



RIVERSIDE PUBLIC UTILITIES

Board Memorandum

BOARD OF PUBLIC UTILITIES

DATE: JULY 14, 2025

SUBJECT: GREENHOUSE GAS (GHG) EMISSION INVENTORY FOR THE 2050 GENERAL PLAN UPDATE/CLIMATE ACTION AND ADAPTION PLAN PROJECT

ISSUE:

Consider receiving a presentation on the Greenhouse Gas Inventory from 2023 inventory year prepared by project consultants, WSP.

RECOMMENDATION:

That the Board of Public Utilities receive and file a presentation on the Greenhouse Gas Inventory for the 2050 General Plan Update/Climate Action and Adaptation Plan project.

BACKGROUND:

In summer 2024, the City of Riverside (City) launched the Riverside 2050 Project, a multi-year effort to update its General Plan (GP) and develop a Climate Action and Adaptation Plan (CAAP). The General Plan is a comprehensive document which outlines community-wide priorities, goals and specific implementation measures to create a sustainable, resilient, and livable Riverside. The Update process will ensure that the General Plan reflects the vision and diverse voices of all residents through 2050. The Citywide initiative will include robust public outreach in each of the City's Wards and will identify focus areas for enhanced analysis and outreach.

In 2016, the City adopted the Climate Action Plan and the Economic Prosperity Action Plan (EPAP) as two interrelated plans for the Riverside Restorative Growth Footprint project. The City of Riverside is now developing a Climate Action and Adaptation Plan (CAAP) in conjunction with the 2050 General Plan Update. The CAAP will set ambitious, yet achievable emissions reduction targets for our City.

The General Plan and Climate Action and Adaptation Plan has included a robust public outreach campaign. Starting in Fall 2024, the project team held a festival-style kick-off event that included GP and CAAP informational booths and activities such as an interactive land use mapping activity and boards, community mural, comment cards. The project team has also conducted pop-up events throughout all the City wards, held stakeholder briefings, and a land use community workshop. To ensure the most engagement from hard-to-reach audiences, the outreach includes bilingual materials and family-friendly activities.

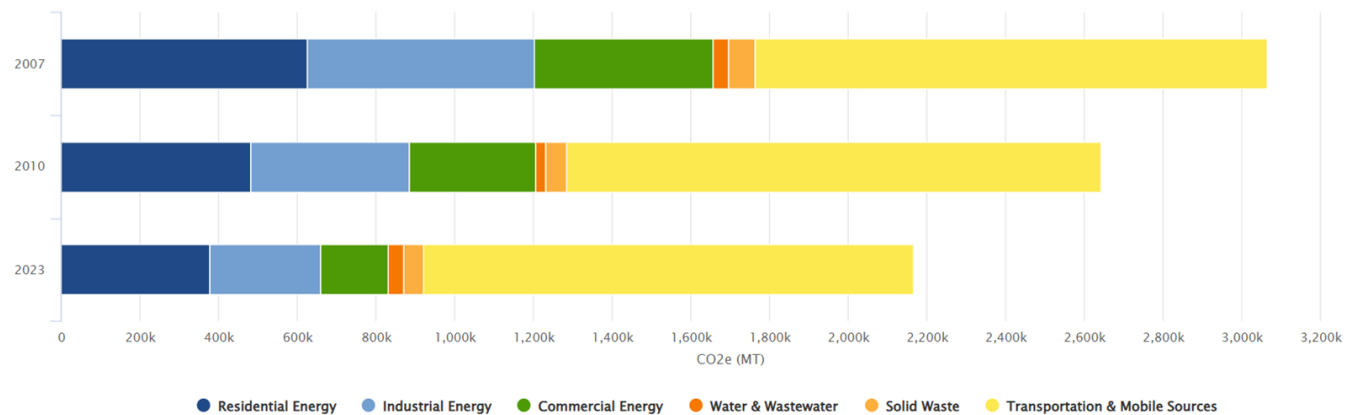
DISCUSSION:

As part of the Climate Action and Adaptation Plan, the Greenhouse Gas (GHG) Inventory will calculate, quantify, and assess community-wide related emissions and their sources which will then be used to set future emissions reduction targets for the City. The community-wide inventory gases generated within Riverside uses 2023 data because it is the most readily available. Data was collected from local data sources and when unavailable, county-level data scaled to city-level was used.

To conduct the Greenhouse Gas Inventory, the consulting team used the following methodologies: Emissions estimates based on U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions (U.S. Community Protocol), developed by ICLEI USA (International Council for Local Environmental Initiatives) and the analysis was performed using ICLEI’s ClearPath online platform. ICLEI USA’s methodology is a recognized standard, and it ensures that it is repeatable for future inventories.

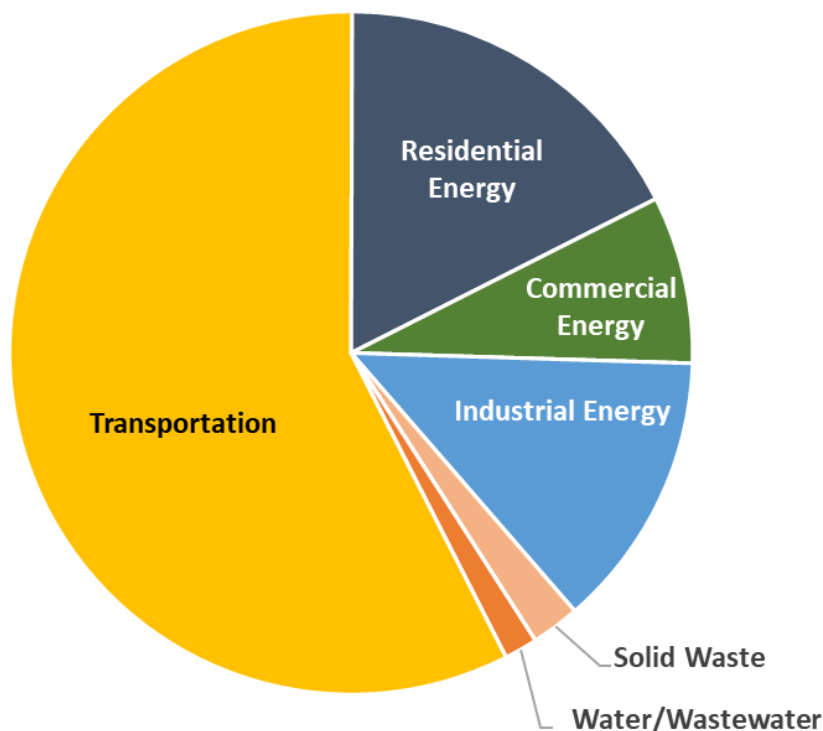
GHG Emissions Trends

Overall, the GHG Inventory emissions in the city are trending downward overtime. Compared to the last two readily available GHG inventories of 2007 and 2010, emissions were at 3 M MT CO2e and 2.6 M MT CO2e respectively, which translates to 0.9 M MT CO2e reduction within the last sixteen years.



Riverside 2023 GHG Inventory Summary

Riverside's GHG Inventory includes the following sectors: Transportation, Residential Energy, Commercial Energy, Industrial Energy, Solid Waste, and Water and Wastewater. Overall, Transportation accounts for 57% percent of emissions from the 2023 GHG Inventory.

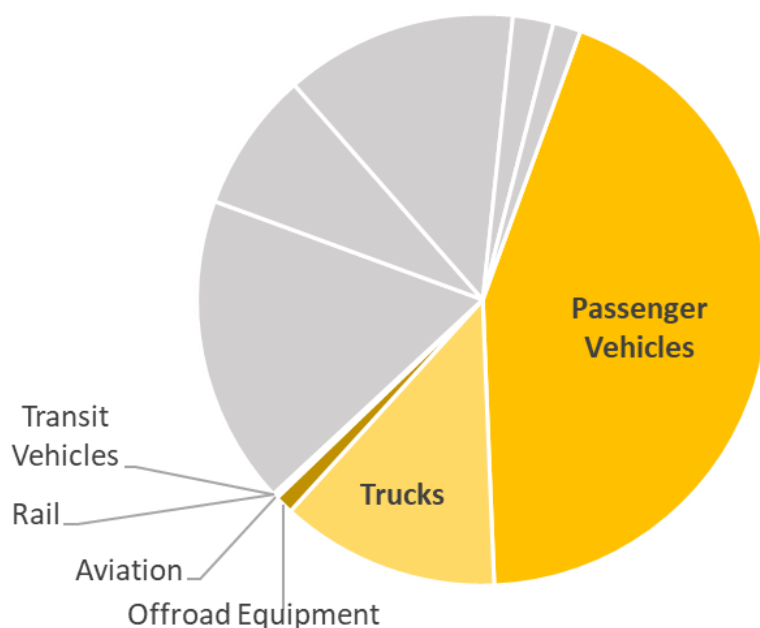


| Sector | Emissions (MT CO ₂ e) | Percent of Total |
|--------------------|----------------------------------|------------------|
| Transportation | 1,244,196 | 57% |
| Residential Energy | 378,332 | 17% |
| Commercial Energy | 171,657 | 8% |
| Industrial Energy | 280,639 | 13% |
| Solid Waste | 49,625 | 2% |
| Water & Wastewater | 42,617 | 2% |
| Total | 2,167,067 | 100% |

*Note: Columns may not add to totals due to rounding.
MT CO₂e: metric tons of carbon dioxide equivalent*

Transportation Details

A deeper dive of the Transportation sector shows that Passenger Vehicles amount to 44 percent. Passenger Vehicles includes motorcycles, passenger cars, light duty passenger trucks (SUVs, pickups). Since transportation involves patterns that cross city boundaries, the Western Riverside Council of Governments (WRCOG) regional travel demand model was used to calculate city-wide passenger vehicle emissions.



| Emission Source | Description | Data Source | MT CO ₂ e | Percent of Total Inventory |
|-------------------------|--|------------------------------------|----------------------|----------------------------|
| Passenger Vehicles | Motorcycles, passenger cars, light duty passenger trucks (SUVs, pickups) | WRCOG regional travel demand model | 947,061 | 44% |
| Medium and Heavy Trucks | Medium and heavy trucks for freight and commercial use | WRCOG regional travel demand model | 267,926 | 12% |
| Offroad Equipment | Construction equipment, landscaping, recreational vehicles | CARB OFFROAD Model | 22,919 | 1% |
| Aviation | Aircraft emissions | Riverside Municipal Airport | 4,720 | 0.2% |
| Rail | Line-haul, switcher, passenger rail, commuter rail | CARB OFFROAD Model | 1,134 | 0.1% |
| Transit Vehicles | Transit buses, mini buses, transit vans | RTA, Riverside Connect | 436 | <0.1% |

| Emission Source | Annual Activity | MT CO ₂ e | Percent of Total Inventory |
|------------------------------|---------------------------------------|----------------------|----------------------------|
| Passenger Vehicles | 11,107,882,544 vehicle miles traveled | 947,061 | 44% |
| Medium and Heavy Trucks | 3,628,743,228 vehicle miles traveled | 267,926 | 12% |
| Offroad Equipment - gasoline | 445,733 gallons of fuel | 22,919 | 1% |
| Offroad Equipment - diesel | 1,764,336 gallons of fuel | 4,720 | 0.2% |
| Aviation | 525,263 gallons of fuel | 1,134 | 0.1% |
| Rail | 110,063 gallons of fuel | 436 | <0.1% |
| Transit Vehicles | 4,134,480 vehicle miles traveled | | |

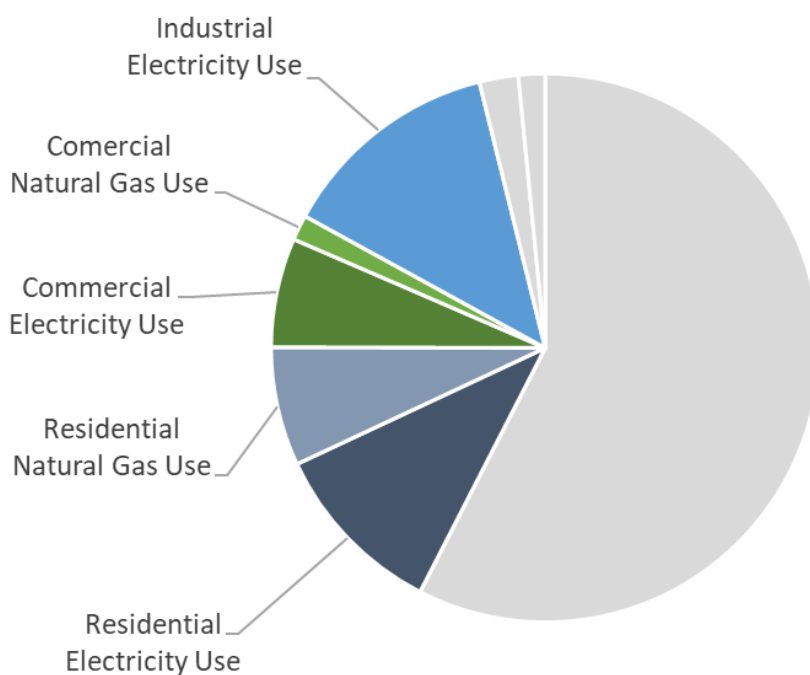
VMT excludes pass-through traffic, limited to miles traveled within Riverside and ½ of all trips beginning or ending within Riverside

Rail includes pass-through traffic, limited to miles traveled through Riverside

Aviation based on all aircraft fueled at Riverside Municipal Airport

Energy Details

The Energy sector, the second largest emitting sector, accounts for 38 percent 2023 GHG Inventory. Energy sources are split between electricity and natural gas as well their respective data source or public utility source.



| Emission Source | Data Source | MT CO ₂ e | Percent of Total Inventory |
|-------------------------|-------------|----------------------|----------------------------|
| Residential Electricity | RPU | 226,801 | 10% |
| Residential Natural Gas | SoCalGas | 151,531 | 7% |
| Commercial Electricity | RPU | 139,408 | 6% |
| Commercial Natural Gas | SoCalGas | 32,249 | 1% |
| Industrial Electricity | RPU | 280,639 | 13% |

Inventory Summary

The Inventory Summary shows the emissions sources and the probability of impacts from the General Plan Update (GPU), current legislation, and potential impacts by the CAAP. It is understood that the GPU will impact future on-road vehicles miles traveled (VMT) as land use decision in the GPU could facilitate the development of denser housing and transportation facilities that can promote other modes of travel outside of the single-use passenger trips. It is assumed that GHG from electricity sources will reduce as the Riverside Public Utility continues to procure renewable energy sources as a byproduct of reaching its 2040 neutrality goals.

| Emission Source | MT CO ₂ e | Percent of Total | Impacted by GPU | Impacted by Current Legislation | Potentially Impacted by CAAP |
|-------------------------|----------------------|------------------|-----------------|---------------------------------|------------------------------|
| Passenger Vehicles | 947,061 | 44% | ✓ | ✓ | ✓ |
| Industrial Electricity | 280,639 | 13% | | ✓ | ✓ |
| Medium and Heavy Trucks | 267,926 | 12% | ✓ | ✓ | ✓ |
| Residential Electricity | 226,801 | 10% | | ✓ | ✓ |
| Residential Natural Gas | 151,531 | 7% | | | ✓ |
| Commercial Electricity | 139,408 | 6% | | ✓ | ✓ |
| Commercial Natural Gas | 32,249 | 1% | | | ✓ |
| Solid Waste | 40,052 | 2% | | | ✓ |
| Drinking Water | 29,864 | 1.4% | | | ✓ |
| Offroad Equipment | 22,919 | 1.1% | | ✓ | ✓ |
| Compost | 9,573 | 0.4% | | | ✓ |
| Non-potable Water | 5,966 | 0.3% | | ✓ | ✓ |
| Wastewater Treatment | 6,787 | 0.3% | | ✓ | |
| Aviation | 4,720 | 0.2% | | | |
| Rail | 1,134 | 0.1% | | | |
| Transit Vehicles | 436 | <0.1% | ✓ | ✓ | ✓ |

FISCAL IMPACT:

There is no financial impact as this is a receive and file presentation of the 2023 GHG Inventory.

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| Approved by: | David A. Garcia, Utilities General Manager |
| Certified as to availability of funds: | Kristie Thomas, Finance Director/Assistant Chief Financial Officer |
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| Approved as to form: | Rebecca McKee-Reimbold, Interim City Attorney |

Attachment: Presentation