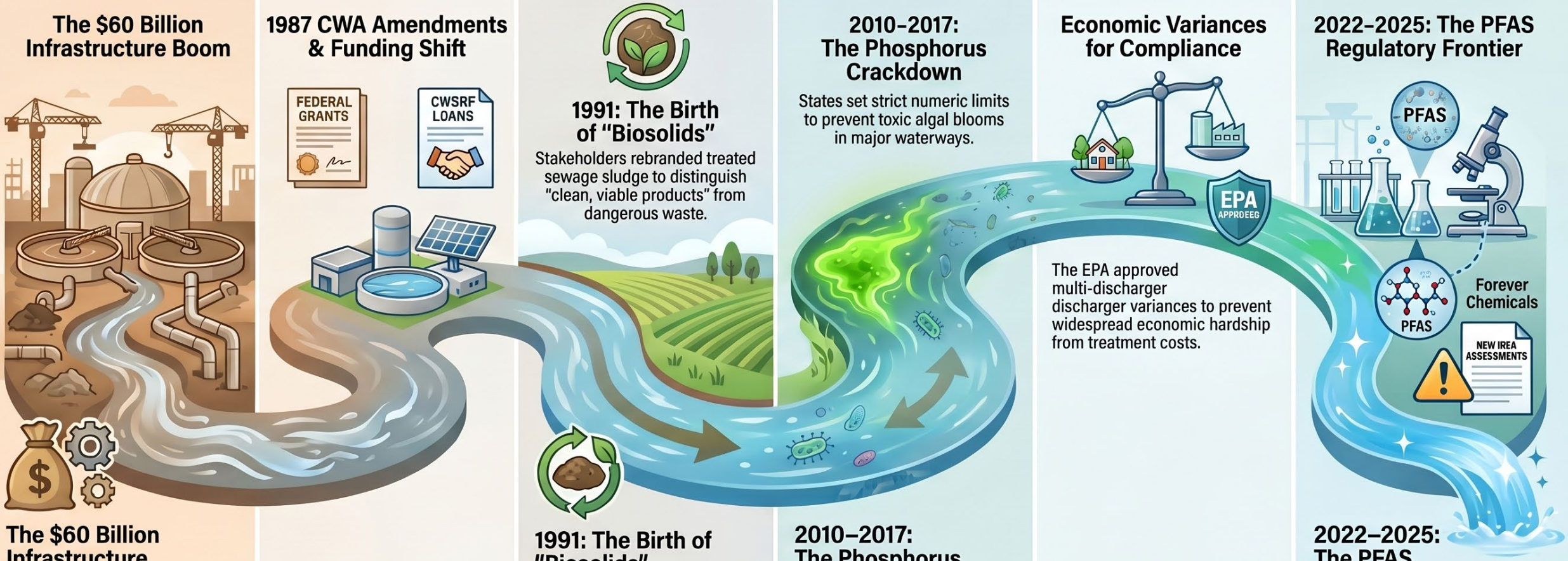
Stakeholders rebranded treated sewage sludge to distinguish "clean, viable products" from dangerous waste.

2010–2017: The Phosphorus Crackdown

States set strict numeric limits to prevent toxic algal blooms in major waterways.

Economic Variances for Compliance

2022–2025: The PFAS Regulatory Frontier



The EPA approved multi-discharger discharger variances to prevent widespread economic hardship from treatment costs.

The $60 Billion Infrastructure Boom

Federal Construction Grants funded the nation's first major sewage plants and collection systems.

1991: The Birth of "Biosolids"

Stakeholders rebranded treated sewage sludge to distinguish "clean, viable products" from dangerous waste.

2010–2017: The Phosphorus Crackdown

States set strict numeric limits to prevent toxic algal blooms in major waterways.

2022–2025: The PFAS Regulatory Frontier

New EPA risk assessments and state bans target "forever chemicals" in land-applied biosolids.

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Why increase rates?

- New Phosphorus Limit
- Reduced Ammonia Limits
- Additional Solids Treatment Capacity
- Aging Treatment Infrastructure



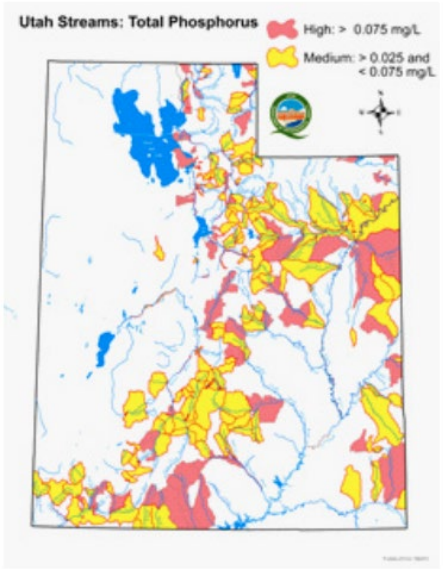


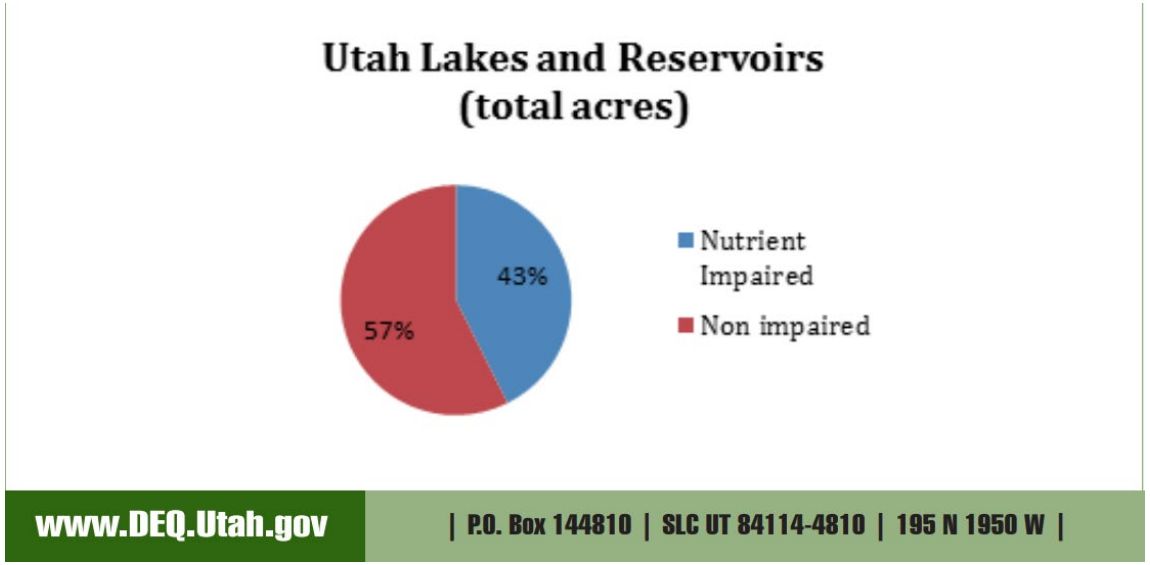

Notice
An algae bloom has made this area potentially unsafe for water contact. Avoid direct contact with visible surface scum.




ADVISORY
Blue-green algal blooms have been observed in this area.
If a bloom IS present:
Do not drink the water

NEW PHOSPHORUS LIMIT





www.DEQ.Utah.gov | P.O. Box 144810 | SLC UT 84114-4810 | 195 N 1950 W |

UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY

June 2014

Phosphorus Rule Highlights

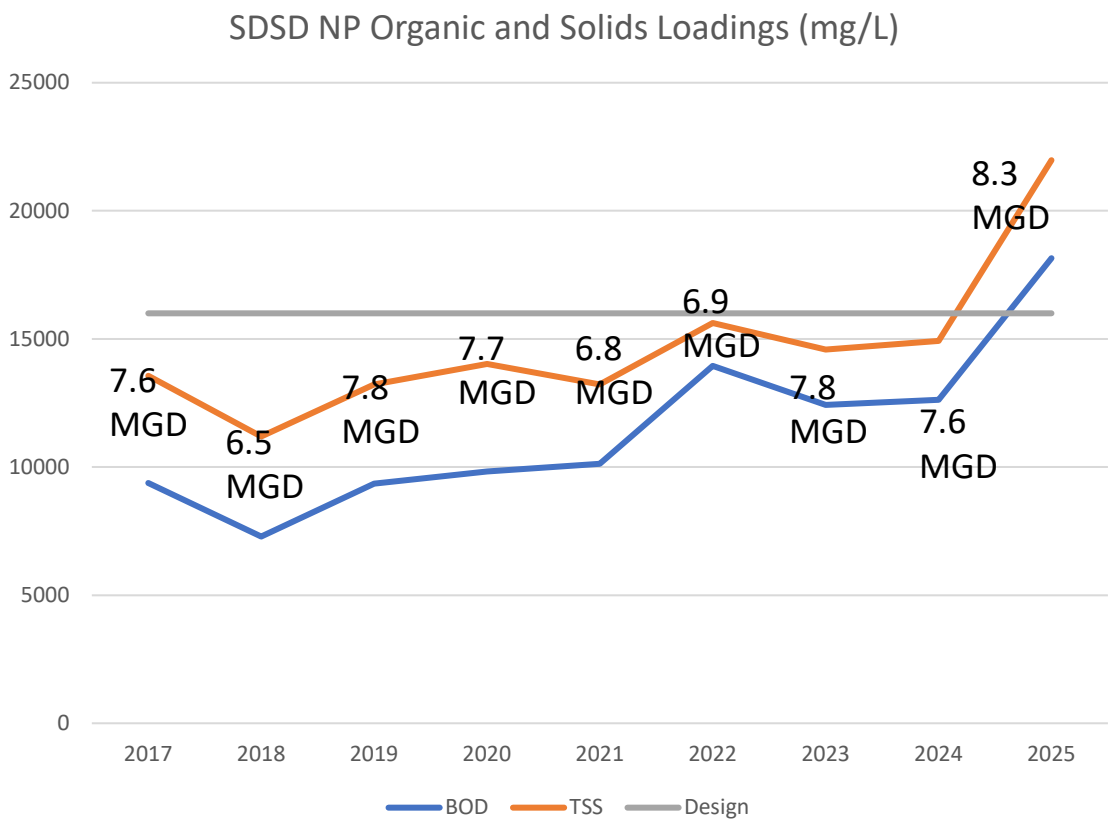
Under the proposed rule, all wastewater treatment plants will play a role in reducing phosphorus discharges into state waters.

- Mechanical plants will be required to produce treated wastewater that contains 1.0 mg/L or less before that water can be discharged.

Moving Bed Biofilter Reactor- Ammonia control



Solids Treatment Capacity:



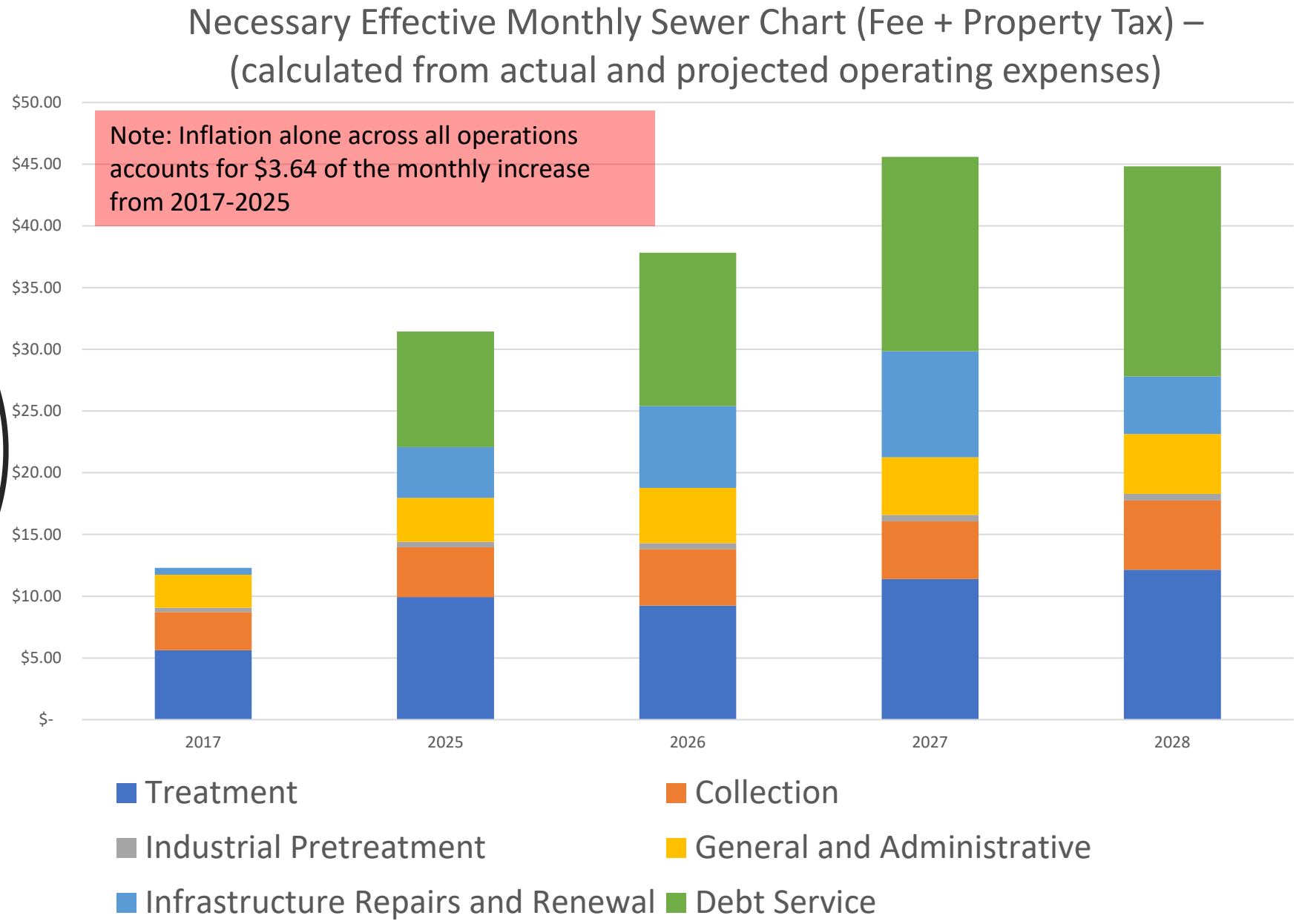


*Plus, Existing Digesters are over 60 years old, not sure of their structural integrity.

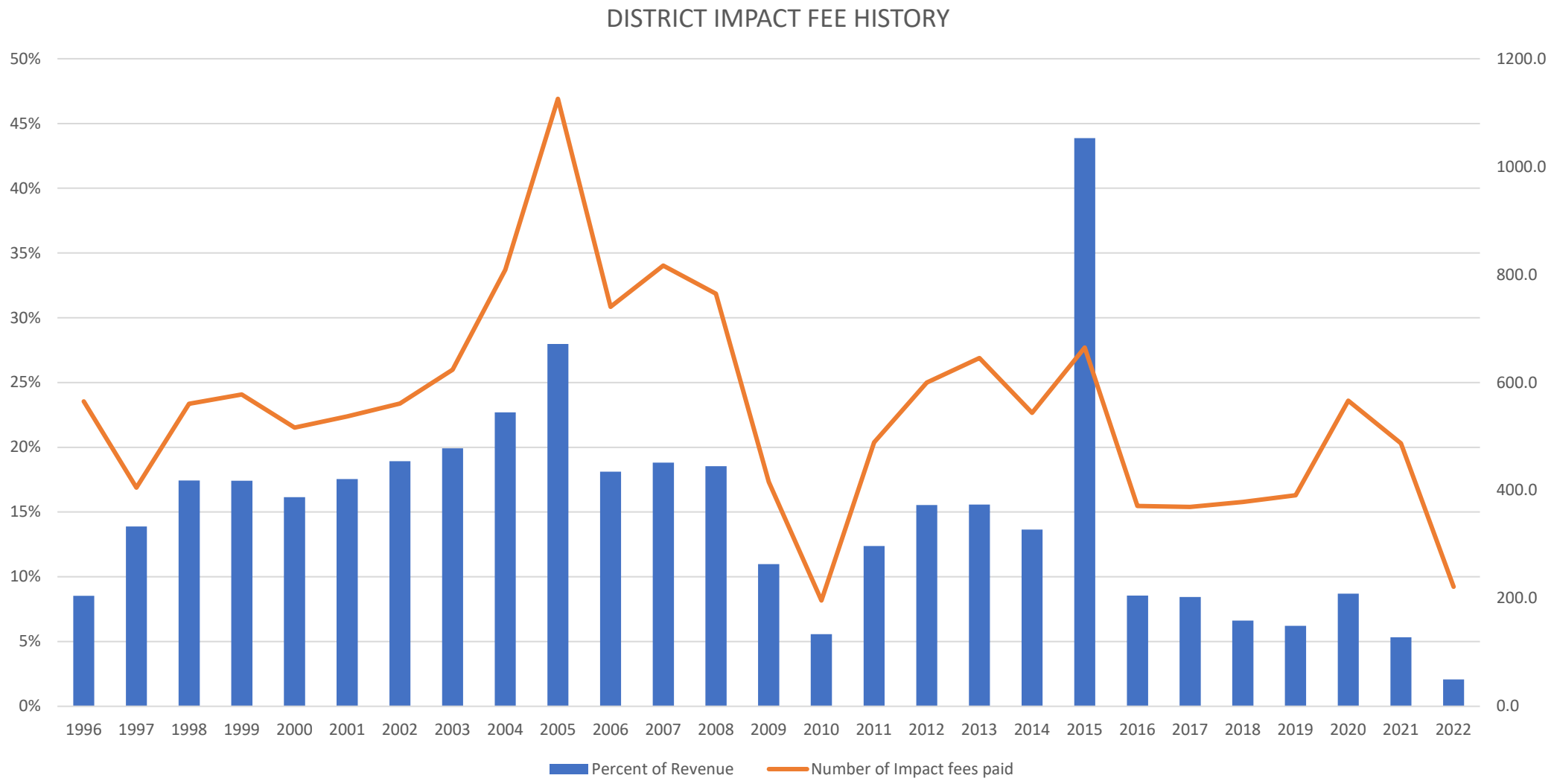
SDSD Timeline

- New Phosphorus Rule: 2014 (Effective 2020)
- New Ammonia Reductions: 2019 and 2026
- Planning 2014
- South Plant Engineering 2015-2020
- South Plant Construction 2020-2023
- North Plant Engineering 2022-2024
- North Plant Construction 2024-2028
- Bond for South Plant Improvements: 2019: $12M @ 2.1%
- Bond for South Plant Improvements: 2021: $10M @ 2.05%
- More funding 2027: ultimately ~$95M
- Total annual likely Debt Service: ~$10.3M (around $228 annually or about $19 monthly per home)

Where are sewer revenues going?



Declining Impact Fee Revenue



Cost of Operating treatment plants with inflation and lower limits (…so far)

District Operating costs increased from $6.5 million to $16.8 million between 2017 and 2025—approximately $10.25 million—can be summarized as follows:

- Inflation: $1,950,000
- Chemicals: $1,100,000
- Debt service: $5,000,000
- Renewal and repairs: $1,900,000
- Personnel: $300,000
  - Total: $10,250,000

SDSD Performance Benchmarking:
How do we stack up against our peers?



it: Getty Images

Benchmarking Excellence: South Davis Sewer District Performance vs. Industry Peers

Comparison of SDSD's metrics against national wastewater industry benchmarks (AWWA 2024), showing consistently high performance in top quartiles for productivity, reliability, and cost management, despite its size.

OPERATIONAL EFFICIENCY & RELIABILITY



Zero Capacity Overflow Events

SDSD maintains a perfect ranking with zero capacity-related sewer overflow events.

90% Higher Employee Productivity



Leaner Workforce for High Output



SDSD
(31 employees)

Industry Avg
(59 employees for similar flow)

COST-EFFECTIVENESS & FINANCIAL VALUE

Comparison of SDSD Costs vs. Industry Quartiles

(Lower costs = Higher efficiency)

Metric	SDSD Performance	Industry Median	Industry 25th Percentile (High Cost)
Total Cost per Account	**$286**	$426	$577
Total Cost per 100 Miles Pipe	**$2,196,456**	$3,580,858	$5,815,193
Collection Cost per 100 Miles	**$574,468**	$872,051	$1,114,240
	1st Quartile		

Efficient Collection Infrastructure



Strong Pre-Improvement Debt Position

SDSD maintained a healthy **40% debt ratio** prior to major North Plant improvements.

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SDSD Performance Metrics: Compared to AWWA Benchmarking

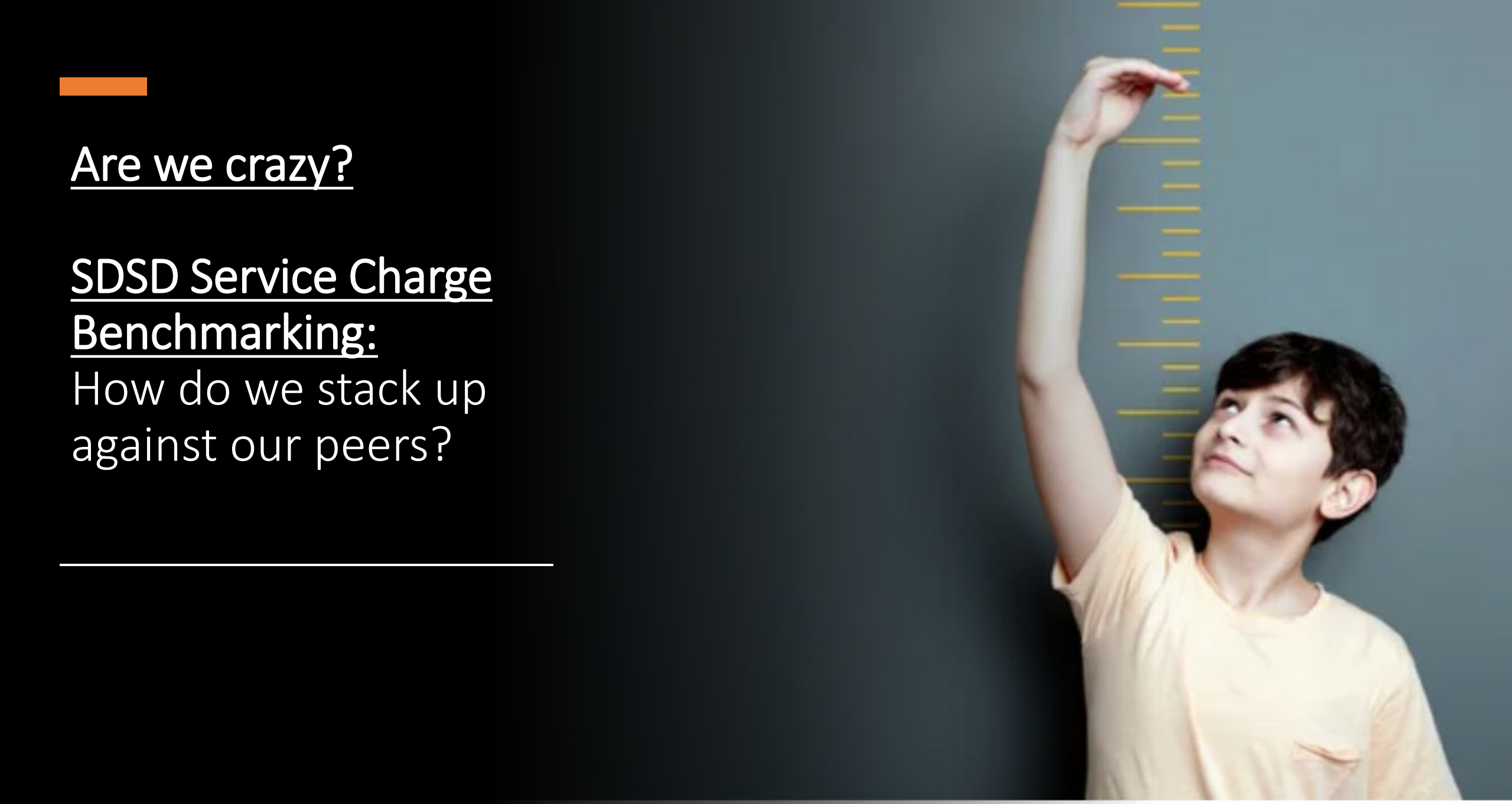
American Water Works Association

SDSD Performance Benchmarking			Percentile: Wastewater		
Metric	SDSD Score	SDSD Quartile	75th	Median	25th
MGD wastewater Processed per Employee(FTE)	0.37	1st	0.25	0.195	0.15
FTE's at 11.5 MGD:	**31**	**1st**	**46**	**59**	**77**
Noncapacity Overflow Events per 100 miles of pipe	0.53	1st	0.7	1.6	2.6
Capacity Overflow Events per 100 miles of pipe	0	1st	0.05	0.45	4.2
Aggregate Total Cost per Account	$ 286	2nd	$ 312	$ 426	$ 577
Aggregate Total Cost per MG	$ 1,973	2nd	$ 1,615	$ 2,876	$ 4,914
Aggregate Total Treatment Cost per MG	$ 1,198	2nd	$ 876	$ 1,214	$ 1,923
Aggregate Total Cost per 100 Miles of Pipe	$ 2,196,456	1st	$ 2,191,376	$ 3,580,858	$ 5,815,193
Aggregate Total Collection Cost per 100 Miles of Pipe	$ 574,468	1st	$ 652,506	$ 872,051	$ 1,114,240
Aggregate Debt Ratio-Wastewater	40%	2nd	31%	44%	62%
Aggregate Debt Ratio-Wastewater (after NP Project)	55%	3rd	31%	44%	62%

Are we crazy?

SDSD Service Charge Benchmarking:

How do we stack up against our peers?



Credit: Getty Images

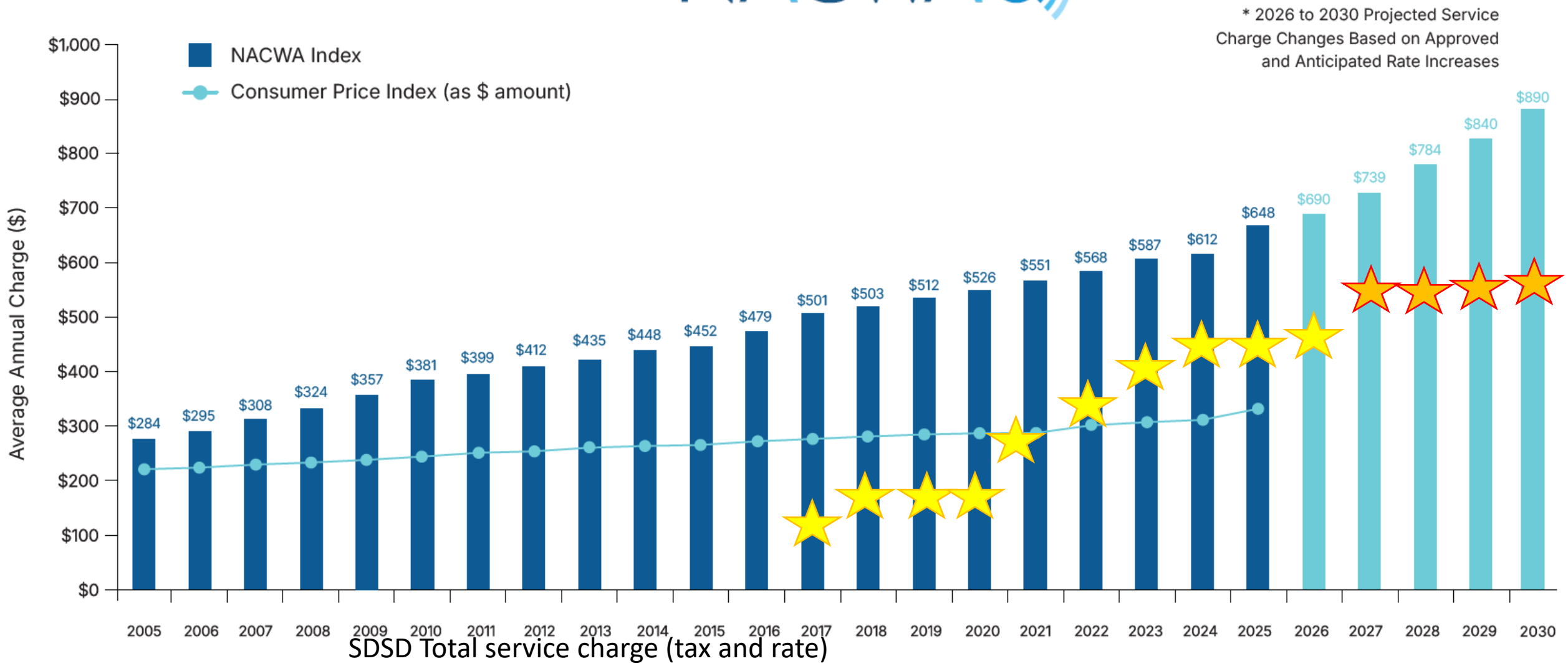
Recent and Current Wasatch Front Wastewater Upgrades

• Salem City	$20 Million
• Snyderville Basin Water Reclamation District	$50 Million
• Payson City	$100 Million
• ***South Davis Sewer (North and South Plants)***	***$120 Million***
• Logan City	$150 Million
• Provo	$150 Million
• North Davis Sewer District	$190 Million
• Central Weber Sewer Improvement District	$240 Million
• Jordan Basin Water Reclamation Facility	$250 Million
• Central Valley Water Reclamation Facility	$450 Million
• Salt Lake City	$900 Million
• Timpanogos Special Service District	$1.5 Billion
• **Approximate Wasatch Front total Wastewater Upgrades to date:**	**$4.12 Billion**

- NOTE: THESE ARE CAPITAL COSTS ONLY. DOES **NOT** CONSIDER COST OF OPERATION

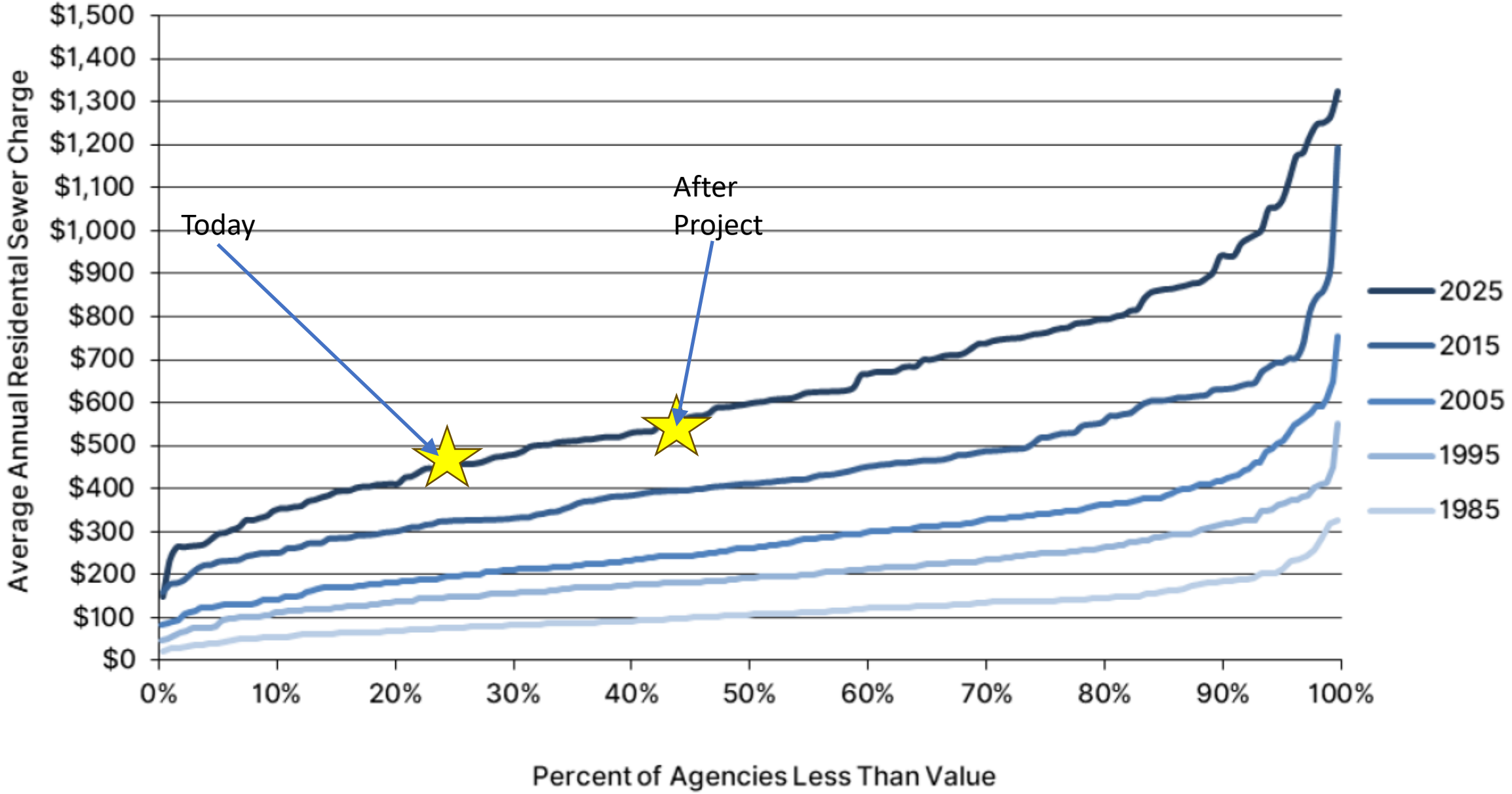
Average Annual Service Charge

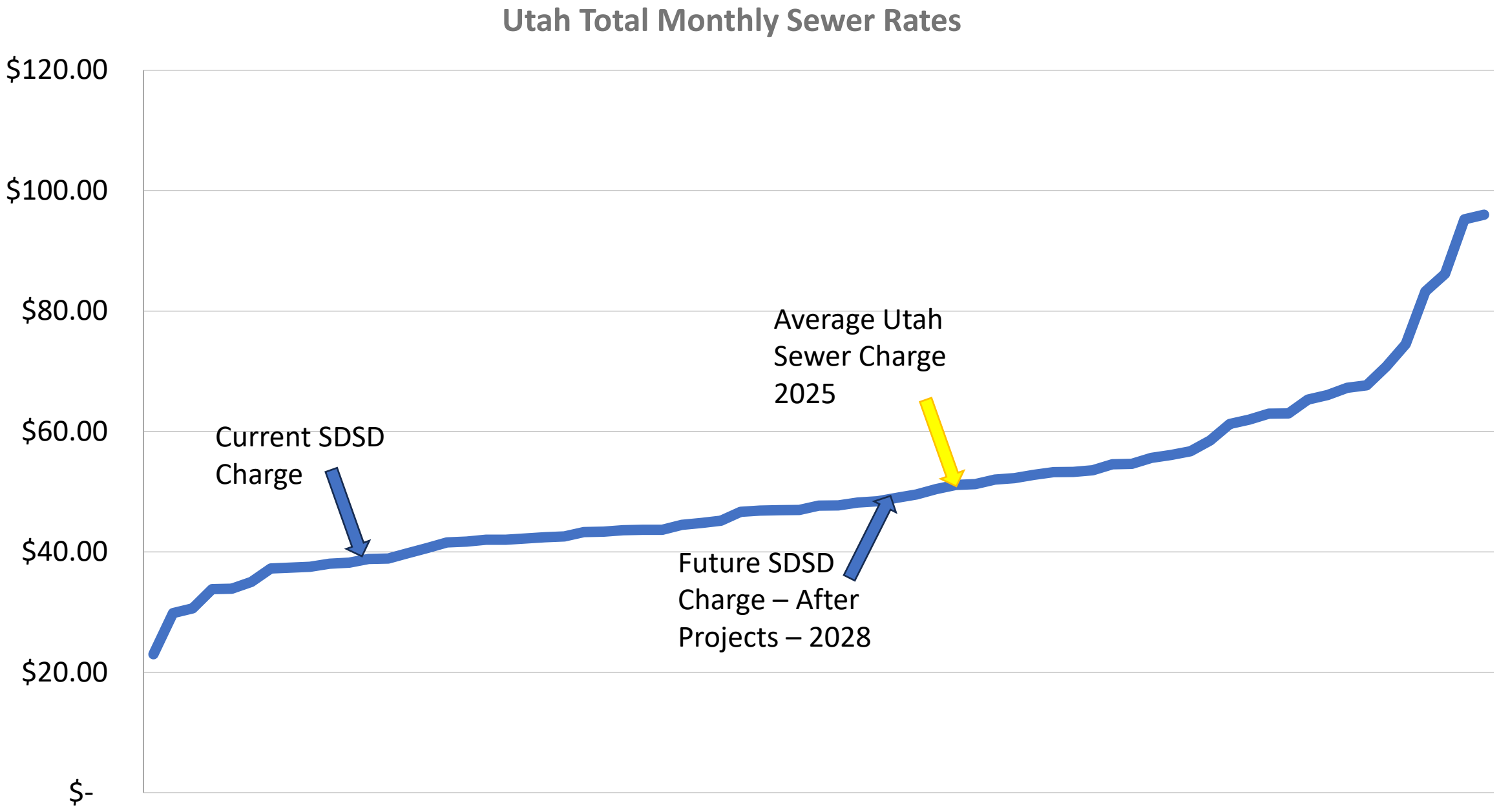
2005 – 2025 & Projected



SDSD Total service charge (tax and rate)

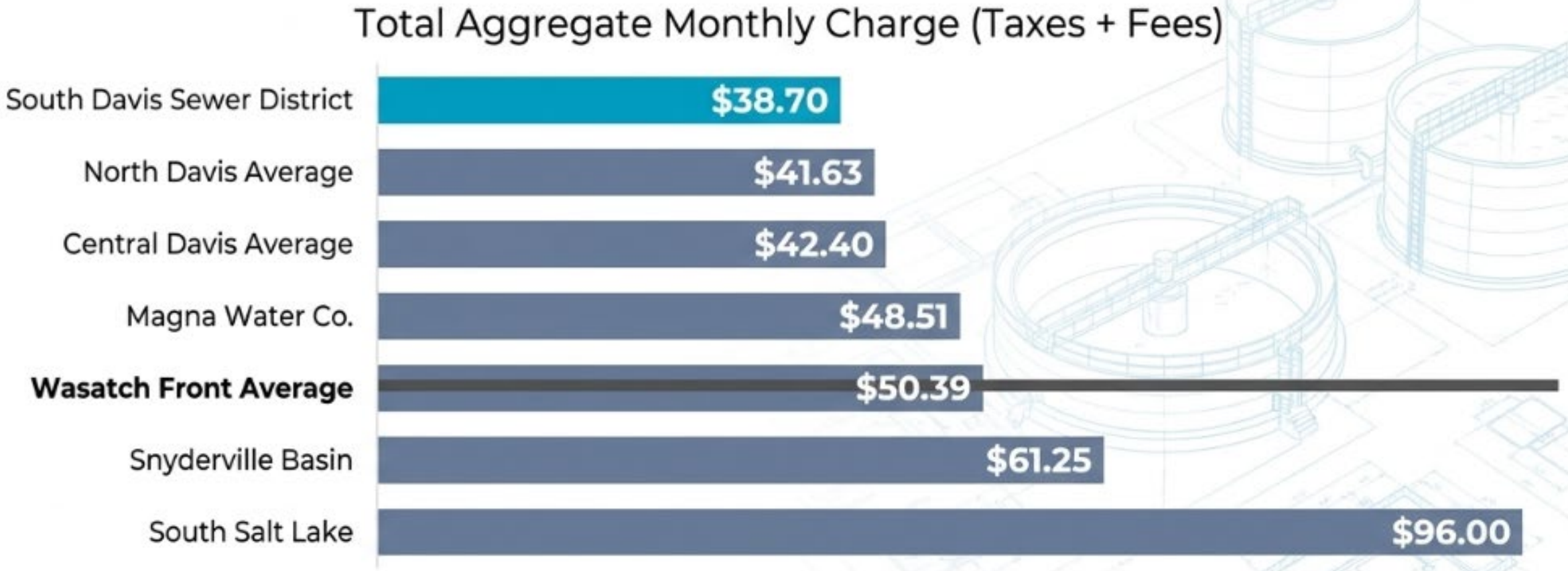
Distribution Trend of Average Annual Residential Sewer Charge (National)




Utah Total Monthly Sewer Rates
$120.00
$100.00
$80.00
$60.00
$40.00
$20.00
$-
Current SDSD Charge
Average Utah Sewer Charge 2025
Future SDSD Charge – After Projects – 2028

Local Benchmarking: The Wasatch Front Average

2025 COST OF CLEAN WATER INDEX | THE NATIONAL ASSOCIATION OF CLEAN WATER AGENCIES



Key Insight: Despite absorbing $120M in new construction, SDSD maintains aggregate rates well below the Wasatch Front average, proving our commitment to hyper-efficient operations.

Fiscally Responsible Stewardship

The Cause	The Solution	The Result
Strict EPA/DWQ mandates requiring 1.0 mg/L phosphorus and harsh ammonia limits, forcing the replacement of 60-year-old infrastructure.	**$120M** in highly optimized engineering upgrades. Funded with maximum empathy by phasing construction and utilizing property taxes to shield low-income earners.	A legally compliant, environmentally safe system that still costs residents roughly **23% less** than the Wasatch Front average and significantly less than the national average.

Safeguarding public health and the environment through fiscally responsible, reliable wastewater services delivered with professionalism, accountability, and pride.