COMMUNITY SERVICES DEPARTMENT

Infrastructure Health Scorecard

Methodology

American Society of Civil Engineers' approach and methodology was used. Each asset class receives an overall letter grade, which is calculated based on the weighted sum of the grade categories below. Each category grade is determined by asset specific performance metrics, stakeholder scores, and benchmarks, when available.

Grade Categories

Capacity	Infrastructure's capacity to meet current and future demands Example: Supply ÷ demand + congestion issues
Condition	Infrastructure's existing and near-future physical condition Example: Deterioration value ÷ replacement value
Funding	Infrastructure's current level of funding compared to the estimated funding needs Example: Funding level ÷ calculated needs or benchmark
Future Need	Infrastructure's future level of funding compared to the estimated funding needs Example: (Projected) Funding level ÷ calculated funding needs or benchmark
O&M	Owner's ability to comply with regulations and maintain the infrastructure properly Example: PM compliance % or Reactive $
Public Safety	Infrastructure's risk to public's safety Example: Likelihood of failure x consequence of failure
Resilience	Infrastructure's capability to prevent or protect against significant multi-hazard threats and incidents Example: % complete (Hazard plans, training, & asset redundancy) Resilient to changing climate
Innovation	Owner's use of new and innovative techniques, materials, technologies, and delivery methods are being implemented to improve the infrastructure Example: Benchmark against best in class

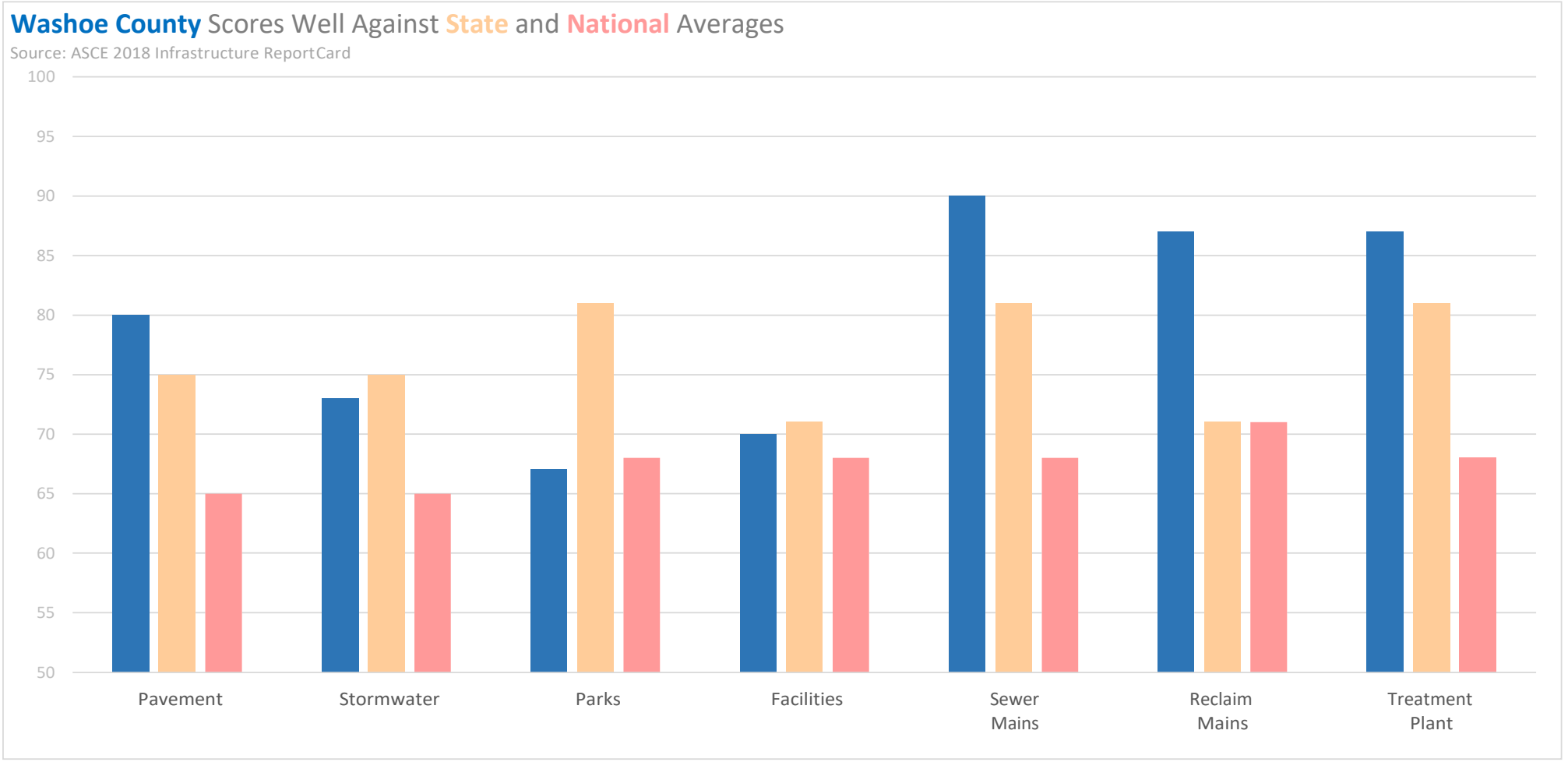
Grade Descriptions

A	**EXCEPTIONAL, FIT FOR THE FUTURE** Generally, in excellent condition, typically new or recently rehabilitated, and meets capacity needs for the future. A few elements show signs of general deterioration that require attention. Facilities meet modern standards for functionality and are resilient to withstand most disasters and severe weather events.
B	**GOOD, ADEQUATE FOR NOW** The infrastructure in the system or network is in good to excellent condition; some elements show signs of general deterioration that require attention. A few elements exhibit significant deficiencies. Safe and reliable, with minimal capacity issues and minimal risk.
C	**MEDIOCRE, REQUIRES ATTENTION** The infrastructure in the system or network is in fair to good condition; it shows general signs of deterioration and requires attention. Some elements exhibit significant deficiencies in conditions and functionality, with increasing vulnerability to risk.
D	**POOR, AT RISK** The infrastructure is in poor to fair condition and mostly below standard, with many elements approaching the end of their service life. A large portion of the system exhibits significant deterioration. Condition and capacity are of serious concern with strong risk of failure.
F	**FAILING/CRITICAL, UNFIT FOR PURPOSE** The infrastructure in the system is in unacceptable condition with widespread advanced signs of deterioration. Many of the components of the system exhibit signs of imminent failure.

Result Matrix

	Capacity	Condition	Funding	Future Need	O&M	Public Safety	Resilience	Innovation	Overall Grade	Level of Service
Road Pavement	A	B-	C	D-	C-	A-	A	B+	B-	Meeting Expectation
Stormwater	A	TBD	D	F	C-	A-	C	B+	C	Meeting Expectation
Parks	B	C+	F	F	D	B	C	B+	D+	Meeting Expectation
Facilities Building	B-	C-	C-	D-	D	B-	A	B-	C-	Meeting Expectation
Fleet	B+	C+	A-	A-	A-	A	A	B+	B+	Meeting Expectation
Sewer Collection	B	A-	A-	A-	B	B-	A-	B+	A-	Meeting Expectation
Reclaim Water	B	A-	A-	B+	B	A-	A-	B+	B+	Meeting Expectation
Sewer Treatment	B+	B	A-	A-	B+	B+	B	B+	B+	Meeting Expectation
Criteria Grade	B	TBD	C-	D	C	B	B	B	TBD	

Benchmarked Results



Road Pavement Infrastructure Report

111 Million Square Feet of Asphalt
733 Miles of Paved Road

Commerce, tourism and area transportation needs are supported by the care and hard work that goes into keeping pavement safe, available, and in optimal condition. Washoe County maintains and preserves the transportation infrastructure throughout the unincorporated portion of Washoe County from the Oregon border to, and including, Incline Village. Washoe County has a mature Pavement Preservation and Asset Management Program where capacity, condition, levels of service, and life cycles are well understood and optimized. Road Pavement scores above average because of this. Opportunities exist in addressing future needs, projected funding short falls, better matching funding to services, and planning for increased needs for road reconstructions.

Overall Grade

B-

Capacity

A

County roads are typically local and collector streets, which capacity needs are generally met "on-demand" and supplied directly by development activity. Congestion and traffic issues on County roads are rare. Capacity for most area highways and arterial streets are planned for by, and are the responsibility of, the Regional Transportation Commission and Nevada Department of Transportation.

Source: RTC, Washoe County Pavement Preservation Program Stakeholders.

Condition

B-

The Pavement Condition Index (PCI) is a standard scoring methodology developed by ASTM and used to rate each section of pavement. Washoe County rates each road segment once every three years and has done so since 1997. County commissioners have defined the level of service expectation at an average a PCI score of equal to or greater than 73, which is in the "Satisfactory" category. The current average (PCI) score is 72.4.

Source: Pavement Lifecycle Modeling Software, Paver, and inspection. (Pavement Condition Index)

Funding

C

Washoe County Roads Fund utilizes gasoline tax revenues for road maintenance and repair but there is a growing gap in capital needs and revenue. Capital needs have increased with the growing number of vehicles using the roads, but fuel tax revenue has not increased at the same rate because of more fuel-efficient vehicles. Pavement preservation treatments, like sealing, patching, and crack repair, have been funded and executed well but there is a current annual rehabilitation and reconstruction funding gap of $2.1 Million. Washoe County engineers, using pavement lifecycle modeling software, identified $8.5 million in funding needs for fiscal year 2020. Actual funding was
$6.4 million.

Source: Pavement Lifecycle Modeling Software, Paver, and Road's Fund Accounting. (Actual Annual Spending ÷ Needs)

Future Need

D-

Capital needs are expected to grow not only due to increased use of the roads, but also due to the large number of roads built 30-40 years ago. In this decade these roads will need more expensive reconstruction treatments in order to maintain their PCI and expected levels of service. Preservation treatment on these older roads would be a stop gap. Reconstruction is a better long-term investment. In fiscal year 2022, engineers project a need of $11.5 million for preservation and reconstruction but only 60%, $6.9 million, is expected to be available. This gap is expected to widen as capital needs compound. The growing number of electric, hybrid and highly fuel-efficient vehicles is also contributing to the funding gap, as the current funding mechanism for road maintenance in Washoe County is through fuel tax. A long term, more equitable and more stable revenue source is needed.

Source: Pavement Lifecycle Modeling Software, Paver, and Road's Fund Accounting. (Projected Actual Annual Spending ÷ Projected Needs)

Road Pavement Infrastructure Report, continued

Operation and Maintenance

C-

In 2020 more than 5 Million square feet of pavement were patched or sealed by the Road's Department and contractors but there still remains 29% of maintenance being postponed, due to higher priority tasks. PCI has been constant and reactive maintenance (potholes and cracking) is kept within levels of service but there are needs that have been left unmet.

Source: Pavement Preservation Program Stakeholders, Maintenance Management Software, Asset Essentials (deferred pavement maintenance, work order accomplishments)

Public Safety

A-

Public safety is a top priority, and the community is kept safe through preventative maintenance, prompt responses to roadway debris, snow clearing, stormwater maintenance, and a relatively high PCI. All of these decrease the risk to the road traveling public.

Source: Preservation Program Stakeholders. Average Stakeholder Score

Resilience

A

Washoe County Roads Division is well prepared for a rapid response to emergency events. This is accomplished through a 24/7 call line, on-call maintenance supervisor, and well-defined processes. For example, in the Winter of 2019 the snow plow operators worked almost around the clock to clear the 30 feet of snow that fell in Incline Village. Reactive activities are well planned for but extreme weather events from climate change pose additional risk, which is currently not planned for. Excessive heat expands and buckles pavement, rapid freeze and thaw events causes cracks, and rapid snow melt and flash floods causes road base erosion.

Source: Preservation Program Stakeholders. Average Stakeholder Score

Innovation

B+

Asphalt treatments are driven by leading pavement material science, pavement lifecycle modeling software, and evidence-based practice. A computerized maintenance management system is in place to track needs, problem areas, defects, and work history. Vehicle telematics are also used to track the use and service of the heavy equipment the department relies on.

Source: Preservation Program Stakeholders. Average Stakeholder Score

Road Pavement Infrastructure
Calculation Details

Criteria	Criteria Weight	Grade	Score	Score Calculation	Score Weight	Data Source
Capacity	25.0%	A	95/100	Average stakeholder score, supply of roads through development, congestion and traffic issues	100%	RTC, Washoe County Pavement Preservation Program Stakeholders
Condition	10.0%	B-	72.4/100	Pavement Condition Index (PCI)	100%	Pavement Lifecycle Modeling Software (Paver) and Inspection
Funding	15.0%	C	75.3/100	Actual Annual Spending ÷ Needs	100%	Pavement Lifecycle Modeling Software (Paver) and Road's Fund Accounting
Future Need	15.0%	D-	60.0/100	Projected Annual Spending ÷ Needs	100%	Pavement Lifecycle Modeling Software (Paver) and Road's Fund Accounting
Operation and Maintenance	10.0%	C-	70.8/100	Deferred pavement maintenance	100%	Pavement Preservation Program Stakeholders, Maintenance Management Software (Asset Essentials)
Public Safety	10.0%	A-	92.0/100	Average stakeholder score, roadway debris, snow clearing, stormwater maintenance, and PCI	100%	Preservation Program Stakeholders, Maintenance Management Software (Asset Essentials)
Resilience	5.0%	A	95.0/100	Average stakeholder score, extreme weather plans, citizen access to notification resources	100%	Preservation Program Stakeholders
Innovation	10.0%	B+	88.6/100	Average stakeholder score, pavement material science, pavement lifecycle modeling software, and evidence based practice	100%	Preservation Program Stakeholders

Overall Grade B-

Stormwater Infrastructure Report

+ 12 Million Feet of Conveyance Assets (ditch & pipe)

+ 8,000 Treatment Assets

Stormwater systems are typically designed to convey runoff from “every-day” or minor storm events. Washoe County is responsible for cleaning and repairing stormwater facilities within Washoe County right-of-way or Washoe County maintained drainage easements. In the Lake Tahoe Basin, Washoe County uses best management practices to also treat and filter stormwater. This minimizes the amount of fine sediment that makes its way into Lake Tahoe and improves lake clarity. In May 2009, Washoe County qualified to be part of the FEMA Community Rating System (CRS). The program rewards communities that exceed National Flood Insurance Program requirements, which help citizens prevent or reduce flood loses. Washoe County qualified for CRS Class 7 which provides the unincorporated Washoe County residents a 15% discounts on flood insurance premiums. Stormwater responsibilities are mostly funded through fuel tax. Only North Spanish Springs and Truckee River floodplains have a coordinated Stormwater and Flood Detention Utility. Opportunities exist in addressing the funding disconnect between fuel tax and stormwater treatment services, and executing a condition and risk based preventative capital replacement plan.

Overall Grade*

C

Capacity

A

Capacity is typically designed to convey runoff from “every-day” or minor storm events and may overflow during larger storm events. In 1994, Formal Development Standards for Storm Drainage were adopted and only 4% of conveyance pipes in inventory still exist, prior to these standards. Capacity issues are identified during normal operations and problem areas are reviewed regularly as part of the FEMA Community Rating System (CRS).

Source: Asset Inventory (% of inventory not meeting current design standards)

*Condition

TBD

A condition assessment and analysis are planned for summer of 2022. Condition will be calculated based on in-field inspections and scored based on defects, deterioration, remaining useful Life, and sediment accumulation. The output will be a comprehensive view of Washoe County stormwater asset maintenance and capital needs.

Source: Asset Inspections. (Deterioration Model, Remaining useful life, Age, Material, Culvert, Ditch, & DI % Full)

Funding

D

Washoe County Stormwater asset maintenance and capital improvement funding is mostly sourced through fuel tax, which also competes with other Road maintenance needs. North Spanish Springs Floodplain Detention and Truckee River Flood Management are the exceptions, being funded through rate payers and sales tax respectively. Maintenance supervisors would spend 41% of any additional funding on additional Stormwater maintenance. Capital replacements are being deferred due to limited funding. Currently only 18% of funding is spent on Stormwater.

Source: Road's Funds Accounting. (Unfunded stormwater maintenance and capital replacements) Stormwater Engineer and Operator Stakeholder Analysis. (Projected unfunded stormwater maintenance growth rate, average stakeholder score, potential for secure funding)

Future Need

F

A long term fiscally sustainable fund model is needed to keep up with maintenance and capital replacements. Stakeholders expect funding to decrease by 8% and maintenance needs to grow by 18%. Deferred capital needs are expected to compound and increase reactive maintenance costs. By fiscal year 2023, Washoe County's goal is to implement a stormwater and flood mitigation funding model with policies in place to address historic problem areas where there is inadequate stormwater and flood mitigation infrastructure. A Stormwater Utility District has been explored in the past but has not had the support of citizens. Alternative models are in development but is not guaranteed to be accepted by stakeholders.

Source: Stormwater Engineer and Operator Stakeholder Analysis. (Projected unfunded stormwater maintenance growth rate, average stakeholder score, potential for secure funding)

Stormwater Infrastructure Report, continued

Operation and Maintenance

C-

In 2020, more than 2 Million feet of stormwater ditch and pipe were cleaned by the Road's Division but there still remains 40% of stormwater maintenance being postponed for higher priority tasks. Flooding events are relatively rare, with some notable exceptions. Historic problem areas are tracked and identified for capital projects, but funding is not always available for all needs.

Source: Asset Essentials (CMMS) & Stormwater Engineer and Operator Stakeholder Analysis. (% of needed maintenance not deferred + 10%, acceptable benchmark)

Public Safety

A-

Risk to public has been relatively low, only 6% of Stormwater related labor hours are flooding related. It is reasonable to expect some localized flooding during larger storm events including thunderstorms, micro-bursts, etc., that are common in the Northern Nevada high-desert environment.

Source: Asset Essentials, CMMS, & Stormwater Engineer and Operator Stakeholder Analysis. Deferred maintenance, average stakeholder score

Resilience

C

Emergency event responses have well defined processes and policies. Citizen and roadway needs are triaged through a 24/7 call line and a maintenance supervisor is always on-call. Current development codes and assets are not engineered for potential impacts due to climate change. Additional heat increases water vapor and the potential for flash flooding or rapid snowmelt.

Source: Stormwater Engineer and Operator Stakeholder Analysis. Average stakeholder score

Innovation

B+

Washoe County uses state of the art street sweepers to keep sediment out of the stormwater conveyance system. Fine sediment from stormwater runoff also decreased Lake Tahoe clarity. Washoe County has partners with a local organization to implement innovative assets, policies, and procedures to address this. A notable example is the implementation of several high flow pretreatment and membrane filtration vaults (Jellyfish), stormwater catch basins, and BMP RAM standards.

Source: Stormwater Engineer and Operator Stakeholder Analysis. Average stakeholder score

Stormwater Infrastructure Calculation Details

Criteria	Criteria Weight	Grade	Score	Score Calculation	Score Weight	Data Source
Capacity	10.0%	A	96/100	% of inventory not meeting current design standards, CRS identified capacity issues	67%	Asset Inventory, FEMA Community Rating System (CRS),
Condition	20.0%	TBD	TBD	Deterioration Model, Remaining useful life (Age, Material)	33%	Asset Inspections
			TBD	Culvert, Ditch, & DI % Full	67%	Asset Inspections
Funding	15.0%	D	76.8/100	Unfunded stormwater maintenance, average stakeholder score, current funding availability	100%	Stormwater Engineer and Operator Stakeholder Analysis
Future Need	15.0%	F	66.8/100	Projected unfunded stormwater maintenance growth rate, average stakeholder score, potential for secure funding	100%	Stormwater Engineer and Operator Stakeholder Analysis
Operation and Maintenance	20.0%	C-	75.0/100	Deferred maintenance, average stakeholder score	100%	Asset Essentials (CMMS) & Stormwater Engineer and Operator Stakeholder Analysis
Public Safety	10.0%	A-	94.0/100	Stormwater related labor hours are flooding related	100%	Asset Essentials (CMMS) & Stormwater Engineer and Operator Stakeholder Analysis
Resilience	5.0%	C	75.0/100	Average stakeholder score, extreme weather plans, citizen access to notification resources	100%	Stormwater Engineer and Operator Stakeholder Analysis
Innovation	5.0%	B+	87.8/100	Average stakeholder score, stormwater treatment science, BMP RAM standards, and evidence-based practice	100%	Stormwater Engineer and Operator Stakeholder Analysis

Overall Grade C

Park Infrastructure Report

+ 13,000 Acres of Parks and Open Space, 497 Acres of Turf
+ 10,000 Ornamental Trees, 175 Playground Structures

Outdoor recreation and access to parks and open space is integral to Washoe County residents' quality of life and has been shown to dramatically improve mental and physical wellbeing. The Washoe County Regional Parks and Open Space Program (Parks Program) contributes to a healthy community by providing 10 regional parks, 39 community and neighborhood parks, 7 special use parks, 70 open space properties and over 100 miles of trails. The scope of maintenance and capital planning responsibilities are wide and include turf, trees, landscaping, trails, playgrounds, trailheads, picnic shelters, restrooms, a museum, a swimming pool, splash pads, a campground, a shooting facility, an archery facility, golf courses, visitor centers, rentable facilities, and much more. The Parks Program mission is being challenged by the needs of a growing population, the responsibilities that go along with it, and a backlog of capital and maintenance projects left over from the Great Recession. Compared to other counties nationally, Washoe County parks are in the lowest 25% of park funding per citizen. Park availability and access meets demand but the capital replacement funding gap has left some assets in disrepair. Opportunities exist in the areas of an urban forestry program, pavement preservation, noxious weed mitigation, open space acquisition, and amenity preventative replacement.

Overall Grade

D+

Capacity

B

Washoe County has 8.7 acres of parkland for every 1,000 residents, which is considered to be meeting expectations. The National Recreation and Parks Association (NRPA) benchmark is 9.2 acres/1,000 residents. The small difference is made up for in a large amount of BLM, Forest Service, and dedicated open space. Underserved areas have also been identified in the Parks Master Plan, but infill park development and equal access is a logistic and financial challenge.

Source: NRPA Acres per Capita Benchmark, 2020 (Acres per 1,000 residents ÷ benchmark)

Condition

C+

A comprehensive condition assessment of park amenities was conducted in the summer of 2020. This included assessment of assets such as picnic tables, benches, and trash cans. The result was an average score of B-. Park roads and parking lots are assessed every 3 years and are a large capital asset with an overall score of C. With the exception of trees, vegetation is assessed routinely. Rentable facilities are planned to be assessed in fall of 2021.

Source: Condition Inspection Scoring, Pavement Inspection Program (Average Amenity Condition Score, Pavement Inspection Program)

Funding

F

Since the 2008 budget cuts, there has been a $48 million-dollar gap in spending. This gap has caused a backlog in maintenance and capital spending. This is compounded by the fact that the Parks Programs budget hasn't even fully recovered from the Great Recession when the budget was cut by more than half. Today, the budget is still only at 65% of what it was pre-recession. According to NRPA benchmarks, Washoe County has a spending deficit of $1,129 per acre, which is almost half of highest spending counties. Washoe County is in the lowest 25% of Parks funding per citizen.

Source: NRPA Acres per Capita Benchmark, 2020 (Expenditures per capital ÷ benchmark)

Future Need

F

If the funding trend continues for another 20 years, the budget gap could grow by another $94 million-dollars, creating a $142 million-dollar gap over a 30-year period. Parks Capital Projects Fund has historically only increased at a rate of 1.63% per year, which is less than historic U.S. inflation rate and is much less than the compounding capital needs of 5-8% (6.5% average)

Source: Washoe County Regional Parks & Open Space Master Plan, Stakeholder Analysis (Budget Analysis, Unfunded capital improvement projects growth expectations)

Park Infrastructure Report, continued

Operation and Maintenance

D

35% of maintenance is being postponed due to higher priority tasks. Aging irrigation infrastructure needs have led to an increase in reactive maintenance, which takes resources away from preventative maintenance tasks. Tree trimming maintenance is almost completely reactive due to the lack of a formal urban forestry program and preventative maintenance program. Increased wildfire damage in parks has also increased the amount of revegetation maintenance and noxious weed mitigation activities.

Source: Stakeholder Analysis (Deferred maintenance %)

Public Safety

B

Dedicated Park Ranger staff patrol park and recreation areas advising visitors of rules, regulations and policies. Parks had only 4.64 personal injury claims (SAF7) per 1M attendees in 2020, which is well below the benchmark of 26.89. Critical assets like playground structures are scheduled for monthly safety inspection. On average, these were completed on schedule 73.5% of the time. Opportunities exist in implementing a preventative tree pruning and urban forestry program, which would reduce risk of falling tree limbs.

Source: Asset Essentials, CMMS (Tree pruning, Playground Inspection). Risk admin and car counter (SAF7 Reports, personal injury claims ÷ total park visitors)

Resilience

C

Due to drought conditions and budget restrictions, the Parks Program has adopted more drought-tolerant assets and policies. Through smart design, turf removal, and reclaim water usage Washoe County parks are more resilient. There are opportunities to improve resiliency, specifically with water resource conservation and sourcing additional water from recycled means. Reclaimed water is used in 51.1% (254 acres) of park irrigation. In most cases, the cost of reclaim water infrastructure is currently too high for a strong business case. Planning to increase the resiliency of parkland and open space areas to the impacts of climate change is necessary.

Source: Water billing (% of turf using recycled water)

Innovation

B+

The average park stakeholder feels that research and implementation of innovative park maintenance & CIP methods, processes, policies, and technologies scores a B+. The implementation of an online reservation and point of sale system has improved the Park Program's ability to recover the cost of services. Smart, central irrigation controls and use of a maintenance tracking system also contribute to this high score.

Source: Stakeholder Analysis (Average Stakeholder Score)

Park Infrastructure Calculation Details

Criteria	Criteria Weight	Grade	Score	Score Calculation	Score Weight	Data Source
Capacity	20.0%	B	8.7/9.2	Acres per 1,000 residents ÷ benchmark	100%	NRPA Acres per Capita Benchmark (2020)
Condition	10.0%	C+	87/100	Average Amenity Condition Score	40%	Condition Inspection Scoring
			71.2/100	Average Pavement Condition Index	60%	Pavement Inspection Program
Funding	15.0%	F	1,201/2,330	Expenditures per capital ÷ benchmark	100%	NRPA Acres per Capita Benchmark (2020)
Future Need	15.0%	F	1.63/6.5	Unfunded capital improvement projects growth expectations	100%	Park operations stakeholder analysis, spending deficit trend, Park Master Plan
Operation and Maintenance	10.0%	D	75/100	Deferred maintenance %, stakeholder survey	100%	Park operations stakeholder analysis
Public Safety	20.0%	B	73.5/100	Playground Inspection Compliance	30%	Survey123 Inspection Forms
			20.0/100	Preventative tree pruning	10%	Maintenance Management System (Asset Essentials)
			4.64/5.27	SAF7 Reports (personal injury claims) ÷ total park visitors	60%	Risk department and car counter
Resilience	5.0%	C	51.1%	% of turf using recycled water	100%	WC Reclaim water billing
Innovation	5.0%	B+	88/100	Average stakeholder score, smart-central irrigation controls, online reservation and point of sale system	100%	Park operations stakeholder analysis

Overall Grade D+

Facilities Infrastructure Report

>2 Million Square Feet of Facilities

>300 structures, >2,000 Heating and Cooling Assets

Washoe County provides many regional services in Northern Nevada, which serve not only Washoe County citizens but those of neighboring counties, cities and other agencies such as fire districts. Most services provided, ranging from Child Protective Services to Wastewater Treatment, require a safe, available, clean, and comfortable physical space to effectively operate. The Washoe County Facilities Management Division is responsible for managing the maintenance, infrastructure preservation, energy conservation, custodial services, landscaping, and snow removal for all County facilities, working together with the Capital Projects team, who is responsible for the inventory, construction, major repair, and execution of the Capital Improvements Program (CIP). Both teams play important roles and directly influence the performance of Facility infrastructure. In general, County Facilities score high in the areas of Capacity, Resilience, and Innovation but opportunities exist in the areas of Operation and Maintenance and Future Funding.

Overall Grade

C-

Capacity

B-

Current capacity needs are, in general, being met. New construction at the Sheriff's Office, Mills Lane Justice Center, Our Place campus, and others have met the need of a growing population, but according to the Downtown Master Plan and 9Th Street Complex Master Plan, an estimated 75,893 addition square feet will be needed by 2040. Even after optimizing and remodeling current space, there is a growing need of 1,045 SF/year at 9th Street and 2,750 SF/year Downtown identified in the plan. This need is projected based on population growth expectations, which has been steady at 2% annually, about 10,000 citizens a year. It is important to note that the plan was developed prior to the COVID-19 epidemic. During the epidemic 'work from home' and hybrid work schedules were implemented in many areas of the County. Teleworking policies and changes to the current workplace and office environments are being considered. It is unknown at this time, how these changes might affect the need for additional space identified in the plan.

Source: Facility Master Plans (SF needs), EDAWN EPIC Report (Population)

Condition

C-

Facility condition significantly affects the success, safety, and quality of life of the public, staff, and regional partners. Washoe County's 2021 Facility Condition Assessment resulted in an average Facility Condition Index (FCI) score of 0.23, with individual building scores ranging from 0.47 to 0.02. FCI is considered "Critical" at > 0.30 and "Failing" at > 0.50 . FCI is an industry standard benchmark of condition and is calculated using the renewal costs divided by the replacement cost. Routine maintenance slows the rate of deterioration, but infrastructure preservation, capital investment, and renewal efforts are needed to maintain expected condition levels. Predictive condition modeling technology is currently being implemented by Washoe County Facilities, but opportunities exist in using the information to address the gap in infrastructure preservation and capital improvement funding.

Source: 2021 Facility Condition Assessment (Degradation and Capital Needs), IFMA (FCI Benchmark), Washoe County Risk Management Division Statement of Value (CRV)

Facility Infrastructure Report, continued

Funding

C-

Facility maintenance, operations, administration, and infrastructure preservation funding has averaged $5.52 per square foot. The industry average is $6.04 psf and is $7.50psf for the top 25%. The County's Capital Improvements Plan is a five-year plan for maintaining existing infrastructure and buildings or acquiring new facilities to meet demands from growth, legal mandates, and health and safety issues. In 2021, 33% of proposed facility asset restoration projects were postponed due to funding. Facility, parks, wastewater, roads, and other infrastructure needs compete for the same capital infrastructure funding.

Source: Asset Essentials (SF), Washoe County Budget Division's Capital Improvement Plan (FY2017-2022), SAP (Budget Physical Plan +Paint +Carpentry +IP)÷(SF - direct bill SF (RAS, Utilities, RPSTS, OUR Place, Mills Lane city of reno)

Future Need

D-

The industry standard benchmark for keeping buildings in “good repair” is spending 3% of Current Replacement Value (CVR) on operations, maintenance, and capital needs. The County, on average, spends 1.6% of CVR. As asset lifecycles are stretched, reactive maintenance costs increase and asset reliability decreases. The gap between capital needs and funding is expected to increase as the population increases and the facilities degrade. Facilities added to inventory has processes for capturing the costs of operation and maintenance, but capital replacement funding is not set aside by default. Opportunities exist in developing a sustainable, dedicated capital replacement funding source and transitioning away from a 'worst first' capital priority method to a asset specific, net present value optimized method.

Source: NCES (% CVS), Washoe County Risk Management Division Statement of Value (CRV), Washoe County Budget Division's Capital Improvement Plan, FY2019-2021 (CIP Spending)

Operation and Maintenance

D

Reactive maintenance is moderately high and almost half of planned maintenance is overdue. Of all heating and cooling asset maintenance hours, 60.7% is spent on planned asset maintenance. The remaining hours are spent reacting to asset performance issues. The industry target baseline is 50% and 'world-class' benchmark is 85%. Planned maintenance on-time completion rate for is only 52.7%, the goal of which is 100%. One leading factor in O&M success is capital replacement backlogs. 2/3 needed infrastructure projects have been funded through CIP. Of those 15% get postponed at least 1 year, on average. For Fiscal Year 2021, 26% were postponed. These delays stretch asset lifecycles. Another leading factor is staffing ratios. Currently, each facility technician is responsible for 79,666 square feet, which is about 28,000 more than the industry average of 51,700 square feet per technician.

Source: Asset Essentials (PMP, PM Compliance). Reliabilityweb.com (PMP Benchmark). IFMA (FTE: GSF Benchmark)

Public Safety

B-

Safety is a top priority. Physical security and life-safety related maintenance tasks are constantly being updated and improved. Currently safety checks are part of routine asset inspections and planned maintenance. Safety tasks that take unique and specific skills, like fire suppression controls, sprinklers, and extinguisher charging, are outsourced to vendors and managed by a Washoe County Facilities Contract Services Supervisor. Asset conditions that effect public safety, like fire suppression, walkway trip hazards, and pressure vessels, will be identified in the upcoming condition assessment. Regulatory records are kept current and reported regular to agencies like the Nevada Division of Environmental Protection.

Source: Maintenance Management System (Asset Essentials).

Resilience

A

Resilience is protected though Emergency Response and Continuity of Operations Plans. These plans are in place for a wide range of emergencies and are rooted in facility availability and criticality. Emergency response plans have influenced asset configuration and redundancy so the county can continue to perform mission critical functions and keep the public safe during times of emergencies and disasters. Maintenance technicians are on-call 24/7 to respond to emergency needs and are able to troubleshoot and operate remotely using secure building controls.

Source: Stakeholder Analysis. Average Stakeholder Score

Innovation

B-

The Facilities Division employs advanced tools that help minimize asset downtime and improve customer service. Advanced technology has been developed for building automation, asset diagnostics, work order management, natural resource usage tracking, and carbon footprint mitigation. Energy efficient modernization programs like LED retrofitting and Variable Frequency Drive installations are ongoing. There are opportunities to resize or replace end-of-life assets, but stakeholders agree there is an average innovation research and implementation grade of B-.

Source: Stakeholder Analysis. Average Stakeholder Score

Facilities Infrastructure
Calculation Details

Criteria	Criteria Weight	Grade	Score	Score Calculation	Score Weight	Data Source
Capacity	25.0%	B-	80/100	SF per Washoe County Staff	100%	Major Complex Master Plans
Condition	15.0%	C-	0.23	Facility Condition Index (Renewal costs ÷ Replacement cost)	75%	Building systems condition assessment, International Facility Management Association (IFMA) FCI Benchmark
Funding	15.0%	C-	5.52/7.50	Non-CIP maintenance cost ÷ industry benchmark	50%	SAP, Maintenance Management System (Asset Essentials), APPA Association of Physical Plant Administrators, Life cycle renewal
			18/27	# CIP needs funded ÷ # CIP needs	50%	CIP Program
Future Need	15.0%	D-	60/100	CIP funding gap	100%	CIP Program
Operation and Maintenance	10.0%	D	.608/.8	60.8% Planned Maintenance Percentage, 52.7% On-Time PM (FY19-FY20, HVAC)	100%	Maintenance Management System (Asset Essentials)
Public Safety	10.0%	B-	81/100	On time PM (768/1290) Average condition of Fire Suppression condition and Concrete condition	100%	Maintenance Management System (Asset Essentials)
Resilience	5.0%	A	95/100	Average stakeholder score, emergency response notification and planning	100%	Stakeholder Analysis, Emergency Response and Continuity of Operations Plans
Innovation	5.0%	B-	80.75/100	Average stakeholder score, building automation, asset diagnostics, workorder management, natural resource usage tracking, and carbon footprint mitigation.	100%	Stakeholder Analysis

Overall Grade C-

Fleet Infrastructure Report

1108 Mobile Assets

$31 Million in Capital Value

The mission of the Equipment Services Division is to provide safe, reliable vehicles and equipment to Washoe County departments at low life-cycle costs. Fleet infrastructure includes three major categories. Light fleet, which are passenger vehicles, heavy fleet, which are specialized equipment needed for road, stormwater, parks, and wastewater maintenance, and non-rolling stock, which are attachments like snow plows, road sanders, and trailers. Government Fleet magazine recognized Washoe County Equipment Services Division in 2020 as a Notable Leading Fleet and that is mirrored in the relatively high infrastructure scores.

Overall Grade

B+

Capacity

B+

Due to the way Fleet is funded, capacity is expanded or contracted based on department specific business needs and available funding. Fleet utilization is a good indicator of whether supply match's demand. Utilization for light fleet, non-Sheriff has historically averaged 6,945 miles per vehicle annually. The Federal Government's, non-military, light fleet benchmark is 6,156 miles per vehicle. During the pandemic, when nonessential travel and in person meetings were discouraged, that number decreased but is starting to normalize.

Source: Flagship Fleet Management (miles/vehicle), U.S. GSA FY20 Federal Fleet Report Table 4-2 (miles per vehicle)

Condition

C+

Fleet condition is measured using a point score for age, usage, and repair to replacement cost ratio. The average score was 21.17 points, which equates to 78.8% of value remaining. Those points are broken down by general light fleet having an average of 20.87 points, Road's heavy fleet has 19.81 points, Sheriff's fleet has 23.18 points, and miscellaneous equipment has 17.45 points.

Source: Flagship Fleet Management (Point scoring)

Funding

A-

Fleet has a relatively stable funding mechanism. The Equipment Services Fund (ESF) is operated as an internal service fund to track revenues and expenses for the purchase, maintenance, repair and replacement of fleet vehicles and specialized heavy equipment. The ESF invoices user departments for operation and capital replacement of vehicles. However, the average vehicle age has increased for Human Services Agency and Sherriff's Office, two of the largest fleet users. This indicates department level funding constraints.

Source: Washoe County Budget Book FY21/22. Fleet Stakeholder Analysis (Average Score)

Future Need

A-

Equipment Services has established an equipment and vehicle replacement schedule that maximizes value while taking into consideration safety, efficiency, utilization and maintenance costs. The schedule is coordinated with a rate structure that adequately funds replacement or reconditioning of the assets. This structure provides long term funding stability, but is subject to budget approval, which is not always guaranteed.

Source: Washoe County Budget Book FY21/22. Fleet Stakeholder Analysis (Average Score)

Fleet Infrastructure Report, continued

Operation and Maintenance

A-

Planned maintenance compliance is high at 90% completed on-time. The goal is 100% but the baseline is 60%. The average cost per mile for light fleet is $0.35 per mile and the federal benchmark is $0.59 per mile. The Preventative Maintenance to Repair Ratio is 2:1, which is twice as good as the industry standards. Opportunities exist in maintenance and repair turnaround times, which lead to vehicle downtime. In 2007 the average turnaround was 27 days. In the past 12 years, turnaround times have steadily improved, and in 2020 the average turn-around time decreased to 11.5 days.

Source: Utilimarc 2019 Government Fleet National Survey (PM Compliance, $/mile). Flagship Fleet Management. (PM Compliance, $/Mile, turnaround times)

Public Safety

A

The safety of the road traveling public, pedestrian, and drivers are a high priority for Washoe County. Every preventative maintenance task includes a 27 point safety inspection, which is conducted to insure vehicle and occupant safety. Compliance is high with air quality, OSHA, and hazardous waste disposal regulations. Washoe County's Risk Management Division maintains a Driver's Policy and conducts mandatory defensive driver training for all Washoe County staff every three years.

Source: Flagship Fleet Management (PM Ratio), Washoe County Risk Management Division, Stakeholder Analysis (Average Score)

Resilience

A

Resilience is secured through redundancy of critical pieces of equipment, flexibility, and relationships with contractors. Fleet leasing is not a common practice, but processes are in place to quickly respond to emergencies. Opportunities exist in fuel-type diversification, especially with passenger vehicles and adoption of electric vehicles, protecting against fuel cost and supply risk.

Source: Stakeholder Analysis (Average Score)

Innovation

B+

Equipment Services scores high in adoption of diagnostic, telematics, and Asset Management Software technologies. The Equipment Services Superintendent is a Certified Public Fleet Professional and keeps current with leading technology. Washoe County is implementing a carbon footprint monitoring software, but additional opportunities exist in adopting environmental management policies, like ISO 14001, and adopting alternative fuel vehicles. Currently the Equipment Services Fleet has only one electric passenger vehicle.

Source: Stakeholder Analysis (Average Score), Flagship Fleet Management (electric count)

Fleet Infrastructure Calculation Details

Criteria	Criteria Weight	Grade	Score	Score Calculation	Score Weight	Data Source
Capacity	20.0%	B+	89/100	Light fleet utilization: miles per vehicle	100%	Flagship Fleet Management Software, GSA Benchmark
Condition	15.0%	C+	78/100	Average aggregated Point Score of age, miles/hours, and life repair cost	100%	Flagship Fleet Management Software
Funding	15.0%	A-	85/100	Equipment Services Fund funding mechanism, average stakeholder score	100%	Fleet operations stakeholder analysis
Future Need	15.0%	A-	95/100	Equipment Services Fund projected funding mechanism, average stakeholder score	100%	Fleet operations stakeholder analysis
Operation and Maintenance	15.0%	A-	90/100	On-time preventative maintenance	100%	Flagship Fleet Management Software
Public Safety	10.0%	A	92/100	Safety inspection program, regulatory compliance, average stakeholder score	100%	Fleet operations stakeholder analysis
Resilience	5.0%	A	95/100	Redundancy of critical pieces of equipment, fuel type diversification, average stakeholder score	100%	Fleet operations stakeholder analysis
Innovation	5.0%	B+	88/100	Diagnostic, telematics, and Asset Management Software technologies, average stakeholder score	100%	Fleet operations stakeholder analysis

Overall Grade B+

Sewer Collection Infrastructure Report

304 Miles of Pipe
12 Lift Stations
>30,000 Assets

The sanitary sewer collection system is a critical part of the wastewater treatment process. Every day, more than 5 million gallons of raw wastewater is collected from homes and businesses and transported to treatment plants. With more than 300 miles of sewer mains covering 22 square miles, Washoe County's Utility serves approximately 16,000 customers including some urban areas in Reno and Sparks. The collection systems represent a major capital investment in protecting the public's health and safety. The Utility Team is responsible for maintenance, inspection, and rehabilitation of the sanitary sewer collection system to prevent backups and overflows. The County performs well in all categories because of the long-term approach to asset management planning and fiscal sustainability.

Overall Grade

A-

Capacity

B

Sewer collection capacity is important for both adequately transporting peak flows to the treatment plants, and ensuring flows have a high enough velocity to avoid sedimentation, which can cause blockages. Growth in the region is high, and facility plans are in place for near- and long-term capacity needs identified. Updates to the plan include hydraulic modeling, which predicts the effects of new connections on capacity. New connections require reports and commercial businesses with high water uses require metering of flow. Opportunities exist in expanding this requirement.

Source: EPA CMOM Evaluation (Capacity)

Condition

A-

Pipes and manholes account for the majority of the collection system assets. Condition is affected by material degradation, construction defects, and maintenance compliance. The estimated remaining useful life of the sewer collection system is 85%, which is in the "excellent" category. Construction defects are prevented by thorough inspection of construction prior to acceptance. Current inspections are rigorous but during the 2004-2007 building boom, that was not the case and there are on-going groundwater infiltration and inflow issues. Field crews regularly conduct visual condition assessments of manholes during flushing, but opportunities exist in additional pipe condition assessments.

Source: GIS Asset Inventory (Age; Material), American Water Works Association (Life Expectancy)

Funding

A-

Sewer services have a stable funding mechanism through utility rate payers and a risk-based Capital Improvement Plan (CIP) provides for system repairs and replacements. Rates are calculated based on the cost of services, which is analyzed by an outside consultant very 3-5 years and adjusted annually using a Consumer Price Index. Costs are controlled through accurate budgeting, monitoring of spending, and accounting audits. There hasn't been a need for a base rate adjustment in the last 10 years.

Source: EPA CMOM Evaluation (Operation Budgeting; Maintenance Budgeting)

Future Need

A-

Funding mechanisms are in place to pay for new construction and ongoing maintenance. New construction is funded through construction connection fees and ongoing maintenance is funded by rate payers. Long term cost controls and asset reliability is ensured through well-defined construction design standards, which are reviewed and inspected before acceptance. This ensures standardization of equipment and components to minimize risk and cost.

Source: EPA CMOM Evaluation (Operation Budgeting; Maintenance Budgeting; Operation Modeling; Engineering; Design; Construction)

Sewer Collection Infrastructure Report, continued

Operation and Maintenance

B

The County scores slightly above average for operation and maintenance of the sewer infrastructure. Sewer main flushing in a large component of sewer collection preventative maintenance and a great effort has been undertaken recently to address the backlog of flushing needs. In June of 2020, 49% of mains were overdue for flushing and in August of 2021, that number has been reduced to 24%. Planned maintenance accounts for only 52% of all maintenance, which is below optimal. Lower than average staffing levels may be contributing to reactivity. The Utility team includes 2.39 Full Time Equivalent employees for every 100 miles of collection system pipe. The average benchmark is 4.55.

Source: Asset Essentials (PMP, PM Compliance, FTE Hours); Collector (% flush overdue); EPA CMOM Evaluation (Equipment and Collection System Maintenance); VEOLIA/WSSC Utility Benchmarking and Organizational Efficiency Review 2016 (FTE Benchmark)

Public Safety

B-

The mission of the wastewater collection system is to limit the public's exposure to untreated wastewater. Potential for exposure is commonly referred to as a Sanitary Sewer Overflow (SSO) event. The County minimizes the likelihood of SSO events through maintenance and inspections. The County also has well-defined operating procedures, 24-7 on call technicians, and a public notification system in order to minimizes the impact of these events when they do happen. The County has averaged 2.35 annual SSO events per 100 miles of pipe, which is better than the American Water Works Association benchmark of 2.74.

Source: Asset Essentials (SSOs), AWWA (SSO Benchmark, West Region)

Resilience

A-

The resilience of the County sewer collection infrastructure is ensured through emergency response and contingency plans. These plans take into account vulnerability analysis, critical system component redundancy, and the effects of natural event, vandalism, and third-party events. Staff is trained on event response procedures and take part in response simulations. Opportunities exist in improving formalized root cause analysis, updating plans more regularly, and improving asset specific risk analysis.

Source: EPA CMOM Evaluation (Emergency Preparedness and Response)

Innovation

B+

The County benefits from mature mapping and SCADA technology. A Geographic Information System is utilized as the authoritative data source for linear asset inventory, condition scores, and risk modeling. Mobile field applications provide on-demand information and make data entry easier. The County also utilizes a Maintenance Management System to optimize preventative maintenance planning and execution. SCADA provides operational insight and has numerous sensors to alert staff of potential issues.

Source: EPA CMOM Evaluation (Modeling; Internal TV Inspection; Survey and Rehabilitation; Performance Indicators)

Sewer Collection Infrastructure
Calculation Details

Criteria	Criteria Weight	Grade	Score	Score Calculation	Score Weight	Data Source
Capacity	25.0%	B	7/10	CMOM IV.J: Capacity	100%	EPA Assessment, CMOM
Condition	15.0%	A-	85%	Remaining Useful Life %	100%	Inventory Data (GIS/CMMS)
Funding	15.0%	A-	8.35/10	CMOM IV.A: Budgeting CMOM V.A: Maintenance Budgeting	100%	EPA Assessment, CMOM
Future Need	10.0%	A-	8/10	CMOM IV.G: Modeling CMOM IV.H: Engineering CMOM IV.I: Design CMOM IV.K: Construction	100%	EPA Assessment, CMOM
Operation and Maintenance	10.0%	B	8/10	CMOM V. Equipment and Collection System Maintenance	50%	EPA Assessment, CMOM
			76%	Average % of on-time flushing	50%	Flushing History (GIS/CMMS)
Public Safety	10.0%	B-	3	SSOs per 100 miles per year	100%	Asset Essentials CMMS
Resilience	5.0%	A-	8/10	CMOM IV.F F. Emergency Preparedness and Response	100%	EPA Assessment, CMOM
Innovation	10.0%	B+	7/10	CMOM III: Collection System Management: CMOM IV.G: Modeling CMOM VII.A: Internal TV Inspection CMOM VII.B. Survey and Rehabilitation (general) CMOM VI. MIS: Performance Indicators	100%	EPA Assessment, CMOM

Overall Grade A-

Sewer Treatment Infrastructure Report

>5 Million Gallons Treated Per Day

>2,700 Planned Maintenance Tasks Per Year

Washoe County protects water quality and public health in Northern Nevada by providing high quality and effective treatment of wastewater generated by local residents. Washoe County's Utility treats an average of 5 million gallons of wastewater per day at three regional wastewater plants. The Utility's wastewater treatment systems include the South Truckee Meadows Water Reclamation Facility, STMWRF, and two smaller treatment facilities in the Cold Springs and Lemmon Valley hydrographic basins. The facilities utilize advanced biological nutrient removal processes to remove contaminants during the water purification process as well as recycling a large amount of the wastewater, providing a sustainable source of irrigation water. The Utility Team is responsible for maintenance, inspection, and rehabilitation of the sanitary sewer treatment plants to protect the health of the public and environment. The County performs well in all categories because of the long-term approach to asset management planning and fiscal sustainability.

Overall Grade

B+

Capacity

B+

Wastewater Treatment capacity management is a component of the region's master plan. The region's projected growth and wastewater treatment demand is being ensured in advance through large scale expansions. The current expansion of STMWRF will increase the size of the existing plant by 48%, which will address the needs of the region's 2040 population projection. Improvement plans for Cold Springs and changes to Lemmon Valley treatment plants are on the horizon but have yet to be implemented.

Source: WC Board of Adjustments 6/3/21 presentation WSUP21-0010, Sewer Treatment Plant Infrastructure Stakeholder Survey Analysis (Average Score)

Condition

B

The condition of the largest treatment plant, STMWRF, was assessed by a consultant in 2019 and resulted in an overall score of 87% remaining useful life. The two smaller treatment plants do not have objective condition assessments but are in good working order and are relatively new infrastructure. Inspections and predictive maintenance, like vibration analysis, are increasing in use and give early indications of condition degradation.

Source: Jacobs Condition Assessment (Useful life), Sewer Treatment Plant Infrastructure Stakeholder Survey Analysis (Average Score)

Funding

A-

Sewer services have a stable funding mechanism through utility rate payers and a risk-based Capital Improvement Plan (CIP) provides for system repairs and replacements. Rates are calculated based on the cost of services, which is analyzed by an outside consultant every 3-5 years and adjusted annually using a Consumer Price Index. Costs are controlled through accurate budgeting, monitoring of spending, and accounting audits. There hasn't been a need for a base rate adjustment in the last 10 years.

Source: EPA CMOM Evaluation (Operation Budgeting; Maintenance Budgeting)

Future Need

A-

Funding mechanism are in place to pay for new construction and ongoing maintenance. New construction is funded through construction connection fees and ongoing maintenance is funded by rate payers. Long term cost controls and asset reliability is ensured through well-defined construction design standards, which are reviewed and inspected before acceptance. This ensures standardization of equipment and components to minimize risk and cost.

Source: EPA CMOM Evaluation (Operation Budgeting; Maintenance Budgeting; Operation Modeling; Engineering; Design; Construction)

Sewer Treatment Infrastructure Report, continued

Operation and Maintenance

B+

92.3% of over 2,700 preventative maintenance work orders are completed on time but there are indicators of increasing reactive work and increasing electrical issues. As usage increases and assets age, it become more difficult to keep up with maintenance needs. The Utility is proactive in identifying capital replacement needs and addressing issues as early as possible.

Source: Sewer Treatment Plant Infrastructure Stakeholder Survey Analysis (Average Score)

Public Safety

B+

The Utility's mission is to keep the public safe and is ensured by limiting access, mitigating the consequence of asset failures and adhering to best-practice safety procedures. Asset failure is always a possibility and policies, procedures, and built-in redundancy are in place.

Source: Sewer Treatment Plant Infrastructure Stakeholder Survey Analysis (Average Score)

Resilience

B

The resilience of the treatment plants is ensured through emergency response and contingency plans. These plans take into account vulnerability analysis, critical system component redundancy, and the effects of natural event, vandalism, and third-party events. Staff is trained on event response procedures and take part in response simulations. Opportunities exist in improving formalized root cause analysis, updating plans more regularly, and improving asset specific risk analysis.

Source: EPA CMOM Evaluation (Emergency Preparedness and Response), Sewer Treatment Plant Infrastructure Stakeholder Survey Analysis (Average Score)

Innovation

B+

Washoe County's wastewater biosolids program is industry leading. These nutrient-rich biosolids are a valuable resource capable of generating energy through the production of biogas (50-60% methane gas). The County also utilizes a Maintenance Management System to optimize preventative maintenance planning and execution. SCADA provides operational insight and has numerous sensors to alert staff of potential issues. Opportunities exist in expanding predictive condition and root cause analysis technology.

Source: Sewer Treatment Plant Infrastructure Stakeholder Survey Analysis (Average Score)

Sewer Treatment Infrastructure
Calculation Details

Criteria	Criteria Weight	Grade	Score	Score Calculation	Score Weight	Data Source
Capacity	25.0%	B+	89/100	Plant expansion capacity and population projection	100%	Sewer operations stakeholder analysis
Condition	10.0%	B	84.3/100	STMWRF Condition Assessment and Remaining Useful Life	100%	Calculation of deferred maintenance and % useful like remaining
Funding	15.0%	A-	90/100	Utilities funding mechanism, average stakeholder score	100%	Sewer operations stakeholder analysis
Future Need	15.0%	A-	91/100	Proposed Utilities funding mechanism, average stakeholder score	100%	MGD expansion
Operation and Maintenance	10.0%	B+	89/100	Preventative maintenance work order compliance, asset renewal	100%	Sewer operations stakeholder analysis
Public Safety	10.0%	B+	87.6/100	Physical access, response notification and response planning	100%	Sewer operations stakeholder analysis
Resilience	5.0%	B	84.3/100	Emergency response notification and response planning, staff training	100%	Sewer operations stakeholder analysis
Innovation	10.0%	B+	89/100	Internet of Things adoption, Maintenance Management Software, Biosolid processing	100%	Sewer operations stakeholder analysis

Overall Grade B+

Reclaim Water Infrastructure Report

42 Miles of Pipe

3,831 Assets

Washoe County provides an average of 800 million gallons of Class A reclaimed water every year and distributes it through 42 miles of pipe. The South Truckee Meadows Water Reclamation Facility, STMWRF, in South Reno supplies reclaimed water to irrigate landscaping, sports fields, and golf courses. These uses of reclaimed water help reduce the amount of potable water used by the community, thereby reducing our reliance on the Truckee River and local groundwater resources. The creation of an Effluent Management System Plan is underway. The purpose is to complete an effluent management and water balance plan to identify demands and water quality solutions over a 10-year planning horizon. The Utility Team is responsible for maintenance, inspection, and rehabilitation of the reclaim distribution system and performs well in all categories because of the long-term approach to asset management planning and fiscal sustainability.

Overall Grade

B+

Capacity

B

Reclaim water usage rates are increasing but production still exceeds usage, creating a surplus. The surplus is stored in Huffaker Hills Reservoir, which has no immediate threat of overflowing, but mean reservoir levels have been increasing. Efforts are underway to encourage new customers and between 2018 and 2021 reclaim water consumption increased 8% per year.

Source: SAP (Reclaim meter Readings), SCADA (Influent Flow MGD)

Condition

A-

Infrastructure is relatively new and in generally good shape. The oldest main was installed in 1992 and the average useful life is 77 years. The estimated remaining useful life of reclaim mains is 79%, which is in the "excellent" category. Opportunities exist in improving the water quality through mitigating groundwater infiltration into the sewer collections system.

Source: Reclaim Main GIS (Age, Material), American Water Works Association (Life Expectancy)

Funding

A-

Reclaim services have a stable funding mechanism through utility rate payers and a risk-based Capital Improvement Plan (CIP) provides for system repairs and replacements. Rates are calculated based on the cost of services, which is analyzed by an outside consultant every 3-5 years and adjusted annually using a Consumer Price Index. Costs are controlled through accurate budgeting, monitoring of spending, and accounting audits. There hasn't been a need for a base rate adjustment in the last 10 years.

Source: EPA CMOM Evaluation (Operation Budgeting; Maintenance Budgeting)

Future Need

B+

Funding mechanisms are in place to pay for new construction and ongoing maintenance. New construction is funded through construction hookup fees and ongoing maintenance is funded by rate payers. Long term cost controls and asset reliability is ensured through well-defined construction design standards, which are reviewed and inspected before acceptance. This ensures standardization of equipment and components to minimize risk and cost.

Source: EPA CMOM Evaluation (Operation Budgeting; Maintenance Budgeting; Operation Modeling; Engineering; Design; Construction)

Reclaim Water Infrastructure Report, continued

Operation and Maintenance

B

The utility has the ability to comply with all current regulations. Preventative maintenance compliance is high for reclaim flushing, valve turning, and PRV and AirVac inspection. A moderate amount of low priority tasks remains outstanding, but field staff responsibilities also include sewer collection and treatment priorities.

Source: Asset Essentials and Collector (Outstanding issues, PM Compliance, Pressure Inspection History) Sewer Treatment Plant Infrastructure Stakeholder Survey Analysis (Average Score)

Public Safety

A-

Although reclaim water is Class A and not consider hazardous, it is not safe for drinking. Signage is required at all usage sites and uncontrolled discharge is rare. There are areas of improvement in improving asset and SCADA redundancy.

Source: Sewer Treatment Plant Infrastructure Stakeholder Survey Analysis (Average Score)

Resilience

A-

Reclaimed water is a valuable asset for the community. When irrigation peaks in the summer, reclaimed water provides about 10% of the total water supply used in the region. Local water recycling is a growing and important part of the community's comprehensive water resource management strategy. The system is fairly new and designed well to help prevent significant hazards. Opportunities exist in improving SCADA and asset redundancy.

Source: Sewer Treatment Plant Infrastructure Stakeholder Survey Analysis (Average Score)

Innovation

B+

The County benefits from mature mapping and SCADA technology. A Geographic Information System is utilized as the authoritative data source for linear asset inventory, condition scores, and risk modeling. Mobile field applications provide on-demand information and make data entry easier. The County also utilizes a Maintenance Management System to optimize preventative maintenance planning and execution. SCADA provides operational insight and has numerous sensors to alert staff of potential issues.

Source: EPA CMOM Evaluation (Modeling; Internal TV Inspection; Survey and Rehabilitation; Performance Indicators)

Reclaim Water Infrastructure
Calculation Details

Criteria	Criteria Weight	Grade	Score	Score Calculation	Score Weight	Data Source
Capacity	25.0%	B	84/100	Reclaim water production and consumption rates	100%	Reclaim operations stakeholder analysis
Condition	10.0%	A-	79/85	Distribution asset remaining Useful Life %	100%	GIS (age and material)
Funding	15.0%	A-	91/100	Utilities funding mechanism, average stakeholder score	100%	Reclaim operations stakeholder analysis, Capital Improvement Plan, Rate Adjustments
Future Need	15.0%	B+	89/100	Projected Utilities funding mechanism, average stakeholder score	100%	Reclaim operations stakeholder analysis
Operation and Maintenance	10.0%	B	106	# Assets with repair needs	33%	Pressure Inspection History (GIS/Asset Essentials)
			85.7/100	Average Stakeholder Score	33%	Reclaim operations stakeholder analysis
			100.0%	Preventative Maintenance % compliance	33%	Reclaim flushing, Valve turning, reclaim flush, inspection (PRV, AirVac) (GIS/Asset Essentials)
Public Safety	10.0%	A-	TBD	Physical access, response notification and response planning	100%	Reclaim operations stakeholder analysis
Resilience	5.0%	A-	TBD	Emergency response notification and response planning, staff training	100%	Reclaim operations stakeholder analysis
Innovation	10.0%	B+	TBD	Internet of Things adoption, Maintenance Management Software, Biosolid processing	100%	Reclaim operations stakeholder analysis

Overall Grade B+