CITY OF BAKERSFIELD
PRIORITY CLIMATE ACTION PLAN

MARCH 2024

City of Bakersfield

Priority Climate Action Plan

City of Bakersfield

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1   EXECUTIVE SUMMARY

This Priority Climate Action Plan (PCAP) provides an overview of the City of Bakersfield's (City's) near-term climate action strategy. It is the first deliverable due to the US Environmental Protection Agency (EPA) under the Climate Pollution Reduction Grant (CPRG) program.

This PCAP includes:

➢ an inventory of citywide greenhouse gas (GHG) emissions as of 2019, by sector;

➢ a discussion of climate-related risks for low-income and disadvantaged communities (LIDACs), as well as the potential benefits of climate action to these communities;

➢ a priority list of GHG reduction measures for near-term implementation; and

➢ a stakeholder engagement strategy to ensure successful implementation of these measures.

This PCAP builds on the July 2023 Public Review Draft of the City of Bakersfield's Climate Action Plan (Bakersfield CAP) and its associated technical appendices. Where noted, tables and figures in this PCAP are derived from these documents. This PCAP also takes into account significant community stakeholder feedback received in response to the draft Bakersfield CAP.

2   GREENHOUSE GAS INVENTORY

The Bakersfield CAP used a production-based approach to quantifying GHG emissions, i.e., it measured the GHG emissions generated by activities within the geographic boundaries of the city. Table 1 below describes the specific emissions sectors included in the Bakersfield CAP (City of Bakersfield 2023a: 3-2).

Table 1   **Greenhouse Gas Emissions Sectors in the Bakersfield Climate Action Plan**

Emissions Sector	Description
Residential Building Energy	Residential building energy emissions are associated with the consumption of electricity and onsite combustion of natural gas in homes within the city.
Nonresidential Building Energy	Nonresidential building energy emissions are associated with the consumption of electricity, liquid propane gas, natural gas, and diesel in nonresidential buildings within the city.
On-Road Transportation	On-road transportation emissions are associated with vehicle miles traveled and Kern County-specific emission factors.
Off-Road Vehicles and Equipment	Off-road emissions are associated with gasoline and diesel fuel use in construction, entertainment, industrial, lawn and garden, commercial, oil drilling, and recreation equipment, as well as pleasure craft, railyard operations, transportation refrigeration units, and portable equipment.
Solid Waste	Solid waste emissions are associated with the decomposition of community-generated mixed and organic waste in landfills.
Water Supply	Water emissions are associated with the electricity used to supply, convey, treat, and distribute water in the city.
Wastewater Treatment	Wastewater treatment emissions are associated with digester gas treatment processes, population served, biological oxygen demand load, and daily nitrogen load from the City's two centralized wastewater treatment plants.
Agriculture	Agriculture emissions are associated with livestock (i.e., enteric fermentation, manure management), fertilizer application, open burning, and the use of agricultural equipment.
Source: City of Bakersfield 2023a: 3-2	

For these sectors, the basic calculation for estimating GHG emissions involves two primary inputs: activity data and emissions factors. Activity data refers to the relevant measurement of a community's activity resulting in emissions, such as vehicle miles traveled (VMT) or natural gas usage. Emissions factors represent the amount of GHG emitted per unit of activity. Emissions factors are multiplied by activity data to estimate GHG emissions. The calendar year of 2019 was used for this analysis.

A description of activity data and emissions factors for each emissions sector, along with data sources, is shown in Table 2 (City of Bakersfield 2023a: 3-2 through 3-3). The results of the GHG emissions calculation are shown in Table 3 (City of Bakersfield 2023a: 3-3). In 2019, activity in the city resulted in 2,551,089 metric tons of carbon dioxide equivalent (MTCO$_2$e) emissions. MTCO2e was calculated using global warming potential (GWP) factors published in the Sixth Assessment Report from the Intergovernmental Panel on Climate Change (IPCC), where methane (CH$_4$) and nitrous oxide (N$_2$O) have GWP factors of 27.9 and 273, respectively (IPCC 2021).

Table 2   Summary of Activity Data and Emissions Factors in the Bakersfield Climate Action Plan

Sector/Source	Input Type	Description and Data Sources
Building Energy		
Electricity	Activity Data	Electricity consumption data from PG&E and SoCalGas
	Emissions Factor	Utility-specific emissions factors from TCR and EPA
Natural Gas	Activity Data	Natural gas consumption data from PG&E and SoCalGas
	Emissions Factor	Average emissions factor from TCR
Backup Generators	Activity Data	Fuel consumption data from SJVAPCD
	Emissions Factor	Average emissions factor from TCR
On-Road Transportation		
On-Road Transportation	Activity Data	VMT data from the Kern Council of Governments Travel Model
	Emissions Factor	Kern County-specific factors from CARB
Off-Road Vehicles and Equipment		
Off-Road Vehicles and Equipment	Activity Data	CARB OFFROAD model
	Emissions Factor	
Solid Waste		
Community-Generated Solid Waste	Activity Data	Waste disposal data from the California Department of Resources Recycling and Recovery (CalRecycle)
	Emissions Factor	Mixed municipal solid waste emissions factor from EPA
Composting	Activity Data	Composted yard trimmings data from the City of Bakersfield
	Emissions Factor	Compost emissions factors from CARB
Water Supply		
Water Supply	Activity Data	Water consumption and associated electricity data from the City of Bakersfield's Water Resources Department, California Water Service Company, Greenfield County Water District, and Vaughn Water Company
	Emissions Factor	Electricity emissions factors from PG&E
Wastewater Treatment		
Wastewater Treatment	Activity Data	Wastewater generation and process-related data from the City of Bakersfield
	Emissions Factor	Emissions factor based on treatment processes from the City of Bakersfield and ICLEI
Agriculture		
Fertilizer Application	Activity Data	California Department of Food and Agriculture 2019 Fertilizer Tonnage Report
	Emissions Factor	Fertilizer emissions factors from CARB
	Activity Data	CARB OFFROAD model

Agricultural Equipment: Off- Road Vehicles and Equipment	Emissions Factor	
Agricultural Equipment: Irrigation Pumps	Activity Data	Diesel- and natural gas-powered irrigation pumps data from the SJVAPCD
	Emissions Factor	Emissions factors from PG&E and TCR
Open Burning	Activity Data	Data provided by SJVAPCD
	Emissions Factor	Emissions factors from the National Wildfire Coordinating Group

Notes: CARB = California Air Resources Board; EPA = US Environmental Protection Agency; ICLEI = ICLEI—Local Government for Sustainability; PG&E = Pacific Gas and Electric Company; SJVAPCD = San Joaquin Valley Air Pollution Control District; SoCalGas = Southern California Gas Company; TCR = The Climate Registry; VMT = vehicle miles traveled.

Source: City of Bakersfield 2023a: 3-2 through 3-3

Table 3   City of Bakersfield 2019 Greenhouse Gas Emissions Inventory

Sector	GHG Emissions (MTCO$_2$e)	Percent of Total
On-Road Transportation	1,597,941	63%
Residential Building Energy	320,315	13%
Solid Waste	244,383	10%
Nonresidential Building Energy	222,659	9%
Off-Road Vehicles and Equipment	141,272	6%
Wastewater Treatment	13,407	1%
Agriculture	7,808	<1%
Water Supply	3,302	<1%
Total	2,551,089	100%

Notes: GHG = greenhouse gas; MTCO$_2$e = metric tons of carbon dioxide equivalent.

Totals may not sum exactly due to independent rounding.

Source: City of Bakersfield 2023a: 3-4

3   LOW-INCOME & DISADVANTAGED COMMUNITIES ANALYSIS

This section describes the LIDAC population in the city, including its geographic distribution by census tract. It also describes LIDAC residents' vulnerability to climate change-related effects.

The Missouri Census Data Center's dataset, which maps 2020 census tract numbers to census place names (Missouri Census Data Center 2024), showed that the city consisted of 130 census tracts and a population of 403,455 people in 2020. To determine which of these census tracts were identified as LIDACs, this dataset was cross-referenced with the EPA's publicly posted list of LIDAC census tracts (EPA 2024). The results showed that 76 census tracts in the city were identified as LIDACs, and that these tracts included 220,532 people, or 55 percent of the City's population. Appendix A shows the full list of census tracts, along with their LIDAC status and population.

Next, the vulnerability of these populations to climate-related hazards was assessed, using the Bakersfield CAP's vulnerability assessment as a starting point (City of Bakersfield 2023a: 4-1 through 4-15). The vulnerability assessment analyzed the specific climate change-related hazards faced by the city, the severity of their potential impacts, and the capacity of the City to prepare for and adapt to those hazards ("adaptive capacity"). The results of this analysis were translated into a vulnerability score. As shown in Table 4, the city was found to be most vulnerable to increased temperatures and extreme heat, followed by drought and water supply, wildfire, and extreme precipitation and flooding.

Table 4   Climate Vulnerability Scoring Summary for the City of Bakersfield

Climate Change Effect	Vulnerability Score		
	Adaptive Capacity	Potential Impacts	Vulnerability
Increased Temperatures and Extreme Heat	Low	High	5
Extreme Precipitation and Flooding	Medium	Low/Medium	2-3
Wildfire Risk	Low/Medium	Medium	3-4
Drought and Water Supply	Medium	High	4
Source: City of Bakersfield 2023a: 4-14			

While climate change hazards affect all residents in Bakersfield, the impacts described above are more severe for people residing within identified LIDACs, as they may lack the resources needed to reduce their exposure to these hazards. For example:

➢ Extreme heat results in high energy bills for LIDAC residents already burdened by utility costs. It can also result in fatalities if LIDAC residents lack access to air conditioning, cooling centers, or parks to escape the heat.

➢ Drought and water supply losses increase dust in the air (which increases the incidence of respiratory illness, especially among farmworkers who work outdoors and are often residents of LIDACs), reduces crop yields, and reduces the availability of clean, safe drinking water. Since agriculture is a substantial part of the region's economy, the effects of drought are particularly severe.

➢ Wildfire emissions generate particulate matter and endanger homes in the wildland-urban interface (WUI). Many residents may not have the resources to evacuate or avoid breathing the particulate matter. This respiratory illness burden is especially relevant to the LIDAC residents in the city, who already disproportionately bear the burden of air quality issues.

➢ Extreme precipitation and flooding can cause damage to homes, which many LIDAC residents cannot readily afford to repair.

4   PRIORITY GREENHOUSE GAS REDUCTION MEASURES

The Bakersfield CAP contained a list of 56 measures to reduce GHGs (included as Appendix B to this PCAP). This list was compiled from existing City and regional plans, as well as feedback received during community outreach and research into best practices during the Bakersfield CAP's development process.

From this list of 56 measures, a shortlist of 8 priority measures for this PCAP was developed. Measures were included in this shortlist only if they met all the following criteria:

➢ The measure has quantifiable GHG reductions in 2030.

➢ The measure has sufficiently large reductions in 2030 to merit the effort of implementing it. (Five measures were considered ineligible for the shortlist because their combined emissions reductions totaled less than one percent of all 2030 emissions reductions.)

➢ The measure is "shovel-ready," i.e., could feasibly be implemented in the short term, given the City's jurisdiction, resource constraints, and ability to influence other actors.

➢ The measure specifically benefits LIDAC residents.

➢ The City has authority to implement and could lead implementation in the short term. If support is needed from other stakeholders, these stakeholders have already been engaged and are supportive of the measure's implementation.

The shortlist of priority measures is shown below in Table 5, along with each measure's GHG reductions in 2030 and 2045[1]. Technical details of the GHG reductions calculations can be found in the Appendix to the Bakersfield CAP (City of Bakersfield 2023b). In Table 5, the language of two measures, BE-1.1 and IN-1.1, has been changed to reflect stakeholder feedback on the Bakersfield CAP. The original language of those measures is shown in Appendix B.

Table 5   Priority Greenhouse Gas Reduction Measures for the City of Bakersfield

| Sector | Measure Number | Measure Description | GHG Reductions (MTCO$_2$e) | |
			2030	2045
Building Energy	BE-1.1	Address residential and nonresidential building energy efficiency and energy use.	15,253	48,130
Infrastructure	IN-1.1	Increase production and use of clean electricity.	280,307	0
Infrastructure	IN-2.1	Increase EV charging infrastructure.	383,212	1,412,309
Infrastructure	IN-3.1	Increase use of electricity and alternative fuels in construction equipment.	22,316	50,637
Land Use and Mobility	LU-1.1	Improve pedestrian and biking infrastructure, prioritizing investments in disadvantaged communities.	53,535	53,223
Land Use and Mobility	LU-4.1	Increase residential density near transit, prioritizing affordable housing development.	54,086	118,386
Natural and Urban Landscapes	NU-1.1	Increase urban tree canopy and green spaces to reduce the heat island effect and improve air quality.	885	3,540
Materials and Waste	MW-2.1	Increase organic waste diversion citywide.	158,715	319,625
Total			968,309	2,005,850

Notes: MTCO$_2$e = metric tons of carbon dioxide equivalent; GHG = greenhouse gas.

Totals may not sum exactly due to independent rounding.

Source: Prepared by Ascent in 2024

For each priority measure, the City developed the following implementation details as part of this PCAP:

➢ **Implementation-ready actions** are specific tasks that can be implemented in the near term to achieve the measure's goals.

➢ **Implementation schedule** shows approximate timelines for implementing these actions.

➢ **Funding sources** describe the combination of grants and City budgetary resources that can be used to implement the measure.

➢ **Progress tracking metrics** are specific, quantifiable indicators that can be used to determine the progress of measure implementation.

➢ **Co-benefits** are benefits of implementing measures that are separate from GHG reductions. For example, measures may, in addition to reducing GHGs, result in criteria air pollutant reduction, reduced passenger vehicle traffic, and the construction of affordable housing. Where these co-benefits accrue specifically to LIDAC census tracts, it is noted in the text.

Many of these measures' implementation actions involve assets such as vehicles and buildings that are owned and controlled by the City. These assets are referred to in the proceeding text as "municipal" assets.

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[1] The years 2030 and 2045 were selected to align with the State of California's GHG reduction targets codified in Senate Bill 32 of 2016 and Assembly Bill 1279 of 2022.

Measure BE-1.1: Address residential and nonresidential building energy efficiency and energy use.

This measure involves retrofitting 7 percent of existing residential and nonresidential buildings to all-electric by 2030, and 15 percent by 2045 (City of Bakersfield 2023a: 5-5). The City will lead implementation, partnering with nonprofits such as Community Action Partnership of Kern (CAPK) and Habitat for Humanity. The former will facilitate outreach for solar panel installation and energy efficiency programs, and the latter will provide labor and materials to help with building retrofits. In the near term, there would be four priority projects, listed below:

➢ **Municipal facilities.** The City has full jurisdiction over its own facilities, and will lead retrofit efforts on them.

➢ **The Dr. Martin Luther King, Jr. Community Center**, located at 1000 S Owens Street. The City owns this facility and will lead the retrofit process. This building is located in a LIDAC area.

➢ **The Bakersfield Senior Center**, located at 530 4th Street. The Senior Center is a non-profit organization independent of the City; while the City does not have direct control, discussions of retrofits have occurred and the Senior Center is supportive of these retrofits. This building is located in a LIDAC area.

➢ **CAPK Friendship House,** located at 2424 South Dr. Martin Luther King Boulevard. CAPK is a non-profit organization independent of the City and is currently in discussions to support energy retrofits, including microgrid capabilities and battery storage to support the facility's operation in the event of a power outage and support services during emergencies. The building is located in a LIDAC area.

Planning meetings with CAPK and Habitat for Humanity will begin in late 2025; retrofit work will begin in early 2026. In addition to retrofitting these specific buildings above, the City plans to work with partners, including the San Joaquin Valley Air District to identify funding to offer financial incentive programs for energy efficiency projects such as installing zero-emission technologies such as heat pumps, especially for those living and working in LIDAC areas.

Funding for this measure could be derived from a combination of sources, which could include the City's capital budget, the EPA CPRG implementation grant, the EPA Community Change Grants, and the California Strategic Growth Council's Transformative Climate Communities grant (California Strategic Growth Council 2024). Progress will be tracked by monitoring natural gas use in municipal buildings over time—these data will be requested every two years from Pacific Gas and Electric (PG&E) and SoCalGas, which provide natural gas to the City. To ensure a meaningful decline in this natural gas usage, a rolling multi-year average will be used for this calculation, as natural gas usage in an individual year can vary substantially depending on ambient temperature.

Measure IN-1.1: Increase production and use of clean electricity.

This measure aims to accelerate the rate at which residents and businesses use low- or zero-carbon electricity. This can occur via installing rooftop solar, or by incentivizing residents and businesses to adopt low-carbon rate plans. Near-term actions to accomplish this are listed below:

➢ The City currently has four sites with shovel-ready designs to expand solar production. These are the Mechanics Bank Arena, an organic waste processing facility, Wastewater Treatment Plant 3, and the Bakersfield Ice Center. The City will issue a design-build request for proposals (RFPs) for these projects in late 2024; selected RFPs will be submitted for City Council approval in the first quarter of 2025. The status of these projects will be monitored with quarterly progress reports.

➢ PG&E is the electric provider for Bakersfield residents and businesses. It currently offers multiple rate plans that are low carbon, such as the 50 percent Solar Choice and 100 percent Solar Choice plans. Although enrollment for these rate plans is currently closed (PG&E 2024), it may reopen in the future. To incentivize enrollment in low-carbon rate plans, the City will explore funding opportunities with partner agencies to create programs to offer residents incentives (such as cash payments) to switch to this plan. This could occur as soon as 2025, pending re-opening of these plans.

➢ The City currently is partnering with GRID Alternatives, a nationwide non-profit organization, and Kern Community College District through the Transformative Climate Communities implementation program to provide low-income homeowners in Southeast Bakersfield access to affordable solar energy. Currently in post

award consultation with the Strategic Growth Council, the program anticipates providing solar photovoltaic generating systems to 75 homeowners.

The cost of undertaking these actions could be funded from a combination of sources, including the EPA CPRG implementation grant and other state and regional incentive programs. For incentives to switch rate plans, greater incentives could be offered to customers in LIDAC areas.

To ensure emissions reductions, a data request will be made to PG&E every two years. This data request will ask for aggregated electric usage data by customer type (e.g., residential, commercial, etc.) and electricity plan (i.e., if the customer group is enrolled in a Solar Choice plan or not). This electric usage will be used to calculate GHG emissions using emissions factors reported in PG&E's Power Content Label, which is a publicly available estimate of GHG emissions per kilowatt-hour of electricity usage, updated annually (PG&E 2023).

Measure IN-2.1: Increase EV charging infrastructure.

This measure aims to transition passenger vehicles used in the city such that 30 percent of all passenger vehicles are electric vehicles (EVs) by 2030, as well as increase medium- and heavy-duty EVs by 30 percent over current levels (City of Bakersfield 2023a: 5-11). This will be accomplished by improving the availability of charging stations.

The City will lead this effort starting in 2025, in coordination with the San Joaquin Valley Air Pollution Control District (Air District). The Air District has already approved a collaboration with the City of Bakersfield. Several City-owned sites for EV charging installation have already been identified and are in the design phase. The City will develop a City Owned EV-charging station site location map in 2025. An overall plan for EV charging infrastructure will be included in an Implementation Strategy Report, which will be received and filed by the City Council in 2025.

To incentivize the construction of public chargers on property that is not City-owned, such as multifamily dwellings, the City could promote grant funds from the Air District's Charge Up! Program (Air District 2024a). Additionally, the City could work to access funds from the California Energy Commission's Clean Transportation Program (California Energy Commission 2024a). The City will identify opportunities to work with developers on concurrent community revitalization efforts to include charger construction in LIDACs with grant applications.

To track progress on this measure, annually updated public data on EV ownership by zip code (California Open Data Portal 2024) will be used. Additionally, charger deployment will be tracked using the Electric Vehicle Chargers dataset from the California Energy Commission, which is updated quarterly (California Energy Commission 2024b).

Co-benefits of this measure are reduced tailpipe particulate matter emissions from gas-powered cars, and a resultant decrease in respiratory illnesses. This would especially benefit people residing or working in LIDACs who experience greater exposure to poor air quality than the general population.

Measure IN-3.1: Increase use of electricity and alternative fuels in construction equipment.

This measure's goal is to use electricity, renewable diesel, or other alternatives to conventional diesel to power construction equipment. By 2030, the measure targets 50 percent of construction equipment to be powered by renewable diesel or alternative fuels, and 7 percent of construction equipment electrified. By 2045, it targets 80 percent of construction equipment powered by renewable diesel or alternative fuels, and 19 percent of construction equipment electrified (City of Bakersfield 2023a: 5-12).

The City owns and operates a fleet of construction vehicles, and thus will have a lead role in their decarbonization. The City's Fleet, Solid Waste, and Streets & Utilities departments have already field-tested zero-emission heavy-duty equipment models and will continue to do so in 2025. These departments are developing specifications for procurement, which is anticipated to start in 2026.

To fund this effort, the City could partner with the Air District, as well as take advantage of funds in the California Air Resources Board's (CARB's) Clean Off-Road Equipment Voucher Incentive Project (CARB 2023).

To track progress on this measure, diesel fuel use data will be collected from the City via a data request every two years. Diesel use should fall over time as this fuel is displaced by electricity and alternative fuels.

Co-benefits of this measure are reduced particulate matter emissions from diesel, which benefits people residing or working in LIDACs who experience greater exposure to poor air quality than the general population.

Measure LU-1.1: Improve pedestrian and biking infrastructure, prioritizing investments in disadvantaged communities.

This measure's goal is to increase walking and biking as a means of transport instead of driving in passenger vehicles. Its goal is the reduction of approximately 138 million annual VMT by 2030 (City of Bakersfield 2023b: 135).

The City of Bakersfield will lead this effort, as it has control over its roads, pedestrian, and biking infrastructure. Multiple large complete street and multi-use path projects are shovel-ready or in design, including the bulleted list below. All of these projects are anticipated to start construction on or before 2027.

➢ Chester Avenue

➢ H Street

➢ Martin Luther King Jr. Boulevard

➢ Niles Street

➢ Monterey Street

➢ Monitor Street

➢ 18th Street

➢ 19th Street

➢ 34th Street

➢ 4th Street

➢ P Street

➢ Pedestrian improvements around the following schools: Mckinley Elementary School, Emerson Middle School, Bessie E. Owens Elementary, Lincoln Junior High School, and Vista High School

All of these streets run through LIDACs. This work could be funded from the City's General Fund, as well as grants from the following sources:

➢ Transformative Climate Communities (California Strategic Growth Council 2024)

➢ Congestion Mitigation and Air Quality (United States Department of Transportation 2024a)

➢ Active Transportation Program (California Transportation Commission 2024a)

➢ Rebuilding American Infrastructure with Sustainability and Equity (RAISE) (United States Department of Transportation 2024b)

➢ American Rescue Plan Act (Federal Transit Administration 2024)

To ensure VMT reductions, VMT data will be requested from Kern Council of Governments (Kern COG) every two years and compared to the level in the Bakersfield CAP's GHG emissions inventory.

This measure helps those living and working in LIDAC areas by reducing the need for passenger vehicles and thus the cost burden of transportation. Additionally, by reducing VMT, the measure increases safety (i.e., fewer cars on the road means fewer collisions), and reduces associated particulate matter emissions.

Measure LU-4.1: Increase residential density near transit, prioritizing affordable housing development.

This measure's goal is to increase access to transit, thereby achieving a 15 percent reduction in new VMT (i.e., additional VMT due to population and job growth after the Bakersfield CAP's inventory year of 2019) for passenger and commercial vehicles by 2030 (City of Bakersfield 2023b: 136).

The City of Bakersfield will lead this effort through its Residential Zoning Code and Housing Element updates, both of which explicitly incentivize dense residential development. Both of these updates are scheduled for City Council approval in 2024. The Residential Zoning Code includes a new zone MX-2, a mixed-use transit zone with high density (30 to 100 dwelling units per acre, or du/ac). The Bakersfield Housing Element update prioritizes housing sites based on proximity to transit, job centers, and community services (City of Bakersfield 2023c: 32-33). Implementation efforts could be funded by the City budget, as well as Local Early Action Planning grants (California Department of Housing and Community Development 2024). These funds could be used to, among other things, reduce application processing time and reduce development costs for affordable housing near transit.

Progress on this measure will be tracked using metrics of affordable housing density (in du/ac) near major transit routes—these data are already collected by the City as part of its planning process. Additionally, to ensure overall VMT reductions, VMT data will be requested from Kern COG every two years and compared to the level in the inventory.

This measure explicitly benefits people living and working within LIDAC areas by providing affordable housing, reducing passenger vehicle traffic and its associated particulate matter emissions, and reducing the cost burden of housing and transportation. It also increases safety (fewer cars on the road means fewer collisions).

Measure NU-1.1: Increase urban tree canopy and green spaces to reduce the heat island effect and improve air quality.

This measure assumes that 5,000 trees are planted annually through 2045 (City of Bakersfield 2023a: 5-31).

The City's Recreation and Parks department will lead implementation on City-owned property. Funding could be derived from the City's General Fund, as well as several grants, including the Inflation Reduction Act's Urban and Community Forestry Grants (which specifically target disadvantaged communities—see United States Forest Service [2024]), the California Natural Resources Agency Urban Greening Program (2024), and the California Transportation Commission's (2024b) Environmental Enhancement and Mitigation program.

This work will begin in 2025. Several specific projects have already been identified, including:

➢ a turf replacement program, which aims to replace existing turf with drought-tolerant native plants;

➢ a downtown tree canopy improvement plan, which aims to improve maintenance of existing trees in the downtown area;

➢ a citywide tree planting project, which aims to replace approximately 1,200 trees as well as investing in new irrigation systems; and

➢ a greenspace conversion program, which aims to convert vacant areas to parks.

An urban tree inventory could be conducted every three years to ensure that the trees are thriving, pending the available budget to do so.

Co-benefits include city beautification, reduced urban heat islands (which benefit those living and working in LIDAC areas who may not have the resources to avoid the effects of extreme heat), and increased property values.

Measure MW-2.1: Increase organic waste diversion citywide.

This measure aims for a waste diversion rate of 80 percent in the city by 2030, and 90 percent by 2045 (City of Bakersfield 2023a: 5-25). The City's Public Works Department (specifically, the Solid Waste Division) will lead the implementation of this measure. The Public Works Department is currently developing a Facility Master Plan, which covers design and construction of facilities required to process organic waste, as well as specialty equipment such as

shredders, pick lines, contaminant removal devices, and compost packaging. All of these are existing technologies that are readily available for purchase. Currently, procurement of new equipment is scheduled to start in 2024, and construction of new solid waste processing facilities is scheduled to start in 2025.

Funding for this measure could be derived from the City's Solid Waste Enterprise fund, which comprises ratepayer funds and tipping fees, in addition to grants from CalRecycle such as the Community Composting for Green Spaces Grant (CalRecycle 2024a).

To ensure that less waste is sent to landfills, disposal rates will be tracked using CalRecycle's Jurisdiction Review Reports (CalRecycle 2024b).

This measure will result in increased production of compost. If used on agricultural lands, this compost has the co-benefit of reducing the need to purchase synthetic fertilizers. This would reduce exposure to harmful chemicals in those fertilizers, especially among farmworkers.

Relation between City of Bakersfield and Bakersfield MSA

The preceding discussion of measure implementation assumes that the measures are implemented within the geographic boundary of the city. This is the same boundary as was used for the Bakersfield CAP (City of Bakersfield 2023a: 4-3). This boundary was chosen due to availability of transportation data necessary to perform a California Environmental Quality Act (CEQA)-qualified CAP, and the need to align the Bakersfield CAP with existing updates to the City's General Plan and Housing Element. Regional activity data is not publicly available and would be required to go through approval by each jurisdiction within the Bakersfield Metropolitan Statistical Area (MSA) for inclusion in the City's inventory. Based on discussions with jurisdictions in the region and EPA, it was decided that a regional GHG inventory would be prepared as a later stage of the CRPG effort.

However, the measures in this PCAP could also apply to other areas within the Bakersfield MSA, whose geographic boundary matches that of Kern County (State of California Employment Development Department 2024) and contains the city in its entirety. The MSA contained 905,828 people as of 2020 (Federal Reserve Bank of St. Louis 2024), and the city had a population of 403,455 as of 2020 (Missouri Census Data Center 2024); therefore, the city population constitutes approximately 45 percent of the MSA's population.

As discussed above, several of the measures involve partnerships with other entities working primarily within the MSA; these entities could potentially help fund the implementation of measures outside of the \city boundary but within the MSA. For example:

➢ CAPK, which would aid in the implementation of Measure BE-1.1, provides assistance with utility bill payments, weatherization, and energy education services to the entirety of Kern County (CAPK 2023).

➢ GRID Alternatives, which would aid in the implementation of IN-1.1, serves families throughout California, Colorado, the Mid-Atlantic region, and tribal communities nationwide (GRID Alternatives 2024).

➢ The Air District, which would aid in the implementation of measures IN-2.1 and IN-3.1, covers a portion of Kern County and includes the city within its boundary (Air District 2024b).

5 ENGAGEMENT STRATEGIES

The City of Bakersfield employed a three-pronged strategy for engagement related to the PCAP: 1) leveraging public engagement from concurrent planning processes; 2) forming and collaborating with a PCAP Stakeholder Advisory Group and 3) building on established strategies and relationships within LIDAC communities.

Concurrent Planning Processes

Over the past two years, the City has been engaging with the community heavily through three different processes that have all addressed the topics of community resilience and climate resilience: General Plan Update, Strategic Growth Council Transformative Climate Communities (TCC), and Prosperity Neighborhoods.

The City is mid-process on a General Plan Update, our comprehensive long-range land use plan. This update has included a Municipal Services Review, a Residential Zoning Code Update, a Housing Element Update, a draft Climate Action Plan, and will include an update of several other elements of the General Plan, including the Safety Element addressing climate resiliency. The City contracted with a firm to conduct outreach and engagement for the General Plan Update. Seven community workshops were held in different locations of the City throughout 2022. Open community surveys were conducted from May to July of 2022. Focus group interviews were conducted with a broad range of participants in October of 2022. Preliminary Public Comment periods were open in October and November of 2022. Equity Task Force meetings were held in early 2023. The Bakersfield CAP public comment period was open in the Summer of 2023. There have been numerous public workshops and hearings with the City Council throughout this process in 2022 and 2023. The City has gathered significant feedback throughout this process related to community and climate resiliency, with a focus on representative feedback from LIDAC communities.

The City held numerous community workshops and charettes with the community in 2021-2022 in preparation for a TCC grant application that was unsuccessful. To be more competitive and to create space for more community ownership of the program, a second application effort in 2022-2023 placed emphasis on stronger community engagement. For this second TCC application a strong stakeholder advisory group was formed made of up 34 individuals representing 18 different non-profits, government agencies, and LIDAC community residents._The City also allocated resources to contract with community-based organizations with trusted messengers to conduct door-to-door canvassing within the TCC area. City staff and advisory group members spent evenings and weekends hosting five in-person meetings, five online meetings, and information booths at 15 community events at locations including churches, festivals, senior affordable housing complexes, and Zumba classes a local non-profit. Additionally, a bi-lingual (Spanish and English) online platform was setup to provide 24/7 access to residents. The advisory group held four workshops to present information and charettes on 23 proposed projects. In total, 358 residents provided response input over a 60-day project prioritization process. Participant voting was highly reflective of the demographics of the TCC area, which is an entirely LIDAC area. The engagement and voting process highlighted feedback related to climate policy and projects of highest priority to the community. Fortunately, the community-driven process was successful in being awarded $22.5 million in TCC funding for this LIDAC community that can be leveraged for greater impact with other aligned PCAP efforts.

The City has also engaged two additional LIDAC communities through our Prosperity Neighborhoods program. The City identified two neighborhoods with greater needs based on demographic information, CalEnviroScreen data, and city requests for services. The purpose of the Prosperity Neighborhoods program is to create community driven collective impact efforts that address their highest priorities for neighborhood revitalization. The City has committed $3 million of our general fund resources to implement projects in these neighborhoods. In both neighborhoods the City identified key agency, community and resident stakeholders to plan a community summit. The City contracted with community-based organizations to do outreach in the neighborhoods leading up to the summit. At each summit the City outlined projects and initiatives that had been reported as important to the community, but solicited community feedback for prioritizing the projects through a voting process during the meeting. During each summit, the community also identified additional priorities to add to the voting process. The first community summit, hosted at a local Boys and Girls Club in the neighborhood, saw 80 participants. The second community summit, hosted at a community center in the second Prosperity Neighborhood, saw 160 participants. Each summit offered childcare, a meal, and translation services to invite as much participation as possible. Currently, the City is staffing sub-committees formed from stakeholders that participated in the community summits to pursue the prioritized projects. While the prioritized projects are not all reflective of climate resiliency, the feedback through this process has also highlighted community interest in addressing air quality and extreme weather resiliency. Proposed projects include afforestation, complete streets, energy efficiency and housing densification near transit.

PCAP Stakeholder Advisory Group

Beginning in Fall 2023, the City Manager's Office conducted numerous outreach meetings with key stakeholders that were vocal during the public comment period for the Bakersfield CAP. These sessions included one-on-one meetings, in-person and virtual group meetings, and larger meetings with a diversity of stakeholders. There was significant feedback from a diversity of stakeholders that offered multiple and often conflicting viewpoints. The City facilitated conversations amongst stakeholders for more than three months to determine a feasible path forward that reflected an approach that balanced community feedback while still making resiliency planning progress.

In November and December, the City Manager's Office held two workshops to discuss the opportunity to reframe our resiliency planning through the Federal CPRG planning and implementation programs. One workshop was focused on community partners and one workshop was focused on industry partners. Given the degree of feedback from stakeholders, we had three follow-up meetings with a large group of industry partners. We also had a series of follow-up meetings with smaller groups from community stakeholder groups. In addition, the City held several planning meetings with partner government agencies. The City had one planning session with KernCOG, two planning sessions with the SJVAD, and one planning meeting with the County of Kern. We also corresponded with the North of the River Recreation District to collaborate on potential projects within two of the key measure areas. The City prepared a one-page white paper outlining the CPRG PCAP, implementation grant and CCAP processes, and included a list of key measures and priority projects being considered for the PCAP and implementation grant. This white paper was shared with the stakeholders and agencies referenced above in advance of the January City Council action to move forward with the CPRG planning process. In addition, in advance of the City Council action on CPRG, the City broadly shared this white paper with a larger set of community stakeholders that participated in the concurrent planning processes outlined above.

Following City Council action in January, the City formalized our PCAP Stakeholder Advisory Group with invitations for representatives from the diversity of stakeholders that had participated in discussions through the end of 2023. The Stakeholder Advisory Group is a 17-member body including representatives from KernCOG, SJVAD, Community Action Partnership of Kern, Building Healthy Communities, Blue Zones, higher education, the Greater Chamber, the Hispanic Chamber, the Black Chamber, the energy industry, the Realtors Association, and the building industry.

Given time constraints in completing the PCAP by March 1, the City requested feedback through a series of document reviews by the Stakeholder Advisory Group on the following topics: Key Measures, priority projects and ultimately the draft PCAP document.

Ongoing Community Engagement

As noted above, the City facilitated numerous quality engagements with the community through multiple planning processes over the past two years. The City developed a robust tool-kit of engagement tactics and strategies. We are well positioned with the knowledge and practice to continue using these strategies. More importantly, the City has established strong relationships with community stakeholders, specifically in LIDAC communities. We will continue to build on these relationships and regular communication and meeting cycles to inform our resiliency planning and implementation through the PCAP And CCAP processes.

During the PCAP development process, the City of Bakersfield and its partners will engage residents and businesses within determined LIDAC areas. To achieve community engagement goals, the City will partner with local community-based organizations and non-profits that have years of relationship-building experience and community trust. The approach will seek to engage hard-to-reach populations. To ensure language access, materials will be made available in English, Spanish, and Punjabi and developed with the City's partners to ensure culturally sensitive messaging.

The City and its partners will use multiple contact strategies, host community events, and work with/through a collaborative stakeholder group. The City will host a monthly stakeholder group to help implement the variety of strategies that are anticipated. The stakeholder group will make up a cross-section of the Bakersfield community, including but not limited to:

➢ Non-profits and community-based organizations

➢ Government organizations

➢ Industry groups

➢ Residents

Engagement strategies that will be employed during the process include:

➢ Door-to-door canvassing

➢ Printed advertisements in locally owned publications

➢ Email distributions and social media engagement from partner organizations

➢ Multi-lingual online survey distribution

➢ Numerous forums and workshops

➢ Information booths at community events

➢ Collaborative stakeholder meetings

The engagement efforts as part of the PCAP will focus on LIDAC areas throughout the City. The City has already been conducting extensive engagement in southeast Bakersfield, which includes 10 census tracts that are considered LIDACs. The City will build upon the partnerships and strategies that have been successful in meaningfully engaging community members in southeast Bakersfield to other LIDAC areas of the city.

All feedback received from community engagement will be documented and included in deliverables associated with the PCAP.

6   REGIONAL PRIORITIES AND NEXT STEPS

In addition to the priority measures outlined above, which are derived from the Bakersfield CAP and are implementation-ready, the City plans to pursue multiple other measures with substantial climate and LIDAC benefits in the medium term. Those measures include, but are not limited to:

➢ creating an energy efficiency plan for municipal buildings; and

➢ partnering with Golden Empire Transit District to improve the reliability and convenience of existing transit services through increased frequency, expanded service areas, extended service hours, and better facilities, while prioritizing improvements in disadvantaged communities.

The details of these and other measures will be included in planning efforts for the Comprehensive Climate Action Plan. The City looks forward to working with stakeholders, the Air District, and the EPA to ensure their successful implementation.

Additionally, regional air quality planning efforts led by the San Joaquin Valley Air Pollution Control District have identified additional shovel ready measures. Recent plans (Air District 2023), and their associated public processes, include areas of priority for regional air quality that also provide considerable climate change benefits. These regional priority measures include:

➢ offering incentive programs to replace diesel-powered heavy-duty trucks with low- or zero-emission trucks;

➢ expanding the Ag Burn Alternatives Grant program (Air District 2024c), which incentivizes alternatives to open burning, such as mulching and composting, to dispose of agricultural waste; and

➢ replace various types of agricultural equipment powered by combustion engines with new zero-emission equipment, as well as any associated infrastructure, expanding upon existing Air District programs.

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Appendix A

LIDAC and Non-LIDAC Census Tracts

Table A-1   City of Bakersfield 2020 Census Tracts

2020 Census Tract ID	2020 Population	LIDAC?
6029003208	7,845	Yes
6029003815	6,086	Yes
6029003210	5,917	Yes
6029002816	5,700	Yes
6029000800	5,600	Yes
6029001801	5,514	Yes
6029003112	5,365	Yes
6029002817	5,145	Yes
6029003207	4,934	Yes
6029003113	4,904	Yes
6029003127	4,813	Yes
6029001902	4,802	Yes
6029003128	4,746	Yes
6029002814	4,532	Yes
6029003126	4,500	Yes
6029002902	4,427	Yes
6029002002	4,392	Yes
6029002815	4,392	Yes
6029003132	4,388	Yes
6029000903	4,347	Yes
6029003211	4,251	Yes
6029002818	4,022	Yes
6029003001	3,978	Yes
6029000902	3,891	Yes
6029002402	3,797	Yes
6029003129	3,787	Yes
6029002202	3,761	Yes
6029003131	3,715	Yes
6029003134	3,698	Yes
6029003209	3,686	Yes
6029002100	3,504	Yes
6029003137	3,453	Yes
6029002001	3,344	Yes
6029002813	3,299	Yes
6029002901	3,074	Yes
6029003125	3,043	Yes
6029002600	3,034	Yes
6029001301	2,957	Yes
6029000602	2,939	Yes
6029003133	2,896	Yes

6029002824	2,883	Yes
6029002804	2,763	Yes
6029002201	2,753	Yes
6029001500	2,704	Yes
6029002503	2,636	Yes
6029001600	2,510	Yes
6029000601	2,453	Yes
6029001302	2,451	Yes
6029000603	2,316	Yes
6029002502	2,256	Yes
6029000701	2,205	Yes
6029000912	2,048	Yes
6029003136	2,041	Yes
6029002303	1,942	Yes
6029001401	1,763	Yes
6029001202	1,678	Yes
6029001001	1,367	Yes
6029003215	1,317	Yes
6029003214	1,277	Yes
6029003103	1,230	Yes
6029000904	1,031	Yes
6029002501	822	Yes
6029000906	765	Yes
6029000907	631	Yes
6029002403	618	Yes
6029002702	415	Yes
6029001402	357	Yes
6029002701	252	Yes
6029005103	156	Yes
6029002304	151	Yes
6029001201	120	Yes
6029003002	67	Yes
6029002825	36	Yes
6029006201	19	Yes
6029000400	19	Yes
6029002305	2	Yes
6029002820	6,690	No
6029003219	6,675	No
6029003212	6,669	No
6029003218	6,298	No
6029003814	6,210	No
6029003124	5,802	No
6029000908	5,429	No
6029003806	5,269	No

6029003818	5,162	No
6029002819	4,873	No
6029002821	4,751	No
6029003221	4,636	No
6029003812	4,578	No
6029003808	4,504	No
6029003220	4,340	No
6029001700	4,299	No
6029002823	4,256	No
6029003130	4,246	No
6029000510	4,219	No
6029003821	4,200	No
6029003817	4,158	No
6029003135	4,082	No
6029000914	4,056	No
6029005104	3,971	No
6029002811	3,905	No
6029001901	3,809	No
6029000913	3,743	No
6029003820	3,466	No
6029002807	3,458	No
6029002822	3,407	No
6029003216	3,167	No
6029003217	3,152	No
6029001804	3,144	No
6029000507	3,130	No
6029003825	2,982	No
6029000911	2,756	No
6029001803	2,754	No
6029003203	2,294	No
6029002806	2,285	No
6029000506	2,219	No
6029003819	2,085	No
6029003213	2,065	No
6029003816	1,924	No
6029000505	1,905	No
6029003822	1,207	No
6029003810	953	No
6029000909	903	No
6029003807	896	No
6029000509	646	No
6029003811	633	No
6029003824	468	No
6029000702	157	No

6029003826	31	No
6029000508	6	No
Total	403,455	

Notes: LIDAC = low-income and disadvantaged communities.

Source: Prepared by Ascent in 2024

Appendix B

Greenhouse Gas Reduction Measures in Bakersfield Climate Action Plan

Table B-1   Priority Greenhouse Gas Reduction Measures for the City of Bakersfield

Measure Number	Strategy	Measure	GHG Reductions (MTCO$_2$e)		
			2030	2040	2045
Building Energy					
BE-1.1	Clean/Renewable Energy	Decarbonize existing residential and nonresidential buildings.	15,253	27,487	48,130
BE-1.2		Decarbonize new residential and nonresidential buildings.	15,073	67,823	114,024
BE-2.1	Energy Efficiency and Reliability	Improve energy efficiency in existing residential and nonresidential buildings.	NA	NA	NA
BE-2.2		Reduce plug loads in existing residential and nonresidential buildings.	NA	NA	NA
BE-3.1	Resilient Buildings	Improve resilience of residential and nonresidential buildings to natural hazards.	NA	NA	NA
BE-3.2		Develop anti-displacement policies to protect disadvantaged communities from potential unintended consequences from building retrofits.	NA	NA	NA
		Building Energy Subtotal	30,326	95,310	162,54
Infrastructure					
IN-1.1	Clean and Reliable Energy	Transition to 100 percent clean electricity.	280,307	169,160	0
IN-1.2		Increase decentralized clean energy resources.	NA	NA	NA
IN-1.3		Develop innovative approaches to energy generation, distribution, and storage.	NA	NA	NA
IN-1.4		Install clean emergency backup generators for critical facilities and essential services.	NA	NA	NA
IN-2.1	Low- and Zero-Emission Vehicles	Increase EV charging infrastructure.	383,212	963,710	1,412,309
IN-2.2		Increase EV and low-carbon vehicle adoption.			
IN-3.1	Low- and Zero-Emission Equipment	Increase use of electricity and alternative fuels in construction equipment.	22,316	39,129	50,637
IN-3.2		Transition to electric-powered landscaping equipment.	619	2,448	4,190
IN-3.3		Transition to electric or alternatively fueled agricultural equipment.	540	725	697
IN-3.4		Transition to zero-emission or low-carbon irrigation pumps.	18	37	42
IN-4.1	Water Conservation	Reduce water consumption in buildings.	6,066	6,580	0
IN-4.2		Reduce water consumption for irrigation and landscaping.	NA	NA	NA
IN-4.3		Increase the capture and use of recycled water.	NA	NA	NA
IN-5.1	Wastewater	Establish methane recovery in wastewater treatment facilities.	871	2,111	4,676
IN-6.1	Resilient and Equitable Infrastructure	Improve energy sector resilience.	NA	NA	NA
IN-6.2		Improve water and wastewater sector resilience.	NA	NA	NA
IN-6.3		Protect vulnerable transportation infrastructure, services, and systems from hazards exacerbated by climate change.	NA	NA	NA
IN-6.4		Increase broadband connectivity in underserved areas.	NA	NA	NA
		Infrastructure Subtotal	693,948	1,183,900	1,472,551
Land Use and Mobility					
LU-1.1	Safe, Accessible, and Reliable Active Transportation	Improve pedestrian and biking infrastructure, prioritizing investments in disadvantaged communities.	53,535	52,842	53,223
LU-1.2		Improve safety for pedestrians and cyclists.	NA	NA	NA
LU-1.3		Improve access to bicycling through support services.	NA	NA	NA

LU-2.1	Safe, Accessible, and Reliable Public Transportation	Partner with Golden Empire Transit District to improve reliability and convenience of existing transit services through increased frequency, expanded service areas, extended service hours, and better facilities. Prioritize improvements in disadvantaged communities.	77,261	65,984	63,987
LU-2.2		Identify alternate routes for transit in case of hazard-related closures.	NA	NA	NA
LU-3.1	Equitable Shared Mobility	Develop programs and incentives that promote shared mobility in disadvantaged communities and increase access to health services, food, education, and employment.	NA	NA	NA
LU-4.1	Sustainable Land Use Planning	Increase residential density near transit, prioritizing affordable housing development.	54,086	95,326	118,386
LU-4.2		Increase implementation of transportation demand management strategies.			
LU-5.1	Smart Mobility	Increase smart mobility throughout the city.	NA	NA	NA
LU-6.1	Parking	Strategically evaluate the parking needs of the community and consider repurposing underutilized and vacant lots.	NA	NA	NA
		Land Use and Mobility Subtotal	184,882	214,152	235,596

Materials and Waste					
MW-1.1	Inorganic Waste Management and Reduction	Increase recycling citywide.	NA	NA	NA
MW-1.2		Reduce the generation of construction and demolition waste.	NA	NA	NA
MW-1.3		Promote a circular economy.	NA	NA	NA
MW-2.1	Organic Waste Management and Reduction	Increase organic waste diversion citywide.	158,715	240,532	319,625
MW-2.2		Increase edible food recovery.	NA	NA	NA
MW-3.1	Zero- and Low-Carbon Development	Increase sustainable materials used in construction.	NA	NA	NA
		Materials and Waste Subtotal	158,715	240,532	319,625

Health and Resiliency					
HR-1.1	Resilient Communities	Establish community resilience hubs.	NA	NA	NA
HR-1.2		Embed climate resiliency and adaptation across planning efforts.	NA	NA	NA
HR-1.3		Ensure basic needs are met for vulnerable populations.	NA	NA	NA
HR-1.4		Support local food production and improve food security.	NA	NA	NA
HR-2.1	Education, Outreach, and Coordination	Develop an array of accessible outreach programs that emphasize natural hazard preparedness.	NA	NA	NA
HR-2.2		Prioritize community-based solutions to improve climate resilience.	NA	NA	NA
HR-3.1	Robust Emergency Services	Ensure accessibility and adequate capacity of emergency services.	NA	NA	NA
		Health and Resiliency Subtotal	**NA**	**NA**	**NA**

Natural and Urban Landscapes					
NU-1.1	Expanded Vegetation	Increase urban tree canopy and green spaces to reduce heat island effect and improve air quality.	885	2,655	3,540
NU-1.2		Implement widespread hazard-resistant vegetation.	NA	NA	NA
NU-1.3		Develop an Urban Tree Management Plan.	NA	NA	NA
NU-2.1	Local Parks	Make parks more accessible and comfortable for all.	NA	NA	NA
NU-3.1	Green Infrastructure	Utilize green infrastructure to reduce the impacts of natural hazards and improve community resiliency.	NA	NA	NA
		Natural and Urban Landscapes Subtotal	885	2,655	3,540

Green Economy					

GE-1.1	High Road, Green Workforce Development	Develop training programs and pathways to employment in quality green jobs that target workers experiencing barriers to employment.	NA	NA	NA
GE-2.1	Green Businesses	Support the development of green businesses and the transition to a clean economy.	NA	NA	NA
		Green Economy Subtotal	**NA**	**NA**	**NA**

Education and Monitoring

EM-1.1	Climate Action Education	Increase public awareness of climate-friendly actions that can be taken by residents and businesses.	NA	NA	NA
EM-2.1	Climate Action Monitoring	Monitor implementation of CAP actions to reduce GHG emissions and enhance resiliency in Bakersfield.	NA	NA	NA
		Education and Monitoring Subtotal	**NA**	**NA**	**NA**
Total Reductions from Measures			1,068,757	1,736,549	2,193,466
Reduction Needed to Meet Targets			1,044,875	2,017,014	2,511,995
Target Met?			Yes	No	No
Remaining Gap to Target			(23,881)	280,465	318,529

Notes: EV = electric vehicle; GHG = greenhouse gas; MTCO$_2$e = metric tons of carbon dioxide equivalent; NA = not applicable.

Total may not sum exactly due to independent rounding.

Parentheses indicate target was met with a surplus of reductions.

Source: Calculations conducted by Ascent in 2023.