

APPENDIX A

ROADS AND ROAD-RELATED FUNCTIONS



Roads and Road-Related Functions

The following roads and road-related functions are performed by Carson City Public Works.



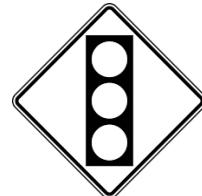
Pavement Management
Actions to preserve and prolong pavement life through routine maintenance and preservation



Access, Mobility and Safety
Pedestrian crossings, bike lanes, ADA sidewalks and ramps



Landscape and Public Spaces
Weed control, right-of-way maintenance, maintenance of landscaping and public spaces adjacent to roads



Asset Management
Signage, striping, street lights, traffic lights



Right-of-Way
Sweeping, sanding, snow removal



Road Reconstruction
Design and construction of failed roadways



Sidewalk Management
Inspections and repairs



Transit
Buses, shelters, operations

Road and road-related functions currently provided, or that could potentially be provided, by Carson City Public works are further described below.

Pavement Management: Proper management of the largest City roads asset, the pavement, by maintaining or improving the PCI on the City's existing roads. Carson City owns 34,620,300 square feet of local road pavement, and 17,645,500 square feet of regional road pavement.

Road Reconstruction: Reconstructing failed roads or reconstructing roads with new layouts, for example, for traffic calming projects or changing the functionality of an existing road (such as changing the number of lanes or creating Complete Streets).

Assets Management: The City maintains and replaces assets such as traffic lights, signal controllers, and streetlights; all of the ancillary assets that provide for a safe, functioning road system.

Right-of-Way: Maintenance of right-of-way includes street sweeping, sanding, and removal of snow, ensuring safe passage of travel.

Access, Mobility and Safety: The City is working to improve pedestrian and bicycle accessibility and safety; projects may include striping and marking on existing roadways, creating separated spaces for non-vehicular traffic, upgrading pedestrian crossings, and similar.

Sidewalk Management: Most public sidewalks are the responsibility of the adjacent property owners to maintain and repair. The City inspects sidewalks, advises property owners of necessary corrections, and may complete repairs and/or replacement when the City is performing roadway maintenance activities.

Landscape and Public Spaces: Aside from hardscaping and landscaping with shrubs, grasses, and trees, some roadways (and parking areas) provide access to community gathering areas such as plazas. Facilities in public spaces may be funded with roads funds, depending on the source; therefore, items such as benches, fountains, signage, and other public space facilities are included as a road-related function.

Transit: Transit can include many types of transportation such as train, light-rail, bus, ride-share, and on-demand door-to-door services and programs that encourage and provide opportunity for people to move without vehicle ownership.

APPENDIX B

ROADWAY CONSTRUCTION

PROJECT COST PER MILE ANALYSIS





CARSON CITY NEVADA
Consolidated Municipality and State Capital
PUBLIC WORKS
MEMORANDUM

TO: Preserve Carson City Roads Project File

FROM: Chris Martinovich, PE, Transportation Manager

SUBJECT: **Roadway Construction Project Cost Per Mile Analysis**

DATE: February 2024; Updated July 2024

The cost of reconstructing the pavement of a roadway had historically been estimated to be around \$1M per mile of pavement. Over the last several years, analyzing back to 2019, Carson City (City) staff have noticed continued increases in the cost of pavement reconstruction projects. To evaluate the current per mile cost of projects, City staff completed a high-level review of recent pavement reconstruction and pavement preservation projects.

The analysis focused on examining the costs only associated with the roadway and not the cost of new utilities or new pavement and sidewalk areas. The analysis examined the bid tabulations of contracts awarded as part of each fiscal year beginning in 2020.

Each contract awarded includes a list of specific bid items. These bid items are used to measure and to pay the contractor for the progress of work. They consist of all costs associated with an item of work including material, labor, and all incidentals required for a complete installation as outlined by the project design plans and specifications. This method of contracting is common practice across the nation and consistent with state law. Carson City is also required to select the lowest responsive and responsible bid price received by a contractor for a given project (NRS Chapter 338).

While the major cost component of a project are the bid items related to pavement, there are also several other bid items that are required with roadway projects including:

- Traffic Control
- Stormwater protection
- Mobilization to the project site
- ADA compliance (for reconstruction)
- Utility lid adjustments
- Signing
- Striping

An example bid item list is attached from the District 2 - Northridge Drive Project which included the reconstruction of Northridge Drive between Eastridge Drive and Carriage Crest Drive.

There are several factors that account for variations in construction cost with some of the major factors listed below.

- Project size: larger projects with more quantity of materials generally cost less than smaller projects.
- Roadway width: narrower roads cost less than wider roads. The slurry and reconstruction of local streets is expected to cost less than the cost of collectors and arterials.

- Project scope: projects with additional scope elements increase costs. Additional scope elements include required ADA compliance, pavement patching, replacement of failed curb, gutter, and sidewalk, etc.
- Project complexity and constructability: projects with unique features or complex design elements have higher costs.
- Project location: projects in open areas free of restrictions and traffic control conflicts cost less.

There are other costs associated with roadway projects in addition to construction bid items including engineering design costs and construction management costs. These costs are required in every project in varying degrees depending on the scope and complexity of the project.

- Engineering Design Costs may include:
 - Project management
 - Survey
 - Geotechnical analysis
 - Plan, specifications, and cost estimate development
 - Right of way and permitting
 - Environmental certification
 - Utility coordination
- Construction Management Costs may include:
 - Inspection
 - Material testing
 - Quality control
 - Payroll reviews
 - Document control
 - Approval of pay applications
 - Project closeout

City staff examined the projects listed in Table 1 and Table 2 to gain an understanding of the total project costs and the average cost per mile for different project types. Table 1 shows the cost per mile to preserve 1 mile of paved roadway. Table 2 shows the cost per mile to reconstruct 1 mile of paved roadway. It should be noted that the cost of utilities and other non-transportation, non-roadway elements have been removed from the calculation.

Table 1: Preservation Projects

Project No.	Project Name	Year	Total Contract Awarded	Roadway Specific Elements	Project Length (Mi)	Cost / Mile
P303519013	D2 Roop Street	2020	\$257,407	\$257,407	1.2	\$214,506
P303521005	D3 Clear Creek	2021	\$111,107	\$111,107	0.46	\$241,537
P303521004	D3 Deer Run	2021	\$210,107	\$210,107	2.6	\$80,810
P303522003	D4 Silver Sage	2022	\$506,530	\$357,450	0.92	\$388,532
P303522002	D4 Saliman	2022	\$380,694	\$296,794	0.88	\$337,266
P303522001	D4 Curry	2022	\$460,958	\$418,778	1.1	\$380,707
P303523004	D5 Mountain St	2023	\$426,807	\$271,857	1.1	\$247,143
P303523003	D5 Medical Pkwy	2023	\$484,954	\$457,404	1.4	\$326,717
P303524003	D1 N. Lompa Ln	2024	\$486,108	\$486,108	1.4	\$347,220
P303524001	District ARPA Projects*	2024	\$ 1,501,862	\$1,486,862	4.7	\$316,354
Average Cost per 1 Mile:						\$ 288,079
* The contract has not been awarded. This is the current cost estimate only and subject to revision.						

Table 2: Reconstruction Projects

Project No	Project Name	Year	Total Contract Awarded	Roadway Specific Elements	Project Length (Mi)	Cost / Mile
P303519014	D2 Northridge	2020	\$ 791,907	\$ 791,907	0.4	\$ 1,979,767
P303520001	D2 Long St	2020	\$ 2,858,460	\$ 634,390	0.54	\$ 1,174,796
P303521008	D3 E 5th Street	2021	\$ 1,818,730	\$ 1,633,143	1.2	\$ 1,360,953
P303521006	D3 Center	2021	\$ 1,136,611	\$ 697,611	0.48	\$ 1,453,356
P303521001	Colorado St	2021	\$ 4,054,674	\$ 2,348,880	0.83	\$ 2,829,976
P303523002	D5 Winnie Lane	2023	\$ 1,529,287	\$ 1,529,287	0.32	\$ 4,779,022
Average Cost per 1 Mile:						\$ 2,262,978

In addition to the cost per mile for bid-item construction, staff analyzed the design and construction management costs as a percentage of the total cost of construction. The City does not track construction inspection staff time separate from project management staff time, so for the purposes of this analysis, construction inspection is included as part of the design costs. Based on industry standards, construction inspection is generally 2% or 3% of the total construction cost of the project. Tables 3 and 4 summarize the design and material testing percentages.

Table 3: Preservation Project Design and Material Testing Cost Percentages

Project No.	Project Name	Year	Approx Design Cost	% of Construction	Material Testing Cost	% of Construction
P303519013	D2 Roop Street	2020	\$ 9,550	3.7%	\$ 6,895	2.7%
P303521005	D3 Clear Creek	2021	\$ 6,000	5.4%		NA
P303521004	D3 Deer Run	2021	\$ 9,000	4.3%		NA
P303522003	D4 Silver Sage	2022	\$ 18,000	3.6%	\$ 7,830	1.5%
P303522002	D4 Saliman	2022	\$ 30,000	7.9%	\$ 9,380	2.5%
P303522001	D4 Curry	2022	\$ 26,000	5.6%	\$ 13,000	2.8%
P303523004	D5 Mountain St	2023	\$ 27,000	6.3%	\$ 8,331	2.0%
P303523003	D5 Medical Pkwy	2023	\$ 23,100	4.8%		NA
P303524003	D1 N. Lompa Ln	2024	\$ 33,000	6.8%	\$ 13,700	2.8%

Table 4: Reconstruction Project Design and Material Testing Cost Percentages

Project No	Project Name	Year	Approx Design Cost	% of Construction	Material Testing Cost	% of Construction
P303519014	D2 Northridge	2020	\$ 50,446	6.4%	\$ 24,728	3.1%
P303520001	D2 Long St	2020	\$ 143,179	5.0%	\$ 24,895	0.9%
P303521008	D3 E 5th Street	2021	\$ 192,645	10.6%	\$ 34,715	1.9%
P303521006	D3 Center	2021	\$ 129,758	11.4%	\$ 23,260	2.0%
P303521001	Colorado St	2021	\$ 206,486	5.1%	\$ 89,360	2.2%
P303523002	D5 Winnie Lane	2023	\$ 132,820	8.7%	\$ 19,325	1.3%

Based on the results of the analysis, design costs range from 5% to 12% of the total cost of construction. Construction management costs, including material testing and construction inspection range from 3% to 6% (2% - 3% for construction inspection and 1% to 3% for material testing).

The results indicate that on over the past four years, the total average cost of a project, which includes both the construction bid-item and design and construction management percentages, is estimated to be:

- \$300,000 per mile for preservation projects
- \$2.4M per mile for reconstruction projects

Bid Tabulation Report from Carson City Purchasing & Contracts

775-283-7362

<http://www.carson.org/index.aspx?page=998>

Notice to Contractors Bid# 20300194 District 2-Northridge Dr. Pavement Reconstruction Project

Date and Time of Opening: 11/17/2020 @ 11:30am

Description			Bidder # 1		Bidder # 2		Bidder #3	
			A & K Earthmovers Inc.		Sierra Nevada Construction, Inc.		Spanish Springs Construction, Inc.	
BONDING Provided, \$, %, or no			5%		5%		5%	
BIDDER acknowledges receipt addendums			Y		Y		Y	
Description	Sched Value	Unit	Unit price	Total price	Unit price	Total price	Unit price	Total price
Base Bid Items - Schedule A								
1 Mob/Demobilization	1	LS	\$93,006.05	\$93,006.05	\$10,000.00	\$10,000.00	\$44,866.00	\$44,866.00
2 Traffic Control	1	LS	\$46,000.00	\$46,000.00	\$61,759.50	\$61,759.50	\$86,400.00	\$86,400.00
3 SWPPP	1	LS	\$9,200.00	\$9,200.00	\$5,000.00	\$5,000.00	\$6,750.00	\$6,750.00
4 Pulverize Existing AC Pavement and Base Material (10" Depth)	42725	SF	\$0.75	\$32,043.75	\$1.00	\$42,725.00	\$1.00	\$42,725.00
5 Pulverize Existing AC Pavement and Base Material (13" Depth)	43,650	SF	\$0.85	\$37,102.50	\$1.10	\$48,015.00	\$1.10	\$48,015.00
6 Demolish & Remove Existing PCC Sidewalk, Curb Ramps	4,630	SF	\$2.00	\$9,260.00	\$6.00	\$27,780.00	\$3.45	\$15,973.50
7 Demolish & Remove Existing Curb & Gutter	480	LF	\$19.00	\$9,120.00	\$25.00	\$12,000.00	\$15.50	\$7,440.00
8 Remove Existing PCC Median Islands	1320	SF	\$6.00	\$7,920.00	\$3.00	\$3,960.00	\$3.00	\$3,960.00
9 Roadbed Modification (6" Depth at 4% Cement)	42725	SF	\$1.00	\$42,725.00	\$1.00	\$42,725.00	\$0.96	\$41,016.00
10 Roadbed Modification (8" Depth at 6% Cement)	43650	SF	\$1.10	\$48,015.00	\$1.20	\$52,380.00	\$1.22	\$53,253.00
11 Additional (+2% max) Cement Content (5% of total area)	4317	SF	\$0.70	\$3,021.90	\$0.25	\$1,079.25	\$0.50	\$2,158.50
12 Construct Type 1 PCC Curb and Gutter on 6" Agg. Base	140	LF	\$31.50	\$4,410.00	\$58.00	\$8,120.00	\$62.25	\$8,715.00
13 Construct Type 2 PCC Curb and Gutter on 6" Agg. Base	90	LF	\$36.00	\$3,240.00	\$35.00	\$3,150.00	\$56.30	\$5,067.00
14 Construct Type A PCC Glue Down Median Curb	555	LF	\$15.00	\$8,325.00	\$31.00	\$17,205.00	\$24.00	\$13,320.00
15 Construct Type A 4" PCC Sidewalk on 4" Agg. Base	2460	SF	\$7.80	\$19,188.00	\$12.00	\$29,520.00	\$9.80	\$24,108.00
Construct PCC Pedestrian Ramp with Detectable Warning on 4" Agg. Base	2700	SF	\$10.50	\$28,350.00	\$27.00	\$72,900.00	\$24.50	\$66,150.00
17 Construct 4" PCC Island Paving	1950	SF	\$11.00	\$21,450.00	\$5.50	\$10,725.00	\$11.00	\$21,450.00
Construct 4" Plantmix Bituminous Pavement, Type 2 PG64-28NV	42725	SF	\$2.60	\$111,085.00	\$2.55	\$108,948.75	\$3.20	\$136,720.00
Construct 5" Plantmix Bituminous Pavement, Type 2 PG64-28NV	43650	SF	\$3.20	\$139,680.00	\$3.15	\$137,497.50	\$4.00	\$174,600.00
Adjust Sewer/Storm Drain Manhole Frame and Cover to Finish Grade	15	EA	\$1,650.00	\$24,750.00	\$1,200.00	\$18,000.00	\$1,630.00	\$24,450.00
Adjust Water Valve Can to Finish Grade	19	EA	\$1,200.00	\$22,800.00	\$800.00	\$15,200.00	\$1,100.00	\$20,900.00
Perpetuate Survey Monument	6	EA	\$1,850.00	\$11,100.00	\$1,000.00	\$6,000.00	\$1,305.00	\$7,830.00
Adjust Pull Box to Finished Grade	1	EA	\$1,350.00	\$1,350.00	\$1,200.00	\$1,200.00	\$1,400.00	\$1,400.00
Construct Pedestrian Handrailing	18	LF	\$170.00	\$3,060.00	\$300.00	\$5,400.00	\$130.00	\$2,340.00
Sprinkler Irrigation Adjustments	1	LS	\$4,150.00	\$4,150.00	\$5,000.00	\$5,000.00	\$650.00	\$650.00
Landscaping Modifications	1	LS	\$2,600.00	\$2,600.00	\$4,000.00	\$4,000.00	\$9,250.00	\$9,250.00
Paint double 4" Yellow Solid Stripe	1410	LF	\$0.35	\$493.50	\$0.55	\$775.50	\$0.35	\$493.50
Paint 4" Yellow Solid Stripe	960	LF	\$0.48	\$460.80	\$0.30	\$288.00	\$0.45	\$432.00
Paint 12" White Solid Stripe	160	LF	\$0.45	\$72.00	\$1.75	\$280.00	\$0.65	\$104.00
Paint 12" White Dotted Stripe	250	LF	\$0.35	\$87.50	\$1.75	\$437.50	\$0.35	\$87.50
Paint 6" White Solid Stripe	2840	LF	\$0.35	\$994.00	\$0.40	\$1,136.00	\$0.35	\$994.00
Paint White 24" Stop Bar	80	LF	\$5.50	\$440.00	\$3.00	\$240.00	\$5.40	\$432.00
Paint Island Noses and Mountable Roundabout Curb	540	LF	\$3.00	\$1,620.00	\$1.50	\$810.00	\$2.70	\$1,458.00
Paint White 24" Crosswalk	1280	LF	\$5.50	\$7,040.00	\$2.75	\$3,520.00	\$5.40	\$6,912.00
Paint White Yield Bar	80	EA	\$7.50	\$600.00	\$22.00	\$1,760.00	\$7.55	\$604.00
Paint White Bike Lane Legend w/ Arrow	8	EA	\$220.00	\$1,760.00	\$195.00	\$1,560.00	\$215.00	\$1,720.00
Install New Sign, Post and Anchor	5	EA	\$800.00	\$4,000.00	\$550.00	\$2,750.00	\$810.00	\$4,050.00
Install New Guide Post	26	EA	\$180.00	\$4,680.00	\$110.00	\$2,860.00	\$155.00	\$4,030.00
Remove and Replace Sign, Post and Anchor	6	EA	\$300.00	\$1,800.00	\$550.00	\$3,300.00	\$270.00	\$1,620.00
Total Bid Price (Schedule A)			\$767,000.00		\$770,007.00		\$892,444.00	

Total Bid Price written in words? y/n	Y	Y	Y
Bidder Information provided? y/n	Y	Y	Y
Sub Contractors listed? y/n or none	Y	Y	Y
Bid Document executed? y/n	Y	Y	Y
Req. Forms? y/n			

**The City will be recommending award to A & K Earthmovers Inc. at the December 9, 2020,
Carson City Regional Transportation Commission meeting**

Bid Tabulation Report from Carson City Purchasing & Contracts

775-283-7362

<http://www.carson.org/index.aspx?page=998>

Notice to Contractors Bid# 20300194 District 2-Northridge Dr. Pavement Reconstruction Project

Date and Time of Opening: 11/17/2020 @ 11:30am

APPENDIX C

PHOTOGRAPHS OF COMPLETED VOTING BOARDS FOR PREFERRED ROAD CONDITIONS & PREFERRED FUNDING MECHANISM



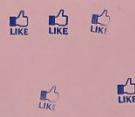
Local Roads Condition Level

Vote for preferred condition level of your roads

Maintain a Better Condition (PCI = 70)
Funding Gap = \$26M/year



Maintain Existing Pavement Condition (PCI = 62)
Funding Gap = \$21M/year



A

B

Maintain a Lesser Condition (PCI = 50)
Funding Gap = \$12M/year



Do Nothing Approach to Road Maintenance (PCI = 33 by 2050)



Do Nothing
Have BOS
pay it from
their salaries

Focus on local
access, only. Prioritize
non-vehicle transport
(Cotton is small, we
can walk, ride, wheel
etc.)

C

D

Vote For Your Preferred Funding Mechanism: Goal \$21M/Year

APPENDIX D

FUNDING MECHANISM DETAILS



General Improvement District	D-2
Local Improvements special districts	D-7
Special Purposes (Transportation) Sales Tax	D-11
Infrastructure Sales Tax Continuation	D-13
Supplemental Governmental Services Tax	D-16

Attributes to Describe and Compare the Funding Mechanisms

Legal autonomy and accountability. This helps to compare who manages the funding mechanism and the level of accountability decision-makers have of spending of the revenues to the people of Carson City.

Flexibility of service provision is compared to understand what exactly can be funded by the revenues generated.

Potential physical geographic boundaries where revenues can be collected from are described.

Formation steps to create the new funding streams are described to offer insight to the complexity and cost of securing the new funding source.

Description of the revenue sources (sales tax, special assessments and parcel charges), and how the revenues can or must be collected allow for comparison of complexity and administrative procedure needed to manage the revenues.

The method of apportionment refers to the way in which collection of revenue can be tailored according to local perception of equity among road users. The method of apportionment is the same for both sales tax revenue sources, and there is no flexibility in how the sales tax is levied, except that a sales tax under NRS 377A could levy a rate up to 0.25%, whereas continuation of the sales tax under NRS 377B would be at a rate of 0.125%. There is choice in how special assessments and parcel charges can be collected. This is described for the two pertinent funding sources for comparison.

The authority to issue debt securities is included for comparison because some debt instruments (special assessment and revenue bonds) are special obligations and are therefore not counted as debts of the City.

The final attribute considered is the ease or difficulty to discontinue the revenue stream (which may include dissolution of a legal entity).

General Improvement District (GID) - NRS 318

General Improvement Districts (GIDs) are commonly used to provide public infrastructure and services. Use of a GID varies widely, from television provision, water and sewer provision to roads provision, mosquito abatement, rodent control, and several other services. Carson City and Esmeralda County are the only counties in Nevada without a GIDⁱ.

Legal Autonomy and Accountability. GIDs are authorized by the Nevada Legislature as codified in the Nevada Revised Statutes (NRS) Chapter 318. A GID is a separate legal entity (with eminent domain power and right to own and sell real property) - a governmental subdivision of the State of Nevada, a body corporate and politic and a quasi-municipal corporation (NRS 318.075).

The Carson City Board of Supervisors (BOS) must be the initial Board of Trustees (BOT) (except however one of the 5 initial trustees can be the DA or Deputy DA); after it has established the accounting practices, auditing practices, a budget and management standards, the BOS can continue as the ex officio BOT but the secretary and treasurer must not be members of the BOS (could be the City Clerk and City Treasurer, or RTC members) – NRS 318.09533. The BOS, as the ex officio BOT, can appoint a local district managing board (NRS 318.09535) of between 5 and 12 members to manage the affairs of the district but this board cannot tax or sell bonds. The powers and duties of a local district managing board must be stated in the ordinance creating the board. BOS members may not receive additional compensation per NRS 318.09533. The BOT must meet regularly at least once each year.

As a separate legal entity, a GID may also form Improvement Districts pursuant to NRS 271.

Flexibility of Service Provision. Basic powers of a GID include the ability to furnish streets and alleys (NRS 318.120) and remove snow from them (NRS 318.145); furnish curbs, gutters, and sidewalks (NRS 318.125), furnish sidewalks (NRS 318.130), and furnish facilities for lighting streets (NRS 318.141). GID powers are described in the formation procedure; the intent would be to form a Roads and Roads-Related (streets and alleys, curbs, gutters, sidewalks, and optionally, snow removal and street lighting) only GID. Specifically, the following facilities activities would be authorized:

Grading and re-grading, surfacing and re-surfacing of streets, alleys and public highways, gravel, oiling, macadamizing, paving, crosswalks, driveway inlets, curb cuts, curbs, sidewalks, gutters, valley gutters, catch basins, culverts, drains, sewers, manholes, inlets, outlets, retaining walls, bridges, overpasses, tunnels, underpasses, approaches, artificial lights and lighting equipment, grade separators, traffic separators, traffic-control equipment, off-street parking facilities and structures, parkways, canals and other water type streets, and to construct, reconstruct, replace or extend sidewalks. Facilities for lighting public streets, ways and places may be acquired, constructed, reconstructed, improved, extended, or bettered.

And, the GID can operate, maintain and repair the district's improvements (projects), including, without limitation, the maintenance and repair of dedicated streets and alleys and the removal of snow therefrom, and all facilities of the district relating to any basic power which the district is authorized to exercise (NRS 318.145 and 318.175). A project or improvement means any structure, facility, undertaking or system which a GID is authorized by its basic powers established at formation to acquire, improve, equip, maintain or operate.

Boundaries. A Roads and Roads-Related GID may be Citywide or consist of noncontiguous tracts or parcels of property (NRS 318.055). Parcels can be annexed into the GID.

Formation Steps. The formation of a GID would be by Provisional Order, following four steps:

STEP 1. A resolution of intention adopted by the BOS.

STEP 2. An "initiating" ordinance adopted by the BOS, which must include:

- a. The name of the proposed district.
- b. A statement of the basic power or powers for which the district is to be created.
- c. A statement that the ordinance creating the district will be based on the BOS finding that public convenience and necessity require creation of the district, that creation of the district is economically sound and feasible, that the Service Plan includes all required elements per NRS 308.030 (see below) and that it does not contravene reasons to disapprove a Service Plan per NRS 08.060 (see below).
- d. Description of the boundaries of the district such that a property owner can determine whether their property is within the district.
- e. The place and time for the public hearing on creating the district.

Service Plan required elements (NRS 308.030):

- A financial survey and a preliminary engineering or architectural survey showing how the proposed services are to be provided and financed;
- A map of the proposed district boundaries, an estimate of the population and assessed valuation of the proposed district;
- Description of the facilities to be constructed, the standards of such construction, the services to be provided by the district, an estimate of costs, including the cost of acquiring land, engineering services, legal services, proposed indebtedness, including proposed maximum interest rates and any discounts, any other proposed bonds and any other securities to be issued, their type or character, annual operation and maintenance expenses, and other major expenses related to the formation and operation of the district;
- Details of a proposed agreement with Carson City Public Works for the performance of any services between the proposed GID and the City. The form of any such contract to be used, if available, shall be attached to the Service Plan.

The Service Plan must be approved by the BOS. The BOS may disapprove the Service Plan

(NRS 308.060) upon satisfactory evidence that:

- There is insufficient existing and projected need for organized service in the area to be serviced by the proposed district;
- The existing service in the area to be served by the proposed district is adequate for present and projected needs;
- Adequate service is, or will be, available to the area through municipal annexation by other existing municipal or quasi-municipal corporations within a reasonable time and on a comparable basis;
- The proposed special district is incapable of providing economic and sufficient service to the area within its proposed boundaries;
- The area to be included in the proposed district does not have or will not have the financial ability to discharge the proposed indebtedness, other securities, or other obligations to be incurred on a reasonable basis;
- The facility and service standards of the proposed district are incompatible with the facility and service standards of adjacent municipalities and special districts;
- Or the proposed district is being formed for the primary purpose of financing the cost of developing private property.

STEP 3. Organizational Hearing. The City Clerk must mail written notice to all property owners within the proposed GID. The notice must include details of the purpose of the proposed GID, and information on the time and place of the organizational hearing. If at or before the hearing a protest is filed and signed by a majority of property owners, then the GID shall not be formed (NRS 318.065).

STEP 4. The BOS will adopt an ordinance determining whether or not the GID is created (NRS 318.070). Barring the initiation of any legal action opposing the district within 30 days of adopting an ordinance creating the GID, the ordinance finally and conclusively establishes the organization of the GID.

Revenue Sources and Collection. The GID can establish charges for snow removal and lighting and standby service charges/ minimum charges/ charges for the availability of service for any services or facilities authorized to be furnished by the GID (NRS 318.197); however, a GID cannot charge rates, rolls or charges other than special assessments for streets, curbs, gutters, and sidewalks (NRS 318.197). Special assessments may be charged to lands and premises abutting the street or alley improved or proposed to be improved, and any other lands that may be specially benefited by the improvement upon affirmative vote of at least two-thirds of the board. Unless a school district consents to assessment, all property owned and used by a school district is exempt (NRS 318.350).

NRS 118A.140 "Premises" defined. "Premises" means a dwelling unit and the structure of which it is a part, facilities, furniture, utilities and appurtenances therein and grounds, areas and facilities held out for the use of tenants.

NRS 118C.040 "Commercial premises" defined. "Commercial premises" means any real property other than premises as defined in NRS 118A.140.

The BOT must have affirmative vote of at least two-thirds of its members to levy proposed charges and special assessments. The BOT has the authority to create payment programs and discounted rates and assessments for customers that qualify under certain parameters such as a disability, age, or income limit.

Revenue can be collected with City utility bills (monthly) or with property taxes (quarterly). Administrative costs would be less if collected with City utility bills. If charges and special assessments are collected with property taxes, the GID must file a written report each year containing a description of each parcel of real property and amount of the charges and special assessments, and a public hearing must be held. If a majority of the property owners affected protest the manner of collection, the charges must be collected separately from the tax roll.

To minimize administrative costs, it would be better to collect charges and special assessments with utility bills. This may also be preferable for cash flow purposes as revenues would be monthly rather than quarterly.

While a GID has the authority to levy ad valorem taxes, in practicality this is not an option for a Carson City Roads and Roads-Related GID because Carson City already has authority to increase ad valorem taxes for roads purposes. Increasing ad valorem taxes for roads preservation would erode the ability of the City to raise revenue for other services because of the statutory ad valorem tax cap (NRS 361.453)ⁱⁱ. The GID or City could increase funding for roads with an ad valorem property tax override for 30 years with voter approval, but this was not identified as a funding option to pursue at this time.

Method of Apportionment. Methods of apportionment must be determined for both charges and special assessments.

- (1) **Charges.** The GID could set charges for snow removal and lighting, and other costs (such as general management costs) that are not associated with provision of streets, curbs, gutters, and sidewalks. There is no methodology prescribed in Chapter 318 for apportioning costs among users and potential users. The BOS would have to approve a method of apportionment by resolution adopting the charges. These would be parcel charges.
- (2) **Special Assessments.** The only guidance provided by NRS 318.350 for determining special assessment amounts is that costs may be allocated among land and premises abutting the improvement, and other lands as in the opinion of the board that may be

specially benefited by the improvement. We can look to other sections of the Nevada Revised Statutes for further guidance. Chapter 271 also allows for the collection of special assessments.

NRS 271.208 “Special benefit” defined. “Special benefit” means the increase in the market value of a tract that is directly attributable to a project for which an assessment is made as determined by the local government that made the assessment. The term may include incidental costs of the project as determined by the local government. The market value change does not have to be quantified. In addition, NRS 271.045 states that assessments shall be made on a front foot, zone, area or other equitable basis, as may be determined by the governing body.

A method(s) of apportionment for the costs to be collected by special assessments needs to be vetted by City staff and focus groups of customers. The states of Montana and Oregon have adopted charges in similar fashion and offer good case studies to learn from. Road systems function as a public utility comparable to municipal water and sewer systems. Those utilities are funded by charging users based on how much they use the systems, and roads funding can be approached in a similar way. Properties that cause more traffic by the nature of their use are responsible for a greater portion of the wear and tear on roads infrastructure, and might reasonably be expected to make larger contributions towards maintenance expenses. One common basis for such a fee is an estimated number of trip-ends attributable to each property type using the procedures found in the Trip Generation manual published by the ITEⁱⁱⁱ; however, fees may also be based on lineal front footage, parcel size, and other characteristics.

The GID could collect for costs of different road functions in different ways. For example, road maintenance costs (such as crack sealing and paving) might be allocated to users based on their estimated trip generation, but sidewalk repair costs might be allocated to users based on their front footage.

Authority to Issue Debt Securities. Debt limit is set at 50% of the total of the last assessed valuation of taxable property (excluding motor vehicles) situated within the district. The limitation excludes special assessment bonds (NRS 318.277) that may be issued for GID roads projects (or for SIDs or NIDs created by the GID) and revenue bonds, which are special obligations, not debts.

Short-term notes, warrants and interim debentures may be issued upon affirmative vote of four of the BOT members (NRS 318.280); in addition, the sale of revenue bonds does not require an election. Money may be borrowed from State and Federal government.

Removal / Dissolution. A GID can be dissolved by ordinance of the BOS with a majority of “ayes”. In event of dissolution, all property of the GID would be transferred to the City and funds would be transferred to the General Fund of the City.

Local Improvements Special Districts (SID)s - NRS 271

Local improvements special districts provide a funding mechanism for discrete projects that may be deemed necessary by the local government, by property owners, or by developers to pay for public improvements. This technical report only describes a program created by the local government (Carson City).

Flexibility of Service Provision. Two types of improvement districts may be formed, (1) A Special Improvement District (SID), and (2) a Neighborhood Improvement District (NID).

(1) A SID can finance the acquisition or construction of many types of improvements (sewer, water, energy, drainage for example) and more than one type of improvement in one SID. In particular, a SID can finance infrastructure costs – and all the soft costs associated with planning activities, appraisals, and other associated costs – for the following street projects:

Curbs and gutters, off-street parking, overpasses and underpasses, sidewalks and lighting, and streets projects (any street, avenue, boulevard, alley, highway or other public right-of-way used for any vehicular traffic). A street project can include grading, regrading, gravel, oiling, surfacing, macadamizing, paving, crosswalks, sidewalks, driveway approaches, curb cuts, curbs, gutters, culverts, drains, sewers, manholes, inlets, outlets, retaining walls, bridges, overpasses, tunnels, underpasses, approaches, artificial lights and lighting equipment, parkways, grade separators, traffic separators and traffic control equipment, and all appurtenances and incidentals, including real property.

Per NRS 271.265, the SID can acquire, improve, equip, operate and maintain the above-described street projects, but it does not provide a perpetual revenue source for maintenance.

A SID can also pay for works, systems and facilities for transporting persons, rolling stock, equipment, terminals, stations, platform and other necessary transportation facilities (NRS 271.237), and the costs to maintain, operate, improve and repair the transit project in perpetuity (NRS 271.369).

(2) A NID can pay for the beautification and improvement of the public portions of any area, such as public restrooms, fountains, landscaping, ramps, sidewalks and plazas, facilities for outdoor lighting and heating, and decorations. Furthermore, a NID can pay for beautification of any street, including median strips, water distribution and irrigation systems, retaining walls, shrubbery, fountains, waterfalls, information booths, signs and so forth (inconclusive list).

Legal Autonomy and Accountability. SIDs and NIDs are creations of the BOS and are accounted for by the City's standard accounting practices. Improvements may be carried out by Carson City crews or by independent contract. Competitive bids are required for any work performed by independent contract. If the work is performed by the City, supplies and

materials shall be competitively bid (but may be rejected for various reasons).

If a district sells bonds, it shall submit to the Director of the Legislative Counsel Bureau a copy of the annual financial information that is submitted to the Municipal Securities Rulemaking Board.

Boundaries. The boundaries of the SID or NID are set during the formation process. Properties (parcels of land) may be added to NIDs after formation. The improvement districts may include noncontiguous areas.

Formation Steps. The City would form SIDs or NIDs using the Provisional Order Method described in NRS 271.280. The method includes the following four steps.

STEP 1. A City engineer would file preliminary plans and cost of the project and an assessment plat with the City Clerk. The plat would show the area to be assessed and quantification of maximum benefits to be assessed to each parcel (not applicable for an NID since maintenance costs will fluctuate over time).

STEP 2. The engineer would prepare a document stating what portion of the project cost is of special benefit (to be collected with assessments) and what portion is to be funded by other source(s), and further would describe the method of apportionment for the assessments to be levied. If the method of apportionment is NOT by frontage feet, state that the assessment is to be made upon all the tracts benefited by the project proportionately to the benefits received. If more than one project type is included (such as road and sewer), the costs of each project must be kept separate, and the assessments for each levied separately.

STEP 3. The BOS sets a public hearing and provides mailed notice at least 20 days prior to such hearing, to all affected property owners and mobile home tenants (for a SID), and to all affected property owners and tenants owning a business (for an NID). The notice must include a description of the project, the estimated cost and source(s) of revenue for the project, the method of apportionment, a map or other description of the affected area, the number of installments of assessments, maximum interest rate that may be charged, the time and place of the hearing, how to object to the proposed assessment, how to obtain more information, and the property owner's rights to representation.

- For an SID, if a majority of property owners object, the district may not be formed unless the City provides more than 50% of the funding for the district, or the project is no longer than 2,640 feet.
- For an NID, if more than one-third of the property owners object, the district may not be formed.

STEP 4. Upon conclusion of the public hearing, the BOS may by resolution of ordinance continue or discontinue the formation process. If the resolution is to continue, the BOS will direct staff to prepare a revised and detailed estimate of the total cost, full and detailed

plans and specifications, a revised map and assessment plat.

With the updated information, the BOS will create the district by ordinance and order that the project be improved or acquired.

Revenue Sources and Collection. Revenues may only be assessments^{iv}. A property owner may elect to pay the entire cost of the assessment to their parcel within 30 days of passage of the ordinance creating the district, before the City sells bonds. At future points in time, a property owner may pay the remaining principal and accrued interest with or without penalties, as determined by the City (NRS 271.405). Assessments against the State are due in cash within 90 days of the effective date of the assessment ordinance, or in installments with interest.

If the district does not sell bonds to finance the improvements, the City may advance money from the General Fund if the cost does not exceed \$300,000, or from a proprietary fund, if the City has established a proprietary fund for that purpose (NRS 271.536) – for example, for water or sewer. The City does not have a proprietary fund for streets.

Special assessments are determined each year and are placed on the property tax roll. The City could contract with a third party to manage the annual administration of the special assessments, similar to several local governments in Nevada.

For an SID, City staff (or contracted party) prepare the tax roll and file it with the City Clerk each year. For an NID, City staff (or contracted party) prepare the tax roll and documentation of the costs to be apportioned to property owners. A registered or certified mailed notice must be provided, and a public hearing held each year for NID assessments, which adds an annual administrative effort and cost.

A procedure must be established by the BOS to allow a person to file a Hardship Determination. A Hardship Determination entitles the person to only pay interest on the unpaid balance of the assessment. The principal is not paid until the property is sold or transferred to a person who does not qualify for a hardship determination, or the term of the bonds expires, or a renewal application is denied, or the property owner fails to pay the interest in a timely manner, or the property owner pays all previous and current assessments.

There isn't a provision for a hardship determination when assessments do not include interest (when a district does not sell bonds).

Method of Apportionment. The BOS may approve any method of apportionment that is on an equitable basis so long as the assessment does not exceed the estimated maximum special benefits to the properties assessed (NRS 271.045 and NRS 271.365). Clark County makes a blanket statement that tracts receive special benefits (corresponding market value increases) from the improvements. Clark County and the City of Reno provide good case studies of SIDs.

Properties owned by the Federal government are exempt from paying assessments. Properties owned by a school district are also exempt unless the school district consents to the assessments. Properties owned by Carson City must not be levied assessments greater than 15% of the total amount of assessments against all lands in the district. State and Tribal properties are not exempt.

Authority to Issue Debt Securities. The proceeds of any assessments and taxes may be pledged to the payment of special assessment bonds. Any such bonds would be the liability of the SID or NID only, not the City. In the event however that special assessments are insufficient to pay for debt service, the bonds are further secured by the General Fund, and further by ad valorem taxes.

Removal / Dissolution. SIDs are complete and discontinue when all project costs have been paid per the terms provided in formation of the SID. NIDs may be dissolved by resolution of the BOS if property owners who, combined, total more than 50-percent of the total amount of the assessments in the NID submit a written petition to the BOS requesting dissolution. Property owners may petition for dissolution 365 days after the date the NID was created, and each subsequent anniversary thereafter.

Special Purposes (Transportation) Sales Tax – NRS 377A

When approved by at least a majority of registered voters, a transportation sales tax of up to 0.50% may be imposed in any county (or Carson City) under NRS 377A. This chapter of the NRS allows Carson City to impose a tax to (a) fund public transit systems, the construction, maintenance and repair of public roads, and improvement of air quality projects, (b) promote tourism, and (c) acquire, develop, construct, equip, operate, maintain, improve and manage libraries, parks, recreational programs and facilities, and facilities and services for senior citizens, to preserve and protect agriculture or any combination of these purposes. A tax imposed for any of the items authorized under (c) may only be imposed for a maximum of 30 years.

The Streets Maintenance sales tax of 0.25% is already approved for maintenance of roads; therefore, only up to 0.25% additional sales tax may be imposed for roads and road-related functions, or (b) and (c) purposes listed in the previous paragraph.

While an up to 0.25% additional sales tax may be imposed for roads maintenance, using all the remaining tax authority would reduce the ability for the City to increase revenues for purposes of promoting tourism, and for providing library, parks and recreation, and senior citizens facilities and services.

Flexibility of Service Provision. Public road improvement and maintenance is authorized by NRS 277A – Regional Transportation Commissions Chapter, as described below:

The acquisition, operation or use of any material, equipment or facility that is used exclusively for the construction, maintenance or repair of a public road and is necessary for the safe and efficient use of the public road, including, without limitation, grades and regrades; graveling, oiling, surfacing, macadamizing and paving; sweeping, cleaning and sanding roads and removing snow from a public road; crosswalks and sidewalks; culverts, catch basins, drains, sewers and manholes; inlets and outlets; retaining walls, bridges, overpasses, underpasses, tunnels and approaches; artificial lights and lighting equipment, parkways, control of vegetation and sprinkling facilities; rights-of-way; grade and traffic separators; fences, cattle guards and other devices to control access to a public road; signs and devices for the control of traffic; and facilities for personnel and the storage of equipment used to construct, maintain or repair a public road.

In addition to public roads infrastructure and services, the tax may fund public transit systems (including ride-share communication services, transportation for elderly and disabled persons, parking for passengers using the transit system, stations and appurtenant facilities, and several other public transit facilities and services as provided for in NRS 277A).

Legal Autonomy and Accountability. The BOS can enact an ordinance imposing a tax for a public transit system, for the construction, maintenance and repair of public roads, for the

improvement of air quality or for any combination of those purposes. The ordinance may only be adopted upon approval of the majority of registered voters at a general election. In addition, any subsequent increase to the rate of the tax or change of previously approved uses of the proceeds of the tax must be put to the registered voters at a general election.

The City must maintain a separate fund to account for the revenues and expenses associated with the tax. The Regional Transportation Commission (RTC) may appropriate money in the fund to provide a public transit system, support transportation activities for the elderly and disabled, establish public transit fares, and may adopt regulations for the operation of systems or services. The RTC may only withdraw money for (a) public transit and other activities, services and programs related to transportation which are included in the Regional Transportation Plan, (b) construction, maintenance and repair of public roads; (c) activities, services and programs that relate to the improvement of air quality, and (d) payment of principal and interest on debt instruments.

Boundaries. The ordinance applies Citywide.

Formation Steps. The ordinance must specify the date on which the tax must first be imposed or on which an increase in the rate of the tax becomes effective, which must be the first day of the first calendar quarter that begins at least 120 days after the approval of the question by the voters.

Revenue Sources and Collection. Sales tax collected on taxable goods by merchants is reported and remitted to the State. The State distributes the sales tax revenue to Carson City. The State takes 1.75% of the sales tax as payment for its administration services.

There would be low organizational set-up costs with this funding mechanism as the collection procedure is already established with the State.

Method of Apportionment. A sales tax of up to 0.25% is added to all taxable transactions for all authorized improvements and services under NRS 377A included in the City's ordinance.

Authority to Issue Debt Securities. The City can pledge the revenue source as payment toward a special or general obligation bond. The RTC can pledge the revenue source as payment toward a special obligation bond. The sales tax may be the sole source of repayment, or it may be one of several sources of repayment on a bond series. If the RTC issues bonds or other debt securities, it must have first executed an interlocal agreement with the City to issue debt. The issuing local government may pledge and create a lien on the receipts of the tax.

Removal / Dissolution. The BOS may gradually reduce the amount of the tax. The effective date of reduction must be the first day of the first calendar quarter that begins at least 120 days after the effective date of the ordinance reducing the amount of the tax. At such time that any debt securities issued against the sales tax have been fully paid, the BOS may dissolve the RTC, if it was created solely for the purpose of activity associated with the tax.

Infrastructure Sales Tax Continuation – NRS 377B

The Virginia and Truckee (V&T) Railroad and Streets and Highway Sales Tax is already in place, imposing sales tax at the maximum allowable 0.125% (the maximum allowable under NRS 377B is 0.25%; however, 0.125% has already been imposed for street and pedestrian improvements in the downtown area, Carson Street and William Street/Highway 50 East commercial corridors, a new animal services facility, new athletic center, and upgrades of the community center (which Plan of Expenditure does not expire until June 30, 2047)).

The repurposed revenue source would be generated by the portion of sales tax that is currently used to pay for V&T Railroad bonds debt service. Once these bonds have been paid off (December 2025), the 0.125% sales tax rate imposed specifically for these bonds can no longer be collected for that purpose; however, it can be repurposed for other allowable uses, including roads.

This revenue source is not new. No new tax is created; revenues from an existing tax are repurposed.

Unlike the Transportation Sales Tax, sales tax authorized under NRS 377B is not subject to voter approval.

Flexibility of Service Provision. Sales taxes must be spent only on activities authorized under NRS 377B and described in a Plan of Expenditure, which is adopted by the BOS. Road functions that may be funded by a sales tax adopted under NRS 377B are described in NRS 373.028; specifically, they include:

Street and highway construction, maintenance or repair, or any combination thereof, including, without limitation, the acquisition, maintenance, repair and improvement of highway truck parking or any street, avenue, boulevard, alley, highway or other public right-of-way used for any vehicular traffic, and including a sidewalk designed primarily for use by pedestrians, and also, including, without limitation, grades, regrades, gravel, oiling, surfacing, macadamizing, paving, crosswalks, sidewalks, pedestrian rights-of-way, driveway approaches, curb cuts, curbs, gutters, culverts, catch basins, drains, sewers, manholes, inlets, outlets, retaining walls, bridges, overpasses, tunnels, underpasses, approaches, sprinkling facilities, artificial lights and lighting equipment, parkways, grade separators, traffic separators, and traffic control equipment, and all appurtenances and incidentals, or any combination thereof, including, without limitation, the acquisition, maintenance, repair and improvement of all types of property therefor.

Transit construction and maintenance costs are not authorized unless they provide cultural, historical, or recreational value (such as the V&T Railroad).

Legal Autonomy and Accountability. The sales tax was most recently updated by ordinance of the BOS to account for an amended Plan of Expenditure December 2018. The amended Plan of Expenditure includes expenditures of sales tax greater than that needed to service

debt payments secured by sales tax for the V&T railroad bonds on street and highway preservation and rehabilitation projects. Certain named projects in the Plan of Expenditure include the Roop Street rehabilitation and East Clearview Drive preservation projects. Unnamed roads authorized to receive sales tax include regional roadways defined by NDOT's functional classification maps.

Although repurposing of the tax does not require voter approval, there are high levels of accountability for use of the tax.

The City must maintain a separate fund to account for the revenues and expenses associated with the tax.

Boundaries. The ordinance applies Citywide.

Formation Steps. The BOS may impose a sales tax for infrastructure by ordinance. The ordinance must be approved by a two-thirds majority of the BOS, and any changes to the ordinance must also be approved by a two-thirds majority of the BOS. Before enacting the ordinance, the BOS must first develop a Plan of Expenditure. The Plan of Expenditure describes what types of projects, or even specific projects, the proceeds of the tax may be spent on (note that regional projects for which two or more counties have entered into an interlocal agreement to jointly expend on a project may be included).

The Plan of Expenditure must include:

1. The date on which the plan expires.
2. Description of the proposed project(s).
3. Method of financing of each project (or project type).
4. Costs related to each project (or project type).

The formation steps are not required for this funding source because it is not new; rather, a finding of necessity to continue and repurpose the tax must be made by the BOS. There are no organizational set-up costs with this funding mechanism as it is already in place.

At least one public hearing must be held on the Plan of Expenditure (or Amended Plan of Expenditure).

Revenue Sources and Collection. Sales tax collected on taxable goods by merchants is reported and remitted to the State. The State distributes the sales tax revenue to Carson City. The State takes 1.75% of the sales tax as payment for its administration services.

Method of Apportionment. A sales tax of 0.125% would be continued after December 2025 on all taxable transactions.

Authority to Issue Debt Securities. The City can pledge the sales tax future revenue stream as payment toward a special or general obligation bond. The sales tax may be the sole source of repayment, or it may be one of several sources of repayment on a bond series.

Removal / Dissolution. On or before the expiration date stated in the Plan of Expenditure – or when the project(s) described in the Plan of Expenditure are complete, the City must make a finding of necessity to continue collection of the sales tax under the Plan of Expenditure (or Amended Plan of Expenditure). If no finding of necessity is found, the sales tax ordinance must be repealed by the BOS.

Supplemental Governmental Services Tax - NRS 371

When approved by at least a majority of registered voters, a supplemental governmental services tax (GST) of not more than 1 cent on each \$1 of valuation of the vehicle owned may be imposed in Carson City under authority of NRS 371. The revenue is collected by the Nevada Department of Motor Vehicles (DMV).

Legal Autonomy and Accountability. The GST may be levied pursuant to NRS 371.045 for the privilege of operating upon the public streets, roads and highways of the county on each vehicle based in the county except a vehicle exempt from the GST, or a vehicle engaged in interstate or intercounty operations.

All types of vehicles will pay the tax, whether they are gas, diesel, electric or hybrid.

Flexibility of Service Provision. NRS 371 allows Carson City to impose the tax to fund construction and maintenance of sidewalks, streets, avenues, boulevards, highways and other public rights-of-way used primarily for vehicular traffic, including, without limitation, overpass projects, street projects or underpass projects. Proceeds of the GST may be spent on these activities provided the City and the RTC complete an interlocal agreement with respect to any projects to be financed with the proceeds of the tax.

Boundaries. Projects funded with GST must be either a) within the boundaries of the county, b) within 1 mile outside of the county boundaries if the BOCC finds such projects will facilitate transportation within the county, or c) within 30 miles outside of the county boundaries and the boundaries of Nevada, where boundaries are coterminous, if the project improves a highway located wholly or partially outside of Nevada, and which connects Nevada or an interstate highway or if the BOCC finds that such project(s) will provide a significant economic benefit to the county.

Formation Steps. The tax can be imposed after the first day of the second calendar month after adoption of the ordinance imposing the tax (NRS 371.045.4).

Revenue Sources and Collection. Revenue is based on valuation of vehicles. Valuation is 35% of the manufacturer's suggested retail price in Nevada excluding options and extras, as of the time the particular make and model for that year is first offered for sale in Nevada. If this cannot be determined (the vehicle is specially constructed for example), DMV shall calculate the value of the vehicle as 35% of the original retail price to the original purchaser of the vehicle.

For each bus, truck, truck-tractor or combination of vehicles having a declared gross weight of 10,000 pounds or more, and for trailers or semitrailers having an unladen weight of 4,000 pounds or more, DMV may use 85% of the original purchaser's cost price in lieu of the manufacturer's suggested retail price.

Method of Apportionment. A tax of 1 cent per \$1 valuation of vehicles located in Carson City is collected by DMV pursuant to the City's ordinance. Exemption is granted for vehicles registered by a person who is blind, vehicles registered by veterans, and vehicles registered by a surviving spouse. GST is not collected on vehicles owned by the United States, the State of Nevada, any political subdivision of the State of Nevada, or any county, municipal corporation, city, unincorporated town or school district in the State of Nevada, or vehicles owned by the governing body of an Indian reservation or colony if that reservation or colony is recognized by federal law and the governing body claiming exemption is located on the reservation or colony. Emergency vehicles owned by any volunteer fire department or volunteer ambulance service based in Nevada, and vehicles provided by the State or Federal Government operated solely for the transportation of or furnishing services to elderly persons or persons with disabilities, also cannot be charged the GST.

Additionally, privately-owned vehicles dedicated for exclusive use to private public transportation in an urban area, transports persons who pay the established fare, and uses public money to operate the system or acquire new equipment are exempted from paying GST.

Authority to Issue Debt Securities. The City can make payment on principal and interest of notes, bonds or other obligations to fund projects with the GST.

Removal / Dissolution. The adopting ordinance can include a sunset date for the tax. The BOS can terminate the tax at any time by repealing the GST ordinance.

ⁱ Department of Taxation, Division of Local Government Services, Annual Local Government Indebtedness as of June 30, 2021.

ⁱⁱ Understanding Nevada's Property Tax System, 2015-2016 Edition, Nevada Taxpayers Association publication.

ⁱⁱⁱ "Prospects for Transportation Utility Fees", Journal of Transport and Land Use, Vol. 5, No. 1 (spring 2012).

^{iv} In the event that special assessments and City General Fund monies are insufficient to pay for special assessment bonds debt service, ad valorem taxes shall be charged (NRS 271.495).

APPENDIX E

GID CASE STUDIES &

ASSESSMENT RECOMMENDATIONS MEMORANDUM



Technical Memorandum

DRAFT

To: Chris Martinovich, Transportation Manager, Carson City

From: Catherine Hansford, HEC **Date:** October 30, 2023

Subject: Case Studies for Roads GID and Recommendations for GID Assessments

Background

Carson City (City) is exploring the concept of a Roads General Improvement District (GID) as part of its long-term strategy to fund local (neighborhood) roads preservation. A Roads GID could be established with the authority to operate, maintain, and repair streets and alleys inclusive of street lighting, and the removal of snow from them. The City has identified an annual funding gap of \$14 million¹ that would need to be raised to keep the City's local roads' level of service in the Fair to Poor categorization, as measured by the Pavement Condition Index (PCI).

While many GIDs exist in Nevada, and several of them provide roads maintenance (see **Attachment A**), those GIDs fund road maintenance with ad valorem tax revenue. Although a Carson City Road GID would have legal authority to levy ad valorem taxes, in practicality this is not an option for a Carson City Roads GID because Carson City already has authority to increase ad valorem taxes for roads purposes but has not because of the statutory ad valorem tax cap (NRS 361.453). Increasing ad valorem taxes for roads preservation would erode the ability of the City to raise revenue for other services. If Carson City pursues a Roads GID to pay for some portion, or all the funding gap identified for neighborhood roads preservation, it will be funded with assessments as this is the only other revenue-raising mechanism a GID is authorized to use for funding of roads functions. Since there are no case studies to be found in Nevada of GIDs charging special assessments for road maintenance costs, this memorandum provides examples of similar programs in other US cities that charge assessments and fees for this purpose.

Nevada Revised Statutes Authority

The Board of Trustees (BOT) of a GID (which would be the City Board of Supervisors)² can, upon affirmative vote of at least two-thirds of the BOT, charge special assessments to lands and premises

¹ The amount needed annually to keep local roads in Fair to Poor condition. This is the amount that would need to be raised through the GID; however, the GID can also accept grants from the City or other sources, should they become available, which would lower the amount that needs to be raised by GID special assessments. In addition, the BOT could fund a lesser amount based on City policy – for example, if the City chooses to keep local roads in the lower PCI for Poor roads, rather than the lower PCI for Fair roads.

² Established by ordinance of the BOS upon close of the organizational hearing forming the GID.

abutting roads that are improved or proposed to be improved and any other lands that may be specially benefited by the improvements to the local roads; note, however, that all property owned and used by a school district cannot be assessed unless the school district consents to the assessment. All other public properties, such as those owned by Carson City, the State, the Federal government, and Tribal lands are assessable.

All of the basic powers of the Roads GID must be established upon formation. Although the current focus of the GID would be to fund a Local Roads Maintenance Program (LRMP) that brings all local roads into the Poor to Fair PCI range, the GID can have the power to furnish street lighting and snow removal, and it can set parcel charges to fund these functions. It would be prudent to include all roads and road-related functions in the basic powers of the GID when it is formed to allow for authorized services (such as street lighting and snow removal) to be added in the future if the need arises.

Assessments can be collected with City utility bills (monthly) or with property taxes (quarterly). It is recommended that the GID include street assessments in the City's utility bills as part of its contract for service with the City³. There are several reasons why collecting the assessments with the City's utility bills is advantageous, and the preferred method of collection:

1. Many properties that can legally be charged the special assessments are tax-exempt or cannot for other reasons be collected with property taxes. This includes parcels owned by Federal, State and local agencies, religious, educational non-profit organizations, and privately owned properties with a court order removing their property from Assessor, Recorder, and Secretary of State records. Assessments charged to these parcels would have to be collected some other way.
2. Nevada Revised Statutes allows the BOT to create payment programs and discounted rates and assessments for customers that qualify under certain parameters such as a disability, age, or income limit. The City has a residential Utility Ratepayer Assistance Program (URAP) in place already, which is administered by Friends in Service Helping (FISH). If the City's utility billing system is used for collecting assessments, customers who have qualified for a discounted utility bill could also automatically qualify for a discounted street assessment.

Other discounts and waivers could be applied to encourage residents, businesses, and property owners to use other modes of transportation or transit. For example, reduce the assessment amount for customers who (1) do not own a registered vehicle, (2) purchase a monthly or annual transit pass on JAC, (3) work to reduce their daily traffic by subsidizing transit passes for their employees, (4) implement demand management programs like incentivizing carpooling, or installing bike parking facilities, or (5) other development incentives. Since utility billing occurs monthly, such programs could be implemented on a continuous basis rather than only annually, as would be the case if assessments are collected with property taxes, during which time qualifications for waivers or discounts could have expired.

³ Pursuant to NRS 308.030, details of a proposed agreement with Carson City Public Works for the performance of any services between the proposed GID and the City must be included as part of the Service Plan which must be approved by the Board of Supervisors to form the Roads GID.

3. Properties changing assessment category (for example from one land use type to another or from vacant to occupied) can be identified quickly and the correct assessment applied, rather than having to wait for the next property tax roll preparation, which occurs annually.
4. Communications regarding accountability of charges and expenditures of street assessments, changes to the assessments, neighborhoods with upcoming maintenance/preservation projects and timelines, and other important information regarding the program can be made timely and easily with utility bill inserts and other City communications platforms.

Case Studies

As part of the research and feasibility analysis regarding a Carson City Roads GID, case studies of road preservation programs and funding tools used under similar legislative authority to that granted by NRS 318 (general improvement districts) were researched to look for potential successful strategies and pitfalls. Case studies draw from cities in Colorado, Utah, Oregon, Texas, and Montana. Below are some observations of interest from the case studies. **Attachment B** provides a summary table of key features of the fee programs in each city.

Oregon. The state of Oregon uses charges to fund street maintenance extensively. The cities of Hillsborough, Oregon City, Lake Oswego, Medford and Newberg were studied. The population of these cities ranges between 23,000 and 106,000. The population of Carson City is about 58,000. Similarities and differences between the charges for street maintenance in these cities include:

- All of these cities use trip generation rates as the basis of cost allocation among different land uses. Because they all use this methodology, undeveloped properties do not pay a street maintenance fee. Vacant properties are charged; however, they can be granted a waiver in Newberg, Lake Oswego, and Medford (Medford requires recertification every 3 months).
- Residential properties all pay per dwelling unit but the definition of a single-family unit and a multi-family unit differs among the cities. For example, Lake Oswego defines a single-family unit as a single, detached residential unit. Any other unit arrangement, from 2 attached units to apartments, are all considered multi-family. Newberg defines a single-family unit as 1 to 3 joined residential units.
- Trip generation for non-residential properties is estimated on a parcel level basis, but 3 of the 5 cities (Hillsborough, Lake Oswego, and Newberg) group certain non-residential properties according to the number of trips generated. All non-residential properties in Hillsborough pay a base fee (equal to a MF unit) plus a fee per 1,000 building square feet. Oregon City charges schools on a per student basis.
- All of the cities provide some sort of discount or waiver. Newberg and Hillsborough provide a discount for households that do not own a motor vehicle. Hillsborough also provides a discount for households with persons owning a transit pass. Oregon City and Newberg provide discounts to low-income households.

- Lake Oswego exempts City-owned properties, parking lots owned by transit (park n ride), areas encompassed by railroad and public rights of way from paying the charges.

Figure 1 was generated in January 2023 for a city in Oregon that was considering adoption of a new transportation utility (street maintenance) fee. The graph shows the range of monthly fees paid by single-family homes in Oregon ranges from \$2.50 per month to \$16.01 per month.

Figure 1
Oregon Comparison Transportation Utility Fees



Montana

Montana State Code allows for the creation of street maintenance districts. Billings, Helena, and Bozeman all have a citywide street maintenance district. Bozeman has a population of about 54,000, the closest in size to the population of Carson City of the case studies. Bozeman's citywide street maintenance district is specifically for funding maintenance of arterial and collector (regional) roads whereas the Billings and Helena districts (also citywide) are for funding of all types of roads. All of the cities charge assessments to developed and undeveloped lots. Note, Helena includes public recreational facilities (athletic courts, parks, sport fields, public open space) in its definition of

“vacant”. None of the cities provide discounts or waivers of the assessments; if a property is tax-exempt by law, it is not assessed.

Billings and Bozeman charge assessments on parcel area basis, with the assessment expressed per square foot. Billings caps the chargeable area to one acre for residential and vacant residential and government properties, to 1.1 million square feet for government properties, and to 15,000 square feet for vacant commercial properties. Bozeman likewise has caps on residential and government properties but no cap on developed commercial properties. Helena charges assessments on a flat rate basis per parcel with different flat rates for four land use types (residential and vacant, manufactured and mobile homes, commercial lots smaller than 6,000 square feet, and commercial lots larger than 6,000 square feet). In 2022, a group of non-residential property owners challenged the City of Helena on the characterization of the assessments and the apportionment methodology, most particularly arguing that the assessments are not based on special benefit provided to their parcels. The judge has, to date, dismissed the claim that the charges are actually taxes, but has agreed the apportionment methodology needs revision.

Utah

The City of Highland, Utah, conducted an extensive outreach effort to determine the best way to fund the maintenance of local roads. The City found that 54% of residents were in favor of a new fee over an increase in property tax. The City created a very simple fee, charging all properties \$18.50 per utility account. Tax exempt properties were also made exempt from the fee. The fee has a sunset date that ties to the payoff of City bonds, at which time revenue currently paying for debt service will be switched to paying for street maintenance. No fee discounts or waivers are available.

Texas

A dedicated revenue source for funding repair of streets has become increasingly popular in Texas. The capital of Texas, Austin, started a funding program in 1990; more recently, the cities of Killeen and Abilene have created similar programs. Of the five Texas case studies:

- All of the cities use trip generation rates as the basis of their cost apportionment. As a result, only developed properties are charged the fee. Austin defines benefited property of their program as “a residence, a business or lot on which improvements have been constructed and that generates motor vehicle trips.” Corpus Christi defines benefited property of their program as “parcels that generate motor vehicle trips.”
- Abilene established a discount provision for disabled and senior citizens. Corpus Christi set up a low-income discount. Austin exempts properties with seniors, households that do not have or do not regularly use private motor vehicles, or properties that are currently vacant (not occupied). State, county, and school properties are exempted. In addition, Austin automatically stops the fee when a property is not occupied based on the status of the customer’s water account (when water is shutoff). The City of Taylor does not charge a fee to City owned properties, and it hasn’t any waiver or discount provisions. Killeen also doesn’t have any waiver or discount provisions.

- Corpus Christi charges the fees based on water meters serving properties. If a property has multiple water meters, only one meter is charged.
- Although all the cities use the ITE Manual trip rates, they differ in application. Different editions of the manual are used; some cities use average daily trips, Abilene uses an average of morning and afternoon trips, Austin converts the estimate of trips into trips per acre by different land use.
- Taylor charges all residential units the same amount per month per unit. The other four cities have different rates for single-family and multi-family units. The City of Austin further differentiates the rates between residential units based on assumptions of 5 single-family units per acre, 7 mobile homes per acre, 10 duplex units per acre, 12 multi-family units per acre for buildings with up to 4 units, and 25 multi-family units per acre for buildings with 5 or more units.
- Both Taylor and Abilene use bands of non-residential land uses according to how many trips are generated on those land uses, in the same way that Hillsborough, Lake Oswego, and Newberg do.

Colorado

The City of Loveland, with a population about 20,000 greater than Carson City, created a fee program in 2001 based on trip rates. The city defines a street maintenance customer as, “any person to whom the city furnishes stormwater service”. All types of residential customers pay per unit. Non-residential customers are grouped into six categories that pay on a per acre basis: Industrial, High Traffic Retail, Retail, Miscellaneous Retail, Commercial, and Institutional. Vacant properties do not pay a fee. The City does not have any waiver or discount provisions and it does not list any properties as exempt.

Case Studies Findings

The case studies provide several items to consider for a Carson City Roads GID:

- The assessment has to be based on the allowances of State law; Nevada's requirement for demonstration of special benefit is broad, allowing for development of several methodologies to calculate the benefit and amount of assessment for each property, including a hybrid of methodologies employed by the case study cities. NRS requires only that the methodology be equitable, as determined by the governing body.
- The assessments should be based on the best estimate of cost plus contingency to maintain City streets at a level of service established by City policy and detailed in the annual LRMP.
- Most cities have a fee waiver program for vacant (unoccupied) developed lots (they have an inactive water account). It is recommended that Carson City consider an assessment structure that accounts for vacant properties.
- None of the other states exempt school districts unless they consent to assessments, as NRS 318 requires; however, cities have found that school districts should pay less than their full

allocation of cost. The City of Bozeman charges all institutional uses at 25% of their square footage, for example. Carson City could consider reduced assessments to governmental properties, or a cap on their assessments, but it is not obliged to by law.

- The cities charging fees based on trip rates roll up categories of land uses for ease of implementation of the fee program. The more complicated the fee is, the higher the administrative costs; the trade off with this approach is that some properties will be subsidizing others for their use of roads, but no methodology is perfect. It is recommended that Carson City develop up to three cost allocation methodologies and assessment structures for evaluation.
- With the exception of Medford, OR and Helena, MT, all the case studies charge the same rate on either a per trip or per Equivalent Dwelling Unit basis to both residential and non-residential land uses. Medford is gradually adjusting its fees currently so that all land uses pay the same rate. Helena's assessments are being legally challenged because of its failure to charge all land uses on the same basis. It is recommended that Carson City's assessments be charged on the same cost per unit to all land uses, except for a potential base assessment, which could be a simple flat charge per parcel.
- Many of the case study cities use their fee program to raise a portion, not all, of their funding needs, and use other sources to fill the funding gap (sales taxes and property taxes for example). For example, Loveland, CO, sets its street maintenance fee to fund 40 percent of their program and is hoping to reach 50 percent. Hillsboro funds around 60 percent of its road maintenance program funding needs. Corpus Christi funds 36 percent of their maintenance program with its street fees.⁴ Carson City could consider gradual implementation of assessment amounts to fund the full LRMP funding gap. **Figure 2** illustrates the monthly amounts charged by the case study cities to support their roads maintenance programs.

Next Steps

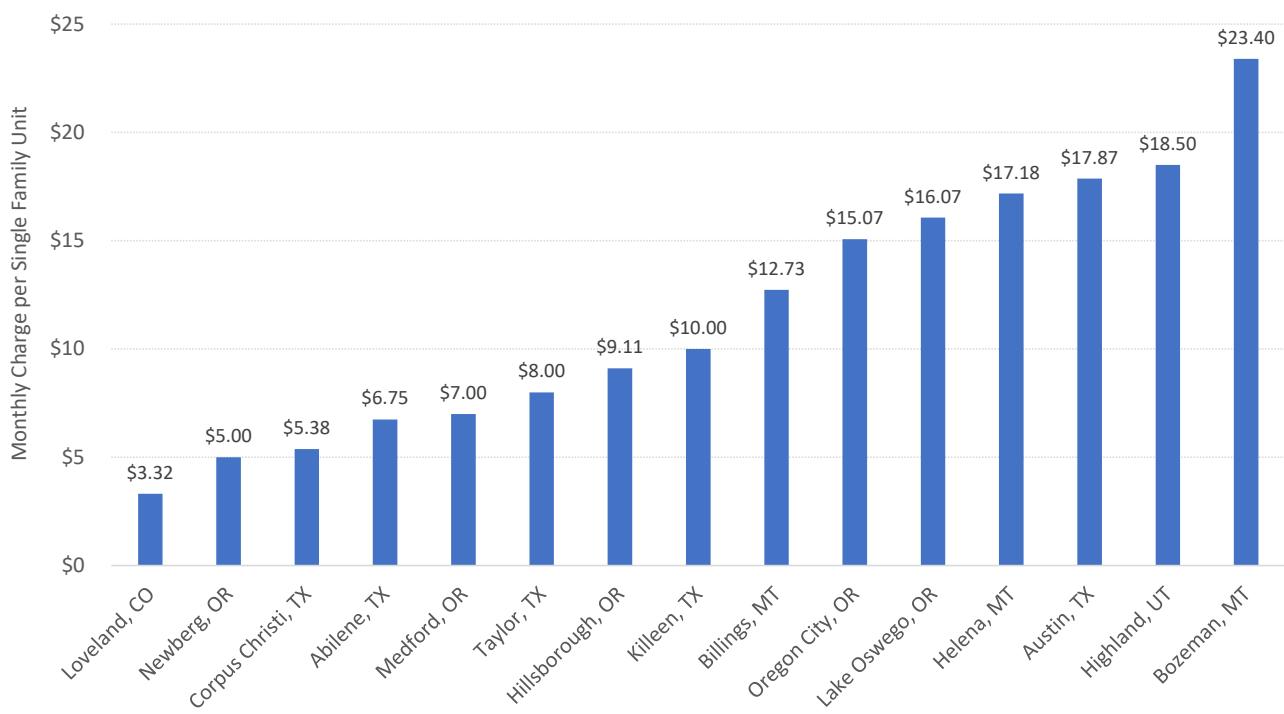
The following next steps are recommended:

1. Complete a parcel-level database to run calculations of assessments under different cost allocation methodologies. This effort is already underway.
2. Compile and analyze public input on the GID concept and potential cost allocation methodologies. The City held two public workshops, October 4th 2023 at the Carson City Community Center and October 9th 2023 at Seelinger Elementary. A GID-specific cost apportionment methodology questionnaire was distributed to participants at the public workshops and posted at the website preservecarsonroads.com.
3. Prepare a GID report that includes and provides:

⁴ Transportation Utility Fees: Maintaining Local Roads, Trails, and Other Transportation, US Department of Transportation, November 2020.

- Up to three GID allocation methodologies based on findings of this memorandum, community engagement feedback from the two public workshops, parcel-level database information, and questionnaire responses to present to the Board of Supervisors (BOS).
- Prepare parameters under which the GID LRMP might function (which can be written into ordinance) so that the BOS can determine whether to move the concept forward.

Figure 2
Single Family Home Monthly Charges for Road Maintenance in Case Study Cities



Note: The charges for Billings and Bozeman assume a lot size of 8,000 square feet.

ATTACHMENT A

NEVADA GENERAL IMPROVEMENT DISTRICTS

ATTACHMENT B

CASE STUDY COMPARISONS TABLE

Place, Fee Start	Population	Purpose	Fee Basis	Residential Fee	Non-Residential Fee	Waivers, Discounts, Exemptions
OREGON						
Hillsborough 2009	106,500	Pavement Management Program AND as a separate fee, Bicycle and Pedestrian CIP	Trip Rates; Developed Properties, Non-Res has a base charge equal to MF unit	\$9.11 per SF / mo, \$8.20 per MF / mo	No exemptions - all non-res pay a base charge PLUS a calculated charge based on business category and sq ft. Fee is per 1,000 sq ft: C1 \$0.27, C2: \$0.73, C3 \$2.32, C4 \$5.26, C5 \$14.67, C6 \$37.50	Residential discounts (can only apply for one): HH with no motor vehicle 30% discount OR transit pass 30% discount valid until TriMet pass expires. Non-res discounts (can apply for both): employee commute option up to 30% discount AND employers who purchase annual TriMet pass up to 30% discount based on % employees that received the passes.
Medford 1991	85,800	Street maintenance, repairs	Trip Rates; Developed Properties (average daily, account for pass-by)	\$0.73 per trip end; SF = \$7.00 per month	Each account classified according to the primary activity of the business that occupies the site; \$0.54 per trip end	Properties that are vacant shall not be assessed (when unoccupied and unused). Vacancy certifications valid for 3 months - if longer then property must notify City again
Lake Oswego 2003	40,100	Operation, maintenance, repair, engineering, improvement, renewal, replacement & reconstruction of City street system	Trip Rates; Developed Properties (any parcel with improvement including landscaping, storage, parking lots)	SF (single detached unit) \$16.07 /Mo and MF (2+ units) \$11.48 per mo	Pay by building sq ft excluding any parking garages 3 groups C1 <29 vehicle trip miles per day per 1,000 sq. ft. \$9.82 , C2 29-90 vehicle trip miles per day per 1,000 sq ft \$22.11, C3 >90 \$82.55 per month	Exemptions: City-owned parking lots, parking lots owned by transit (park n ride), areas encompassed by RR and public rights of way; vacant properties may receive a waiver upon written application of the person responsible
Oregon City 2008	37,600	Corrective and preventative maintenance of street system	Residential pay for local streets; Non- Res pay for arterials; Trip Rates	SF \$15.07 ; MF \$10.58	Schools - per student; Non- residential \$0.258 x trips per day based on type of use and bldg sq. ft. Non-res rate per trip lower than for SF	Low-income reduced fee
Newberg 2017	23,700	Street repairs	Trip Rates; Developed Properties	\$5 per month per SF unit (up to 3 units), MF (4+ units) pays less, and mobile homes	Six classes. C1 = <18 avg daily trips per 1,000 sq ft of developed area, C2 (18-30), C3 = 30-51, C4: 51-80, >80, C6: special. Min monthly fee = SF home. Uses weekday avg trips	Waiver for vacant property; hardship waiver based on income criteria and unemployment waiver. Discount if household has no motor vehicle

Sources:

Hillsborough <https://www.hillsboro-oregon.gov/our-city/departments/public-works/transportation/street-and-road-maintenance/transportation-utility-fee>
 Medford <https://medford.municipal.codes/Code/4.761>
 Lake Oswego <https://www.ci.oswego.or.us/engineering/2023-street-maintenance-fee-increase/street-maintenance-fee-and-uses>
 Newberg https://www.newbergoregon.gov/sites/default/files/fileattachments/engineering/page/28381/ord._2016-2811_transportation_utility_fee.pdf

Place, Fee Start	Population	Purpose	Fee Basis	Residential Fee	Non-Residential Fee	Waivers, Discounts, Exemptions
MONTANA						
Billings	120,000	Street repair (graveling, oiling, chip sealing, seal coating, overlaying, treating, cleaning, flushing), snow removal, leaf & debris removal, repair of traffic signal systems and signs, minor sidewalk repairs.	Street Maintenance District #2 covers entire City; Parcel Size and Property Type ; Developed and Undeveloped Properties	Residential & Government \$0.019098 per parcel sq. ft. per year; max charge 1 acre	Commercial \$0.07434 per parcel sq. ft., Vacant \$0.017636 per parcel sq. ft.; max charge 1.1 million feet or 115,000 sq ft if vacant, per year	If not chargeable by reason of state or federal law, property shall be exempt
Bozeman 2015	54,500	Arterial & Collector roads; new projects not maint.	District covers entire City; Parcel Size and Property Type	Residential properties capped at 15,000 sq ft. Assessments are \$0.0351 per sq. ft. per year.	Assessments are \$0.0351 per sq. ft. per year. Undeveloped properties capped at 15,000 sq ft; Institutional uses 25% of total sq ft	If not chargeable by reason of state or federal law, property shall be exempt
Helena 1996	34,700	Street sweeping, pot hole repair and asphalt patching, overlays, gutter maintenance, crack seal and chip seal, snow plowing, sanding	District covers entire City; Flat Rate per Parcel by Property Type	Residential and Vacant pay \$206.16 per parcel (lot) per year, Manufactured homes & mobile homes in a park \$82.46 per site per year. Public recreational facilities (sport fields, parks, open space) are categorized 'vacant'. Residential is 1-4 dwelling units.	Commercial lot area less than 6,000 sq ft pays \$360 per year. Greater than 6,000 sq. ft. pays \$0.06 per sq. ft. up to 1 million sq. ft. A vacant lot does not have structures other than fences, walls or a surface parking lot and is not used for storage.	If not chargeable by reason of state or federal law, property shall be exempt.
UTAH						
Highland 2017	19,500	Operation, Maintenance, Rehabilitation of roads; expires in 2028 when	Per Utility Account	\$18.50 per utility account per month; tax exempt properties included	\$18.50 per utility account per month; tax exempt properties included	None found

Sources:

Billings <https://www.billingsmt.gov/DocumentCenter/View/42125/RES-20-10887-Assessing-Street-Maintenance-District-Fees>
 Bozeman https://library.municode.com/mt/bozeman/codes/code_of_ordinances?nodeId=PTIICOR_CH34STSIOTPUL_ART3STMADI
 Helena https://www.helenamt.gov/files/assets/helena/v/1/government/city-commission/ordinances-and-resolutions/res_20456_-_roi_street_maint_dist_1.pdf
 Highland <https://www.highlandcity.org/399/Transportation-Utility-Fund>

Place, Fee Start	Population	Purpose	Fee Basis	Residential Fee	Non-Residential Fee	Waivers, Discounts, Exemptions
TEXAS						
Austin 1990	962,000	Preventative maintenance of roadways, signs, sidewalks & urban trails	Trip Rates; Developed Properties; commercial properties is per developed acre	Rates vary by type of residential unit from \$12.46 / month for a mobile home to \$17.87 for a house. Assumes 5 SF/ac, 7 mobile homes / ac, 10 duplex units /ac, 12 MF units /ac up to 4 units, 25 MF units / ac if > 5 units	Trip Factor = # trips/developed acre/day divided by 40	Exemptions for persons 65 or older, households that do not own or regularly use a private motor vehicle, or if property is vacant (latter is automatic based on water usage). Parcels used only for parking are exempt. Does not apply to state, county, and school parcels
Corpus Christi 2014	326,500	Street Preventative Maintenance Program	Trip Rates; "Benefitted Property" is a parcel that generates motor vehicle trips	Per dwelling unit \$5.38 per month. MF pays 45% of SF; fee is charged per utility meter	Based on ERU (one SF unit = 1,500 sq ft). Living square footage only counted; not dependent on zoning but on the dominant land use. Fee is charged per utility meter - if multiple meters, only does the charge for 1 meter. Fee is \$5.38 x (sf/1500 SF) x Trip Factor; capped at 118,000 sq ft. Trip factors per 9th Ed.	Low Income discount
Killeen 2019	153,000	Maintenance only	Trip Rates; Developed Properties	Single family home \$10 per month	Created 78 land uses; pay per equivalent single unit	None found
Abilene 2019	125,000	Management and care of City streets	Trip Rates; Developed Properties	Single Family \$6.75 (per non-irrigation meter), MF \$6 per month per dwelling unit	Average of Peak AM and Peak PM trip factors by ITE Land Use code. Non-res rate codes C1 thru C6 depends on number of trips generated; C1 is <5 = \$45, C2 = 5-14.99 trips \$55, C3 15 to 49.99 \$65, 50 to 199.99 \$75, C5 \$85 200 to 999.99, C6 \$95 for 1,000+	Seniors and Disabled households reduced rates
Taylor 2016	16,300	Repair, Rehab. City streets	Trip Rates; Developed Properties	Flat rate all residential per unit \$8 per month	Six rate bands. Tier 1 monthly trip <9, incl. churches \$25 / mo, Tier 2 9-413 \$33, Tier 3 13-27 \$50, Tier 4 27-54 \$67, Tier 5 54-102 \$84, Tier 6 102+ \$133	City owned properties exempt
COLORADO						
Loveland 2001	76,400	Pays for the Street Maintenance & Rehabilitation Program	Trip Rates; Developed Properties	Per dwelling unit \$3.32 per month	All pay per acre - 6 categories: Industrial \$36.77, High Traffic Retail \$367.60, Retail \$144.45, Miscellaneous Retail \$93.90, Commercial \$47.72, Institutional \$47.72 per month	None found

Sources:

Austin <https://www.austintexas.gov/TUF>
 Corpus Christi <https://www.cctexas.com/services/streets-and-transportation/street-maintenance-fee>
 Killeen <https://www.killeentexas.gov/DocumentCenter/View/5054/Chapter-25-Article-VII--Street-Maintenance-Fee-PDF?bidiId=9-413>
 Abilene [https://abilenetcx.gov/586/Street-Maintenance-Fee-Schedule#:~:text=A%20single%20family%20residence%20\(Rate,8%20X%20100%20%3D%2024800\)](https://abilenetcx.gov/586/Street-Maintenance-Fee-Schedule#:~:text=A%20single%20family%20residence%20(Rate,8%20X%20100%20%3D%2024800))
 Taylor <https://www.ci.taylor.tx.us/826/Transportation-User-Fee#:~:text=The%20assessed%20fee%20for%20residential,size%20and%20trip%20generation%20factors>
 Loveland <https://www.lovgov.org/services/public-works/streets>

APPENDIX F

GID COST ALLOCATION SUPPORTING TABLES, SANDAG (NOT SO) BRIEF GUIDE OF VEHICULAR TRAFFIC GENERATION RATES, & AUSTIN TEXAS CHAPTER 14-10. TRANSPORTATION USER FEE



Table F-1
Land Use Table for Method A

Land Use	Parcels Total Sq. Ft.	Sum of Parcels Sq. Ft. with Cap
Single-Family Detached Housing		15,000 Sq. Ft.
Total Parcels	274,125,776	140,104,128
Group 1 Lots <35 Acres		No Cap
Apartment (High-Rise)	5,018,953	5,018,953
Auto-Related	15,775,254	15,775,254
Bar	1,742	1,742
Bowling Center	885,139	885,139
Church	2,813,471	2,813,471
Commercial Neighborhood Center	3,787,930	3,787,930
Commercial Shopping Center	753,104	753,104
Commercial Shops	40,273,472	40,273,472
Discount Club	745	745
Factory Outlet	4,543,726	4,543,726
Hospital	1,701,889	1,701,889
Hotel	1,921,005	1,921,005
Industrial	426,757	426,757
Industrial/BP	1,568,587	1,568,587
Manufacturing	689,119	689,119
Mobile Homes	6,849,810	6,849,810
Multipurpose Recreation	1,037,599	1,037,599
Nursing Home	1,791,457	1,791,457
Office	10,027,285	10,027,285
Parking	1,896,764	1,896,764
Restaurant	682,873	682,873
School District	3,771,438	3,771,438
Single Tenant Office	489,179	489,179
Single-Family Attached Housing	13,451,101	13,451,101
Truck Terminal	2,460,173	2,460,173
Subtotal Group 1	122,618,573	122,618,573
Group 2 Lots 35 - 80 Acres		Cap @ 75%
Commercial Shops	2,143,152	1,607,364
Factory Outlet	1,681,852	1,261,389
Manufacturing	2,592,691	1,944,518
Nursing Home	1,654,844	1,241,133
School District	4,514,558	3,385,919
Truck Terminal	1,742,400	1,306,800
Subtotal Group 2	14,329,498	10,747,123
Group 3 Lots 80 - 160 Acres		Cap @ 50%
Apartment (High-Rise)	10,405,177	5,202,589
Commercial Shops	3,696,937	1,848,469
Manufacturing	4,458,366	2,229,183
Subtotal Group 3	18,560,480	9,280,240
Group 4 Lots > 160 Acres		Cap @ 25%
Prison	43,481,592	10,870,398
Golf Courses	18,152,150	4,538,037
Subtotal Group 4	61,633,742	15,408,435
TOTAL	491,268,069	298,158,499

Source: Carson City web map app tool developed by KSN for HEC, February 2024.

Table F-2
Method B Calculation of Average Residential Trips per Acre

Assessor Land Use Code	Carson City Total Acres	Residential Trips per Acre	Estimated Carson City Residential Trips
[1]			
200	5,414	40	216,547
210	3	60	196
220	237	40	9,463
230	106	40	4,258
232	1	40	31
236	38	40	1,507
240	54	60	3,256
280	56	40	2,234
290	0	150	70
300	55	70	3,828
310	264	70	18,456
313	4	70	295
320	63	70	4,435
330	129	150	19,350
333	5	150	786
340	345	150	51,742
390	2	150	245
622	8	40	339
692	170	40	6,796
Total	6,954	49	343,835

[1] Source: Austin, Texas Chapter 14-10.

Table F-3
Data for Cost Allocation Method C

Assessment Category	Weekday		Total Acres	Total Units	Estimated Trips	Share of Trips	Cost Allocation
	Vehicle Trip Generation	per unit					
Residential							
Single-Family Detached [1]	10	309	14,887	148,870	10%	\$384,014	
Single-Family Attached [2]	8	6,293	5,646	45,168	3%	\$116,512	
Apartments [3]	6	354	1,882	11,292	1%	\$29,128	
Subtotal Residential			6,956	22,415	205,330	14%	\$529,654
Non-Residential							
Parking	C5	400	44	17,417	1%	\$44,929	
Church	C2	30	65	1,938	0%	\$4,998	
Mobile Homes	C2	40	157	6,290	0%	\$16,225	
Auto-Related	C4	300	362	108,645	7%	\$280,252	
Commercial Shopping Center	C6	700	17	12,102	1%	\$31,218	
Commercial Neighborhood Center	C7	1,200	87	104,351	7%	\$269,175	
Commercial Shops	C5	400	2,008	803,049	55%	\$2,071,483	
Industrial	C3	90	10	882	0%	\$2,274	
Manufacturing	C2	50	178	8,884	1%	\$22,918	
Industrial/BP	C4	200	36	7,202	0%	\$18,578	
Bar	C5	500	0	20	0%	\$52	
Single Tenant Office	C3	180	11	2,021	0%	\$5,214	
Factory Outlet	C5	400	143	57,168	4%	\$147,466	
Discount Club	C6	600	0	10	0%	\$26	
Bowling Center	C4	300	20	6,096	0%	\$15,725	
Nursing Home	C2	35	79	2,769	0%	\$7,143	
Hospital	C4	250	39	9,768	1%	\$25,196	
Multipurpose Recreation	C3	90	24	2,144	0%	\$5,530	
Hotel/Motel	C4	200	44	8,820	1%	\$22,752	
Office	C4	300	230	69,058	5%	\$178,138	
Golf Course	C1	7	417	2,917	0%	\$7,525	
Restaurant	C7	1,000	16	15,677	1%	\$40,438	
Institutional	C4	200	49	9,840	1%	\$25,383	
Truck Terminal	C3	80	96	7,718	1%	\$19,909	
Subtotal Non-Residential			4,132	1,264,786	86%	\$3,262,546	
Total All Land Uses				1,470,116	100%	\$3,792,200	
Cost per Trip							\$2.58

Source: San Diego Association of Governments "(Not so) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region", April 2002.

[1] Includes detached units and manufactured homes.

[2] Includes condominiums, 2-4 attached units, townhomes, and low-rise apartments.

[3] Includes mid-rise and high-rise apartments, and mixed use buildings with residential as primary use.

Method C Residential Units Cross Reference Table

Assessor Land Use		ITE Code
Code	Assessor Land Use Description	ITE Description
200	Single Family Residence	Single-Family Detached Housing 210
210	Individual Residential Unit in a Multiple Unit Building - Condominium	Single-Family Attached Housing 215
220	Manufactured Home Converted to Real Property	Single-Family Detached Housing 210
230	Personal Property Manufactured Home on the Unsecured Roll	Single-Family Detached Housing 210
232	Manufactured Home - Unsecured with Site Built Additions	Single-Family Detached Housing 210
236	Personal Property Manufactured Home Secured	Single-Family Detached Housing 210
240	Individual Residential Unit - Townhouse or Row House	Single-Family Attached Housing 215
280	Single Family Residential with Minor Improvements	Single-Family Detached Housing 210
290	Mixed Use with Single Family Residential as Primary Use	Apartment (High-Rise) 222
300	Duplex	Single-Family Attached Housing 215
310	Two Single Family Units	Single-Family Detached Housing 210
313	Multi-Family Residence with Manufactured Home Conversion	Single-Family Attached Housing 215
320	Three to Four Units	Single-Family Attached Housing 215
330	Five or More Units - Low Rise	Single-Family Attached Housing 215
333	Exempt or Partially Exempt Apartment Building	Apartment (High-Rise) 222
340	Five or More Units - High Rise	Apartment (High-Rise) 222
390	Mixed Use with Multi-Family Residential as Primary Use	Apartment (High-Rise) 222
622	Sites designated as Historic - Residential	Single-Family Detached Housing 210
692	Agricultural Deferred with Residence	Single-Family Detached Housing 210

Source: Carson City Assessor and the ITE Manual (11th Edition).

(NOT SO)
**BRIEF GUIDE OF VEHICULAR TRAFFIC GENERATION RATES
FOR THE SAN DIEGO REGION**

APRIL 2002



401 B Street, Suite 800
San Diego, California 92101
(619) 699-1900 • Fax (619) 699-1950

NOTE: This listing only represents a **guide** of average, or estimated, traffic generation "driveway" rates and some very general trip data for land uses (emphasis on acreage and building square footage) in the San Diego region. These rates (both local and national) are subject to change as future documentation becomes available, or as regional sources are updated. For more specific information regarding traffic data and trip rates, please refer to the San Diego Traffic Generators manual. *Always check with local jurisdictions for their preferred or applicable rates.*

LAND USE	TRIP CATEGORIES [PRIMARY:DIVERTED:PASS-BY] ^P	ESTIMATED WEEKDAY VEHICLE TRIP GENERATION RATE (DRIVEWAY)	HIGHEST PEAK HOUR % (plus IN:OUT ratio)		TRIP LENGTH (Miles) ^L
			Between 6:00-9:30 A.M.	Between 3:00-6:30 P.M.	
AGRICULTURE (Open Space)	[80:18:2]	2/acre**			10.8
AIRPORT	[78:20:2]				12.5
Commercial		60/acre, 100/flight, 70/1000 sq. ft.***	5%	(6:4)	
General Aviation		6/acre, 2/flight, 6/based aircraft***	9%	(7:3)	
Heliports		100/acre**		15% (5:5)	
AUTOMOBILE ^S					
Car Wash		900/site, 600/acre**	4%	(5:5)	
Automatic		100/wash stall**	4%	(5:5)	
Self-serve				8% (5:5)	
Gasoline	[21:51:28]	160/vehicle fueling space**	7%	(5:5)	
with/Food Mart		155/vehicle fueling space**	8%	(5:5)	
with/Food Mart & Car Wash		150/vehicle fueling space, 900/station**	7%	(5:5)	
Older Service Station Design		50/1000 sq. ft., 300/acre, 60/service stall***	5%	(7:3)	
Sales (Dealer & Repair)		20/1000 sq. ft., 400/acre, 20/service stall*	8%	(7:3)	
Auto Repair Center		60/1000 sq. ft. **	4%		11% (4:6)
Auto Parts Sales		40/service stall**	7%	(6:4)	
Quick Lube		25/1000 sq. ft., 30/service stall**	7%	(6:4)	
Tire Store				10% (5:5)	
				11% (5:5)	
CEMETERY		5/acre*			
CHURCH (or Synagogue)	[64:25:11]	9/1000 sq. ft., 30/acre** (quadruple rates for Sunday, or days of assembly)	5%	(6:4)	5.1
COMMERCIAL/RETAIL ^S					
Super Regional Shopping Center (More than 80 acres, more than 800,000 sq. ft., w/usually 3+ major stores)		35/1000 sq. ft., ^c 400/acre*	4%	(7:3)	10% (5:5)
Regional Shopping Center	[54:35:11]	50/1000 sq. ft., ^c 500/acre*	4%	(7:3)	9% (5:5)
(40-80acres, 400,000-800,000 sq. ft., w/usually 2+ major stores)		80/1000 sq. ft., 700/acre* **	4%	(6:4)	10% (5:5)
Community Shopping Center	[47:31:22]	120/1000 sq. ft., 1200/acre* **	4%	(6:4)	3.6
(15-40 acres, 125,000-400,000 sq. ft., w/usually 1 major store, detached restaurant(s), grocery and drugstore)					
Neighborhood Shopping Center (Less than 15 acres, less than 125,000 sq. ft., w/usually grocery & drugstore, cleaners, beauty & barber shop, & fast food services)		40/1000 sq. ft., 400/acre*	3%	(6:4)	
Commercial Shops	[45:40:15]	50/1000 sq. ft.**	3%	(6:4)	9% (5:5)
Specialty Retail/Strip Commercial		40/1000 sq. ft.**	3%	(7:3)	10% (5:5)
Electronics Superstore		150/1000 sq. ft., 2000/acre* ***	4%	(7:3)	10% (5:5)
Factory Outlet		90/1000 sq. ft.**	4%	(6:4)	10% (5:5)
Supermarket		500/1000 sq. ft.**	8%	(5:5)	8% (5:5)
Drugstore		700/1000 sq. ft.**	9%	(5:5)	7% (5:5)
Convenience Market (15-16 hours)		850/1000 sq. ft., 550/vehicle fueling space**	8%	(5:5)	8% (5:5)
Convenience Market (24 hours)		60/1000 sq. ft., 600/acre* ***	1%	(7:3)	7% (5:5)
Convenience Market (w/gasoline pumps)		60/1000 sq. ft., 600/acre**	3%	(6:4)	8% (5:5)
Discount Club		6/1000 sq. ft., 100/acre**	4%	(7:3)	8% (5:5)
Discount Store		30/1000 sq. ft., 150/acre**	7%	(6:4)	9% (5:5)
Furniture Store		40/1000 sq. ft.**	5%	(6:4)	8% (5:5)
Lumber Store		60/1000 sq. ft., 600/acre**	2%	(6:4)	9% (5:5)
Home Improvement Superstore		40/1000 sq. ft., 90/acre**	3%	(6:4)	10% (5:5)
Hardware/Paint Store		110/1000 sq. ft., 2000/acre* (commercial only)	3%	(6:4)	
Garden Nursery		5/dwelling unit, 200/acre* (residential only)	9%	(3:7)	9% (5:5)
Mixed Use: Commercial (w/supermarket)/Residential				13% (6:4)	
EDUCATION					
University (4 years)	[91:9:0]	2.4/student, 100 acre*	10%	(8:2)	9% (3:7)
Junior College (2 years)	[92:7:1]	1.2/student, 24/1000 sq. ft., 120/acre* **	12%	(8:2)	9% (6:4)
High School	[75:19:6]	1.3/student, 15/1000 sq. ft., 60/acre* **	20%	(7:3)	10% (4:6)
Middle/Junior High	[63:25:12]	1.4/student, 12/1000 sq. ft. 50/acre**	30%	(6:4)	9% (4:6)
Elementary	[57:25:10]	1.6/student, 14/1000 sq. ft., 90/acre* **	32%	(6:4)	9% (4:6)
Day Care	[28:58:14]	5/child, 80/1000 sq. ft.**	17%	(5:5)	18% (5:5)
FINANCIAL ^S [35:42:23]				3.4
Bank (Walk-In only) with Drive-Through		150/1000 sq. ft., 1000/acre* **	4%	(7:3)	
Drive-Through only		200/1000 sq. ft., 1500/acre*	5%	(6:4)	8% (4:6)
Savings & Loan Drive-Through only		250 (125 one-way)/lane*	3%	(5:5)	10% (5:5)
		60/1000 sq. ft., 600/acre**	2%		
		100 (50 one-way)/lane**	4%		
HOSPITAL [73:25:2]				8.3
General		20/bed, 25/1000 sq. ft., 250/acre*	8%	(7:3)	
Convalescent/Nursing		3/bed**	7%	(6:4)	10% (4:6)
INDUSTRIAL					
Industrial/Business Park (commercial included)	[79:19:2]	16/1000 sq. ft., 200/acre* **	12%	(8:2)	12% (2:8)
Industrial Park (no commercial)		8/1000 sq. ft., 90/acre**	11%	(9:1)	12% (2:8)
Industrial Plant (multiple shifts)	[92:5:3]	10/1000 sq. ft., 120/acre*	14%	(8:2)	15% (3:7)
Manufacturing/Assembly		4/1000 sq. ft., 50/acre**	19%	(9:1)	20% (2:8)
Warehousing		5/1000 sq. ft., 60/acre**	13%	(7:3)	15% (4:6)
Storage		2/1000 sq. ft., 0.2/vault, 30/acre*	6%	(5:5)	9% (5:5)
Science Research & Development		8/1000 sq. ft., 80/acre*	16%	(9:1)	14% (1:9)
Landfill & Recycling Center		6/acre	11%	(5:5)	10% (4:6)

(OVER)

MEMBER AGENCIES: Cities of Carlsbad, Chula Vista, Coronado, Del Mar, El Cajon, Encinitas, Escondido, Imperial Beach, La Mesa, Lemon Grove, National City, Oceanside, Poway, San Diego, San Marcos, Santee, Solana Beach, Vista and County of San Diego.

ADVISORY/LIAISON MEMBERS: California Department of Transportation, County Water Authority, U.S. Department of Defense, S.D. Unified Port District and Tijuana/Baja California.

LAND USE	TRIP CATEGORIES [PRIMARY:DIVERTED:PAS-BY] ^P	ESTIMATED WEEKDAY VEHICLE TRIP GENERATION RATE (DRIVEWAY)	HIGHEST PEAK HOUR % (plus IN:OUT ratio)				TRIP LENGTH (Miles) ^L
			Between 6:00-9:30 A.M.	Between 3:00-6:30 P.M.			
LIBRARY	[44:44:12]	50/1000 sq. ft., 400/acre**	2%	(7:3)	10%	(5:5)	3.9
LODGING	[58:38:4]						7.6
Hotel (w/convention facilities/restaurant)		10/occupied room, 300/acre	6%	(6:4)	8%	(6:4)	
Motel		9/occupied room, 200/acre*	8%	(4:6)	9%	(6:4)	
Resort Hotel		8/occupied room, 100/acre*	8%	(6:4)	7%	(4:6)	
Business Hotel		7/occupied room**	8%	(4:6)	9%	(6:4)	
MILITARY	[82:16:2]	2.5/military & civilian personnel*	9%	(9:1)	10%	(2:8)	11.2
OFFICE							
Standard Commercial Office	[77:19:4]	20/1000 sq. ft., ^o 300/acre*	14%	(9:1)	13%	(2:8)	8.8
(less than 100,000 sq. ft.)							
Large (High-Rise) Commercial Office	[82:15:3]	17/1000 sq. ft., ^o 600/acre*	13%	(9:1)	14%	(2:8)	10.0
(more than 100,000 sq. ft., 6+ stories)							
Office Park (400,000+ sq. ft.)		12/1000 sq. ft., 200/acre* **	13%	(9:1)	13%	(2:8)	
Single Tenant Office		14/1000 sq. ft., 180/acre*	15%	(9:1)	15%	(2:8)	8.8
Corporate Headquarters		7/1000 sq. ft., 110/acre*	17%	(9:1)	16%	(1:9)	
Government (Civic Center)	[50:34:16]	30/1000 sq. ft.**	9%	(9:1)	12%	(3:7)	6.0
Post Office							
Central/Walk-In Only		90/1000 sq. ft.**	5%		7%		
Community (not including mail drop lane)		200/1000 sq. ft., 1300/acre*	6%	(6:4)	9%	(5:5)	
Community (w/mail drop lane)		300/1000 sq. ft., 2000/acre*	7%	(5:5)	10%	(5:5)	
Mail Drop Lane only		1500 (750 one-way)/lane*	7%	(5:5)	12%	(5:5)	
Department of Motor Vehicles		180/1000 sq. ft., 900/acre**	6%	(6:4)	10%	(4:6)	
Medical-Dental	[60:30:10]	50/1000 sq. ft., 500/acre*	6%	(8:2)	11%	(3:7)	6.4
PARKS	[66:28:6]						5.4
City (developed w/meeting rooms and sports facilities)		50/acre*	4%		8%		
Regional (developed)		20/acre*	13%	(5:5)	9%	(5:5)	
Neighborhood/County (undeveloped)		5/acre (add for specific sport uses), 6/picnic site* **					
State (average 1000 acres)		1/acre, 10/picnic site**					
Amusement (Theme)		80/acre, 130/acre (summer only)**			6%	(6:4)	
San Diego Zoo		115/acre*					
Sea World		80/acre*					
RECREATION							
Beach, Ocean or Bay	[52:39:9]	600/1000 ft. shoreline, 60/acre*					6.3
Beach, Lake (fresh water)		50/1000 ft. shoreline, 5/acre*					
Bowling Center		30/1000 sq. ft., 300/acre, 30/lane **	7%	(7:3)	11%	(4:6)	
Campground		4/campsite**	4%		8%		
Golf Course		7/acre, 40/hole, 700/course* **	7%	(8:2)	9%	(3:7)	
Driving Range only		70/acre, 14/tee box*	3%	(7:3)	9%	(5:5)	
Marinas		4/berth, 20/acre* **	3%	(3:7)	7%	(6:4)	
Multi-purpose (miniature golf, video arcade, batting cage, etc.)		90/acre	2%		6%		
Racquetball/Health Club		30/1000 sq. ft., 300/acre, 40/court*	4%	(6:4)	9%	(6:4)	
Tennis Courts		16/acre, 30/court**	5%		11%	(5:5)	
Sports Facilities							
Outdoor Stadium		50/acre, 0.2/seat*					
Indoor Arena		30/acre, 0.1/seat*					
Racetrack		40/acre, 0.6 seat*					
Theaters (multiplex w/matinee)	[66:17:17]	80/1000 sq. ft., 1.8/seat, 360/screen*	1/3%		8%	(6:4)	6.1
RESIDENTIAL	[86:11:3]						7.9
Estate, Urban or Rural (average 1-2 DU/acre)		12/dwelling unit ^R	8%	(3:7)	10%	(7:3)	
Single Family Detached (average 3-6 DU/acre)		10/dwelling unit ^R	8%	(3:7)	10%	(7:3)	
Condominium (or any multi-family 6-20 DU/acre)		8/dwelling unit ^R	8%	(2:8)	10%	(7:3)	
Apartment (or any multi-family units more than 20 DU/acre)		6/dwelling unit ^R	8%	(2:8)	9%	(7:3)	
Military Housing (off-base, multi-family) (less than 6 DU/acre)		8/dwelling unit	7%	(3:7)	9%	(6:4)	
(6-20 DU/acre)		6/dwelling unit	7%	(3:7)	9%	(6:4)	
Mobile Home		5/dwelling unit, 40/acre*	8%	(3:7)	11%	(6:4)	
Family		3/dwelling unit, 20/acre*	9%	(3:7)	10%	(6:4)	
Adults Only		4/dwelling unit**	9%	(4:6)	7%	(6:4)	
Retirement Community		2.5/dwelling unit**	4%	(6:4)	8%	(5:5)	
Congregate Care Facility							
RESTAURANT ^S	[51:37:12]						4.7
Quality		100/1000 sq. ft., 3/seat, 500/acre* **	1%	(6:4)	8%	(7:3)	
Sit-down, high turnover		160/1000 sq. ft., 6/seat, 1000/acre* **	8%	(5:5)	8%	(6:4)	
Fast Food (w/drive-through)		650/1000 sq. ft., 20/seat, 3000/acre* **	7%	(5:5)	7%	(5:5)	
Fast Food (without drive-through)		700/1000 sq. ft.**	5%	(6:4)	7%	(5:5)	
Delicatessen (7am-4pm)		150/1000 sq. ft., 11/seat*	9%	(6:4)	3%	(3:7)	
TRANSPORTATION							
Bus Depot		25/1000 sq. ft.**					
Truck Terminal		10/1000 sq. ft., 7/bay, 80/acre**	9%	(4:6)	8%	(5:5)	
Waterport/Marine Terminal		170/berth, 12/acre**					
Transit Station (Light Rail w/parking)		300/acre, 2 ^{1/2} /parking space (4/occupied)**	14%	(7:3)	15%	(3:7)	
Park & Ride Lots		400/acre (600/paved acre), 5/parking space (8/occupied)* **	14%	(7:3)	15%	(3:7)	

* Primary source: *San Diego Traffic Generators*.

* Other sources: *ITE Trip Generation Report [6th Edition]*, Trip Generation Rates (other agencies and publications), various SANDAG & CALTRANS studies, reports and estimates.

^P Trip category percentage ratios are daily from local household surveys, often cannot be applied to very specific land uses, and do not include non-resident drivers (draft SANDAG *Analysis of Trip Diversion*, revised November, 1990):

 PRIMARY - one trip directly between origin and primary destination.

 DIVERTED - linked trip (having one or more stops along the way to a primary destination) whose distance compared to direct distance ≥ 1 mile.

 PASS-BY - undiverted or diverted < 1 mile.

^L Trip lengths are average weighted for all trips to and from general land use site. (All trips system-wide average length = 6.9 miles)

^C Fitted curve equation: $\ln(T) = 0.502 \ln(x) + 6.945$ } T = total trips, x = 1,000 sq. ft.

^O Fitted curve equation: $\ln(T) = 0.756 \ln(x) + 3.950$ }

^R Fitted curve equation: $t = -2.169 \ln(d) + 12.85$

t = trips/DU, d = density (DU/acre), DU = dwelling unit

^S Suggested PASS-BY [undiverted or diverted < 1 mile] percentages for trip rate reductions only during P.M. peak period (based on combination of local data/review and Other sources**):

COMMERCIAL/RETAIL	
Regional Shopping Center	20%
Community " "	30%
Neighborhood " "	40%
Specialty Retail/Strip Commercial (other)	10%
Supermarket	40%
Convenience Market	50%
Discount Club/Store	30%
FINANCIAL	
Bank	25%
AUTOMOBILE	
Gasoline Station	50%
RESTAURANT	
Quality	10%
Sit-down high turnover	20%
Fast Food	40%

^T Trip Reductions - In order to help promote regional "smart growth" policies, and acknowledge San Diego's expanding mass transit system, consider vehicle trip rate reductions (with proper documentation and necessary adjustments for peak periods). The following are some examples:

[1] A 5% daily trip reduction for land uses with transit access or near transit stations accessible within 1/4 mile.

[2] Up to 10% daily trip reduction for mixed-use developments where residential and commercial retail are combined (demonstrate mode split of walking trips to replace vehicular trips).

CHAPTER 14-10. TRANSPORTATION USER FEE.

§ 14-10-1 DEFINITIONS.

(A) In this chapter:

- (1) BENEFITTED PROPERTY means:
 - (a) a residence;
 - (b) a business; or
 - (c) a lot or parcel on which improvements have been constructed and that generates motor vehicle trips.
- (2) DIRECTOR means the director of the Public Works Department.
- (3) MOTOR VEHICLE TRIP means each departure from and each arrival to a property by a motor vehicle.
- (4) TRANSPORTATION USER FEE means the fee established by this chapter.
- (5) TRANSPORTATION SYSTEM means:
 - (a) the structures, traffic controls, streets, rights-of-way, bridges, alleys, and other facilities that are dedicated to the use of vehicular traffic, and accessory pedestrian facilities such as sidewalks; and
 - (b) the acquisition, construction, operation, administration, repair, maintenance, improvement, and extension of those facilities.
- (6) TRIP FACTOR means the number of trips per acre per day assumed for a developed use divided by 40 and rounded up to the nearest tenth.
- (7) USER means the person who is responsible for the payment of charges on a City utility meter for a benefitted property.

(B) In this chapter:

- (1) Uses of property have the same meanings they have in Article 1 (*Zoning Uses*) of Subchapter A (*Zoning Uses, Districts, and Maps*) of Chapter 25-2 (*Zoning Uses, Districts, and Maps*), except that the description of a use does not exclude a use included in a more specific category.
- (2) A residential use includes any use described in Section 25-2-3 (*Residential Uses Described*).
- (3) A non-residential use includes any use described in Article 1 (*Zoning Uses*) of Subchapter A (*Zoning Uses, Districts, and Maps*) of Chapter 25-2 (*Zoning Uses, Districts, and Maps*), other than the uses described in Section 25-2-3 (*Residential Uses Described*).

Source: 1992 Code Section 15-6-1; Ord. 031204-12; Ord. 031211-11.

§ 14-10-2 FINDINGS.

(A) The council finds:

- (1) It is appropriate that a user of a benefitted property pay the prorated annual cost of the transportation system that can reasonably be attributed to the benefitted property.
- (2) The number of motor vehicle trips generated by a benefitted property may reasonably be used to estimate the prorated cost of the transportation system attributable to a benefitted property.
- (3) The size and use of a property may reasonably be used to estimate the number of motor vehicle trips generated by the property.
- (4) Based on the best available data, the method of assessing the fee set forth in this chapter reasonably prorates the cost of the transportation system among users.
- (5) A maximum trip factor avoids a disproportionate burden on a user.

(B) The council finds that:

- (1) if available, appraisal district property tax records may be relied on to determine the size of a non-residential property; and
- (2) it is equitable to assume:
 - (a) five single family residences per acre;
 - (b) seven mobile homes per acre;
 - (c) 10 duplex, two-family residential, townhouse residential, or condominium units per acre;
 - (d) 12 multifamily units per acre in developments of three or four units; and
 - (e) 25 multifamily units per acre in developments of five or more units.

(C) The council finds that it is reasonable and equitable to assume that each utility meter in the service area serves a user of a benefitted property.

(D) The council finds that, except as provided in this subsection, residential use generates approximately 40 motor vehicle trips per acre per day.

- (1) Condominium residential use and townhouse residential use generate approximately 60 motor vehicle trips per acre per day.
- (2) Mobile home residential use generates approximately 35 motor vehicle trips per acre per day.
- (3) Duplex use, two-family residential use, and multifamily residential use with fewer than five units generate approximately 70 motor vehicle trips per acre per day.
- (4) Multifamily residential use with five or more units generates approximately 150 motor vehicle trips per acre per day;
- (5) Group residential use, retirement housing use, and bed and breakfast residential use generate approximately 200 motor vehicle trips per acre per day.

(E) The council finds that, except as provided in this subsection non-residential use generates 200 or more motor vehicle trips per acre per day.

- (1) The following uses generate approximately 180 motor vehicle trips per acre per day:
 - (a) administrative and business offices;
 - (b) financial services;
 - (c) medical offices;
 - (d) professional office;

- (e) software development;
- (f) administrative services;
- (g) counseling services;
- (h) guidance services; and
- (i) communication services.

(2) The following uses generate approximately 80 motor vehicle trips per acre per day:

- (a) aviation facilities;
- (b) railroad facilities; and
- (c) transportation terminal.

(3) Research warehousing services uses generate approximately 56 motor vehicle trips per acre per day.

(4) The following uses generate approximately 40 motor vehicle trips per acre per day:

- (a) private primary educational facilities;
- (b) private secondary educational facilities;
- (c) business or trade school;
- (d) college and university facilities;
- (e) convenience storage; and
- (f) limited warehousing and distribution.

(5) The following uses generate approximately 20 motor vehicle trips per acre per day:

- (a) religious assembly; and
- (b) marina.

(6) The following uses generate approximately 16 motor vehicle trips per acre per day:

- (a) electronic prototype assembly;
- (b) research assembly services;
- (c) research services;
- (d) basic industry;
- (e) light manufacturing; and
- (f) resource extraction.

Source: 1992 Code Section 15-6-2; Ord. 031204-12; Ord. 031211-11.

§ 14-10-3 TRIP FACTORS.

(A) The director shall assign to each benefitted property a trip factor according to the property's use. The director shall assume for each benefitted property the number of trips per acre per day set forth in Section 14-10-2 (*Findings*). The director shall assume no more than 200 trips per acre per day for any property.

(B) For purposes of this section, a property's use does not depend on the property's zoning. If a property fits more than one category of use, the director shall assign a trip factor that most accurately reflects the number of motor vehicle trips generated by the property.

Source: 1992 Code Section 15-6-3; Ord. 031204-12; Ord. 031211-11.

§ 14-10-4 DEVELOPED ACREAGE.

(A) Except as provided by Subsection (C), the director shall determine the number of developed acres of a non-residential benefitted property by subtracting from the total number of acres of the property shown in appraisal district records:

- (1) the number of acres of any portion of the property that is in its natural state; and
- (2) 90 percent of the number of acres of any portion of the property not in its natural state that is:
 - (a) part of a contiguous area that is .2 acre or greater in size; and
 - (b) not under impervious cover.

(B) If appraisal district records are unavailable, the director may determine the size of a non-residential benefitted property from the best available information.

(C) If a non-residential benefitted property includes a building of eight stories or more, the developed acreage is the square footage of the building expressed in acres, minus any space devoted to a parking garage.

Source: 1992 Code Section 15-6-4; Ord. 031204-12; Ord. 031211-11.

§ 14-10-5 FEE ESTABLISHED.

(A) A transportation user fee is assessed against each user.

(B) The amount of the monthly transportation user fee per acre shall be set by ordinance.

(C) Each month each user of a benefitted residential property shall pay an amount equal to the monthly fee per acre multiplied by the trip factor assigned to the property multiplied by:

- (1) .2 for each single-family residence;
- (2) .143 for each mobile home;
- (3) .1 for each duplex, two-family residential, townhouse residential, or condominium unit;
- (4) .0833 for each unit in a multifamily development with three or four units;
- (5) .04 for each unit in a multifamily development with five or more units; or
- (6) the developed acreage as calculated under Section 14-10-4 (*Developed Acreage*).

(D) Each month each user of a benefitted non-residential property shall pay an amount equal to the monthly fee per acre multiplied by the trip factor assigned to the property multiplied by the developed acreage as calculated under Section 14-10-4 (*Developed Acreage*).

Source: 1992 Code Section 15-6-5; Ord. 031204-12; Ord. 031211-11.

§ 14-10-6 TRANSPORTATION FUND.

(A) The transportation user fee shall be used only for the transportation system.

- (B) A transportation fund is created to identify revenues and expenses attributable to the transportation system.
- (C) Transportation user fees shall be deposited in the transportation fund.
- (D) Money from sources other than the transportation user fee that is available for construction and maintenance of the transportation system may be deposited in the transportation fund.
- (E) An expenditure from the transportation fund need not specifically relate to the property of a particular user from whom the transportation user fee was collected.
- (F) The director shall provide an annual report on the transportation fund and the transportation user fee to the council.

Source: 1992 Code Section 15-6-6; Ord. 031204-12; Ord. 031211-11.

§ 14-10-7 METHOD OF COLLECTION.

- (A) The transportation user fee shall be billed each month on the utility bill for each benefitted property.
- (B) Payment is due when the user receives the bill.

Source: 1992 Code Section 15-6-7; Ord. 031204-12; Ord. 031211-11.

§ 14-10-8 ALLOCATION.

If one benefitted property is served by multiple meters or where one meter serves multiple benefitted properties, the director may determine the allocation of the fee among the users by any reasonable method that takes into account the relative contribution of each to traffic generation. In the absence of better information, the director may allocate the fee equally among the users.

Source: 1992 Code Section 15-6-8; Ord. 031204-12; Ord. 031211-11.

§ 14-10-9 ADJUSTMENTS.

- (A) A user may apply to the director for an adjustment in the user's monthly transportation user fee if:
 - (1) the user disputes the category of land use used in calculating the fee for the owner's benefitted property; or
 - (2) the user believes the fee has been assessed in error.
- (B) A user must apply for an adjustment under this section.
- (C) The director may adjust the transportation user fee for a user who has applied for an adjustment under this section according to the director's best professional judgment.
- (D) A user who disagrees with a determination of the director under this section may apply for a hearing. The director shall designate a hearing officer with authority to hold the hearing. The user requesting the hearing shall have the burden of proof. On completion of the hearing, the hearing officer shall recommend a disposition of the matter to the director who may revise or reinstate the original determination.
- (E) If, after a hearing, a user disagrees with a determination of the director under this section, the user may appeal to the council. An appeal under this subsection must be filed with the city clerk no later than the 15th day after the date of the director's determination. If the council does not take action on the appeal by the 45th day after the date the appeal is filed, the director's determination is final.

(F) A user may not receive a refund resulting from an adjustment under this section except for a fee paid during the two years immediately preceding the date the user applied for the adjustment. This subsection does not apply to an adjustment applied for on or before May 22, 2000.

Source: 1992 Code Section 15-6-9; Ord. 031204-12; Ord. 031211-11.

§ 14-10-10 REDUCED FEE.

(A) If a user believes that the trip factor assigned to the user's benefitted property does not fairly reflect the motor vehicle trips generated by the user's benefitted property, the user may apply for a reduced fee under this section.

(B) A user may receive a reduced fee if the user shows that, based on an actual count of motor vehicle trips, the trip factor assigned to the user's property should be reduced. The user is responsible for the cost of counting motor vehicle trips.

(C) If the director determines that a user no longer qualifies for a reduced fee under this section, the director may reinstate the full fee.

(D) A user entitled to a reduced fee under this section must apply for the reduction.

(E) A reduced fee under this section is prospective only. A user may not receive a refund resulting from a reduction under this section.

(F) The director shall adopt rules for the administration of this section, including acceptable methods of counting motor vehicle trips.

(G) A user who disagrees with a determination of the director under this section may apply for a hearing in the manner provided by Subsection 14-10-9(D) (*Adjustments*) and, after a hearing, appeal in the manner provided by Subsection 14-10-9(E) (*Adjustments*).

Source: 1992 Code Section 15-6-10; Ord. 031204-12; Ord. 031211-11.

§ 14-10-11 DEPOSIT NOT REQUIRED.

The City may not require a user to pay a deposit for the transportation user fee.

Source: 1992 Code Section 15-6-11; Ord. 031204-12; Ord. 031211-11.

§ 14-10-12 RECOVERY OF UNPAID FEES; ENFORCEMENT.

(A) The City may recover a transportation user fee that is not paid when due in an action at law.

(B) The City may discontinue utility services to a user who fails to pay the transportation user fee when due.

Source: 1992 Code Section 15-6-12; Ord. 031204-12; Ord. 031211-11.

§ 14-10-13 RULES.

The director shall adopt rules necessary for the administration of this chapter.

Source: 1992 Code Section 15-6-13; Ord. 031204-12; Ord. 031211-11.

§ 14-10-14 EXEMPTIONS.

- (A) This chapter does not apply to the state, a county, an independent school district, or a public institution of higher education.
- (B) This chapter does not apply to a property that is vacant. The director may adopt any reasonable method to determine whether a property is vacant.
- (C) This chapter does not apply to a property that is used only for off-street parking.
- (D) A user of a residential property may apply for and receive an exemption from this chapter if:
 - (1) the user does not own or regularly use a private motor vehicle for transportation; or
 - (2) the user is 65 years of age or older.
- (E) A user entitled to an exemption under this section must notify the director of the applicable exemption. A fee paid before the director is notified of an exemption may not be refunded.

Source: 1992 Code Section 15-6-14; Ord. 031204-12; Ord. 031211-11; Ord. 040902-40.

§ 14-10-15 LIABILITY.

This chapter does not imply that a benefitted property will be free from poorly maintained roads, and does not create additional duties on the part of the City. This chapter does not waive the City's immunity under any law.

Source: 1992 Code Section 15-6-15; Ord. 031204-12; Ord. 031211-11.

APPENDIX G

FUNDING USES



Funding Uses	Pavement Maintenance & Reconstruction		Traffic Operations		Access, Mobility & Safety		Landscape & Public Spaces		Sidewalk Management		Transit		Right of Way (sweeping, sanding, snow/removal)	
	Construct	Maintain	Construct	Maintain	Construct	Maintain	Construct	Maintain	Construct	Maintain	Construct	Maintain	Construct	Maintain
Transportation Sales Tax (NRS 377A)	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Infrastructure Sales Tax (NRS 377B)	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
General Improvement District (NRS 318)	YES	YES	YES	YES	LIMITED	LIMITED	LIMITED	LIMITED	YES	YES	NO	NO	NO	N/A
Supplemental Government Services Tax (NRS 371)	YES	YES	YES	YES	LIMITED	LIMITED	LIMITED	LIMITED	YES	YES	NO	NO	NO	N/A
Local Special Improvements District (NRS 371)	YES	LIMITED	YES	LIMITED	LIMITED	LIMITED	NO	YES	YES	YES	YES	YES	YES	NO