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
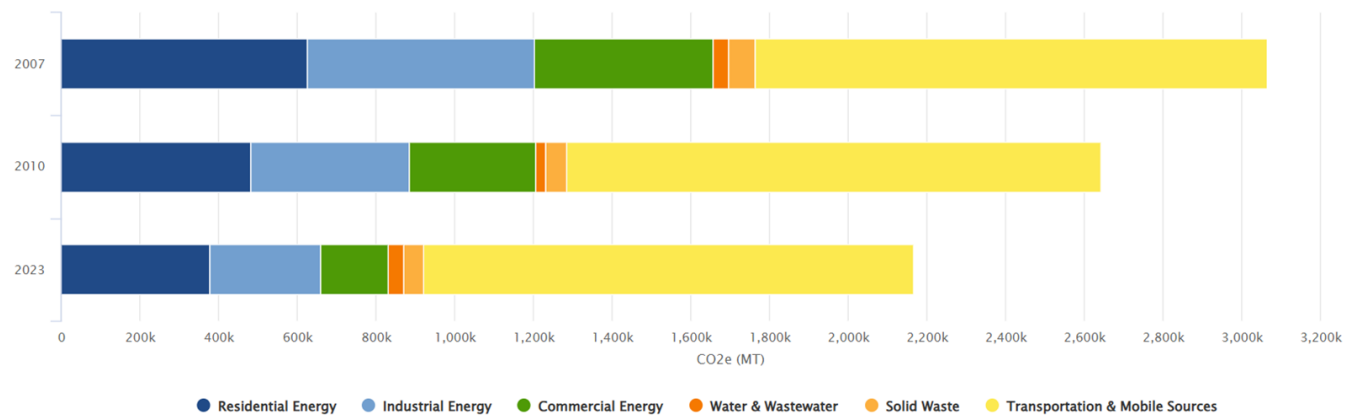bilingual materials and family-friendly activities.

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.
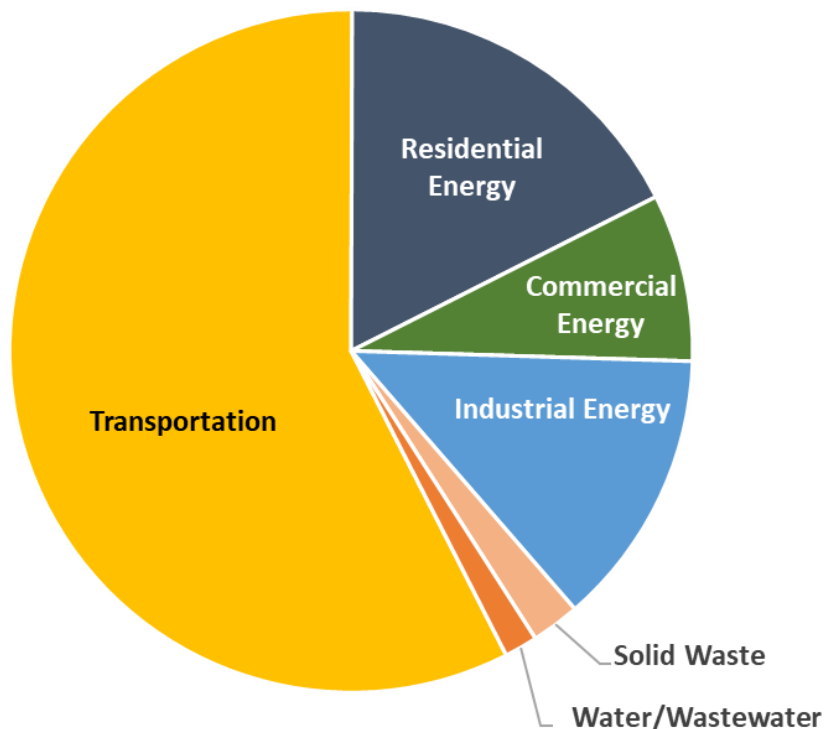
GHG Emissions Trends

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.
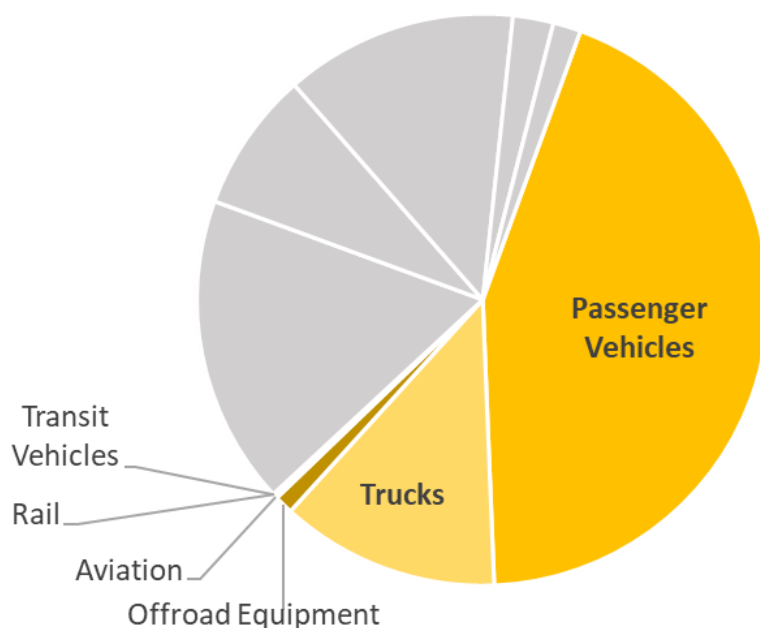

Sector	Emissions (MT CO$_2$e)	Percent of Total
Transportation	1,244,196	57%
Residential Energy	378,332	17%
Commercial Energy	171,657	8%
Industrial Energy	280,639	13%
Solid Waste	49,625	2%
Water & Wastewater	42,617	2%
Total	**2,167,067**	**100%**

Note: Columns may not add to totals due to rounding.
MT CO$_2$e: metric tons of carbon dioxide equivalent

Transportation Details

A deeper dive of the Transportation sector shows that Passenger Vehicles amount to 44 percent. Passengers 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 CO2e	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%

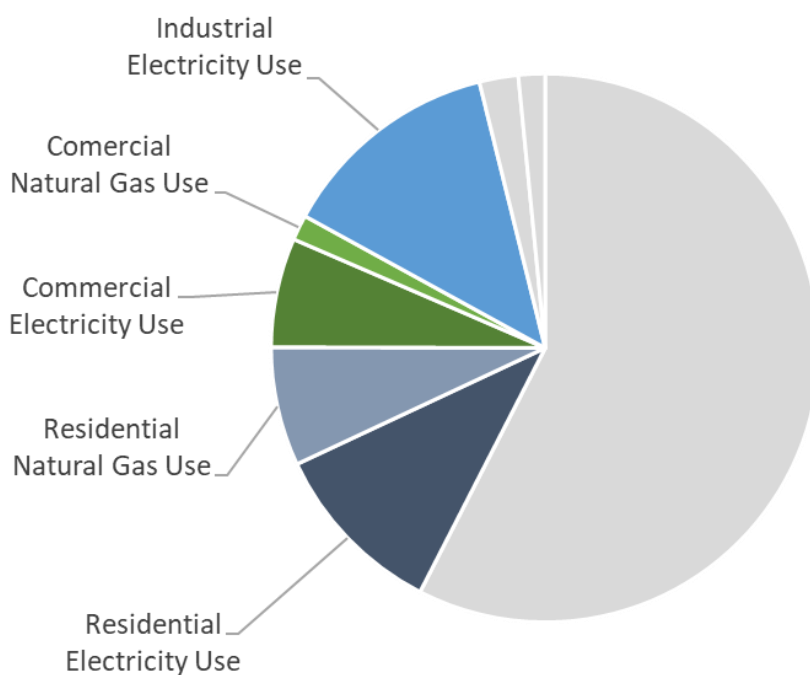| Emission Source	Annual Activity		MT CO2e	Percent of Total Inventory
Passenger Vehicles	11,107,882,544	vehicle miles traveled	947,061	44%
Medium and Heavy Trucks	3,628,743,228	vehicle miles traveled	267,926	12%
Offroad Equipment - gasoline	445,733	gallons of fuel	22,919	1%
Offroad Equipment - diesel	1,764, 336	gallons of fuel		
Aviation	525,263	gallons of fuel	4,720	0.2%
Rail	110,063	gallons of fuel	1,134	0.1%
Transit Vehicles	4,134,480	vehicle miles traveled	436	<0.1%

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 CO2e	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 CO2e	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 as to form:	Rebecca McKee-Reimbold, Interim City Attorney

Attachment: Presentation