

PUBLIC FACILITIES AND SERVICES ELEMENT

SECOND DRAFT
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PUBLIC FACILITIES AND SERVICES ELEMENT

PURPOSE

The purpose of the Public Facilities and Services Element is to review the status of different public facilities and services within Douglas County and to identify issues and opportunities related to public facilities and services. The Public Facilities and Services Element concludes with Goals, Policies, and Actions to address public facilities and service needs in Douglas County during the next five to ten years.

PUBLIC FACILITIES AND SERVICES IN DOUGLAS COUNTY

Public facilities and services include public water and wastewater services, solid waste management, as well as library and school facilities and services. Consistent with NRS 278.165, the Public Facilities Element also includes an Above-Ground Utility Plan.

The only public facilities and services which are provided for the entire county are the Douglas County School District and the Douglas County Library District. Water, wastewater, and solid waste management services are only provided in certain areas. Douglas County provides water and wastewater services for a portion of the Carson Valley and Tahoe Basin Regions. The Town of Minden provides water and solid waste management services for residents and property owners while the Town of Gardnerville provides solid waste management services. The General Improvement Districts (GIDs) are providing many of these same services to other areas of the County.

GENERAL IMPROVEMENT DISTRICTS

General Improvement Districts (GIDs) are authorized under NRS Chapter 318 and are allowed to provide many different services, including streets and sidewalks and storm drainage. Under Chapter 318, the governing body may collect tax revenues for each GID and issue debt for various infrastructure projects. GIDs can't be initiated by a governing body if they are proposed within 7 miles of the boundary of an incorporated city or unincorporated town.

There are currently 17 GIDs in Douglas County that were established under NRS 318. Beginning in the 1960s, several general improvement districts were approved by the Douglas County Board of Commissioners to provide a mix of different urban services to specific communities, such as Gardnerville Ranchos (created by County ordinance on April 9, 1965). Douglas County has more GIDs than any county in the State of Nevada.

Some GIDs, such as Gardnerville Ranchos, Indian Hills, and Kingsbury, provide many public facility and services functions, similar to unincorporated towns. Other GIDs provide limited services.

Table 1 provides information on each GID in Douglas County, including the number of parcels, total acreage, and total dwelling units. The Kingsbury GID is the largest GID in terms of area with 4,980.33 acres. The Gardnerville Ranchos GID is the largest GID in terms of housing units (and population) with 4,277 dwelling units.

**Table 1
Douglas County General Improvement Districts, by Region***

General Improvement District	# Parcels	Total Acreage	Number of Dwelling Units (2016)
Carson Valley Region			
Gardnerville Ranchos GID	4,174	2,410.56	4,277
Indian Hills GID	1,862	1,389.67	1,831
Sierra Estates GID	67	65.06	70
<i>Subtotal</i>	<i>6,103</i>	<i>3,865.29</i>	<i>6,178</i>
Tahoe Basin Region			
Cave Rock GID	132	65.02	90
Elk Point GID	97	22.24	101
Kingsbury GID	2,840	4,980.33	2,358
Lakeridge	101	31.01	78
Logan Creek GID	72	67.10	22
Marla Bay GID	122	29.28	126
Oliver Park GID	92	39.14	453
Round Hill GID	634	667.96	577
Skyland GID	237	73.65	232
Tahoe-Douglas GID	N/A	N/A	705
Zephyr Cove GID	79	21.99	77
Zephyr Heights GID	291	83.88	240
Zephyr Knolls GID	94	22.94	63
<i>Subtotal</i>	<i>4,791</i>	<i>6,104.54</i>	<i>4,417</i>
Topaz Region			
Topaz Ranch Estates GID	909	2,852.08	779
<i>Subtotal</i>	<i>909</i>	<i>2,852.08</i>	<i>779</i>
Grand Total	11,803	12,821.91	11,374
Total County Private	28,395	450,678.38	24,663
Percentage GID	41.6%	2.8%	46.1%

Source: Douglas County GIS Parcel data, Douglas County Assessor 2016 Housing Counts

**Table 1 does not include Douglas County Paramedic/Ambulance; Minden-Gardnerville Sanitation District, Tahoe Douglas Fire Protection District, and Mosquito Abatement District*

Maps 1-3 display the location of GIDs in the Carson Valley Region, the Topaz Region, and in the Tahoe Basin Region.

As shown in Map 1, there are three GIDs in the Carson Valley: Gardnerville Ranchos, Indian Hills, and Sierra Estates.

In the Topaz Region, there is one GID to cover the Topaz Ranch Estates development. Map 2 displays the boundaries for the TRE GID.

In the Tahoe Basin, there are thirteen GIDs, including Kingsbury, Round Hill, and Zephyr Heights. Map 3 displays the boundaries of these GIDs.

Map 1
GIDs in Carson Valley Region

Map 2
GIDS in Topaz Region

Map 3
GIDs in the Tahoe Basin

WATER SERVICES

There are 39 public water systems in Douglas County, including 26 water systems in the Carson Valley and Topaz Regions, and 13 water systems in the Tahoe Basin Region. Public water systems have at least 15 connections or serve an average of 25 people for at least 60 days per year. Water systems are classified as either community systems, non-transient non-community, or transient non-community.

Under Chapter 20.100 of the Douglas County Development Code, new development is exempt from connecting to a public water supply if the area is not identified in the Master Plan as anticipating connection to or construction of a water system. In areas where public water supply is currently within 2,000 feet, developments must be approved with conditions requiring installation of a water distribution system connecting to the public water supply.

Table 2 contains information on major water systems in the Carson Valley. The largest water provider is the Gardnerville Ranchos GID, which serves a population of 9,500. The Indian Hills GID provides water to 5,900 people and the Gardnerville Water Company serves 4,500 people. Douglas County's Carson Valley Water Utility serves a population of 5,239 with 3,429 service connections. The Carson Valley Water Utility serves residential, commercial, and industrial development in the Airport, Johnson Lane, and Genoa areas as well as the Clear Creek development south of US Highway 50. The Carson Valley Water Utility also serves development along Foothill Road and the Douglas County Fairgrounds east of US Highway 395. The Gardnerville Water Company serves the Town of Gardnerville as well as adjacent areas. The Water Company is also providing water service to the Washoe Tribe Travel Plaza/Casino south of Pinenut Road. The Town of Minden serves a population of 3,500 and provides water to Douglas County as a result of the inter-tie project.

Table 2
Major Water Systems in Carson Valley

	Carson Valley Water Utility (Douglas County)	Gardnerville Water Co.	Gardnerville Ranchos GID	Town of Minden	Indian Hills GID	Sierra Estates GID
Active Wells	15	7	7	9	3	2
Storage Tanks	16	2	2	1	5	1
Service Connections	2,600	2,100	3,800	1,600	1,810	67
Population Served*	5,400	4500	9500	3,500	5,900	160

Source: NDEP, Drinking Water Branch, Water Systems

*For Douglas County, population served is based on the number of residential connections multiplied by the average household size of 2.38 residents.

Table 3 provides comparative information about the water systems in the Topaz Region. The Topaz Ranch Estates water system contains two wells and four storage tanks. There are 748 service connections and the system serves a population of 2,100. The Topaz Lake Water Company has three active wells and has 14 service connections and serves a population of 40.

**Table 3
Major Water Systems in Topaz Region**

	Topaz Ranch Estates	Topaz Lake Water Co.
Active Wells	2	3
Storage Tanks	4	N/A
Service Connections	748	14
Population Served	2,100	40

Source: NDEP, Drinking Water Branch, Water Systems

In the Tahoe Basin, Douglas County operates the Cave Rock, Skyland, Uppaway, and Zephyr Water Systems. The other major water system providers include Edgewood Water Company, Elks Point, Kingsbury GID, Logan Creek, and Round Hill. Most water systems in the Tahoe Basin rely on Lake Tahoe intake systems instead of groundwater. The largest water system is operated by the Kingsbury GID, with 2,450 service connections and a population of 3,839. Table 4 provides comparative information for each major public water system in the Tahoe Basin.

**Table 4
Major Water Systems in Tahoe Basin**

	Cave Rock & Skyland	Uppaway	Zephyr	Edgewood Water Co	Elks Point	Kingsbury GID	Logan Creek	Round Hill
# Wells or Intake	Intake	2	Intake	Intake	2	Intake	1	Intake
Tanks	5	3	1	2	3	8	1	5
Service Connections	533	33	514	21	88	2450	22	479
Population Served	1267	85	1,197	3800	325	3839	60	1200

Source: NDEP, Drinking Water Branch, Water Systems

PUBLIC WATER SYSTEM DEFICIENCIES

The major challenges for water purveyors include fixing old piping, consolidation of water systems, maintaining or replacing groundwater wells, carrying out water conservation measures, meeting fire flow requirements, and complying with Clean Water Act regulations (e.g., reducing arsenic levels). Douglas County has acquired older water systems in the Tahoe Basin and in the Carson Valley that did not meet Clean Water Act regulations and continues to spend funds on upgrading older water systems. To meet federal arsenic standards, the County constructed the 24 inch inter-tie project and purchases water from the Town of Minden.

In 2016, Douglas County hired a consultant to carry out preliminary engineering reports (PERS) to identify water system deficiencies and to provide recommendations and preliminary costs for recommended improvements to the County's water systems in the Tahoe Basin. The PERs identified the following types of deficiencies for the Cave Rock, Skyland, Uppaway, and Zephyr water systems:

- 1) Water system capacity is potentially limited by low water levels at Lake Tahoe which is a constraint during peak summer demands.
- 2) There are excessive line leaks due to old piping and insufficient fire flows and system pressures.
- 3) Most service connections are not metered (e.g., only 8 percent of service connections for the Zephyr Water Utility are metered).
- 4) Water supply redundancy is required to provide a backup source

The planning level estimate for the needed capital improvements for the County's water systems in the Tahoe Basin, based on these Preliminary Engineering Reports, is \$39.0 million.

The cost of upgrading water systems can be significant. Douglas County's Capital Improvement Program has included funding for several water facility projects during the last few years. Table 5 shows the different water projects included in the FY2016-2017 Capital Improvement Program for the County. The four water utility projects total almost \$4.0 million and include water facility upgrades for the Carson Valley Water Utility.

**Table 5
Capital Improvement Projects for Water Systems**

Project	Fiscal Year	Budget
James Canyon Water Line Upgrade*	2016-2017	\$2,269,000
Sierra County Estates Water System Improvements	2016-2017	\$1,476,000
West Valley Water Distribution Improvements	2016-2017	\$90,000
Electric Supply for Upper Montana Tank		\$60,000
Total		\$3,895,000

*The County share is \$269,000

The Indian Hills and Topaz Ranch Estates GIDs have been able to obtain loans and grants from the US Department of Agriculture (USDA) Rural Development Community Program during the last six years. USDA Rural Development has provided more than \$8.0 million in loans and grants for arsenic mitigation and new water lines, as shown in Table 6.

**Table 6
USDA RD Community Program Loans and Grants for Water**

Recipient	Project	Project Description	Fiscal Year	Date Obligated	USDA Loan Amount	USDA Grant Amount
Indian Hills GID	Arsenic Mitigation/ water line project	Arsenic Mitigation	FY10	7/23/10	\$900,000.00	\$783,302.00
Topaz Ranch Estates GID	Water lines & well	Water lines & well	FY15	6/9/15	\$3,812,000.00	\$2,699,625.00
Total					\$4,712,000.00	\$3,482,927.00

Source: USDA RD Community Program

FUTURE WATER DEMANDS

The capacity of public water systems in Douglas County to meet water demand for residential, commercial, and industrial customers will depend on the following factors:

- 1) Future water levels for groundwater and surface water during drought periods
- 2) Water Conservation measures, including metering, and potential state restrictions on water use
- 3) Maintenance of existing infrastructure to meet high demand periods during the summer days
- 4) Protection of wellheads from contamination
- 5) Need for back-up systems, as required by Nevada Administrative Code

In terms of growth outside of the Tahoe Basin, the areas expected to experience the most population growth in the County will be in Gardnerville, Minden, and Gardnerville Ranchos. The Gardnerville Water Company has more than enough capacity to meet growth within its current service area. The Town of Minden also has more than enough water to meet future demands and has been able to protect its water rights by participating in the inter-tie project.

A 2014 Water Resource Plan prepared for the Gardnerville Ranchos GID stated that GRGID has enough water rights for the build out of existing parcels. The 2014 report estimated 265 to 593 additional new dwelling units over the next 20 years. The biggest concerns related to well production, arsenic levels, proximity to contaminating land uses, and potential need for re-drilling of wells. In relation to water conservation measures, the Gardnerville Ranchos GID is expected to have all service connections metered by the end of 2017. The 2014 Water Resource Plan noted that when un-metered services become metered, water use can decrease by as much as 31 percent.

Maps 4-6 display the service areas of public water systems in Douglas County.

As shown on Map 4, there are six public water systems in the Carson Valley:

- 1) Carson Valley Water Utility (Douglas County)
- 2) Gardnerville Water Company
- 3) Gardnerville Ranchos GID
- 4) Indian Hills GID
- 5) Town of Minden
- 6) Sierra Estates GID

Map 5 displays the existing service area of the Gardnerville Water Company as well as the Expansion Area contained in the Water Company's 2007 Master Plan. Almost the entire existing service area is within the County's urban service boundary, except for a parcel adjacent to Stodick Park north of Toler Lane and the Washoe Tribe Travel Plaza south of Pinenut Rd.

Water purveyors in the Topaz Region are depicted on Map 6. Besides Topaz Ranch Estates GID, there are smaller water systems located at Holbrook Junction and near Topaz Lake.

Map 7 depicts the service areas of the public water systems in the Tahoe Basin.

Map 4
Water Systems in the Carson Valley

**Map 5
Gardnerville Water Company Service Area**

Map 6
Water Systems in the Topaz Region

Map 7
Water Systems in the Tahoe Basin

WASTEWATER SERVICES

Wastewater services in Douglas County are provided by Douglas County, GIDs, and private package systems.

Under Douglas County Development Code Section 20.100, property owners are not required to hook up to public wastewater systems if the wastewater service area is not identified, and are permitted to use individual sewage disposal systems (ISDS). If a property is located within an anticipated public wastewater service area, but not within 2,000 feet, an ISDS may be utilized on an interim basis. The property owner must make provisions for connections to the system, however, including installation of sewer laterals, dry sewer lines within the project or mandatory connection when located within 330 feet of an existing sewer line.

PUBLIC WASTEWATER SYSTEMS

There are three public wastewater systems in the Carson Valley: 1) the Douglas County North Valley Wastewater Treatment Service Area; 2) the Minden-Gardnerville Sanitation District, and 3) Indian Hills GID.

As shown in Table 6, MGSD is currently treating approximately 1.6 million gallons per day (MGD) with a treatment capacity of 2.8 MGD. The Indian Hills GID is currently treating 300,000 MGD and has a treatment capacity of 600,000 per day. The Douglas County North Valley Wastewater Treatment Plant is nearing its design capacity, however. The Wastewater Treatment Plant is approaching 85 percent capacity and is required to upgrade its treatment capacity in order to continue to serve more customers. Table 6 provides comparative information on the public wastewater systems in the Carson Valley.

**Table 6
Wastewater Service Providers in the Carson Valley**

	Douglas County North Valley	MGSD	Indian Hills GID
Current Treatment (MGD)	0.29	1.5 to 1.6	0.30
Treatment Capacity (MGD)	0.34	2.8	0.60
Number of EDUs	2,599	7,513	N/A

Source: 2015 CH2M Hill Technical Memos on NVWWTP, 9/8/17 Email from Nick Charles, P.E., Douglas County Public Works, MGSD Interview, MGSD Master Plan (2012)

In the Tahoe Basin, there are five public wastewater systems: 1) Douglas County Lake Tahoe Sewer Authority (formerly DCSID), 2) Kingsbury GID; 3) Elk Point Sanitation District; 4) Tahoe Douglas Sewer District; and 5) Round Hill GID. The Douglas County Tahoe Sewer Authority contracts with the other Tahoe Basin GIDs to treat the effluent and transport it outside of the basin to be used as irrigation water for the Carson Valley.

Maps 8-10 display the service areas for different wastewater providers. Map 8 depicts the service areas for the North Valley Wastewater System, Indian Hills GID, and MGSD. The Gardnerville Ranchos GID collects and maintains its own wastewater lines, but is under contract with MGSD to treat the effluent. Wastewater services are provided to the Washoe Tribe. Map 9 displays the MGSD service boundary as well as the current District Boundary. The MGSD service boundary depicts the boundary of the potential service area for MGSD. It should be noted that district boundary does not reflect areas where MGSD provides contracted services. Contracted services are provided to the Gardnerville Ranchos GID as well as the Bently Industrial Park along Buckeye Road. Map 10 displays the wastewater service areas for the Tahoe Basin.

Map 8
Wastewater Service Areas in the Carson Valley Region

Map 9
Wastewater Service Area for the Minden-Gardnerville Sanitation District

Map 10
Wastewater Service Areas in Tahoe Basin Region

INDIVIDUAL DISPOSAL SYSTEMS

There are approximately 5,960 parcels in Douglas County that contain septic systems. Septic systems are concentrated in the Johnson Lane, Ruhensroth, and East Valley communities. The 2013 USGS Report ([Scientific Investigation Report 2013-5136](#)) on nitrates in groundwater and septic systems in the Carson Valley described this problem in detail. Areas with high concentration of septic systems are resulting in elevated levels of nitrate-N which are showing up on groundwater wells.

In recent technical memos on the North Valley Wastewater Treatment Plant, CH2M Hill stated there were 421 parcels located within 330 feet of sewer lines and another 1,048 parcels in the Johnson Lane community that are more than 330 feet from the nearest sewer line. It was assumed that those parcels within 330 feet would be required to hook up to sewer services, thereby reducing septic tank concentrations while also increasing flows to the County's wastewater treatment plant.

Map 11 displays the location of septic systems in the Johnson Lane Community.

PUBLIC WASTEWATER SYSTEM DEFICIENCIES

The cost to expand the County's North Valley Wastewater Treatment Plant, now estimated at \$10.2 million, will be funded with \$4.7 million in Redevelopment Agency funding, \$5.5 million in State Revolving Funds, and \$192,000 in Community Development Block Grant (CDBG) funds for construction contingency.

Wastewater system upgrades have been carried out for the Indian Hills GID, as shown in Table 7 below. The USDA Rural Development Program provided a loan of \$1.5 million for sludge dewatering. The Pine View Estates south of Ruhensroth has also obtained assistance from the USDA Rural Development program to evaluate the wastewater treatment problems at this subdivision.

Table 7
USDA RD Community Program Loans and Grants for Wastewater

Recipient	Project	Project Description	Fiscal Year	Date Obligated	USDA Loan Amount	USDA Grant Amount
Indian Hills GID	Sludge Dewatering	Sludge Dewatering	FY11	8/1/11	\$1,512,000.00	
Pine View Estates H.O.A.	SEARCH Grant	PER/ER for wastewater	FY15	5/19/15		\$30,000.00
Total					\$1,512,000	\$30,000.00

Source: USDA RD Community Program

Map 11
Septic Systems in the Johnson Lane Community Plan

SOLID WASTE

Douglas County is required to submit a solid waste management plan to the Nevada Department of Environmental Protection every five years pursuant to Nevada Administrative Code 444.658. The most recent [Solid Waste Management Plan](#) for the County was submitted to NDEP on March 6, 2014 and was approved by NDEP on April 9, 2014. Due to voter initiatives from 1994, the County does not mandate garbage service for residents but allows residents to request garbage pick-up services on a voluntary subscription basis. The only mandatory trash service occurs within the Towns of Gardnerville and Minden.

Douglas Disposal has the current franchise agreement with Douglas County. Solid waste is transported either to the Douglas County Transfer Station or the South Tahoe Refuse Transfer Station. Waste is consolidated at the Transfer Stations and then transported to the Lockwood Sanitary Landfill in Storey County or else the Carson City Landfill. Douglas County's only landfill closed in 1993. The design capacity of the Douglas County Transfer Station is 112.5 tons per day. According to the 2014 Solid Waste Management Plan, the current usage at the Douglas County Transfer Station is 69.3 tons per day.

RECYCLING

Only six counties in Nevada are currently required to provide some type of recycling and hazardous waste disposal program, per NRS 444A. Counties with populations greater than 100,000 (Clark and Washoe Counties) are required to provide curbside recycling. Counties with populations between 45,000 and 100,000 are required to provide recycling as well as hazardous waste centers, but are not required to provide curbside recycling. Carson City and the City of Elko do provide curbside recycling to their residents already even though both communities are below the 100,000 population threshold.

The only curbside recycling in Douglas County takes place in the Tahoe Basin with the Blue Bag single stream recycling program. There is no curbside recycling in the rest of Douglas County, however, and residents must take their recyclables to the Douglas County Transfer Station or drop boxes at limited locations.

Table 8 compares recycling rates for Nevada, Carson City, Douglas County, and Washoe County. The recycling rate is based on the ratio of municipal solid waste (MSW) that is recycled to the tons of total MSW generated (which includes recycled MSW). The State of Nevada recycling goal is 25 percent and Douglas County has consistently exceeded this rate. Douglas County's recycling rate in 2011 was 53.8% and increased to 62.3% in 2015. By comparison, the State of Nevada recycling rate was 25.3 percent in 2011 and decreased slightly to 20.8 percent in 2015.

Table 8
Recycling Rates for Nevada, Douglas County, and Adjacent Counties, 2011, 2013, 2015

County	2011 Recycling Rate	2013 Recycling Rate	2015 Recycling Rate
Carson City	23.9%	27.9%	28.5%
Douglas County	53.8%	57.3%	62.3%
Washoe County	35.6%	36.5%	31.4%
State of Nevada	25.3%	25.1%	20.8%

Source: 2015 Recycling and Waste Reduction Report, Nevada Division of Environmental Protection

According to NDEP, the County's high recycling rate is due to the composting and biofuel programs operated by private businesses, such as Full Circle Compost and Bently Ranch. Douglas Disposal commenced a six-month pilot curbside recycling program in February 2017 for 140 customers in Gardnerville Ranchos. This was a single stream pilot recycling program. The Town of Gardnerville is

also commencing a curbside pilot recycling program in 2017. The Town's pilot program will serve 180 customers. Single stream recycling, which allows residents to place all recyclable into one container, as opposed to sorting paper, glass, and cans into different containers, has been shown to increase the recycling rate.

ABOVEGROUND UTILITY PLAN

In 2013, several sections of the planning enabling sections of Nevada Revised Statutes were amended to require counties to adopt aboveground utility plans (NRS 278.165) within the Public Facilities Element. As a result, the Public Facilities Element of the Douglas County Master Plan was amended in March 2015 to incorporate such a plan.

In compliance with NRS, the County adopted, by reference, the Bureau of Land Management (BLM) Utility Corridors identified in the Carson Field Office Consolidated Resource Management Plan (2001) and subsequent amendments.

Additional corridors may be adopted through the County's Master Plan Amendment process as requested.

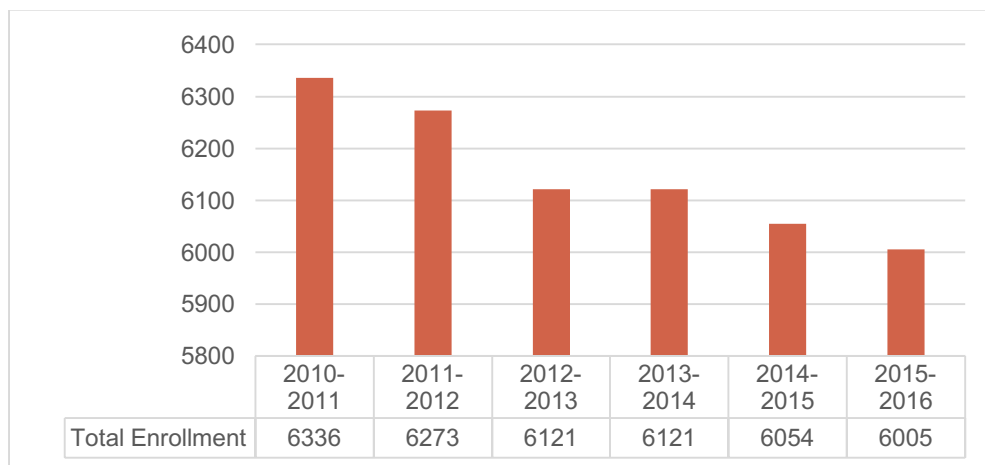
Map 12 depicts the location of utility corridors in the 2001 BLM Carson City District Resource Management Plan. One utility corridor is depicted in the Topaz Region near the Walker River and a second corridor is located in the northeast corner of the County.

Map 12
BLM Utility Corridors

DOUGLAS COUNTY SCHOOL DISTRICT

The Douglas County School District serves just over 6,000 students. The District's total student enrollment has continued to decline for several years. Figure 1 displays the enrollment figures starting with the 2010-2011 school year. Total enrollment was 6,336 in the 2010-2011 school year but decreased to 6,005 students in the 2015-2016 school year. The total enrollment was 7,035 in the 2005-2006 school year.

Figure 1
Douglas County Student Enrollment, 2010-2015



Source: NV Department of Education

Table 9 provides information on the estimated capacity for each school along with the actual student enrollment for the 2015-2016 school year.

Table 9
School Capacity vs. Actual Enrollment

School	Estimated Capacity	2015-2016 Enrollment	Excess Capacity	Utilization %
<i>Elementary</i>				
CC Meneley Elementary	563	465	98	83%
Gardnerville Elementary	570	457	113	80%
Jacks Valley Elementary	563	386	177	69%
Minden Elementary	468	353	115	75%
Pinon Hills Elementary	689	378	311	55%
Scarselli Elementary	594	451	143	76%
Zephyr Cove Elementary	253	183		72%
<i>Middle</i>				
Carson Valley Middle	802	726	76	91%
Pa Wa Lu Middle	782	588	194	75%
<i>High School</i>				
Aspire Academy	100	82	18	82%
Douglas High School	1920	1672	248	87%
George Whittell	354	211	143	60%
Total	7,738	6,005	1,733	78%

Source: Douglas County School District Business Office, 2/24/16

There is excess capacity in each elementary, middle, and high school in Douglas County. According to the Douglas County School District Business Office, there is enough capacity to serve 1,733 additional students.

The graduation rate for the school district is one of the highest in the State of Nevada. As shown in Table 10, the graduation rate for the last two school years has exceeded the rate for Carson City, Lyon County, and the State of Nevada.

**Table 10
High School Graduation Rates in Northern Nevada, State of Nevada**

Jurisdiction	2014-2015 Graduation Rate	2015-2016 Graduation Rate
Douglas County	90.61%	88.52%
Lyon County	74.69%	81.30%
Carson City	74.30%	80.31%
State of Nevada	70.77%	73.55%

SCHOOL DISTRICT FACILITY NEEDS

The School District is currently facing \$38.8 million in capital needs. The School District was not successful in securing a quarter-cent sales tax from Douglas County voters in 2016 and will need to carry out capital improvements on a “pay as you go” basis. In addition to property tax revenues for operations and debt service, the School District receives funding from the Residential Construction Tax (RCT) based on \$1,600 per residential building permit and funds from the Motor Vehicle Privilege Tax. The RCT currently provides approximately \$200,000 per year, but was as high as \$1,039,104 in FY 2004-2005.

DOUGLAS COUNTY PUBLIC LIBRARY DISTRICT

The Douglas County Public Library system consists of the main library in Minden, the Lake Tahoe Branch Library in Zephyr Cove, a satellite library at China Spring Youth Camp, which includes dormitory and classroom collections at China Spring Youth Camp and Aurora Pines Girls Facility, and a reading and reference library at the Lake Tahoe Juvenile Detention Facility.

The Library offers an extensive range of services, materials, programs and technology at both public facilities, including reference and referral in person, by telephone and by email to assist residents in accessing information; free meeting room space to community organizations; programs for children, teens, families, and seniors; delivery of materials to homebound patrons; borrowing materials not available locally; exhibit and display space for community interests, art, and displays; orientation sessions for students and other youth groups; a variety of electronic databases accessible from the library, school, home or work; downloadable eBooks, eAudiobooks, music, and movies; public-use typewriters and computers and connectivity and wireless printing; individual instruction in technology resources and mobile technology; and technology for patrons with visual disabilities.

Reduced public hours went into effect due to budget shortfalls in 2008. In 2016, public hours were 50 hours per week in Minden and 32 hours per week at Lake Tahoe.

Tables 11 and 12 shows the number of library visits and the number of registered users. Annual library visits reached 175,429 in FY 2011 but decreased to 117,677 in FY 2016. The number of registered users reached 38,286 in FY 2014 but decreased to 32,656 in FY 2016.

**Table 11
Library Visits, FY 2010 to FY 2016**

Year	No. of Visits
2009-10	173,555
2010-11	175,429
2011-12	147,571
2012-13	148,834
2013-14	153,699
2014-15	120,192
2015-16	117,677

**Table 12
Registered Library Users**

Fiscal Year	10-11	11-12	12-13	13-14	14-15	15-16
Total Number	33,915	35,556	37,112	38,286	35,216	32,652
% of County Pop	72.2%	74.6%	77.3%	79.9%	72.5%	67.7%

The Douglas County Public Library budget is approximately \$1,500,000 per year for operating expenses, and \$500,000 for services and supplies. Funding for the library comes from the room tax and also the sales tax. Douglas County approves the annual budget for the Library District.

The Library owns approximately 133,000 physical items: books, magazines, newspapers, audiobooks, DVDs, microforms and mobile devices, as well as downloadable media.

LIBRARY DISTRICT FACILITY NEEDS

In 2000, the Minden library was expanded and as a result there is .42 square feet per capita, which is still below the recommended average of .6 (per seat for read) and .1 (per seat for technology) square foot per capita. Thus, to resolve existing deficiencies and future growth, the Library needs to expand. The expansion could take place under several scenarios; (a) an expansion of the current location with land acquisition; (b) a new main library at a different location with (1) either utilizing the existing facility or (2) disposing of the existing facility; or (c) utilizing the existing facility and constructing branch libraries. The 5-year CIP identifies an expansion for the Minden Library of approximately 2,500 square feet to be used primarily for collection shelving and a shipping and receiving area. The project has yet to be fully funded.

More specific library facility needs are provided below:

- 1) Seating capacity of 196 or 4.1 seats for every 1,000 people served.
- 2) Increased public computer access, utilizing both desktop and laptop technology, to provide 72 workstations or 1.5 computers for every 1,000 people served.
- 3) Enhanced public programming space, including a large meeting room, dividable into two or three separate spaces with seating capacity for 300, adequate storage and current AV projection technology.
- 4) A computer lab to offer hands-on technology training.
- 5) A Teen Zone to provide space specifically for teenagers.
- 6) Two enclosed group study rooms for students, tutoring, and similar uses.
- 7) Shelving to accommodate an increase to the physical collection of books and AV media with a total collection size of 190,000, excluding digital collections.
- 8) Increased incorporation of self-service technologies for improved staff productivity.
- 9) Increased volunteer and staff workspace and storage space.

Maps 13-16 display the location of public schools and library facilities in Douglas County. Map 13 depicts the location of public schools and library facilities in the Indian Hills/Jack Valley and Johnson Lane communities. Map 14 depicts the location of public schools and library facilities in the Towns of Gardnerville and Minden and the Gardnerville Ranchos GID. Map 15 depicts the location of public schools and library facilities in the Pinenuts and Topaz Regions. Map 16 depicts the location of public schools and library facilities in the Tahoe Basin Region.

Map 13
School and Library Facilities in Indian Hills/Jack Valley and Johnson Lane

Map 14
School and Library Facilities in Gardnerville, Minden, & Gardnerville Ranchos

Map 15
School and Library Facilities in the Pinenuts and Topaz Regions

Map 16
School and Library Facilities in the Tahoe Basin Region

PUBLIC FACILITY AND SERVICES ISSUES AND OPPORTUNITIES

2016 MASTER PLAN SURVEY

For the 2016 Master Plan Survey, respondents were asked to rank several different topics on a scale of 1 to 5, with 5 being most important. Public infrastructure (water, wastewater) was tied with preservation of agricultural land. Both topics were ranked in sixth place and received a rating of 3.99. Police and fire services were ranked first at 4.30 and natural resource conservation was ranked second at 4.15. Education (K-12) was ranked fourth with a score of 4.09.

PUBLIC FACILITY SERVICE AREAS VS. URBAN SERVICE BOUNDARY

As shown on the water and wastewater maps included in this Element, the location of the Master Plan Urban Service Boundary does not always coincide with the service area for different water and wastewater providers. The North Valley Wastewater Treatment Area, for example, covers the Clear Creek development and subdivisions north of the Town of Genoa, areas that are not included within the Urban Service Boundary.

There is an urban service boundary for the Airport Community Plan, which is within the North Valley Wastewater Treatment Area, but none of Johnson Lane is included within the urban service area, despite dense residential development and the need to encourage property owners to hook up to the North Valley Treatment Plant.

SEPTIC SYSTEMS AND GROUNDWATER CONTAMINATION

The County has established assessment districts in the past to convert septic systems to community wastewater systems. It may be time for the County to explore setting up new assessment districts for areas with septic tank concentrations that can be served either by Douglas County or MGSD. The overconcentration of septic systems in Johnson Lane and Ruhensroth contribute to nitrate concentration that can harm groundwater.

WATER CONSERVATION

The ability to meet future water demands in the County will include many different strategies (protecting water rights, maintaining infrastructure) and water conservation through the use of metering is being pursued in many areas of the County. Metering is important not only as a way to reduce water consumption but will also provide more accurate information to the Nevada Division of Water Resources. The Gardnerville Ranchos GID, for example, has 4,143 service connections and 1,609 were metered as of 2014. By December 2015, 50 percent of GRGID's service connections were metered. The remaining service connections will be required to be metered by 2017. Indian Hills GID and Gardnerville Water are both 100 percent metered.

FINANCING FOR PUBLIC FACILITIES

Although the Douglas County Development Code includes provisions regarding impact fees (Section 20.300), the County has not established any impact fees to pay for public facilities. Under NRS 278B, impact fees may only be used for certain types of capital improvements, such as parks, fire and police stations, wastewater, drainage, and streets. Impact fees can't be used for school facilities under Nevada law.

The impact fee section of the Douglas County Development Code was adopted as part of the 1996 Consolidated Development Code and set forth that the Planning Commission would act as the capital improvements advisory committee for impact fees. The Planning Commission considered potential impact fees to pay for transportation improvements several years ago, but decided against recommending this funding mechanism to the Board of Commissioners.

Instead of impact fees, Douglas County has utilized development agreements, bonds, grants, and loans to pay for public facilities. The County adopted residential construction taxes to help fund facility needs for roads, parks, and schools (County Code, Sections 3.24, 3.25, and 3.26), but the revenues from these taxes have not been sufficient.

PUBLIC FACILITIES AND SERVICES GOALS, POLICIES, AND ACTIONS

The following goals, policies, and actions for the Douglas County Public Facilities and Services Element set forth priorities for the next five to ten years.

PUBLIC FACILITIES AND SERVICES GOAL 1

TO DEVELOP REGIONAL APPROACHES TO PROVIDING PUBLIC SERVICES AND FACILITIES IN DOUGLAS COUNTY IN COORDINATION WITH GIDS, TOWNS, THE STATE, AND OTHER JURISDICTIONS.

Public Facilities & Services Policy 1.1

Douglas County shall cooperate with other service providers to encourage the use of common improvement standards, to coordinate the timing of capital projects, to ensure that requirements of adequacy and concurrency are met, and develop programs to reduce the cost of providing public services and facilities.

Public Facilities & Services Action 1.1.

Douglas County will prepare amendments to the Development Code to support a Dig Once Policy for underground telecommunications infrastructure.

PUBLIC FACILITIES AND SERVICES GOAL 2

TO PLAN AND PROVIDE FOR THE SERVICES NECESSARY TO IMPLEMENT THIS MASTER PLAN BY UPDATING THE CIP ON AN ANNUAL BASIS.

Public Facilities & Services Policy 2.1

Douglas County shall only include capital projects in the CIP when they are consistent or do not conflict with the Master Plan and all its elements.

Public Facilities & Services Policy 2.2

Douglas County shall evaluate potential capital projects according to an established set of criteria to determine their importance in implementing the Master Plan's goals and policies. Priorities in the CIP shall be based on projects' importance to the Master Plan implementation.

Public Facilities & Services Policy 2.3

Douglas County shall use its CIP to repair or replace existing public facilities.

PUBLIC FACILITIES AND SERVICES GOAL 3

TO PROVIDE LEVELS OF SERVICES FOR ITS RESIDENTS TO MAINTAIN AT A MINIMUM, THE CURRENT QUALITY OF LIFE FOR THE COUNTY'S CITIZENS.

Public Facilities & Services Policy 3.1

The County shall select specific capital improvements needed to achieve and maintain standards for existing and future population.

Public Facilities & Services Policy 3.2

Adequate public facilities shall be provided by constructing needed capital improvements which 1) repair or replace obsolete or worn out facilities, 2) eliminate existing deficiencies, and 3) meet the needs of future development and redevelopment caused by previously issued and new development permits. The County's ability to provide needed improvements will be demonstrated by maintaining a financially feasible schedule of capital improvements.

PUBLIC FACILITIES AND SERVICES GOAL 4

TO ENSURE THAT NEW DEVELOPMENT PAYS ITS EQUITABLE SHARE OF THE COSTS FOR PUBLIC SERVICES AND FACILITIES NEEDED TO SERVE IT.

Public Facilities & Services Policy 4.1

The County shall pursue development agreements in situations where it is necessary to ensure that new development pays its equitable share for needed public services and facilities, most importantly in the area of public safety

Public Facilities & Services Action 4.1

The County shall study the feasibility of adopting impact fees to pay for one or more capital improvement needs before the next Master Plan update.

PUBLIC FACILITIES AND SERVICES GOAL 5

DOUGLAS COUNTY RESIDENTS AND VISITORS TO THE DOUGLAS COUNTY LIBRARY WILL ACCESS THE DIGITAL WORLD USING HIGH-SPEED CONNECTIVITY, EMERGING TECHNOLOGIES AND GUIDANCE FROM SPECIALISTS IN INFORMATION, MEDIA AND TECHNOLOGY.

Public Facilities & Services Action 5.1

Douglas County will work with the Library District to implement their Strategic Plan, which includes researching and evaluating Radio Frequency Identification RFID technology for library collections in all locations; increasing technology available to patrons with circulating technology devices; evaluating database offerings, and assessing, testing, and streamlining eResources.

PUBLIC FACILITIES AND SERVICES GOAL 6

DOUGLAS COUNTY RESIDENTS WILL HAVE LIBRARY SERVICES, RESOURCES AND PROGRAMS DESIGNED TO STIMULATE IMAGINATION, SATISFY CURIOSITY AND CREATE YOUNG READERS.

Public Facilities & Services Action 6.1

Douglas County will work with the Library District to implement their Strategic Plan, which includes exploring feasibility of moving to a Book Industry Standards and Communications (BISAC) or BISAC hybrid classification system; establishing a bookmobile service for the Carson Valley region, introducing new programs for children and adults, and including a sports and fitness theme of “Build a Better World” for summer reading patrons.

PUBLIC FACILITIES AND SERVICES GOAL 7

TO PROVIDE SOLID WASTE MANAGEMENT PROCESSES THAT REDUCE THE WASTE STREAM, PROMOTE RECYCLING, AND PROVIDE FOR THE SEPARATION OF WASTE PRIOR TO INCINERATION OR LANDFILLING.

Public Facilities & Services Policy 7.1

The County and Towns shall seek to expand recycling efforts.

Public Facilities & Services Policy 7.2

The County and Towns shall seek to implement additional waste diversion programs, such as plastics recycling and yard waste collection for composting.

Public Facilities & Services Policy 7.3

The programs to pick up recycling and yard waste should be expanded where feasible.

Public Facilities & Services Policy 7.4

The County should ensure that the services provided under franchise agreements are cost effective for County businesses and residents.

PUBLIC FACILITIES AND SERVICES GOAL 8

TO PROTECT THE PUBLIC’S HEALTH BY COMPLYING WITH ALL STATE AND FEDERAL WATER REGULATIONS.

Public Facilities & Services Policy 8.1

All water systems currently not meeting state and federal water regulations must be brought into compliance.

Public Facilities & Services Action 8.1	Prepare recommendations to amend the Douglas County Development Code to require new subdivisions to connect to a public water system.
Public Facilities & Services Action 8.2	Prepare recommendations and secure funding for consolidating Douglas County’s public water systems.
Public Facilities & Services Action 8.3	Create incentives and explore the feasibility of connecting communities with high concentrations of private wells to public water systems.

PUBLIC FACILITIES AND SERVICES GOAL 9
TO PROVIDE ADEQUATE COMMUNITY WASTEWATER FACILITIES IN URBAN SERVICE AREAS.

Public Facilities & Services Policy 9.1	Neither new development nor the expansion of service areas should be allowed to decrease a system’s level of service below state or federal standards.
Public Facilities & Services Policy 9.2	The County shall promote a coordinated regional approach to the disposal and use of treated effluent. The County shall encourage the reuse of treated effluent to promote the goals and policies of the Master Plan. The County shall periodically review and inspect monitoring and control of effluent to protect surface and groundwater resources.

PUBLIC FACILITIES AND SERVICES GOAL 10
TO PREVENT INDIVIDUAL SEWAGE DISPOSAL SYSTEMS IN RURAL AREAS FROM DEGRADING GROUNDWATER QUALITY.

Public Facilities & Services Policy 10.1	Rural areas may be served by individual sewage disposal systems if groundwater quality will not result in degradation beyond Federal and State standards.
Public Facilities & Services Policy 10.2	The County shall utilize State of Nevada standards for the evaluation of new septic systems on the basis of the site’s susceptibility to groundwater pollution by septic effluent.
Public Facilities & Services Policy 10.3	The location, design, and construction and inspection of on-site sewage disposal systems (i.e. septic systems and engineer systems) shall comply with the Development Code and Nevada Administrative Code Chapter 444, “Regulation Governing Individual Sewage Disposal Systems.”

Public Facilities & Services Policy 10.4

The County shall continue to monitor areas with high septic system densities for signs of groundwater contamination.

Public Facilities & Services Policy 10.5

Septic systems which stop functioning must be abandoned and connected to a community sewer system, if located near an existing sewer line.

Public Facilities & Services Action 10.1

Create incentives and explore the feasibility of connecting communities to a public wastewater system in order to address issues with high concentrations of nitrates in groundwater.