

2024 Municipal Operations Greenhouse Gas Emissions Inventory

August 2026

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Introduction

This report presents the greenhouse gas (GHG) emissions inventory for the Town of Truckee's municipal operations for the calendar year 2024. This inventory measures the GHG emissions generated from the Town's day-to-day activities, including energy use in buildings and facilities, fleet vehicles, employee commuting, and solid waste.

The purpose of this inventory is to track emissions over time, identify the largest emissions sources, and support informed decision-making to reduce the Town's emissions and meet emissions reduction targets.

The Truckee Town Council has adopted the following GHG emissions reduction targets for municipal operations relative to a 2008 baseline:

- Reduce emissions 40% by 2030
- Reduce emissions 80% by 2040
- Achieve carbon neutrality by 2045

The Town has committed to conducting annual municipal operations GHG emission inventories beginning with the 2022 inventory year to track progress towards these goals. Prior to 2022, GHG inventories were conducted for the years 2008 (the baseline year) and 2016. The Town's municipal GHG inventories are dependent on the publication of Truckee Donner Public Utility District's (TDPUD) electricity emissions factors, which are typically released each fall for the year prior.

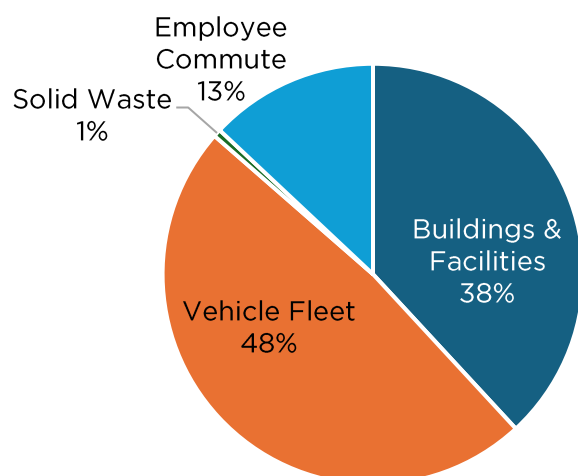
All of the Town's municipal operation GHG inventories have used a national standard, the Local Government Operations Protocol (LGOP), developed by the California Air Resources Board, the California Climate Registry, and the International Council for Local Environmental Initiatives (ICLEI). This protocol provides standard accounting principles, boundaries, quantification methods, and procedures for reporting GHG emissions from local government operations. The operational control framework was used to set the inventory boundary to emissions that the Town has operational control over. This includes operations that the Town has the full authority to introduce and control through operating policies.

Although the protocol provides a common national framework for all local governments to assess their GHG emissions, any GHG inventory represents an estimate of emissions using the best available data and calculation methodologies at the time it was conducted. These estimates are subject to change as better data and calculation methodologies become available.

2024 GHG Emissions Summary

In 2024, municipal operations generated 2,420 metric tons of carbon dioxide equivalent (MT CO₂e). The Town's vehicle fleet is the largest contributing sector to municipal GHG emissions in 2024, followed by buildings and facilities, employee commute, and government-generated solid waste.

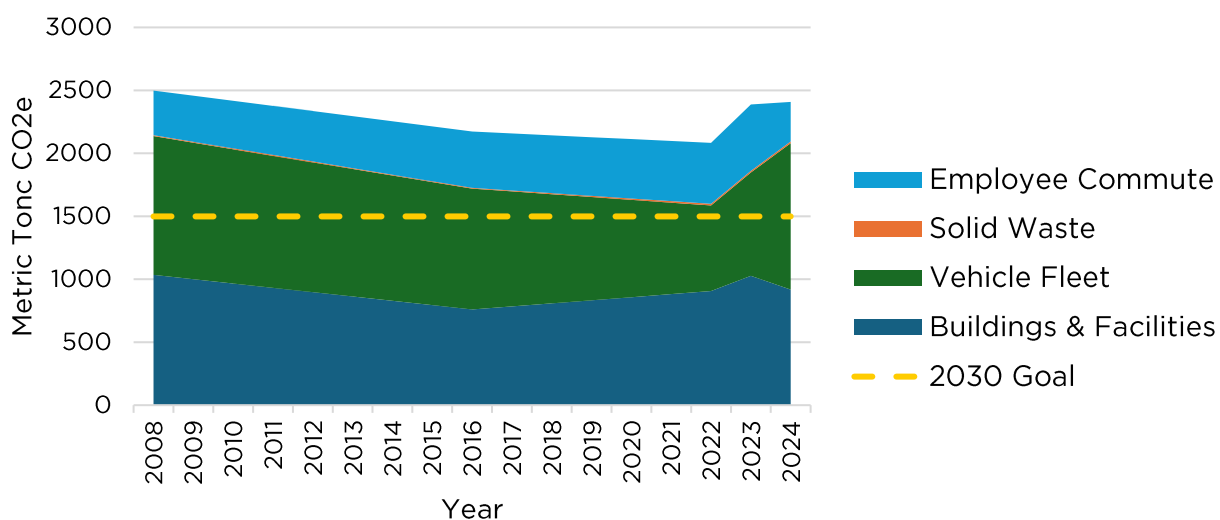
Figure 1: 2024 Municipal Operations GHG Emissions by Sector (Metric Tons CO₂e)



GHG Emissions Trends

The Town's 2024 municipal operations GHG emissions are 3% below 2008 baseline emissions and increased 1% from 2023 emissions. The slight increase from 2023 to 2024 is primarily driven by increases in vehicle fleet emissions. The Town will need to increase efforts to reduce emissions to meet the interim target of reducing GHG emissions 40% below 2008 levels by 2030. GHG emissions since the baseline year of 2008 are shown in Figure 2, with emissions levels interpolated between inventory years.

Figure 2: Municipal Operations GHG Emissions 2008-2024



As the Town begins to conduct annual GHG inventories, year-to-year fluctuations in emissions will become more apparent. These short-term changes are often driven by

weather, particularly variations in temperature and snowfall, which can have a greater impact on GHG-causing activities than GHG reduction initiatives. For example, colder winter temperatures may increase natural gas use for heating, and heavier snowfall can result in increased use of snow removal equipment and associated fuel use. As a result, annual changes in GHG emissions should be viewed in the context of a longer-term trend rather than as indicators of progress towards reduction goals. One tool that can help distinguish between the impacts of weather and overall trends in GHG emissions is a contribution analysis.

Contribution Analysis

A contribution analysis was conducted to compare the Town's 2023 and 2024 GHG inventories and identify the factors contributing to changes in emissions between the two years. Developed by ICLEI, this analysis uses statistical analysis of monthly energy use and weather data, along with data inputs from the Town's inventories, to estimate the extent to which different drivers increased or decreased emissions. This type of analysis distinguishes the impacts of factors beyond the Town's control (such as weather) from activities that can be impacted by the Town's operational decisions to provide better insight into what steps the Town can take to make progress in reducing GHG emissions. The waterfall chart in Figure 3 illustrates the primary drivers of change between 2023 and 2024, with the height of each bar representing the magnitude of its impact on overall emissions.

Emissions increased 1% from 2023 to 2024, despite factors that decreased emissions including increased energy efficiency in streetlights, a lower-carbon electricity supply, and a warmer winter that impacted a reduced need for energy use for building heating. Factors that increased emissions year-to-year include a significant increase in vehicle miles travelled (VMT) from the Town's vehicle fleet, an increase in vehicle fleet emissions per mile, and an increase in building energy use beyond what was attributed to weather differences. These changes are discussed in more detail in the Buildings and Facilities and Vehicle Fleet sections later in this report.

Figure 3: GHG Emissions Drivers of Change: 2023-2024

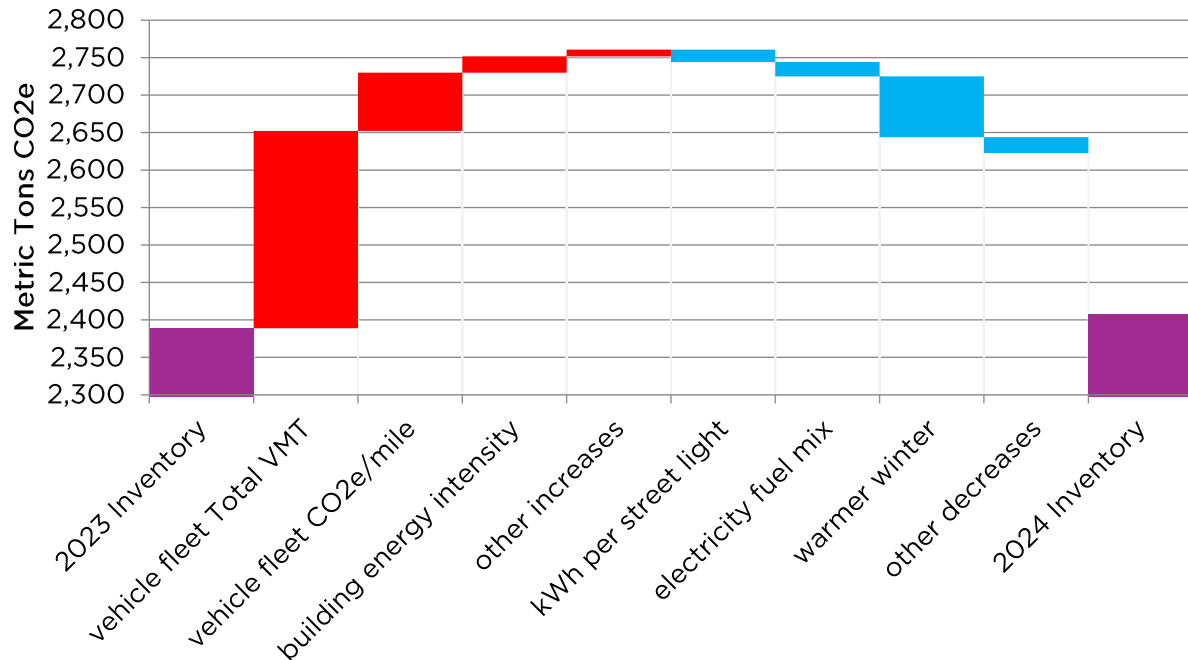


Table 1 shows a summary of total emissions and percent change across all five sectors included in this inventory. From 2023-2024, emissions from buildings and facilities and employee commutes decreased, while we saw a significant increase in emissions from the vehicle fleet, and a slight increase from solid waste.

The following sections have more detail about the activities and emissions sources contributing to each sector of the Town's municipal operations GHG inventory.

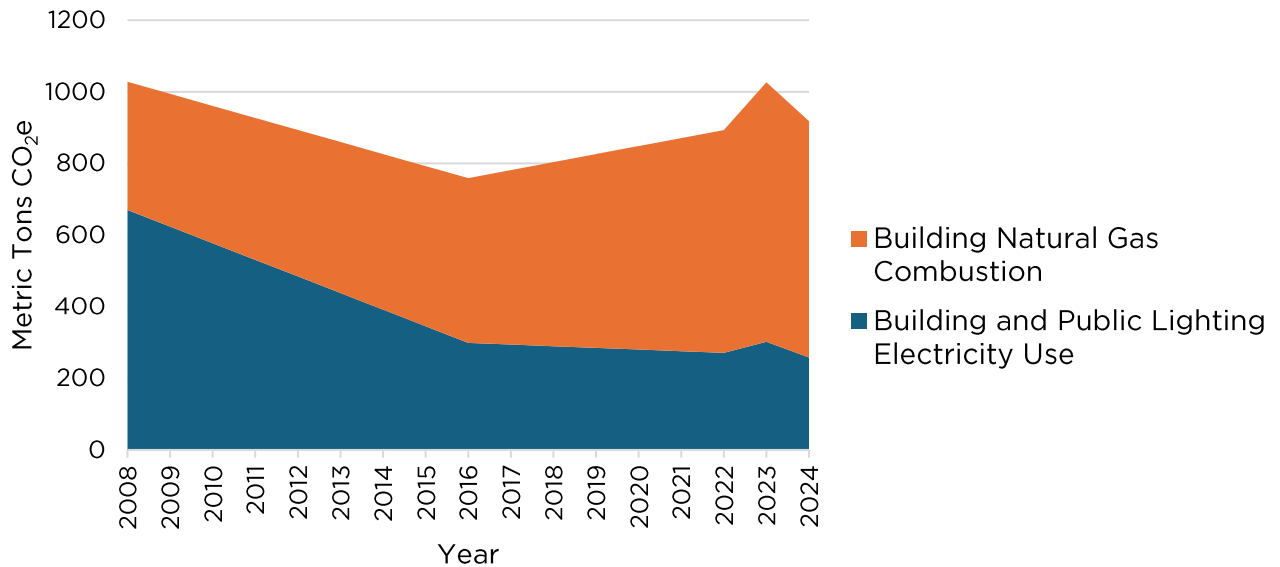
Table 1: Municipal Operations GHG Emissions Summary

Sector	Metric Tons CO ₂ e					Percent Change	
	2008	2016	2022	2023	2024	2008-2024	2023-2024
Building Electricity Use	630	284	257	287	245	-61%	-15%
Building Natural Gas Combustion	358	460	622	725	660	+84%	-9%
Public Lighting Electricity Use	40	15	14	15	13	-68%	-13%
Total Buildings and Facilities	1028	759	893	1027	918	-11%	-11%
Vehicle Fleet Gasoline Consumption	435	346	361	458	709	+63%	+55%
Vehicle Fleet Diesel Consumption	628	565	117	0	126	-80%	-
Vehicle Fleet Renewable Diesel Consumption	-	-	142	299	268	-	-10%
Leaked Refrigerants	39	49	60	65	72	+85%	+11%
Total Vehicle Fleet	1,102	960	680	822	1,175	-7%	+43%
Government-Generated Solid Waste	7	6	13	13	14	+100%	+8%
Total Government-Generated Solid Waste	7	6	13	13	14	+100%	+8%
Employee Commute Emissions	354	447	347	527	313	-12%	-41%
Total Employee Commute	354	447	484	527	313	-12%	-41%
Total Municipal-Operations Emissions	2,491	2,172	2,070	2,388	2,420	-3%	+1%

Buildings and Facilities

Emissions from the Buildings and Facilities sector include electricity and natural gas used to power and heat Town buildings, as well as electricity used for outdoor public lighting, including streetlights and traffic lights.

Figure 4: Building and Facilities GHG Emissions 2008-2024



Emissions from Town buildings and facilities decreased 11% from 2023 to 2024 and decreased 11% from 2008 baseline emissions. Energy use and associated emissions increased in 2023, likely because of colder winter conditions, and declined in 2024 to levels comparable to those observed in 2022. There is a longer-term trend of increasing natural gas use since 2008 that is likely due to a significant increase in the Town's building and facility portfolio. Since 2008, several new, larger Town facilities have been built at the Stevens Lane Public Works Corporation Yard. Table 2 shows a summary of energy use at Town facilities.

Table 2: Building Energy Use

Source	2008	2016	2022	2023	2024	Percent Change 2008-2024	Percent Change 2023-2024
Town Hall - Truckee Airport Road							
Electricity (kWh)	656,160	503,280	457,502	496,585	494,916	-25%	0%
Natural Gas (Therms)	27,529	9,094	5,531	7,982	7,651	-72%	-4%
Public Works Corporation Yard - Stevens Lane							
Public Works Main/Admin							
Electricity (kWh)	N/A	444,960	451,154	583,535	500,462	N/A	-14%
Natural Gas (Therms)	N/A	31,496	24,918	30,800	26,452	N/A	-14%
Public Works South Garage (Police)							
Natural Gas (Therms)	N/A	N/A	17,543	16,297	17,129	N/A	+5%
Public Works North Garage (Facilities)							
Natural Gas (Therms)	N/A	N/A	16,867	17,648	15,285	N/A	-13%
Public Works - Sand Barn							
Natural Gas (Therms)	N/A	N/A	8,933	9,771	7,551	N/A	-23%
Stevens Lane Animal Shelter							
Electricity (kWh)	N/A	318,840	339,697	314,819	297,449	N/A	-6%
Natural Gas (Therms)	N/A	24,467	26,323	28,227	26,835	N/A	-5%
River View Old Corp Yard / Animal Shelter							
Electricity (kWh)	206,248	261,142	21,510	25,161	25,487	-88%	+1%
Natural Gas (Therms)	25,242	8,592	7,926	13,690	13,020	-48%	-5%
Tahoe Donner Corp Yard							
Electricity (kWh)	38,959	19,409	19,255	22,554	16,567	-57%	-27%
Natural Gas (Therms)	11,680	10,536	7,409	9,314	7,933	-32%	-15%
Truckee Depot (Main)							
Electricity (kWh)	79,753	90,195	68,900	74,956	63,976	-20%	-15%
Natural Gas (Therms)	2,823	2,403	1,747	2,724	2,349	-17%	-14%

Electricity Use

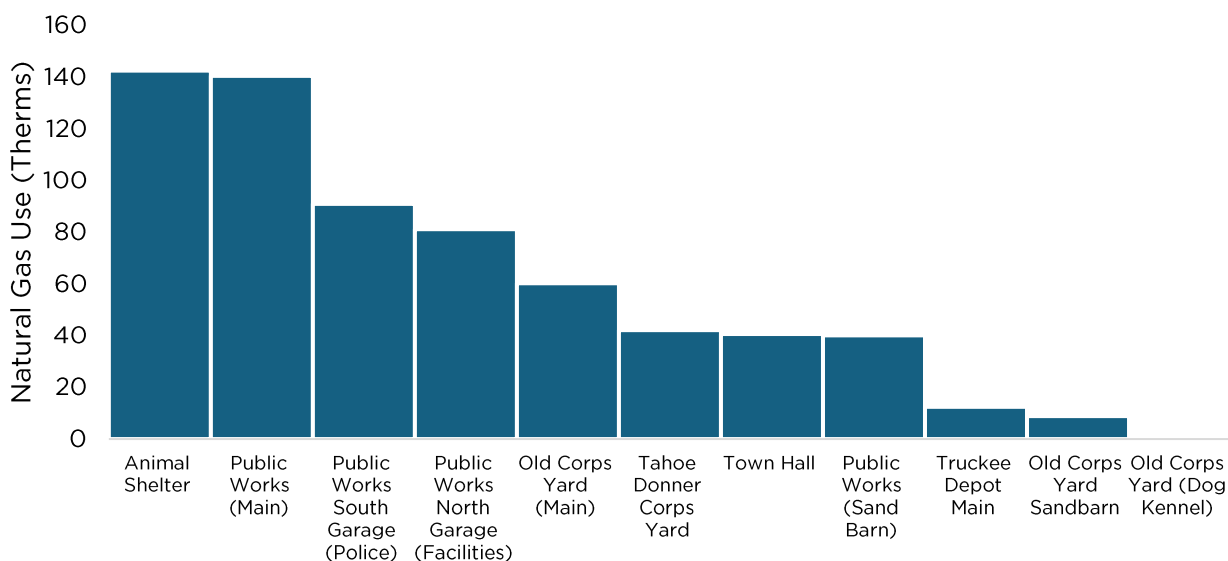
The Town's electricity use has increased 55% since 2008, however the corresponding GHG emissions have reduced by 61% due to cleaner energy sources. The Town's electricity provider, TDPUD, sourced 55% of their electricity from renewable energy sources in 2024, up from 47.3% in 2023, and 4.5% in 2008. The percentage of electricity provided by renewables is expected to continue to increase over time in accordance with California's Renewable Portfolio Standard, which requires utilities to provide 60% renewable electricity by 2030, and 100% carbon-free electricity by 2045. TDPUD Electricity use accounted for 10.7% of the Town's total GHG emissions in 2024.

The Town has two 23.1 kW solar photovoltaic systems at the Stevens Lane Public Works Corporation Yard, installed in 2012 and 2021. Electricity generated from these systems offsets a minimal amount of total electricity consumed at this site. While metered data for 2024 is not available, a monitoring system was installed in 2026, and production data will eventually be available to be included in future GHG inventory reports.

Natural Gas Use

Natural gas use across all Town facilities has increased 93% since 2008, and the corresponding GHG emissions have increased 84%. Natural gas use accounts for 27% of the Town's total GHG emissions in 2024. The primary uses of natural gas in our Town facilities are for heating, water heating, and radiant space heating for open-air areas such as vehicle maintenance bays and outdoor dog kennels. Figure 5 below shows natural gas consumption across Town buildings.

Figure 5: 2024 Natural Gas Use by Town Building (Therms)



Town facilities at Stevens Lane, including the Animal Shelter and the Public Works offices and garages, continue to be the largest users of natural gas. These facilities

use natural gas-powered radiant heating in otherwise unconditioned areas such as vehicle maintenance bays and outdoor kennel space. These facilities were built after the 2008 GHG inventory and add nearly 90,000 square feet of additional facility space compared to the Town's baseline inventory year.

Figure 6: 2024 Building Energy Use GHG Emissions

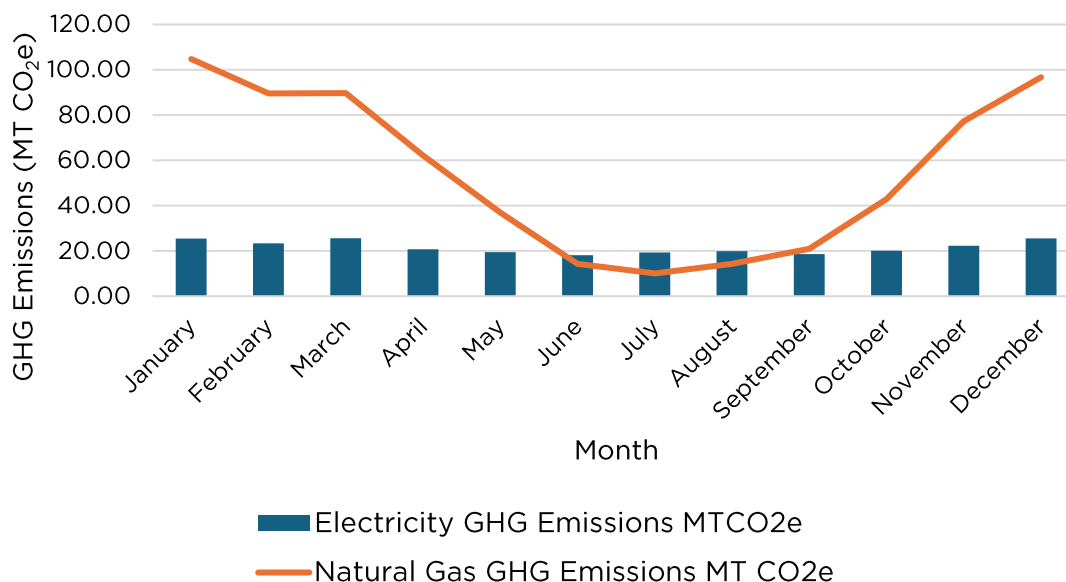


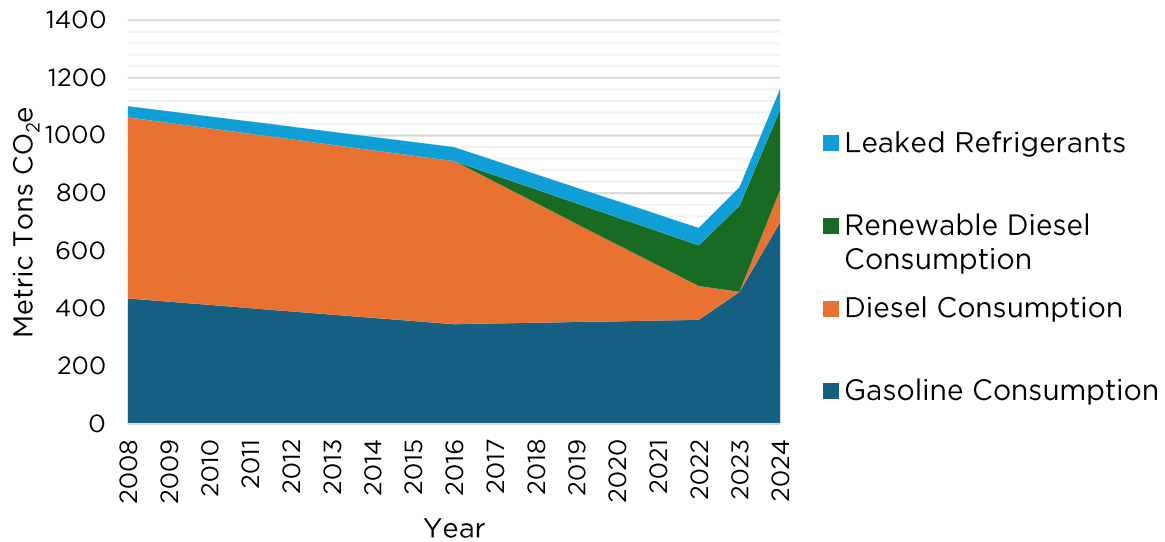
Figure 6 shows the seasonal variability of GHG emissions from Town buildings and facilities. Natural gas is primarily used for heating Town facilities in the winter months, while electrical loads are more consistent year-round.

Per the Local Government Operations Protocol (LGOP), electricity transmission and distribution (T&D) losses and tenant energy usage at the train depot were not accounted for in this inventory. According to the LGOP, emissions associated with T&D losses should be reported by the entity that owns or controls the T&D lines, not by the end-user of power. The Town utilized the operational control framework of the LGOP, setting the inventory boundary to only include emissions the Town has operational control over, which does not include utility accounts paid by a tenant. These emissions were included in the Town's 2008 and 2016 municipal inventories and have been removed from emission total represented in this report for those years for standardization and to allow for more accurate assessment of GHG emissions trends.

Vehicle Fleet

Emissions from the Town's vehicle fleet are associated with the combustion of gasoline and diesel fuel used in Town vehicles and mobile equipment, as well as refrigerants from vehicle air conditioning. Vehicle fleet emissions in 2024 increased 43% from 2023 and decreased 7% from 2008.

Figure 7: Vehicle Fleet GHG Emissions 2008-2024



Gasoline Consumption

Figure 7 illustrates the breakdown of emissions from the Town's vehicle fleet. Gasoline consumption increased significantly in 2024, primarily due to the introduction of the TART Connect program and inclusion of fuel used by TART Connect vehicles. The Town launched TART Connect in June 2022 as a seasonal microtransit pilot with limited operating hours and service areas, subsequently expanding the pilot townwide in the summer of 2023. With the expansion to a full-year pilot in July 2023, TART Connect vehicles began fueling at the Town's fuel tanks. Prior to this time during the initial pilots, the Town did not have a method to track fuel use by the contractor. TART Connect fuel use from July through December 2023 was included in the Town's 2023 GHG inventory, and VMT for that timeframe is included in the updated VMT data seen in Tables 3 and 4. In 2024, TART Connect vehicles consumed approximately 37,000 gallons of gasoline representing 47% of the Town's total gasoline consumption. TART Connect VMT for calendar year 2024 totaled 673,980 miles, 53% of the Town's total VMT, as detailed in Table 4 below. Although the TART Connect vehicles are not owned or maintained by the Town, TART Connect is a program provided at the direction of the Town Council that operates under contract with the Town. Staff determined that including fuel consumption from TART Connect vehicles in this GHG inventory provides a more complete representation of fuel use associated with Town operations.

The Town funded approximately 90% of the TART Connect program in 2024 and has a contract with Truckee Downtowner, LLC ("Downtowner") who leases the TART Connect vehicles and operates the program. While Downtowner is responsible for operating the program within the contract, the Town is responsible for establishing the operating hours, area of operation, and performance metrics, which impact the number of vehicles on the road and additional operational factors contributing to

GHG emissions. Accordingly, Town staff determined it was appropriate to include these emissions in the municipal operations GHG inventory under the “operational control framework” set by the LGOP.

In 2025, the Town purchased electric vehicles with grant funding to replace gasoline vehicles in the TART Connect fleet, which will be used whenever feasible. The electric vans were introduced into service in July 2025. Impacts from this electric vehicle transition are expected to reduce GHG emissions from this program and will be assessed in the 2025 GHG inventory. The Town’s Transit Division continues to work towards transitioning towards a lower-emission transit fleet by securing additional grant funding for additional electric vehicles, and working towards a dedicated transit operations facility, as the Town’s existing facilities have limited space, electrical capacity, permanent charging infrastructure, and protected vehicle storage. Staff are also using the initial deployment to gain valuable experience with electric vehicle performance in Truckee’s winter conditions, including the effects of extreme cold and cabin heating on battery range and the traction performance of currently available non-all-wheel-drive passenger vans.

It is important to note that while the TART Connect program has resulted in increased fuel use and associated GHG emissions, it has also provided significant community and social benefits of increased access to public transportation. Before TART Connect, the Town’s fixed-route and Dial-A-Ride services carried approximately 28,000 to 32,000 passengers annually. In 2024, the combined transit system carried more than 200,000 passengers annually. As the TART Connect fleet continues transitioning to electric vehicles, the emissions associated with its increased VMT are expected to decline while these important community benefits are maintained.

Diesel Consumption

Diesel fuel consumption typically increases in the winter months to support snow removal operations, which rely primarily on diesel-fueled heavy equipment. Winter diesel usage is heavily impacted by snowfall, with higher snow years requiring more frequent operation of snow removal equipment.

In 2021, the Town began transitioning its diesel fleet vehicles to renewable diesel, which produces approximately 57% less emissions than conventional fossil fuel diesel. By 2023, all diesel fleet vehicles were using renewable diesel, resulting in significant reductions in fleet emissions. However, beginning in November of 2024, the Town had to return to conventional diesel fuel in winter because renewable diesel suitable for Truckee’s cold-weather conditions was not available. The Town continues to use renewable diesel outside of the winter season when temperatures allow but is no longer able to use renewable diesel year-round. This challenge has resulted in increased GHG emissions from diesel usage but only has a small impact on the 2024 inventory, since conventional diesel was only used for two months in November and December. The impact on the 2025 and 2026 GHG inventories is anticipated to be more significant, as those years will include more months of conventional diesel use.

The Town continues to actively seek a new, reliable source of cold-weather compatible renewable diesel.

Figure 8: Fleet Fuel Usage 2008-2024 (Gallons)

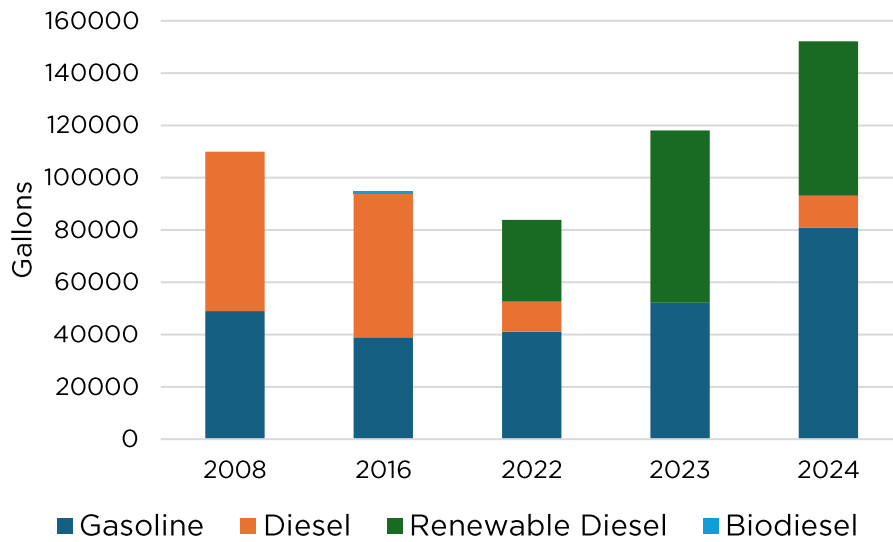


Figure 9: Vehicle Fleet Fuel Use 2023 vs. 2024 (Gallons)

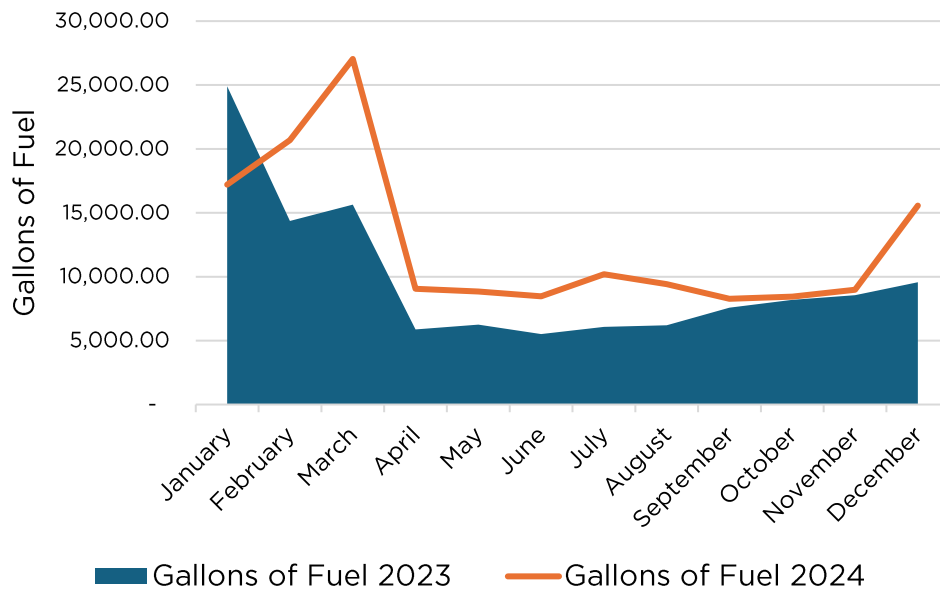


Table 3: Summary of Fuel Usage and VMT

	2008	2016	2022	2023	2024	Percent Change 2008-2024	Percent Change 2023-2024
Gasoline (Gallons)	48,999	38,970	41,101	52,138	80,790	63%	53%
Diesel (Gallons)	60,932	54,881	11,468	0	12,299	-82%	-
Renewable Diesel (Gallons)	0	0	31,273	65,951	59,082	-	-7%
Total Fuel Use (Gallons)	109,931	93,851	83,843	118,089	152,171	38%	29%
Total Vehicle Miles Traveled	456,270	503,691	787,456	965,465 ¹	1,262,325	177%	31%
Biodiesel (Gallons)	0	887	53	0	0	-	-

¹2023 VMT in this report has been updated from 655,361 miles reported in the 2023 GHG inventory to add TART Connect vehicle mileage from July-December, mileage from off-road vehicles tracked using GPS trackers, and remove mileage for non-motorized vehicle equipment erroneously included in the total.

VMT reported in the Town's municipal operations inventory has historically only included the mileage for vehicles that have odometers, as mileage from off-road vehicles without odometers, including loaders and snowblowers, could not be tracked. Starting in 2023, the Town began installing GPS trackers on these vehicles to track their mileage. These GPS trackers were not installed in all off-road vehicles, but the VMT data available has been included in the updated VMT included for 2023 in this report, as well as VMT reported for 2024.

Similarly, VMT data for 2023 and 2024 do not include mileage from electric vehicles due to data limitations. For vehicles that use the Town's fuel tanks, mileage is recorded each time a vehicle is fueled and entered into the Town's fuel tracking software. Electric vehicle mileage cannot be tracked using this system. Staff have begun implementing a separate tracking system for electric vehicle mileage, which will allow EV mileage to be incorporated into future inventory reports.

In addition to these gaps in available VMT data for the Town's vehicle fleet, it's important to note that fuel use data across all inventory years includes fuel consumed by both vehicles and equipment, including non-vehicle uses such as watercraft, generators, and chippers. Accordingly, total fuel consumed should not be directly compared with VMT to generate a fuel efficiency ratio or to draw conclusions about changes in the fuel efficiency of the Town's vehicle fleet.

Electric Vehicles

In November 2024, the Town replaced 10 aging gasoline-powered vehicles with new electric vehicles, including four SUVs and six pickup trucks used across Town divisions. The Town also added six electric transit vans to the transit fleet, primarily

used in the TART Connect service. Consistent with the methodology outlined in the LGOP, emissions from EV charging are included in the building and facilities emission sector rather than in the vehicle fleet sector.

Table 4: 2024 Fuel Use and Vehicle Miles Traveled by Town Division

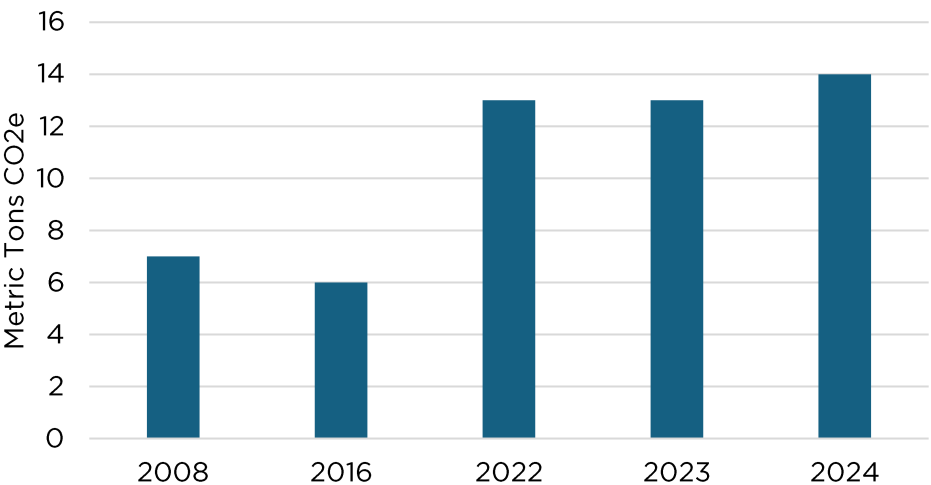
Town Division	Fuel Used (Gallons)			Vehicle Miles Traveled (VMT)			
	Diesel ²	Gasoline	Total Gallons	Diesel	Gasoline	Hybrid	Total Miles
Administrative Services		55.31	55.31			1,039	1,039
Building		2,088.02	2,088.02		30,469		30,469
Code Enforcement		38.51	38.51		7,026		7,026
Engineering	4.48	633.55	638.03	1,416	7,621		9,037
Facilities	366.87	2,652.62	3,019.49	28	53,787		53,815
Fleet Maintenance	95.84	983.98	1,079.82	3,502	16,985		20,487
Parking	736.56		736.56	10,373			10,373
Police	564.11	27,687.63	28,251.74	9,084	189,513	22,781	221,378
Road Maintenance (Summer)	1,932.20	25.55	1,957.75	2,456			2,456
Roads & Snow	26,775.05	3,792.72	30,567.77	63,155	24,248		87,403
Short Term Rentals		67.97	67.97		1,050		1,050
Snow Removal (Winter)	30,863.27	78.84	30,942.11	25,859			25,859
Solid Waste		31.63	31.63				-
Trails	2,262.70		2,262.70				-
Transit- Dial-A-Ride & Fixed Route	7,776.11	5,281.98	13,058.09	117,953			117,953
Transit- TART Connect		37,288.36	37,288.36		673,980		673,980
Miscellaneous	4.01	83.20	87.21				-
Total	71,381.20	80,789.87	152,171.07	233,826	1,004,679	23,820	1,262,325

²Diesel gallons of fuel used reflects the combined total of regular diesel and renewable diesel used.

Government-Generated Solid Waste

This sector estimates the methane emissions from landfill disposal of organic material produced by local government operations. Emissions from government-generated solid waste were 1% of total GHG emissions in 2024.

Figure 10: GHG Emissions from Government Generated Solid Waste 2008-2024



Calculated GHG emissions from government-generated solid waste increased by 100% since 2008 and increased 8% from 2023 to 2024. The amount of trash generated by Town operations is estimated based on trash service levels at Town facilities, which did not change between 2023-2024, but increased slightly since 2008. Larger Town facilities, and an increase in the number of employees, may be factors in increased trash generation.

The amount of waste sent to landfill after sorting at Eastern Regional Landfill Material Recovery Facility (ERL MRF) is estimated using the facility’s reported recovery rate. The increased emissions starting in 2022 may also be due to use of different recovery rates in 2008 and 2016 inventories, which underestimate the amount of waste sent to landfill. Given that this sector accounts for an extremely small percentage of overall emissions, this difference in methodology does not have a significant effect on overall reported GHG emissions or the Town’s ability to meet adopted targets.

These calculations also do not reflect updates to waste reduction and recycling programs, including source-separated recycling programs implemented in 2018.

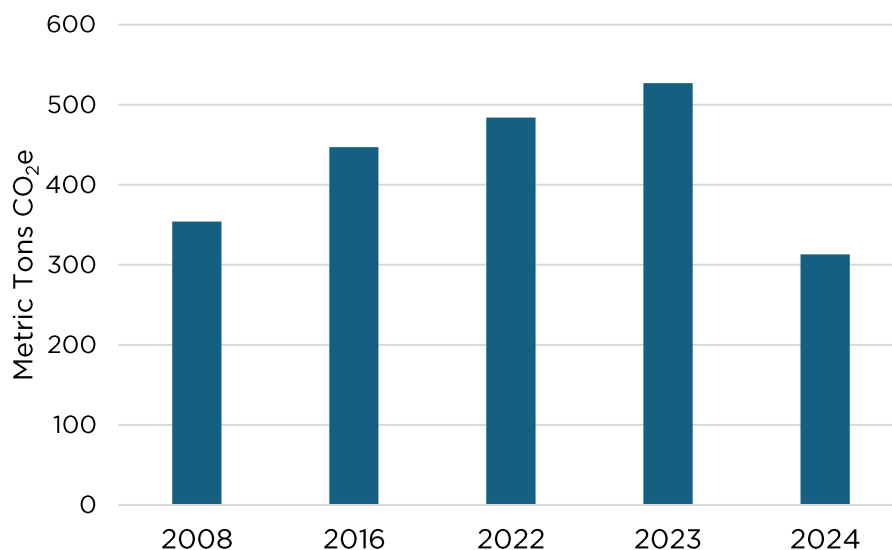
Employee Commute

Emissions from employee commutes are calculated from employee surveys which collect data on Town staff’s typical commute patterns. Based on calculations from these surveys, emissions from employee commutes decreased by 12% since 2008 and

41% from 2023 to 2024. The large emission reduction from 2023 to 2024 may be in part to a change in survey methodology that collected more precise data, including quantifying GHG emissions reductions from electric vehicles, alternative commute options and remote work programs adopted by the Town. However, because most of these captured shifts are new developments since 2008, this suggests that the longer-term trend is likely a real reduction in emissions, and not just due to a change in methodology.

The updated employee commute survey was first administered to Town employees in January 2025 and will be administered to staff annually going forward. The updated survey establishes a standardized methodology for estimating employee commuting emissions, improving consistency and comparability of future greenhouse gas inventories.

Figure 11: Employee Commute Emissions 2008-2024



GHG emission calculations are based on the number of employees, employees' transportation methods, travel distances, and days commuting to work. The new survey methodology used for this inventory captured these baseline factors and captured new information on employees' electric vehicle use, remote workdays, and alternative transportation options. Additionally, in the previous employee survey, emissions were calculated based on each employee's primary mode of transportation, which was assumed to remain consistent throughout the year. The updated survey instead asked employees to report their commute methods for each day over a two-week period, with employees also having the option to report separate winter and summer commuting patterns if their commute methods varied seasonally. This revised methodology more accurately captured variations in commuting behavior throughout the week and across seasons, resulting in a more representative estimate of employee commute emissions.

Table 5 shows the number of Town employees did not drastically change between 2023 and 2024. The number of seasonal days worked did decrease in 2024, which is

dependent on snowfall and snow removal staff needs, and factors into commute emissions based on the number of commute days. This reduction is likely attributed to the significant snowfall seen in winter 2022/2023 compared to winter 2023/2024. Table 6 presents the total vehicle miles traveled (VMT) estimated from the updated employee commute survey data, a data point unavailable from previous survey methodologies.

Table 5: Town Employee Data 2008-2023

Employee Data	2008	2016	2022	2023	2024
Number of Employees (Full Time, Part Time, Seasonal)	125	168	158	173	170
Seasonal Employee Days Worked	-	-	698	882	597

Table 6: Employee Vehicle Miles Traveled (VMT)

Employee Vehicle Miles Traveled (VMT)	2024
Total Annual Employee VMT (miles)	746,384
Average Full-Time Employee VMT Per Day (miles)	22.20

The updated survey also collected data to estimate the percentage of workdays employees do not commute to the office due to remote work arrangements or alternative work schedules, which provide a regular day off, such as 9/80 or 4/10 schedules. The Town adopted a telework policy in 2022, allowing eligible employees the option to work remotely one day per week on Fridays. Based on survey responses, employees were estimated to avoid commuting on approximately 7% of workdays each year due to remote work, and 6% of workdays due to a regular day off from alternative work schedules.

In May 2022, the Town also adopted increased employee incentives for using alternative transportation methods for commuting, including carpooling, bicycling, motorcycling, and public transportation. Figure 12 shows the increase in participation in the alternative transportation incentive program since the incentive was increased. Employees receive one hour of vacation for every five round trip commutes using alternative transportation, an increase from one hour received for ten round trip commutes. There is a max of 26 vacation hours allowed per employee per fiscal year. This additional incentive has contributed to a 65% increase in commute trips using alternative transportation and logged for vacation hour credits between 2021 and 2024. The last employee commute survey was administered in 2021 and did not capture impacts from telework policies or increased incentives for alternative transportation credits implemented in 2022.

Figure 12: Alternative Transportation Incentive Program Participation

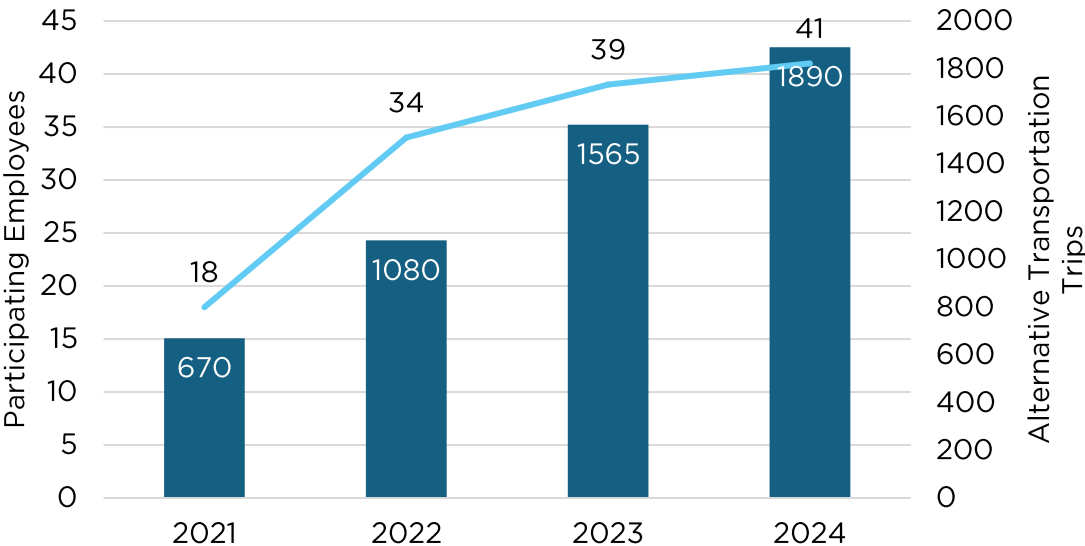
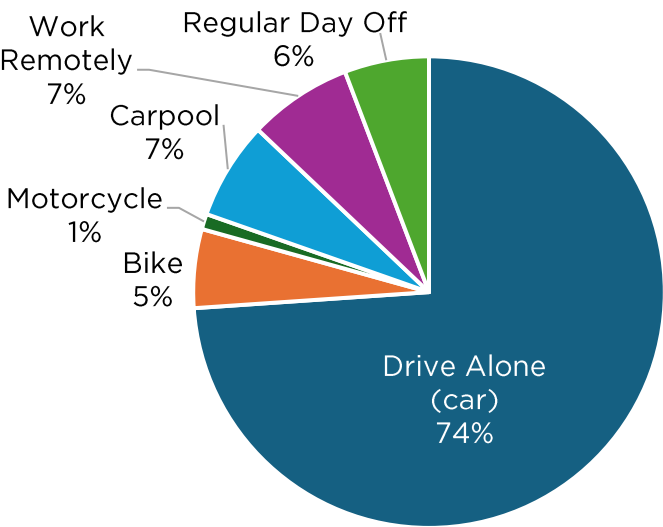


Figure 13 shows employee commute methods based on the updated survey, which is consistent with previous employee surveys indicating a majority of employees still primarily commute to work by driving alone in a personal vehicle.

Figure 13: Employee Commute Mode Share by Workdays



Appendix A: Data Sources and Emission Factors

Buildings and Facilities

Electricity and natural gas consumption data are collected from Truckee Donner Public Utility District (TDPUD) and Southwest Gas, and emissions are calculated in nZero. Electricity emissions are calculated using TDPUD's 2024 emission factors. Natural gas emissions are calculated using the 100-year GWP values for CH₄ and N₂O in the IPCC's Fifth Assessment Report.

Activity Data	Power Content Mix	Source
2024 Electricity-TDPUD	386 lbs of CO ₂ /MWh	TDPUD: https://www.tdpud.org/where-does-your-electricity-come-from

Activity Data	Global Warming Potential (100-year)		Source
	CH ₄	N ₂ O	
Natural Gas-Southwest Gas	28	265	IPCC, Fifth Assessment Report (2014)

Vehicle Fleet

Vehicle fleet fuel usage is tracked by vehicle through the Town's centralized fuel tanks. Emissions are calculated in nZero using the EPA emission data below.

Activity Data	kg CO ₂ /gallon	kg CH ₄ /gallon	kg N ₂ O/gallon	Source
Vehicle Fleet- Motor Gasoline	8.78	0.00780793	0.00068252	U.S. EPA
Vehicle Fleet- Diesel	10.21	0.009079607	0.000793683	
Vehicle Fleet- Renewable Diesel	4.52	-	-	

Leaked refrigerants from vehicle air conditioning are estimated by assuming full-charge capacity of 1.5 kg of refrigerant per vehicle and 20% loss per year. All vehicles are assumed to be 1994 or newer models, and the refrigerant was assumed to be R-134a.

Activity Data	Full Charge Capacity of the Equipment	Operating Emission Factor	GWP for R-134a	Number of Vehicles in Fleet (2024)	Source
Leaked Refrigerants (R-134a)	1.5	20%	1,430	168	IPCC, Guidelines for National Greenhouse Gas Inventories (2006)

Government-Generated Solid Waste

Tons of waste generated are calculated using trash service level data across Town facilities and recycling recovery rates reported from ERL MRF, provided Tahoe Truckee Sierra Disposal (TTSD). Emissions are calculated in Clear Path using CalRecycle 2014 Public Administration Waste Characterization Factor Set.

Activity Data	Type	Percentage by Weight	Emissions Factor (MT CH ₄ /wet short ton)
Government-Generated Solid Waste	Newspaper	2.3	0.042
	Office Paper	10.5	0.1556
	Corrugated Cardboard	3.1	0.1048
	Magazines / Third Class Mail	18.7	0.0476
	Food Scraps	17.2	0.0648
	Grass	1.2	0.0228
	Leaves	1.2	0.026
	Branches	0.1	0.058
	Dimensional Lumber	6.5	0.0068
	Source	CalRecycle 2014 Public Admin Waste Characterization	U.S. EPA Waste Reduction Model (WARM)

Employee Commute

Employee VMT is estimated using data from a 2025 employee survey completed by 81 respondents. VMT by fuel type is estimated using Nevada County 2024 data from

California Air Resources Board EMFAC2025 tool. Emissions are calculated in Clear Path using the EPA 2022 US National Defaults for fuel economy and emission factors. Emissions for electric vehicles are calculated in Clear Path using WECC California CAMX eGRID 2023 grid electricity data.

Activity Data	Total Annual Employee Commute VMT	Fuel Type	Annual Employee Commute VMT by Fuel Type	Percent VMT in Passenger Cars	Percent VMT in Light Trucks	Source
Employee Commute	746,384	Gasoline	715,860.35	42%	58%	Employee commute survey, CARB EMFAC2025 - Nevada County, 2024
		Diesel	3,520.16	62%	38%	
		Electric	27,002.31	-	-	

Activity Data	Vehicle Type	Fuel Type	Fuel Economy	CH ₄ Emissions (g/mi)	N ₂ O Emissions (g/mi)	Source
Employee Commute	Passenger Vehicle	Gasoline	24.8 MPG	0.0078	0.0061	EPA 2022 US National Defaults
	Light Truck	Gasoline	18.1 MPG	0.0110	0.0073	
	Passenger Vehicle	Diesel	24.8 MPG	0.0302	0.0192	
	Light Truck	Diesel	18.1 MPG	0.0290	0.0214	
	Electric Vehicle	Electric	91 MPGe	—	—	