



Cupertino Climate Action Plan Update and CEQA GHG Emissions Thresholds

Final Initial Study – Negative Declaration

prepared for

City of Cupertino
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Initial Study

Proposed Plan Title

Cupertino Climate Action Plan (CAP) Update and CEQA Greenhouse Gas (GHG) Emissions Thresholds

Lead Agency/Plan Sponsor and Contact

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Plan Location and Physical Setting

The Cupertino CAP Update and CEQA GHG Emissions Thresholds apply to all areas and plans and projects within the City of Cupertino limits. Figure 1 shows the regional location, and Figure 2 shows the plan location.

Regional Location and Setting

The City of Cupertino is approximately 11 square miles located within Santa Clara County in the San Francisco Bay Area. Cupertino lies within the Silicon Valley area, which is located approximately 42 miles south of San Francisco and includes the Cities of Cupertino, San Jose, Menlo Park, Palo Alto, Mountain View, Santa Clara, Redwood City, and Sunnyvale.¹ Cupertino is bordered by the Cities of Sunnyvale and Los Altos to the north, City of San Jose to the east, City of Saratoga to the south, and the Santa Cruz Mountains to the west.

Regional vehicular access to Cupertino is provided via Interstate 280 (I-280), West Valley Freeway (State Route [SR] 85), and the Lawrence Expressway. The City is also served by public transit provided by the Santa Clara Valley Transportation Authority (SCVTA). SCVTA provides bus connections to nearby Bay Area Rapid Transit (BART), Altamont Commuter Express (ACE) Rail, Amtrak, and Caltrain stations. SCVTA bus routes with stops in Cupertino include:

- Route 23 connecting to San Jose, Mountain View, and Palo Alto;
- Route 25 connecting to San Jose and De Anza College;
- Route 26 connecting to the Eastridge Transit Center;

¹ Cupertino, City of. 2022. About Cupertino. Available: <<https://www.cupertino.org/our-city/about-cupertino>>. Accessed February 4, 2022.

- Route 36 connecting to East San Jose;
- Route 51 connecting to the Ames Research Center;
- Route 53 connecting to the Santa Clara Transit Center and Sunnyvale Rail Station;
- Route 55 connecting to the Sunnyvale Rail Station and Great America Rail Station; and
- Express 101 connecting to the Winchester Rail Station and Palo Alto.²

Local Setting

Cupertino is the eighth most populous city in Santa Clara County, with a population of 60,381 according to the 2020 U.S. Census.³ Cupertino is located within a valley, with the most intensive development in the flat valley floor and sparse development in the foothills of the Santa Cruz Mountains to the west. Cupertino is characterized by a suburban development pattern, with predominantly single-family residential subdivisions and distinct commercial and employment centers. Cupertino has four major mixed-use corridors centered around Homestead Road, Wolfe Road, De Anza Boulevard, and Stevens Creek Boulevard. These corridors have historically been the center of retail, commercial, office, and multi-family housing in Cupertino, and connect residential neighborhoods to major employment centers, schools and colleges, civic uses, parks, highways and freeways, and adjacent cities. Cupertino also contains the headquarters for a variety of small, medium and large software, technology, and biomedical companies, including Apple Inc.⁴

Cupertino is characterized by a temperate climate with relatively dry summers and wet winters. The warmest months of the year in Cupertino are July and August, and the coldest months of the year are December and January. The annual average daily maximum temperature is 81.4 degrees Fahrenheit (°F), while the annual average daily minimum temperature is 41.7°F. Average monthly rainfall measured in the local area since 1951 varies from 0 inch in July to 2.8 inches in January and February.⁵

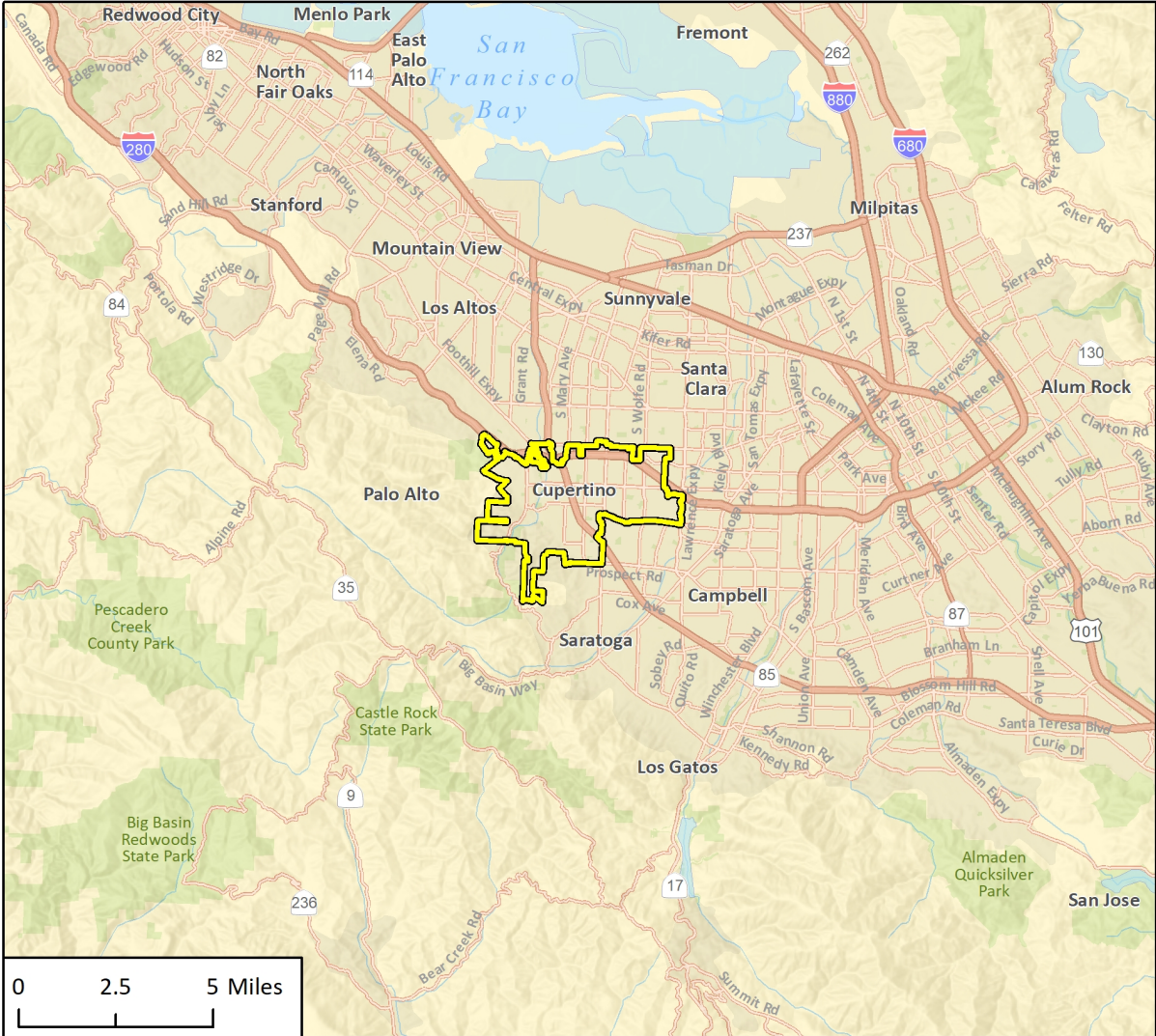
² Cupertino, City of. 2022. How to Get Around. Available: <<https://www.cupertino.org/visitors/visiting-cupertino/getting-around>>. Accessed February 4, 2022.

³ U.S. Census Bureau. 2022. Quick Facts: Cupertino City, California. Available: <<https://www.census.gov/quickfacts/fact/table/cupertinocitycalifornia/PST045221>>. Accessed February 7, 2022.



⁴ Cupertino, City of. 2014. General Plan Land Use and Community Design Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

⁵ Iowa State University. 2022. Iowa Environmental Mesonet: San Jose Station. Available: <https://mesonet.agron.iastate.edu/sites/monthlysum.php?station=SJC&network=CA_ASOS>. Accessed February 7, 2022.

Figure 1 Regional Location



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-  City of Cupertino
 -  Project Location
- N

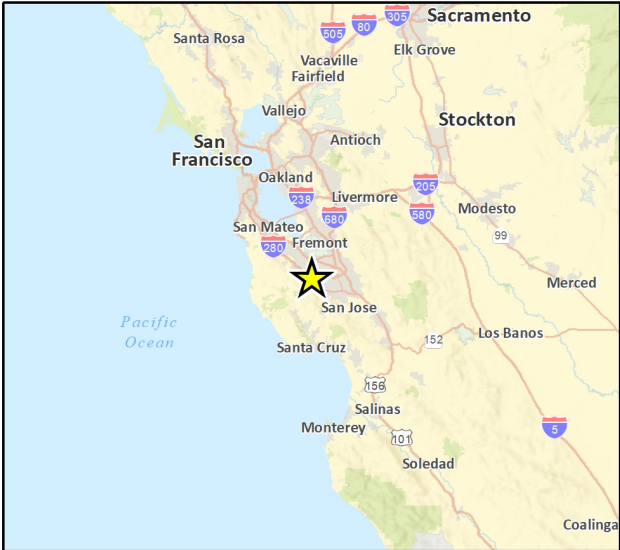


Fig 1 Regional Location

Figure 2 Plan Location

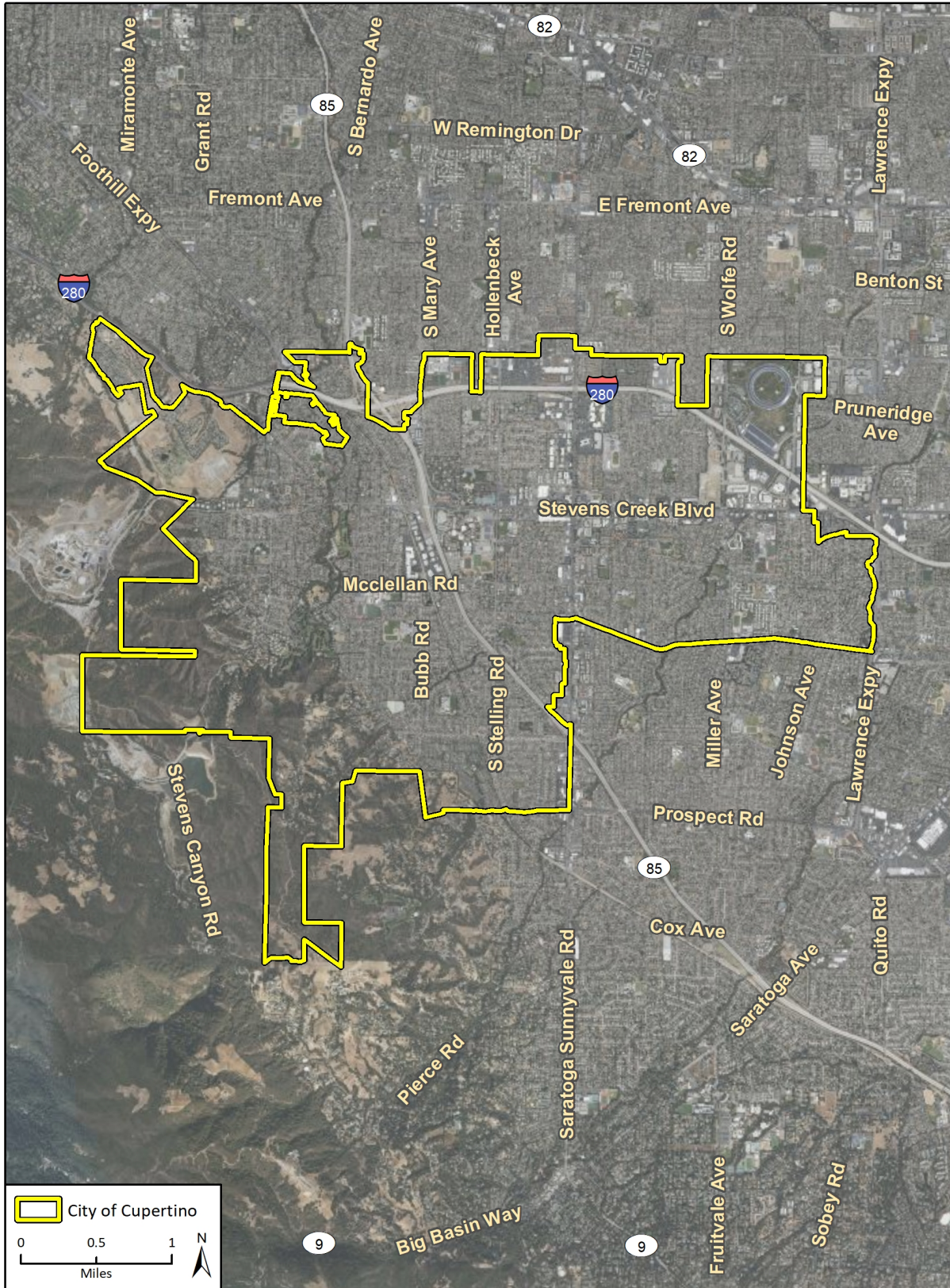


Fig 2 Project Location

Existing Sustainability Setting

Cupertino Sustainability and Greenhouse Gas Emissions Reduction Efforts

The City has actively implemented a variety of environmental programs since 2014 contributing to greenhouse gas (GHG) emissions reductions. The following is a listing of Cupertino's primary sustainable and climate protection programs and policies:

- General Plan Environmental Resources & Sustainability Element adopted (2014)
- U.S. Conference of Mayors Climate Protection Agreement (2015)
- Climate Action Plan adopted (2015)
- Joined Compact of Mayors, a coalition of Mayors and city officials worldwide committing to reduce local GHG emissions and enhance resilience to climate change (2015)
- Bicycle Transportation Plan adopted (2016)
- Joined Silicon Valley Clean Energy (SVCE), a Community Choice Energy opt-in program (2016)
- Zero Waste Policy adopted (2017)
- Cupertino Reach Code adopted, requiring all electric new construction (2019)
- Diesel Free by 2033 Resolution adopted (2019)
- Vehicle Miles Traveled (VMT) Reduction Ordinance adopted (2021)

The City has also taken several additional sustainability actions, such as tree planting, solar projects, and electric vehicle (EV) charger installation at City facilities, as further detailed in the CAP 2.0 Appendix F, Existing Programs and Accomplishments.⁶

Regional Sustainability and GHG Reduction Efforts

In coordination with Santa Clara County, the State of California, and the federal government, the City of Cupertino has committed to implementing regional and State policies related to GHG emissions reduction. As follows is a summary of the existing regional GHG emissions reduction efforts, which the Draft Cupertino CAP Update is intended to be consistent with or exceed.

Plan Bay Area: Strategy for a Sustainable Region

In October 2021, the Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC) jointly adopted Plan Bay Area 2050, which serves as the Bay Area regional long-range plan and identifies how the Bay Area would meet its GHG emission reduction targets. Plan Bay Area is also considered the ABAG/MTC Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). In accordance with SB 743, Plan Bay Area includes elements designed to encourage the type of land-use development to preserve affordable housing, improve economic mobility, enhance the transit network to reduce vehicle miles traveled (VMT) per capita, and reduce hazard risks including through adaptation to sea level rise and reducing GHG emissions.⁷

⁶ Cupertino, City of. 2022. Draft Climate Action Plan Update. Available: <<https://engagecupertino.org/climate-action>>. Accessed February 7, 2022.

⁷ ABAG-MTC. 2021. Plan Bay Area 2050. Available: <<https://www.planbayarea.org/finalplan2050>>. Accessed February 10, 2022.

Bay Area Air Quality Management District CEQA Guidelines

The Bay Area Air Quality Management District (BAAQMD) encourages local governments to adopt a GHG Reduction Strategy that is consistent with AB 32 goals. The GHG Reduction Strategy may streamline environmental review of community development projects. According to the BAAQMD, if a project is consistent with a GHG Reduction Strategy, then it can be presumed that the project will not have significant GHG impacts. This approach is consistent with State CEQA Guidelines, Section 15183.5:

Lead agencies may analyze and mitigate the significant impacts of GHG emissions at a programmatic level, such as...a plan to reduce GHG emissions. Later project-specific environmental documents may tier from and/or incorporate by reference that existing programmatic review. Project-specific environmental documents may rely on an [Environmental Impact Report] containing a programmatic analysis of GHG emissions.

Santa Clara Countywide Transportation Plan

In 2014, the Santa Clara County Transportation Valley Transportation Authority adopted the Valley Transportation Plan (VTP) 2040 to provide the County with a long-range plan for establishing the vision and priorities for transportation over a 25-year planning horizon. The VTP seeks to facilitate and support an integrated, multi-modal transportation system in order to improve mobility and access for all segments of the population and promote environmental sustainability. The plan identifies 371 projects across the county including transit capacity improvements, express lane and highway improvement projects, bicycle and pedestrian facilities, and operations and maintenance. Projects identified for Cupertino include widening McClellan Road widening to provide bike lanes, adding bike lanes to Miller Avenue, completing the Saratoga Creek bike trail extension, and construction a new bicycle and pedestrian bridge crossing over the Union Pacific railroad tracks.⁸

Santa Clara County Climate Roadmap 2030

Santa Clara County is currently developing the Climate Roadmap 2030 which will outline actions the County and partners will take to reduce greenhouse gas emissions. The Roadmap will serve to align existing efforts to reduce GHG emissions among Cities that have already adopted CAPs, prioritize actions in unincorporated areas of the County, and help leverage and facilitate regional partnerships to further encourage sustainable and resilient communities. The County aims to use the Roadmap as a tool to increase coordination and collaboration in efforts to reach shared sustainability goals.

The Roadmap will include the following:

- A countywide greenhouse gas emissions inventory and forecast
- An online interactive map tool that will provide a comprehensive overview of the cities, organizations, institutions, and companies working on climate action in Santa Clara County
- Community and partner input
- An implementation roadmap⁹

⁸ Valley Transportation Authority (VTA). 2014. Valley Transportation Plan 2040. Available: <http://vtaorgcontent.s3-us-west-1.amazonaws.com/Site_Content/VTP2040_final_hi%20res_030315.pdf>. Accessed February 7, 2022.

⁹ Santa Clara County. 2022. Climate Roadmap 2030. Available: <<https://sustainability.sccgov.org/climate-roadmap-2030>>. Accessed February 7, 2022.

Silicon Valley Clean Energy Community Choice Energy

SVCE is the community-owned electricity provider for several south bay cities including Cupertino. SVCE developed its Decarbonization Strategy and Programs Roadmap with extensive community input to help guide community electrification, which entails switching from relying on fossil fuel use in homes, buildings and transportation to electricity from renewable sources. By 2030, SVCE programs aim to cut energy-related pollution in half from the 2015 baseline. That equates to preventing two million metric tons of carbon dioxide equivalents (MT CO₂e) from being released into the environment each year.

State Sustainability and GHG Reduction Efforts

As follows is a summary of existing State GHG emissions reduction efforts, which the Cupertino CAP Update is intended to be consistent with or exceed.

Senate Bill 1078, Renewable Portfolio Standards

In 2002, SB 1078, established the California Renewables Portfolio Standards (RPS) Program and was accelerated in 2006 by SB 107, requiring that 20 percent of retail electricity sales be composed of renewable energy sources by 2010. EO S-14-08 was signed in 2008 to further streamline California's renewable energy project approval process and increase the State's RPS to the most aggressive in the nation at 33 percent renewable power by 2020.

Assembly Bill 1493, Pavley Bill Vehicle Efficiency Standards

In 2002, the California State Legislature enacted Assembly Bill 1493 (aka "the Pavley Bill"), which directs the CARB to adopt standards that will achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles," taking into account environmental, social, technological, and economic factors. In September 2009, CARB adopted amendments to the "Pavley" regulations to reduce GHG emissions in new passenger vehicles from 2009 through 2016. The Pavley Bill is considered to be the national model for vehicle emissions standards. In January of 2012, CARB approved a new emissions control program for vehicle model years 2017 through 2025. The program combines the control of smog, soot, and GHGs and the requirement for greater numbers of zero emission vehicles into a single package of standards called Advanced Clean Cars.

Assembly Bill 117, Community Choice Aggregation

Assembly Bill 117 establishes the creation of Community Choice Aggregation (CCA) that fosters clean and renewable energy markets. CCA allows cities and counties to aggregate the buying power of individual jurisdictions. The California CCA markets were created as an answer to the brownouts and energy shortages of the early 2000s. AB 117 was passed in 2002 as an answer to California's increased energy independency by incorporating more alternative and renewable energy sources into its energy portfolio. With AB 117, municipalities can provide alternative energy choices to their local carrier (e.g., the Pacific Gas and Electric Company, PG&E). Marin Clean Energy was the first CCA in the State of California to go online with a 50 percent to 100 percent clean energy portfolio in 2010. In 2016, SCVE began supplying South Bay communities, including Cupertino, with renewable energy-sourced electricity. CCAs are governed by the California Public Utilities Commission (CPUC). SB 790 further ensures fair and transparent competition by creating a code of conduct and guiding principles for entrants into the CCA field.

California Executive Order S-3-05

In 2005, the California governor issued Executive Order (EO) S-3-05, which identifies Statewide GHG emissions reduction targets to achieve long-term climate stabilization as follows:

- Reduce GHG emissions to 1990 levels by 2020
- Reduce GHG emissions to 80 percent below 1990 levels by 2050

In response to EO S-3-05, California Environmental Protection Agency (CalEPA) created the Climate Action Team (CAT), which in March 2006 published the Climate Action Team Report (the “2006 CAT Report”). The *2006 CAT Report* identified a recommended list of strategies that the State could pursue to reduce GHG emissions. These are strategies that could be implemented by various State agencies to ensure that the emission reduction targets in EO S-3-05 are met and can be met with existing authority of the State agencies. The strategies include the reduction of passenger and light duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/infrastructure, increased use of alternative fuels, increased recycling, and landfill methane capture, among others.

California Assembly Bill 32, California Global Warming Pollution Solutions Act

In 2006, the California legislature signed Assembly Bill (AB) 32 – the Global Warming Solutions Act – into law, requiring a reduction in Statewide GHG emissions to 1990 levels by 2020 and California Air Resources Board (CARB) preparation of a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 required CARB to adopt regulations to require reporting and verification of Statewide GHG emissions. Based on this guidance, CARB approved a 1990 Statewide GHG level and 2020 limit of 427 MTCO_{2e}.

California Senate Bill 375, Sustainable Communities and Climate Protection Act

In 2008, Senate Bill (SB) 375 enhanced the State’s ability to reach AB 32 targets by CARB to develop regional GHG emissions reduction targets to be achieved from passenger vehicles for 2020 and 2035. In addition, SB 375 directs each of the State’s 18 major Metropolitan Planning Organizations (MPO) to prepare a sustainable community’s strategy (SCS) that contains a growth strategy to meet such regional GHG emissions reduction targets for inclusion in the respective regional transportation plan (RTP).

On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. ABAG was assigned targets of a ten percent reduction in per capita GHG emissions from passenger vehicles by 2020 and a nineteen percent reduction in per capita GHG emissions from passenger vehicles by 2035.

California Climate Change Scoping Plan

In 2008, CARB approved the original California Climate Change Scoping Plan, which included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted and implemented since approval of the Scoping Plan.

California Energy Efficiency Strategic Plan of 2008

In September 2008, the California Public Utilities Commission (CPUC) adopted California's first Long Term Energy Efficiency Strategic Plan, presenting a single roadmap to achieve maximum energy savings across all major groups and sectors in California. The Strategic Plan was subsequently updated in January 2011 to include a lighting chapter. The Strategic Plan sets goals of all new residential construction and all new commercial construction in California to be zero net energy (ZNE) by 2020 and 2030, respectively. In 2018, the California Energy Commission voted to adopt a policy requiring all new homes in California to incorporate rooftop solar. This change went into effect in January 2020 with the adoption of the 2019 California Code of Regulations (CCR) Title 24 Code and is a step towards the State achieving its goal of all residential new construction being ZNE by 2020. Additionally, the Strategic Plan sets goals of 50 percent of existing commercial building to be retrofitted to ZNE by 2030 and all new State buildings and major renovations to be ZNE by 2025.

Senate Bill X7-7, Water Conservation Act

In 2009, SB X7-7, also known as the Water Conservation Act, was signed, requiring all water suppliers to increase water use efficiency. This legislation sets an overall goal of reducing per capita urban water use by 20 percent by 2020.

Senate Bill 97, CEQA Guidelines for Addressing GHG Emissions

The California Environmental Quality Act (CEQA) requires public agencies to review the environmental impacts of proposed projects, including General Plans, Specific Plans, and specific kinds of development projects. In February 2010, the California Office of Administrative Law approved the recommended amendments to the State CEQA Guidelines for addressing GHG emissions. The amendments were developed to provide guidance to public agencies regarding the analysis, mitigation, and effects of GHG emissions in draft CEQA documents.

Senate Bill 2X, Electricity Sourced from Renewable Energy

In 2011, SB 2X was signed, requiring California energy providers to buy (or generate) 33 percent of their electricity from renewable energy sources by 2020.

Assembly Bill 341, Commercial Recycling

AB 341 directed the California Department of Resources Recycling and Recovery (CalRecycle) to develop and adopt regulations for mandatory commercial recycling. As of July 2012, businesses are required to recycle, and jurisdictions must implement a program that includes education, outreach, and monitoring. AB 341 also set a Statewide goal of 75 percent waste diversion by the year 2020.

California Climate Change Scoping Plan Update (2013)

In 2013, CARB approved the first update to the California Climate Change Scoping Plan. The 2013 Scoping Plan Update defined CARB climate change priorities for the next five years and set the groundwork to reach post-2020 Statewide GHG emissions reduction goals. The 2013 Scoping Plan Update highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the State's

longer-term GHG reduction strategies with other State policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use.¹⁰

Senate Bill 1275, Charge Ahead Initiative

In 2014, Senate Bill 1275 established a State goal of one million zero-emissions and near-zero-emissions vehicles in service by 2020 and directed CARB to develop a long-term funding plan to meet this goal. SB 1275 also established the Charge Ahead California Initiative requiring planning and reporting on vehicle incentive programs and increasing access to and benefits from zero-emissions vehicles for disadvantaged, low- and moderate-income communities and consumers.

Senate Bill 1826, Recycling of Organic Material

AB 1826 was signed in 2014 to increase the recycling of organic material. GHG emissions produced by the decomposition of these materials in landfills were identified as a significant source of emissions contributing to climate change. Therefore, reducing organic waste and increasing composting and mulching are goals set out by the AB 32 Scoping Plan. AB 1826 specifically requires jurisdictions to establish organic waste recycling programs by 2016, and phases in mandatory commercial organic waste recycling over time.

California Executive Order B-30-15

In 2015, the California governor issued Executive Order B-30-15, which established a Statewide mid-term GHG reduction target of 40 percent below 1990 levels by 2030.

Senate Bill 350, Clean Energy and Pollution Reduction Act of 2015

In 2015, SB 350 established new clean energy, clean air, and GHG reduction goals for 2030 and beyond. SB 350 codified Governor Brown's aggressive clean energy goals and established the State 2030 GHG reduction target of 40 percent below 1990 levels. To achieve this goal, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 (legislation originally enacted in 2002) to 50 percent by 2030. Renewable resources include wind, solar, geothermal, wave, and small hydroelectric power. In addition, SB 350 requires the State to double State-wide energy efficiency savings in electricity and natural gas end uses by 2030 from a base year of 2015.

Assembly Bill 197, State Air Resources Board GHGs Regulations

In 2016, AB 197, a bill linked to SB 32, increased legislature oversight over CARB and directs CARB to both prioritize disadvantaged communities in its climate change regulations and evaluate the cost-effectiveness of measures it considers. AB 197 requires CARB to protect the State's most impacted and disadvantaged communities [and] consider the social costs of the emissions of GHGs when developing climate change programs. The bill also adds two new legislatively appointed non-voting members to CARB, increasing the Legislature's role in CARB's decisions.

California Senate Bill 32, California Global Warming Pollution Solutions Act Update

In 2016, the California legislature signed Senate Bill 32 (SB 32) into law, extending AB 32 by requiring further reduction in Statewide GHG emissions to 40 percent below 1990 levels by 2030 (the other

¹⁰ CARB. 2013. Climate Change Scoping Plan. Available: <https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf>. Accessed August 3, 2022.

provisions of AB 32 remain unchanged). On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies and policies, such as SB 350 and SB 1383 (see below).

Senate Bill 1383, Short-lived Climate Pollutant Reduction Strategy

Adopted in September 2016, SB 1383 requires CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. The bill requires the strategy to achieve the following reduction targets by 2030:

- Methane – 40 percent below 2013 levels
- Hydrofluorocarbons – 40 percent below 2013 levels
- Anthropogenic black carbon – 50 percent below 2013 levels

SB 1383 also requires CalRecycle, in consultation with the CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills. The bill further requires 20 percent of edible food disposed of at the time to be recovered by 2025.

California Climate Change Scoping Plan Update (2017)

In 2017, CARB approved the second update to the California Climate Change Scoping Plan. The 2017 Scoping Plan put an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan Update does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally-appropriate quantitative thresholds consistent with Statewide per-capita goals of six MTCO_{2e} by 2030 and two MTCO_{2e} by 2050.¹¹ As stated in the 2017 Scoping Plan Update, these goals may be appropriate for plan-level analyses (city, county, subregional, or regional level), but not for specific individual projects, because they include all GHG emissions sectors in the State.

California Executive Order B-55-18

In 2018, the California governor issued Executive Order B-55-18, which established a new Statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing Statewide GHG reduction targets established by SB 32.

For more information on the Senate and Assembly Bills, Executive Orders, and Scoping Plans discussed above, and to view reports and research referenced above, please refer to the following websites: www.climatechange.ca.gov and www.arb.ca.gov/cc/cc.htm.

Senate Bill 100, The 100 Percent Clean Energy Act of 2018

In September 2018, Governor Brown signed SB 100, requiring that the State's load serving entities (including energy utilities and community choice energy programs) must procure energy generated 100 percent from Renewables Portfolio Standard for eligible renewable resources by 2045.

¹¹ California Air Resources Board (CARB). 2017. AB 32 Scoping Plan. Available: <https://ww3.arb.ca.gov/cc/scopingplan/scopingplan.htm>. Accessed February 3, 2022.

California Code of Regulations Title 24 (California Building Code)

Updated every three years through a rigorous stakeholder process and most recently in 2019, Title 24 of the CCR requires California homes and businesses to meet strong energy efficiency measures, thereby lowering their energy use. Title 24 contains numerous subparts, including Part 1 (Administrative Code), Part 2 (Building Code), Part 3 (Electrical Code), Part 4 (Mechanical Code), Part 5 (Plumbing Code), Part 6 (Energy Code), Part 8 (Historical Building Code), Part 9 (Fire Code), Part 10 (Existing Building Code), Part 11 (Green Building Standards Code), Part 12 (Referenced Standards Code). The California Building Code is applicable to all development in California. (Health and Safety Code §§ 17950 and 18938(b).)

The regulations receive input from members of industry, as well as the public, with the goal of "[r]educing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy." (Pub. Res. Code § 25402.) These regulations are carefully scrutinized and analyzed for technological and economic feasibility (Pub. Res. Code § 25402(d)) and cost effectiveness (Pub. Res. Code § 25402(b)(2) and (b)(3)).

PART 6 – BUILDING ENERGY EFFICIENCY STANDARDS

CCR Title 24 Part 6 is the Building Energy Efficiency Standards. This code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. The Building Energy Efficiency Standards is updated periodically to incorporate and consider new energy-efficiency technologies and methodologies as they become available. New construction and major renovations must demonstrate compliance with the current Building Energy Efficiency Standards through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the CEC. Under the 2019 standards, nonresidential buildings will be 30 percent more energy efficient compared to the 2016 standards, and residential homes will be 7 percent more energy efficient. When accounting for the electricity generated by the solar photovoltaic system, residences would use 53 percent less energy compared to homes built to the 2016 standards. The 2019 Building Energy Efficiency Standards, adopted on May 9, 2018, became effective on January 1, 2020. The 2019 Standards move toward cutting energy use in new homes by more than 50 percent and require installation of solar photovoltaic systems for single-family homes and multi-family buildings of three stories and less. The 2019 Standards focus on four key areas: 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting requirements. Under the 2019 Standards, nonresidential buildings will be 30 percent more energy-efficient compared to the 2016 Standards, and single-family homes will be seven percent more energy-efficient. When accounting for the electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards.

PART 11 – CALIFORNIA GREEN BUILDING STANDARDS

The California Green Building Standards Code, referred to as CALGreen, was added to CCR Title 24 as Part 11 first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 CBC). The 2019 CALGreen institutes mandatory minimum environmental performance standards for all ground-up new construction of non-residential and residential structures. It also includes voluntary tiers (I and II) with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions

must enforce the minimum mandatory Green Building Standards and may adopt additional amendments for stricter requirements.

The mandatory standards require:

- 20 percent reduction in indoor water use relative to specified baseline levels;
- 50 percent construction/demolition waste diverted from landfills;
- Inspections of energy systems to ensure optimal working efficiency;
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards;
- Dedicated circuitry to facilitate installation of EV charging stations in newly constructed attached garages for single-family and duplex dwellings; and
- Installation of EV charging stations at least three percent of the parking spaces for all new multi-family developments with 17 or more units.

Similar to the compliance reporting procedure for demonstrating Building Energy Efficiency Standards compliance in new buildings and major renovations, compliance with the CALGreen water-reduction requirements must be demonstrated through completion of water use reporting forms for new low-rise residential and non-residential buildings. Buildings must demonstrate a 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified in CALGreen or a reduced per-plumbing-fixture water use rate.

General Plan Designation and Zoning

The CAP Update would be implemented throughout the City and would occur in all General Plan designations and in all zoning designations.

Description of Plan

2022 CAP Update

The Cupertino CAP Update incorporates the many climate protection programs noted above, including the Cupertino 2015 CAP, that the City has in place and will continue to reduce GHG emissions. The City has developed the CAP Update in order to achieve a number of objectives, including a safer future and enhanced quality of life for the community, new economic opportunities through green jobs, enhanced social equity and citizen engagement on the issue of climate change, and reduced obstacles for building affordable housing. The CAP Update provides a foundation for future development efforts in the Cupertino community. It is anticipated that environmental documents for future development projects will identify and incorporate applicable GHG reduction measures from the CAP Update.

In response to the 2017 California Climate Change Scoping Plan, the City updated its baseline 2010 inventory and prepared a comprehensive, communitywide GHG emissions inventory update for the 2018 calendar year. The GHG emissions inventory update was completed in compliance with all relevant protocols and guidance documents, including U.S. Community Protocol, Local Government Operations Protocol (LGOP), the Global Protocol for Community Scale GHG Emissions (GPC), and the Intergovernmental Panel on Climate Change (IPCC) Guidelines for National GHG Inventories. In 2018, Cupertino's total GHG emissions were estimated to be 346,998 MTCO₂e. The Cupertino 2018

communitywide GHG emissions inventories is summarized in Table 1. Table 2 also provides estimated 1990 GHG emissions levels for informational purposes. As shown therein, communitywide GHG emissions declined by approximately 15 percent between 2010 and 2018. The most notable changes occurred in the energy and wastewater sectors due to increasing decarbonization of the state electricity grid, investments in energy efficiency, and a decrease in the amount of solid waste generated.¹²

Table 1 Cupertino 2018 Communitywide GHG Emissions Levels

Sector	1990 (MT of CO ₂ e) ¹	2010 (MT of CO ₂ e)	2018 (MT of CO ₂ e)	Percent Change from 2010 to 2018
Transportation	N/A	198,111	220,625	11%
Non-residential Energy	N/A	95,246	45,733	-52%
Residential Energy	N/A	77,042	45,296	-41%
Wastewater	N/A	22,591	19,635	-13%
Solid Waste	N/A	15,185	15,709	3%
Total	402,639	408,176	346,998	-15%

MT = metric tons; CO₂e = carbon dioxide equivalents

Note: Numbers are rounded to the nearest ten.

¹ 1990 GHG emissions were estimated by applying a change factor to Cupertino’s 2018 GHG emissions equivalent to the change in the State’s GHG emissions between 2018 and 1990. 1990 GHG emissions were not estimated at the individual sector level.

Source: Cupertino, City of. 2022. Cupertino 2019 Community GHG Inventory.

Compared with the 2015 CAP, the 2022 CAP Update puts more emphasis on building and vehicle electrification and alternative transportation modes (walking, biking, public, and shared transit). Measures from the 2015 CAP Update were removed and replaced with new foundational actions and supporting measures. The CAP Update builds upon the goals of the 2015 CAP and is based on the more recent inventory for the City.

The CAP Update is organized into five categories of GHG emissions reduction efforts, each of which includes measures and foundational actions. These categories are building energy, transportation, waste, water/wastewater, and carbon sequestration. Altogether, these measures and actions are intended to reduce communitywide GHG emissions output to 3.39 MT of CO₂e per person (equivalent to 222,867 MT of CO₂e in total emissions) by 2030, which would represent a 66% reduction below 1990 per capita levels and 50% below 2010 per capita levels by 2030. This would exceed the SB 32 State GHG emissions target of 40% below 1990 levels by 2030 as well as provide substantial progress toward meeting the City carbon neutrality goal by 2040 while exceeding in time the State carbon neutrality goal of 2045. However, full implementation of the 2022 CAP Update would leave a gap of approximately 0.82 metric tons of carbon dioxide equivalents (MT CO₂e) per person per year (equivalent to 57,435 MT CO₂e in total emissions) that would still need to be addressed to achieve carbon neutrality. As such, the CAP Update acknowledges that additional actions beyond those identified in the plan will be necessary to achieve carbon neutrality and, therefore, provides a mechanism for updating and adopting a new climate action plan in the future. This allows for certainty in the updated schedule, ensures that the carbon neutrality work is directly tied to the City’s financial decision making and prioritization process and allows for constant

¹² Cupertino, City of. 2022. Cupertino 2018 Community Greenhouse Gas Emissions Inventory.

integration of learning, best practices, and new measures and technologies to further the City toward meeting its goal of carbon neutrality.

Furthermore, in order to execute the CAP Update, City staff would implement the following administrative actions: regularly update the GHG Inventory and Climate Action Plan; monitor and report CAP implementation; ensure transparency by reporting GHG and CAP information to public disclosure programs; and develop a program for new development to illustrate consistency with the CAP Update. The climate action categories, measures, and foundational actions of the CAP Update are listed below in Table 2.

Table 2 Cupertino CAP Update GHG Emissions Reduction Measures and Actions

Action ID #	Measures and Respective Supporting Actions	Anticipated per Capita GHG Emissions Reduction (MT of CO ₂ e) ¹
Building Energy		
Measure BE-1: Reduce non-SVCE usage rate to 2% for residential and 10% for commercial by 2030 and maintain through 2040		
BE-1.1	Work with SVCE to conduct an annual analysis of non-SVCE and direct access usage rates in the City of Cupertino to understand why residents and businesses opt out of SVCE or use direct access electricity.	2030: 0.012 2040: 0.004
BE-1.2	Investigate feasibility of adopting an energy benchmarking program in Cupertino. Evaluate similar programs and determine how energy data would be reported and reviewed, if standards could be set to require energy efficiency improvements, and how much staff time would be required to maintain the program.	
BE-1.3	Establish an energy benchmarking program in Cupertino that requires large commercial entities (over 10,000 square feet) to report their energy usage and energy procurement details.	
BE-1.4	Develop a program to provide SVCE green energy for rental units and households in the Below Market Rate (BMR) rental and ownership programs.	2030: Supportive 2040: Supportive
BE-1.5	Develop a local education program detailing and promoting the benefits of opting in to SVCE service.	
BE-1.6	Partner with local community organizations that focus on climate and other social causes to promote the cost efficiency and benefits of SVCE. Solicit applications from among the community to take part in SVCE's Innovation Onramp Program.	

Action ID #	Measures and Respective Supporting Actions	Anticipated per Capita GHG Emissions Reduction (MT of CO ₂ e) ¹
Measure BE-2: Electrify existing residential buildings to reduce annual residential natural gas usage from 129 therms per person in 2018 to at most 71 therms per person in 2030 and 16 therms per person in 2040		
BE-2.1	<p>Develop a residential building electrification strategy (RBES) to aid in development of a residential building electrification ordinance which:</p> <ol style="list-style-type: none"> 1. Includes a detailed existing building analysis to understand current natural gas end uses and scenarios to electrify 2. Includes an electrification costs analysis that explores the up-front costs of electrification as well as ongoing energy costs for the end user (homeowners, landlords, and renters) after electrification 3. Considers impacts to renters, renter/landlord dynamics 4. Identifies potential impacts to electrical grid resiliency 5. Identifies and develops protections against potential equity concerns/impacts of electrification 6. Identifies funding and financing opportunities for residential electrification <p>Identifies the City staff resources needed to enforce a new electrification ordinance</p>	<p>2030: Supportive 2040: Supportive</p>
BE-2.2	<p>Identify and partner with local community-based organizations with connections to low-income and fixed income people, historically underserved communities, elders, disabled individuals with access needs to assist in development of the RBES.</p>	
BE-2.3	<p>Conduct engagement efforts for the public and targeted low-income and fixed income people, historically underserved communities, elders, disabled individuals with access needs during development of the RBES to understand the community's concerns around electrification.</p>	
BE-2.4	<p>Adopt an electrification ordinance for existing residential buildings by 2023 to be implemented through the building permit process which bans expansion of natural gas infrastructure and requires either electrification of appliances or a disconnect from the gas system at time of replacement and major renovation.</p>	<p>2030: 0.290 2040: 0.566</p>
BE-2.5	<p>Define equity metrics for ordinance enforcement based on feedback from low-income and fixed income people, historically underserved communities, elders, disabled individuals with access needs. Equity metrics should be designed to prevent displacement and ensure that end-user energy costs for low-income populations will not be greater after electrification than before. Design compliance support programs such as technical assistance to help permit applicants with compliance.</p>	
BE-2.6	<p>Enforce ordinance compliance through a comprehensive permitting compliance program, to be developed based on the results of the feasibility study in Action 1. Structure the program to include, as determined necessary, routine training of staff, dedicating staff time to building inspections, charging fees for noncompliance, providing easy to understand compliance checklists online and with permit applications, and facilitating permitting online. Evaluate the effectiveness of the program on a biannual basis to avoid potential issues such as reduced permit application rates.</p>	
BE-2.7	<p>Actively participate in regional permit streamlining efforts for all-electric building upgrades, EV charging, and battery storage.</p>	<p>2030: Supportive</p>

Action ID #	Measures and Respective Supporting Actions	Anticipated per Capita GHG Emissions Reduction (MT of CO ₂ e) ¹
BE-2.8	Work with the local contractors, realtors, homeowner associations, and labor unions to develop a comprehensive building code and compliance training program, including hosting workforce development trainings discussing the benefits and technical requirements of electrification. Consider working with regional partners to maintain a database of qualified contractors and consultants for electrification retrofits.	2040: Supportive
BE-2.9	Commit to electrifying the City's Below Market Rate (BMR) rental and housing stock at a neighborhood level by 2040. Establish a plan and schedule for implementing this action by 2024.	
BE-2.10	Create a dedicated fund to support BMR rental and housing upgrades, to be supported by grants using an existing regional program (e.g., BayREN Home +).	
BE-2.11	Work with PG&E to identify opportunities for natural gas infrastructure pruning to redirect PG&E dollars allocated for pipeline maintenance to electrification retrofit projects instead and reduce the chance of stranded assets. Stranded assets are functional natural gas infrastructure with ongoing maintenance costs that has become obsolete due to electrification. Work with PG&E to identify additional funding as needed for the abandonment/removal of the infrastructure. Consider piloting this approach with a group of municipal facilities.	
BE-2.12	Collaborate with the County and other cities in the region to advocate for regulatory changes at the state and federal level to allow neighborhood level electrification and natural gas pruning. Consider also supporting federal carbon pricing proposals in the City's legislative platform.	
BE-2.13	Seek out funding partnerships with local financiers and work with partners such as SVCE and BayREN to fund a program specifically for decarbonization retrofits, such as a local turnkey retrofit program that leverages existing funding, which offers low-cost financing of electrification and energy efficiency retrofits for residents and local businesses.	
BE-2.14	Develop a program dedicated to understanding, streamlining, and expanding energy and electrification turnkey, rebate, and financing programs (e.g., PACE, CHEEF, and utility-offered incentive programs). Staff would also be responsible for supporting residents with rebate applications, with a focus on low-income residents.	
Measure BE-3: Electrify existing commercial buildings to reduce annual commercial natural gas usage from 119 therms per person in 2018 to at most 90 therms per person in 2030 and 54 therms per person in 2040		
BE-3.1	Inform and facilitate energy master planning work around electrification for commercial business owners and large developers. Build a partnership with and distribute technical support to the business community (e.g., local business associations) to with the aim of identifying, piloting, and scaling large energy efficiency and electrification projects.	2030: Supportive 2040: Supportive
BE-3.2	Develop a commercial building electrification strategy (CBES), building on the existing Baseline Buildings Study from SVCE (2020), with a detailed commercial natural gas usage analysis, analysis to potential impacts to the local commercial sectors, and electrification costs analysis to aid in development of a commercial building electrification ordinance.	

Action ID #	Measures and Respective Supporting Actions	Anticipated per Capita GHG Emissions Reduction (MT of CO ₂ e) ¹
BE-3.3	Conduct engagement efforts for the commercial sector during development of the CBES to understand potential concerns and barriers to commercial electrification. Engage with BAAQMD in the development of the CBES in order to coordinate on the approach to emergency power and baseload power generation systems which commonly use natural gas.	
BE-3.4	Conduct outreach to small businesses and minority-owned businesses to understand potential equity impacts of the ordinance.	
BE-3.5	By 2024, adopt an electrification ordinance for existing commercial buildings to be implemented through the building permit process, which bans expansion of natural gas infrastructure, requires electrification of natural gas appliances at time of major renovation and time of replacement where technologically feasible (exceptions can be made where all-electric alternatives to do not exist or are a significant cost burden, to be further defined based on results of the CBES).	2030: 0.190 2040: 0.366
BE-3.6	Enforce existing buildings electrification ordinance compliance through the same permitting compliance program and with same staff as for residential building electrification.	
BE-3.7	Conduct engagement efforts for the commercial sector to identify ways the City can support commercial battery storage installations and improve local grid resiliency beyond what will be required in the 2022 California Building Energy Code's commercial battery storage and solar installation requirements.	2030: Supportive 2040: Supportive
BE-3.8	Work with SVCE and PG&E to develop or expand commercial rebate program and incentivize commercial all-electric retrofits and battery storage installations.	
BE-3.9	Create a program to generate interest and secure partnerships among local business and institutions for the purpose of seeking out grants or initiatives. Leverage this program to facilitate funding opportunities for commercial business electrification.	
BE-3.10	Develop a program that funnels Cupertino businesses into the SVCE Innovation Onramp grant program or similar grant offerings.	
Measure BE-4: Require new residential and commercial development to be all-electric at time of construction		
BE-4.1	Adopt an electrification ordinance for new residential and commercial development which requires developers to build all-electric at time of construction. Actively maintain the electrification ordinance through each tri-annual code cycle.	2030: 0.067 2040: 0.221
Measure BE-5: Support Apple in continuing to procure biofuel for the fuel cell located in Cupertino		
BE-5.1	Energy consumption by Apple facilities is significant in Cupertino. Coordinate with Apple during preparation of future community inventories to ensure that Apple is continuing to procure biofuel for their Apple Park fuel cell through a legitimate book and claim process and that the data is reflected correctly in Cupertino's community inventory according to the latest inventory guidance and protocols from CARB and ICLEI.	2030: Supportive 2040: Supportive

Action ID #	Measures and Respective Supporting Actions	Anticipated per Capita GHG Emissions Reduction (MT of CO ₂ e) ¹
BE-5.2	Develop requirements for future commercial projects with fuel cells, stationary generators, or other natural gas equipment that cannot be electric to coordinate with the City and procure biofuel or other carbon-free fuel for operation of the equipment. Coordinate this action with the Bay Area Air Quality Management District, which conducts regular analysis on carbon-free alternatives to diesel generators under the Diesel-Free by '33 program.	2030: Supportive 2040: Supportive
BE-5.3	Work with the City's natural gas provider, ABAG POWER, to develop market alternatives to natural gas that provide legitimate carbon reduction opportunities, such as renewable diesel fuels or bio-based fuels. Consider purchasing these fuels at a price premium.	2030: Supportive 2040: Supportive
Transportation		
Measure TR-1: Develop and implement an Active Transportation Plan to achieve 15% of bicycle mode share by 2030 and 23% by 2040		
TR-1.1	As part of the City's active transportation planning, identify priority projects to connect neighborhoods with commercial areas via bike/ped paths, repainted roadways, and e-bike share.	2030: Supportive 2040: Supportive
TR-1.2	Collaborate with the County, VTA, and SVCE to connect Cupertino's bicycle network to cross-jurisdiction bicycle superhighways and other e-bike networks as feasible.	
TR-1.3	Engage the Bicycle Pedestrian Commission, Safe Routes to School network, and community groups to identify additional short-term and long-term bikeway and pedestrian infrastructure improvement projects to implement.	
TR-1.4	Ensure there is equitable access to safe bicycle and pedestrian infrastructure in all areas of the city. Prioritize new bicycle and pedestrian facilities (e.g., bike paths, bike parking, sidewalks) in areas with underdeveloped facilities and also in areas with low-income populations.	
TR-1.5	Continue to implement the 2018 Pedestrian Plan and the 2016 Bicycle Transportation Plan's prioritized list of projects, with accelerated completion of all planned bike paths by 2030.	2030: 0.048 2040: 0.071
TR-1.6	Repaint arterial, minor collector, and major collector roads (as mapped in the 2016 Bicycle Transportation Plan) without existing designated bike lanes to include bike lanes and limit existing car lanes/travel where determined to be feasibly safe.	
TR-1.7	Conduct a pilot program, including a plan for pilot implementation, that designates the road space on select streets specifically for bikes and is closed to through-traffic motor vehicles. As part of the plan, consider location and extent of pilot program based on transportation data analysis, and develop success tracking metrics to inform potential pilot expansion.	
TR-1.8	Evaluate and update the City's Zoning Code, Transportation Demand Management Ordinance, and California Green Building Code to ensure the City requires installation of accessible, shaded, and secure bicycle parking for new commercial development and retrofits.	2030: Supportive 2040: Supportive

Action ID #	Measures and Respective Supporting Actions	Anticipated per Capita GHG Emissions Reduction (MT of CO ₂ e) ¹
TR-1.9	Improve the bike/e-bike parking network to reduce theft and increase rider attraction. This would include surveying existing bike parking facilities throughout Cupertino and developing a plan to improve these with preference given to improving bike/e-bike parking facilities near public transit stops to improve and expand access to transit (i.e., first and last-mile access)	
TR-1.10	Design a micro-mobility program that that explores expansion of the use of electric bikes and scooters and shared micro mobility options.	
TR-1.11	Bring an e-bike share or e-scooter share to Cupertino with focus on placing hubs near neighborhood entry points and commercial areas. Adopt an ordinance to allow and manage the mobility share.	
TR-1.12	Pilot a program to provide free or reduced-price access to e-bikes or other micro mobility options to low-income residents and students.	
TR-1.13	Establish a program for researching and obtaining grant funding for bike and pedestrian network expansion.	
Measure TR-2: Implement public and shared transit programs to achieve 29% of public transit mode share by 2030 and maintain through 2040		
TR-2.1	Develop a plan for on-demand community shuttle (Via-Cupertino) expansion and designated streets for transit based on data collected by the City.	2030: Supportive 2040: Supportive
TR-2.2	Include public transit in the designated streets pilot program in Measure TR-1 (Action 7).	2030: 0.269 2040: 0.256
TR-2.3	Aggressively expand the on-demand community shuttle to meet shared transit goals and support vulnerable populations: secure funding to support transition to an all-electric fleet, maintain bike racks on all fleet vehicles, increase service and coverage, wheelchair accessibility, and offer free or deeply subsidized passes to students attending Cupertino schools and low-income individuals.	2030: Supportive 2040: Supportive
TR-2.4	Partner with VTA and neighboring cities to develop high-capacity transit service along the Stevens Creek Boulevard/I-280 corridor	
TR-2.5	Conduct a free public transit pilot program that provides free public transit on VTA and the Via-Cupertino Shuttle to students, foster youth, and unhoused youth in Cupertino.	
TR-2.6	Require medium to large-sized employers (25 employees or more) to develop a Transportation Demand Management (TDM) Plan. TDM plans should include subsidies for employees to bike, walk, or carpool, and provide free transit passes for all employees.	
TR-2.7	Require new multi-family development projects to install a car share or provide e-bikes/e-scooters to each new tenant.	
TR-2.8	Establish a program for supporting regional transportation coordination for improving region-wide service, such as establishing prioritized service, obtaining grant funding for service expansion or headway reductions.	

Action ID #	Measures and Respective Supporting Actions	Anticipated per Capita GHG Emissions Reduction (MT of CO ₂ e) ¹
Measure TR-3: Increase zero-emission vehicle (ZEV) adoption¹³ to 35% for passenger vehicles and 20% for commercial vehicles by 2030 and 100% for all vehicles by 2040		
TR-3.1	Conduct a survey of existing publicly accessible electric vehicle chargers, their locations, and their kilowatt hour charging speed and identify a prioritized list of locations for new electric vehicle charging stations with particular consideration for equitable distribution of chargers to residents of multi-family homes, low-income and fixed income people, communities of color, elders, and disabled individuals with access needs.	2030: 0.039 2040: 1.1263
TR-3.2	Leverage public and private partnerships to add 719 new publicly accessible Level 2 and 3 electric vehicle charging stations to the City by 2030.	
TR-3.3	Review electric vehicle infrastructure reach code for new development and consider re-adoption of the reach code or strengthening electric vehicle installation requirements at next code cycle.	2030: Supportive 2040: Supportive
TR-3.4	Create a local reach code ordinance for installation of electric vehicle charging infrastructure at existing multi-family and commercial sites. Work with SVCE on model code development and coordinate efforts with other SVCE cities.	
TR-3.5	Continue to maintain and advertise a streamlined electric vehicle infrastructure permitting process in accordance with SB 1236 and SB 970.	
TR-3.6	Investigate commercial vehicle fleets in Cupertino and identify businesses/employers to target for accelerating zero emission vehicle (ZEV) adoption.	2030: 0.118 2040: 0.697
TR-3.7	Work and collaborate with local businesses/employers to develop and implement a plan for City-supported accelerated fleet electrification. As part of the plan, identify opportunities for accelerated fleet electrification and promote zero-emission vehicle (ZEV) adoption within major private and employee fleets in Cupertino.	
TR-3.8	Support zero-emission vehicle (ZEV) car share companies in coming to Cupertino; collaborate with neighboring jurisdictions and the County to do the same to create a larger connected network of ZEV car share.	2030: Supportive 2040: Supportive
TR-3.9	Establish affordable, zero-emission vehicle (ZEV) car share to serve affordable housing and/or multifamily developments with a priority to target renters, residents in multi-unit housing, low-income and fixed income people, communities of color, elders, and disabled individuals with access needs.	
TR-3.10	Review zero-emission vehicle (ZEV) adoption rates based on demographics of Cupertino to identify ways to improve ZEV adoption among renters, low-income and fixed income people, communities of color, elders, and disabled individuals with access needs. Based on the results, conduct targeted outreach to groups to identify barriers and concerns of potential ZEV drivers. Work with community-based organizations to target outreach and program planning to reduce barriers for ZEV adoption among groups with low participation rates.	

¹³ For the purposes of this document and the Cupertino CAP Update, ZEV adoption refers to percent of vehicles registered in Cupertino that are ZEV.

Action ID #	Measures and Respective Supporting Actions	Anticipated per Capita GHG Emissions Reduction (MT of CO ₂ e) ¹
TR-3.11	Coordinate with community-based organizations, agencies, and non-profits to conduct zero-emission vehicle (ZEV) education events for renters, low-income and fixed income people, communities of color, elders, and disabled individuals with access needs that would include information on costs/benefits of owning ZEVs, steps on how to receive incentives for ZEVs, and other benefits.	
TR-3.12	Work with SVCE and PG&E to incentivize electric vehicle charger installations through on-bill financing.	
TR-3.13	Identify and implement incentives for commercial fleet electrification. This could include local tax breaks.	
Measure TR-4: Refocus transportation infrastructure away from single-occupancy gasoline and diesel passenger vehicles to support the bicycle/pedestrian, public transit, and ZEV goals of Measures TR-1, TR-2, and TR-3		
TR-4.1	Conduct public outreach and analysis of the potential community impacts and benefits of implementing disincentive-based policies for driving gasoline and diesel single passenger vehicles. Explore options such as limiting parking options, increased local taxes (income tax, gasoline tax, or car registration tax), and transportation network company (TNC) user taxes.	2030: Supportive 2040: Supportive
TR-4.2	In addition to general public outreach, conduct targeted outreach to students, low-income and fixed income people, historically underserved communities, elders, and disabled individuals with access needs during analysis of the disincentive-based transportation policies to understand the community's potential concerns.	
TR-4.3	Define equity metrics for implementation of disincentives based on feedback from students, low-income and fixed income people, communities of color, elders, and disabled individuals with access needs and structure the disincentive programs to meet these metrics.	
TR-4.4	Develop a plan and timeline for allowing developers to build housing without off-street parking if it is close to frequent transit service, to be implemented at a time when frequent transit options are more available in Cupertino.	
TR-4.5	As part of future updates to the General Plan, conduct a traffic pattern study to identify commercial areas of the city to severely limit or eliminate parking for single-passenger gasoline and diesel vehicles.	
TR-4.6	Conduct a study of citywide parking minimums and based on available transportation options, travel demand, and land use, consider parking maximums and potentially charging for public parking spaces.	
TR-4.7	Identify options for funding active and public transit programs through a local tax starting in 2023 (e.g., income tax, local gasoline tax, or gasoline/car registration tax). Ensure any tax or fee is designed to have low to no impact on low-income residents (e.g., includes a rebate for CARE/FERA customers, or has progressive fee levels based on income bracket/value of the car).	

Action ID #	Measures and Respective Supporting Actions	Anticipated per Capita GHG Emissions Reduction (MT of CO ₂ e) ¹
TR-4.8	Implement a user tax on Transportation Network Companies (TNC), taxi companies, and other private transportation services, which would put a small fee on the use of these services to generate funds to pay for transit and mobility infrastructure. Exceptions to a user tax may be made for private transportation services that demonstrably reduce VMT.	
TR-4.9	Track the results of the CAP's driving disincentive programs - parking limitations, increased local taxes (income tax, gasoline tax, or car registration tax), and TNC user taxes - and share these results with neighboring jurisdictions and the County to collaborate on extending these programs within the County.	
Measure TR-5: Electrify or otherwise decarbonize 34% of off-road equipment by 2030 and 35% by 2040		
TR-5.1	Investigate commercial off-road equipment fleets in Cupertino and identify fleets with highest decarbonization potential.	2030: Supportive 2040: Supportive
TR-5.2	Partner with BAAQMD to expand rebate and incentive programs for upgrading off-road equipment and switching to biofuels or electric equipment.	
TR-5.3	Partner with SVCE and the County of Santa Clara to incentivize electrification of landscaping equipment and other off-road equipment types such as construction machinery.	
TR-5.4	By 2025, develop an ordinance to ban local operation of gasoline and diesel-powered off-road equipment by 2030 to improve public health, reduce noise, and reduce local GHG emissions. This ordinance can build upon the noise ordinance which regulates landscaping equipment. Include allowance for biofuels (i.e., renewable diesel) for equipment for which zero emission alternatives are not available in the ordinance.	2030: 0.098 2040: 0.102
Waste		
Measure W-1a: Implement SB 1383 requirements and reduce communitywide landfilled organics 75% by 2025 and inorganic waste 35% by 2030 and reduce all waste 90% by 2040		
W-1a.1	Partner with local community organizations and businesses to implement all required activities under SB 1383.	2030: 0.202 2040: 0.200
W-1a.2	Route collected landfilled waste through a materials recovery facility (MRF) to increase diversion before final disposal. Continue financial support for low-income residents to offset increase trash rates.	2030: Supportive 2040: Supportive
W-1a.3	Work with contracted hauler to develop and implement a comprehensive monitoring and quality control program with a focus on consumer behavior change.	
W-1a.4	Encourage businesses to educate their employees about organic waste diversion and proper sorting annually by providing training resources and rebate program to fund employee time for training.	
W-1a.5	Establish relationships with multi-family (MF) property owners/managers to develop signage for their properties to encourage food waste diversity. Go door-to-door at each MF unit yearly to provide supplies and education for proper sorting.	

Action ID #	Measures and Respective Supporting Actions	Anticipated per Capita GHG Emissions Reduction (MT of CO ₂ e) ¹
W-1a.6	Conduct targeted, multi-lingual, culturally appropriate, and geographically diverse waste diversion educational and technical assistance campaigns based on outcomes of the waste characterization study and comprehensive monitoring and quality control program. Topics could include proper sorting, reduce smell/mess, where does the material go after it leaves the curb, methane from food waste in landfill.	
W-1a.7	Partner with schools, retirement communities, and other large institutions to create waste diversion and prevention programs/procedures/plans.	
W-1a.8	Work with hauler to determine data necessary to meet zero waste goals and establish protocol for regular collection and reporting of associated metrics.	
W-1a.9	Implement enforcement and fee for incorrectly sorted materials with sensitivity to shared collection.	
W-1a.10	Conduct construction and demolition (C&D) feasibility study to determine if the City can expand C&D waste diversion requirements and if feasible create a deconstruction ordinance to require reuse of materials.	
W-1a.11	Conduct waste characterization studies every 4-5 years to inform programs and policies. Leverage waste characterization data to understand the waste stream and create a plan to increase diversion and reduce contamination.	
W-1a.12	Understand alternatives to three waste streams disposal and fill in waste generation gaps by collecting data from take-back locations (grocery stores, auto shops, carpets, mattresses, battery collection, etc).	
W-1a.13	Increase access to recycling facilities such as California Refund Value (CRV) redemption and extended producer responsibility (EPR) take-back programs.	
W-1a.14	Monitor and report recycling activity, including the number of materials recycled, programmatic achievements, and the strength of commodity markets. Produce reports to the City Council as needed to inform future zero waste planning.	
W-1a.15	Add extra bulky-item pickup service for low- and medium-income residents at a subsidized cost to help minimize illegal dumping and increase access to bulky item disposal.	
W-1a.16	Conduct a study about textiles recycling opportunities that can be rolled out across Cupertino.	
Measure W-2: Reduce overall waste disposed to garbage, recycling, and compost per capita by 15% by 2035		
W-2.1	Conduct a consumption-based GHG emissions inventory to understand the community's worst consumption habits and emission reduction potential and provide educational materials on a closed-loop circular economy.	2030: Supportive 2040: Supportive
W-2.2	Based on results of the consumption-based emissions inventory, create a plan to achieve the objective of zero growth of waste generation. Consider reusable diaper service, plant-based diets, etc.	
W-2.3	Consider creation of upcycle/resell shop to increase access to items for reuse and create jobs.	

Action ID #	Measures and Respective Supporting Actions	Anticipated per Capita GHG Emissions Reduction (MT of CO ₂ e) ¹
W-2.4	Conduct targeted, multi-lingual, culturally appropriate, and geographically diverse waste prevention educational and technical assistance campaigns based on a waste characterization study. Outreach topics can include food waste prevention, edible food recovery strategies, proper storage, how to fix clothes/electronics, how to donate, reusable alternatives, effects of overconsumption, sustainable consumption habits, buying second hand, buying durable, sharing, repurposing.	
W-2.5	Create a training/education program that is free and accessible to all residents and employees to learn about waste prevention and diversion strategies and effects of overconsumption.	
W-2.6	Expand edible food recovery program to all restaurants and food generating businesses and create incentives for small businesses who otherwise could not participate.	
W-2.7	Fund edible food recovery organizations so they can expand and manage increased volume. Leverage CalRecycle support for projects that prevent food waste or rescue edible food.	
W-2.8	Work with the business community to design and promote extended producer responsibility such as take-back programs.	
W-2.9	Consider a fee at point of use for single-use food ware by food service providers. Fee would be waived for individuals who are dependent on these products for health reasons.	
W-2.10	Partner with local organizations, schools, and libraries to establish pop-up repair cafes for commonly broken and easily repaired items.	
W-2.11	Increase bans on "problem materials." Ban items without means of recycling or recycling markets, such as sale of polystyrene, produce bags, plastic packaging, straws, plastics #4-7, mixed materials.	
W-2.12	Create a requirement for large events to use an event waste management service. This could be included as a condition before the City issues a special event permit.	
W-2.13	Work with the business community to design and promote extended producer responsibility such as take-back programs.	

Action ID #	Measures and Respective Supporting Actions	Anticipated per Capita GHG Emissions Reduction (MT of CO ₂ e) ¹
Water/Wastewater		
Measure WW-1: Reduce per capita water consumption 15% compared to 2019 levels by 2030 and maintain through 2040		
WW-1.1	Adopt an ordinance for installation of dual-plumbing water systems that utilize greywater for irrigation at new residential construction, including ADUs, and in major retrofits. In doing so the City will: <ul style="list-style-type: none"> ▪ Engage with builders and developers to provide information on the new requirements for residential new construction ▪ Develop and adopt an ordinance based on the available model ordinances 	2030: Supportive 2040: Supportive
WW-1.2	Work with Santa Clara Valley Water to develop an enhanced public engagement campaign that promotes water efficiency rebates from Santa Clara Valley Water (Greywater, Laundry to Landscape program), including educating residents on the benefits of dual-plumbing greywater systems, low-flow fixtures, and their connection to climate resilience and GHG emissions reductions. Ensure that all outreach and education is in multiple languages.	
WW-1.3	Perform targeted outreach to households with low-income and fixed income people, communities of color, elders, and disabled individuals with access needs to provide free water conservation devices through the Santa Clara Valley Water. Ensure that all outreach and education is in multiple languages.	
WW-1.4	Work with schools to educate youth about water conservation.	
WW-1.5	Continue to provide rebates or other funding to low- and medium-income homes for installing laundry to landscape, rainwater catchment system, and low-flow appliances	
WW-1.6	Work with Santa Clara Valley Water and Cupertino’s three water retailers to provide Wi-Fi connected meters that citizens can check on phones and computers.	
WW-1.7	Partner with Santa Clara Valley Water to support a brackish water/desalinization program, as feasible.	
WW-1.8	Expand the Climate Victory Gardens pilot to an ongoing program and work with Santa Clara Valley Water to expand to a regional service.	
Measure WW-2: Support the SJ-SC RWF in implementing GHG emissions reduction projects		
WW-2.1	Establish a program or function for supporting SJ-SC RWF in obtaining grant funding for methane capture or other GHG reduction infrastructure. Explore opportunities related to methane capture and conversion to biofuel through the state’s Low Carbon Fuel Standard (LCFS) program.	2030: Supportive 2040: Supportive
WW-2.2	Collaborate with the cities of San Jose, Santa Clara, Campbell, Los Gatos, Monte Sereno, and Saratoga, and the County to advocate and support GHG reductions at the SJ-SC RWF. Explore opportunities to scale beyond regional coordination.	

Action ID #	Measures and Respective Supporting Actions	Anticipated per Capita GHG Emissions Reduction (MT of CO ₂ e) ¹
Carbon Sequestration		
Measure CS-1: Increase carbon sequestration through tree planting by developing and implementing an Urban Forest Management Plan		
CS-1.1	Identify and partner with local community-based organizations with connections to low-income and fixed income people, historically underserved communities, elders, and disabled individuals with access needs to assist in development of an Urban Forest Management Plan (UFMP) to ensure equity is prioritized as part of the plan.	2030: Supportive 2040: Supportive
CS-1.2	Conduct an urban heat island study to assist in identifying priority areas in Cupertino for planting new trees.	2030:0.006 2040: 0.006
CS-1.3	Develop an Urban Forest Management Plan (UFMP) based on the City's tree canopy assessment that identifies the framework and strategy for expanding the tree canopy in Cupertino. As part of the UFMP development effort, identify a tree canopy expansion goal. Ensure the sustainability of the urban forest (including all existing and new trees) by including in the UFMP plans for continued tree maintenance and protection, attention to safety, resident engagement, and the planting of native and climate-appropriate trees.	2030: Supportive 2040: Supportive
CS-1.4	Review the Tree Protection Ordinance and ensure that trees are protected with the Housing Element Update. Ensure any trees that may be removed to accommodate new housing are replaced with at least a 2:1 ratio.	
CS-1.5	Establish a program for obtaining grant funding for development of UFMP and tree planting.	
Measure CS-2: Leverage the carbon sequestration potential of open space and carbon removal		
CS-2.1	Study opportunities to create new natural areas in existing open spaces, parklands, and fields with native species, biodiverse ecology, higher carbon sequestration potential and ecologically responsible recreation opportunities for the community.	2030: Supportive 2040: Supportive
CS-2.2	Expand community gardens program beyond McClellan Ranch Preserve. Continue to prioritize locating new gardens in high-density housing areas. Program goals include promoting healthy living through access to healthy food, creating a secure place where residents can strengthen community bonds, and providing education on safe organic gardening practices.	
CS-2.3	Study options to invest in carbon drawdown removal in a way that is appropriate for Cupertino. The study should include a review of the Oxford Carbon Drawdown Principles and identify if there exist any investments within or outside of Cupertino that make sense to contribute to for carbon drawdown.	
CS-2.4	Develop an embodied carbon emissions policy and ordinance that encourages or requires carbon to be sequestered in building materials such as mass timber framing or low-carbon concrete.	

Action ID #	Measures and Respective Supporting Actions	Anticipated per Capita GHG Emissions Reduction (MT of CO ₂ e) ¹
Measures W-1b: Meet or exceed the SB 1383 recycled organics products procurement requirements and sequester or avoid at least 0.018 MT CO₂e per person by through 2045		
W-1b.1	Develop partnerships with local community organizations and businesses to implement all required recycled organics products procurement activities under SB 1383.	2030: 0.018 2040: 0.018

Action ID #	Measures and Respective Supporting Actions	Anticipated per Capita GHG Emissions Reduction (MT of CO ₂ e) ¹
Climate Adaptation		
Measure AR-1: Increase usage of natural infrastructure solutions such as bioswales, rainwater storage systems, and permeable pavements to enhance infrastructure resiliency.		
AR-1.1	Prioritize opportunities to focus green stormwater infrastructure improvements in vulnerable communities including areas with a large proportion of renters, low-income areas, and in communities of color.	2030: Supportive 2040: Supportive
AR-1.2	Develop one or more demonstration projects which can be used to educate the community about these techniques.	2030: Supportive 2040: Supportive
Measure AR-2: Bolster emergency preparedness and response by integrating climate adaptation and improving climate-related communications.		
AR-2.1	By 2023, create Key Performance Indicators (KPI) to track pollutants from the Air Quality Monitoring Program and incorporate regular reporting of air quality KPIs into CAP reports and live interactive public dashboards.	2030: Supportive 2040: Supportive
AR-2.2	Provide wildfire smoke guidance and protocols for municipal employees to ensure their safety when air quality is poor.	2030: Supportive 2040: Supportive
AR-2.3	Integrate the vulnerability assessment results into emergency preparedness, management, response, and early warning systems.	2030: Supportive 2040: Supportive
AR-2.4	Partner with the County of Santa Clara Vector Control District and Public Health Department to develop and enhance disaster and emergency early warning systems that incorporate objective data and information for potential health threats such as heat-illness, illnesses complicated by adverse air quality, and inundation and precipitation events.	2030: Supportive 2040: Supportive
AR-2.5	Develop new educational materials that cover each climate hazard identified in the vulnerability assessment. Provide these materials in at least three different languages and several formats for the widest audience.	2030: Supportive 2040: Supportive
Measure AR-3: Strengthen Community Capacity and Resilience through Education, Resources, and Policies		
AR-3.1	Educate communities about the health risks of climate hazards and engage them in strengthening community resilience such as block-level climate resilience training and resilience hubs.	2030: Supportive 2040: Supportive
AR-3.2	Enroll 400 households by the end of Phase 2 to participate in a climate resiliency block training program. The curriculum will include household preparedness planning as well as basic education on climate hazard awareness.	2030: Supportive 2040: Supportive
AR-3.3	Bring policies for the City Council to consider that would achieve Gold ratings in all categories set forth by the County of Santa Clara Healthy Cities Index.	2030: Supportive 2040: Supportive

Action ID #	Measures and Respective Supporting Actions	Anticipated per Capita GHG Emissions Reduction (MT of CO ₂ e) ¹
Measure AR-4: Update the Adaptation Strategy and Action Plan in Coordination with the County of Santa Clara.		
AR-4.1	Update the Adaptation Strategy and Action Plan in Coordination with the County of Santa Clara.	2030: Supportive 2040: Supportive

Note: MT of CO₂e = metric tons of carbon dioxide equivalent
 Source: Compiled by Rincon based on information contained in the Cupertino Draft CAP Update.

Figure 3, Figure 4 and Table 3 summarize the communitywide GHG emissions forecast under three scenarios: 1) business-as-usual, 2) implementation of State laws and programs, and 3) implementation of State laws and programs as well as the CAP Update. As shown therein, under the business-as-usual scenario, communitywide GHG emissions are forecasted to increase by approximately 5 percent per capita (or 9 percent in terms of absolute total emissions) between 2018 and 2030 based on anticipated economic and population growth. With implementation of State laws and programs, Cupertino communitywide GHG emissions would decline by approximately 8 percent per capita (or 5 percent in terms of absolute total emissions) between 2018 and 2030. And with full implementation of the Cupertino CAP Update alongside State laws and programs, Cupertino communitywide GHG emissions would decline by approximately 38 percent per capita (or 36 percent in terms of absolute total emissions) between 2018 and 2030.

Figure 3 Cupertino Forecast Scenarios through 2040 – Per Capita GHG Emissions

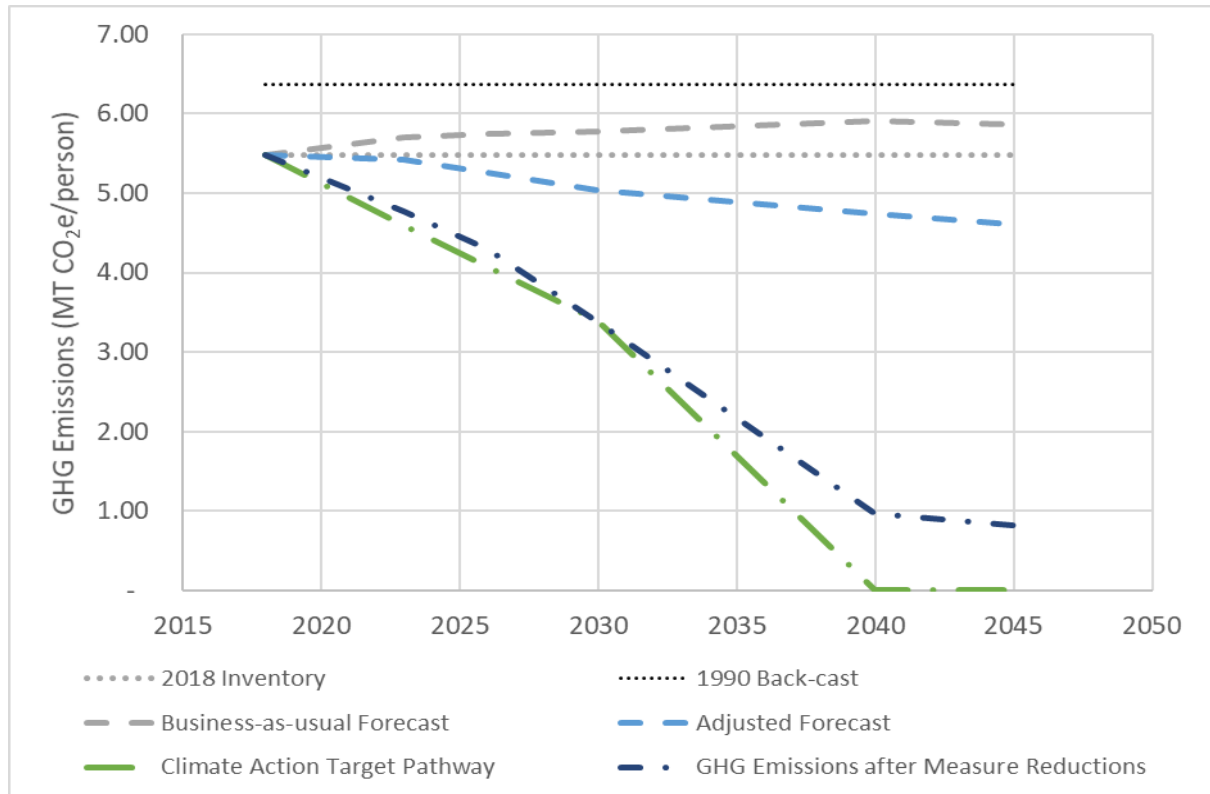
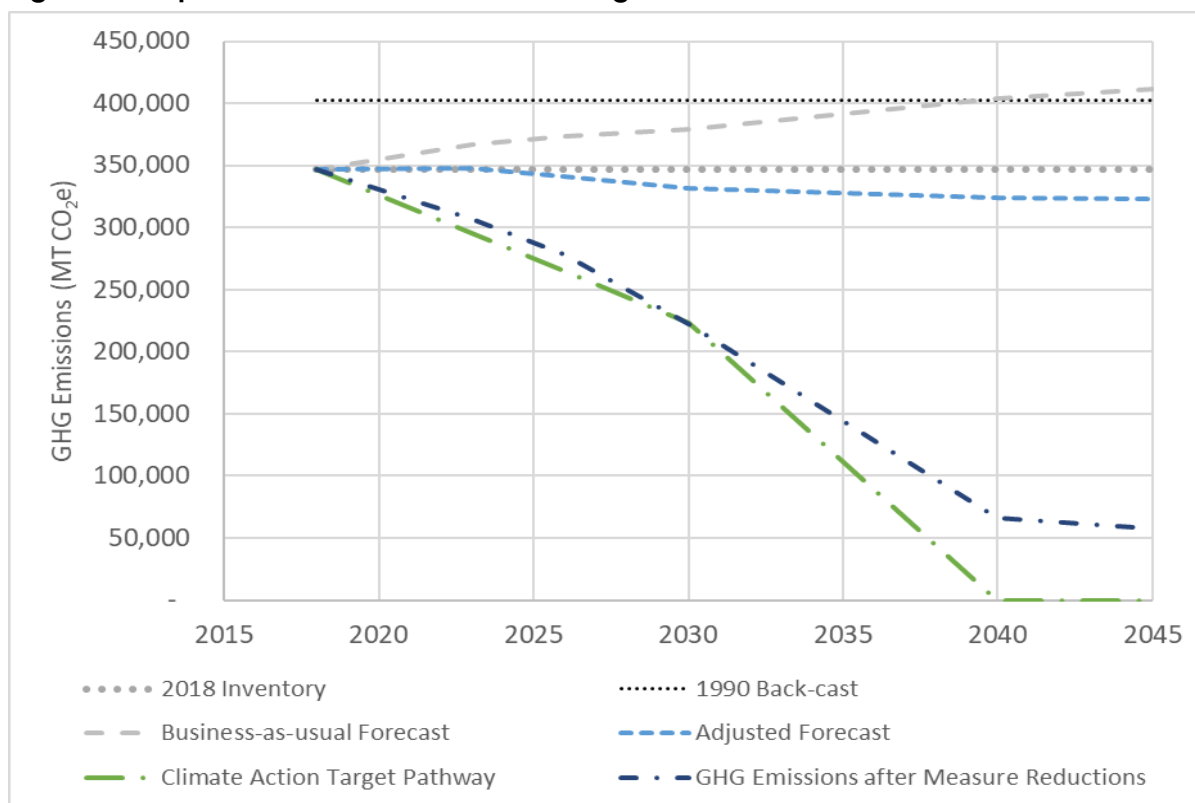


Figure 4 Cupertino Forecast Scenarios through 2040 – Absolute Total GHG Emissions**Table 3 Cupertino GHG Emissions Forecasts Through 2040**

Sector	2018 (MT of CO ₂ e/person)	2018 (MT of CO ₂ e)	2030 (MT of CO ₂ e/person)	2030 (MT of CO ₂ e)	2040 (MT of CO ₂ e/person)	2040 (MT of CO ₂ e)
Business-as-Usual GHG Emissions						
Transportation	3.49	220,625	3.66	240,232	3.70	252,825
Non-residential Energy	0.72	45,733	0.83	54,538	0.80	54,753
Residential Energy	0.72	45,296	0.70	45,869	0.83	56,462
Wastewater	0.31	19,635	0.33	21,417	0.32	21,989
Solid Waste	0.25	15,709	0.26	17,136	0.26	17,593
Total	5.49	346,998	5.77	379,192	5.91	403,622
GHG Emissions After Implementation of State Laws/Programs¹						
Transportation	3.49	220,625	2.96	194,328	2.60	177,328
Non-residential Energy	0.72	45,733	0.80	52,609	0.74	50,858
Residential Energy	0.72	45,296	0.70	45,757	0.82	55,975
Wastewater	0.31	19,635	0.33	21,417	0.32	21,989
Solid Waste	0.25	15,709	0.26	17,136	0.26	17,593

Sector	2018 (MT of CO ₂ e/person)	2018 (MT of CO ₂ e)	2030 (MT of CO ₂ e/person)	2030 (MT of CO ₂ e)	2040 (MT of CO ₂ e/person)	2040 (MT of CO ₂ e)
Total	5.49	346,998	5.04	331,247	4.74	323,743
GHG Emissions After Implementation of State Laws/Programs and Cupertino CAP Update						
Transportation ²	3.49	220,625	2.09	137,052	0.21	14,127
Non-residential Energy	0.72	45,733	0.40	26,127	0.09	6,331
Residential Energy	0.72	45,296	0.54	35,524	0.31	21,466
Wastewater	0.31	19,635	0.33	21,417	0.32	21,989
Solid Waste	0.25	15,709	0.08	5,349	0.08	5,336
Carbon Sequestration	5.49	346,998	(0.01)	(425)	(0.01)	(425)
Total	3.49	220,625	3.43	225,044	1.01	68,825

MT = metric tons; CO₂e = carbon dioxide equivalents; () denotes a negative number

State laws and programs include State vehicle fuel efficiency standards, the Renewable Portfolio Standard, and triennial updates of Title 24.

Source: Cupertino, City of. 2022. Cupertino Through 2040 GHG Forecasts.

Table 4 shows the 2030 GHG emissions and targets for Cupertino, including the expected emissions once the measures listed in Table 2 are implemented.

Table 4 Cupertino GHG Emissions Projections and Targets

Description	Emissions (MT of CO ₂ e/person)	Emissions (MT of CO ₂ e total)
1990 Emissions	6.37	402,639
2030 BAU Emissions	5.77	379,192
2030 Adjusted Emissions with State Laws/Programs Implemented	5.04	331,247
State 2030 Target Emissions (40% below 1990)	3.68	241,583
Cupertino 2030 Target Emissions	3.39	222,867
2030 Expected Emissions with Implementation of CAP Update	3.39	222,436

MT of CO₂e = metric tons of carbon dioxide equivalent

Implementation of the CAP Update measures identified in Table 2 could result in physical changes to the environment that could potentially have an impact on the environment. While individual projects resulting from these measures have not been identified for the purposes of this document, the types of actions that could result from realization of the CAP measures are taken into account in considering potential environmental impacts that could occur through implementation of the CAP Update. For example, the use of carbon-free electricity may require the installation of new infrastructure to accommodate use and transmission of alternative and renewable fuels. Similarly, the use of electric vehicles would require the installation of electric vehicle charging stations and supporting infrastructure. Additionally, CAP Update implementation may require the installation of new bicycle or pedestrian facilities. These types of activities would introduce physical changes, such as the temporary presence and operation of construction vehicles and equipment during installation

of required facilities, and the long-term presence of new facilities such as bike and pedestrian facilities, solar arrays, and electric vehicle charging stations, which could alter pedestrian and vehicular traffic patterns. Future plans or projects requiring discretionary approval would be subject to environmental review under CEQA, and individual impact analyses will identify required plan- or project-specific mitigation measures where applicable.

CEQA GHG Emissions Thresholds

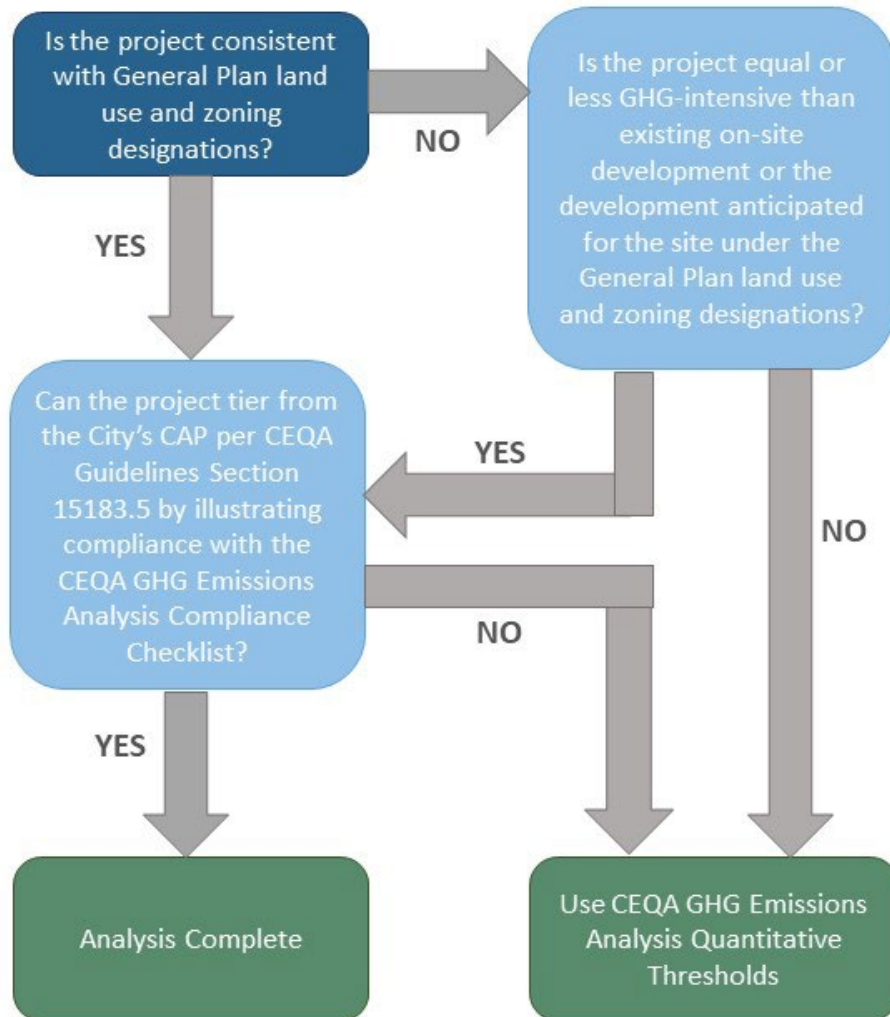
In 2007, SB 97 acknowledged that climate change is an environmental issue that requires analysis in California Environmental Quality Act (CEQA) documents, and in 2010 the California Natural Resources Agency adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines gave lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. Specifically, Section 15183.5(b)(1)A-G of Title 14 of the California Code of Regulations was amended to state that a qualified GHG Reduction Plan, or a Climate Action Plan, may be used for tiering and streamlining the analysis of GHG emissions in subsequent CEQA project evaluation, provided that the GHG Reduction Plan or CAP does the following:

- Quantifies GHG emissions both existing and projected over a specific period of time, resulting from activities within a defined geographical area
- Establishes a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable
- Identifies and analyzes the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area
- Specifies measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level
- Establishes a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels
- Be adopted in a public process following environmental review.

Therefore, the City of Cupertino proposes to also adopt quantitative efficiency thresholds for use in evaluating whether a plan or project's GHG emissions would result in a potentially significant environmental impact under CEQA for plans or projects with pre-2030 buildout or initial operation years. The CEQA GHG emissions thresholds would be applied to plans or projects that cannot tier from the environmental analysis for the City's CAP (as contained in this IS-ND) due to one of the following circumstances, which are illustrated in Figure 5:

- The plan or project would not be consistent with the Cupertino General Plan land use and zoning designations for the project site and would result in greater GHG emissions than existing on-site development; or
- The plan or project would not be consistent with the CEQA GHG Emissions Analysis Compliance Checklist.

Figure 5 Determining CEQA GHG Emissions Analysis Methodology



These thresholds are set at the level of GHG emissions that new development would need to achieve to be consistent with the CAP Update’s communitywide emissions reduction target of 3.39 MT CO₂e per person by 2030. The efficiency thresholds, listed below, are expressed in terms of MTCO₂e per service person¹⁴ and are applicable to plans or projects with pre-2030 buildout or initial operational years:

- 0.97 per resident
- 2.16 per employee
- 1.82 per service person¹⁵

Efficiency thresholds for beyond 2030 would be established later in conjunction with subsequent CAP Updates.

¹⁴ The service population is equal to the residential population plus half the number of jobs.

¹⁵ Cupertino, City of. 2022. Cupertino CEQA GHG Thresholds and Guidance.

Plans or projects that do not tier from the Cupertino CAP Update IS-ND that would generate GHG emissions in excess of these thresholds would result in a potentially significant impact on the environment related to GHG emissions and climate change. Mitigation measures would be required to reduce potentially significant impacts resulting from such plans or projects. Plans or projects that are unable to reduce GHG emissions below these thresholds through implementation of identified mitigation measures would result in a significant and unavoidable environmental impact. The GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not have direct construction or operational impacts.

Cumulative Projects Scenario

For purposes of CEQA cumulative impacts analysis of the Cupertino CAP Update, the cumulative projects scenario is buildout of the Cupertino General Plan along with the in-progress Housing Element Update. The in-progress Housing Element Update buildout assumes an additional 6,000 housing units by the CAP Update horizon year of 2030. Buildout of the General Plan and in-progress Housing Element Update in Cupertino would result in an anticipated total population of 65,690 by 2030.¹⁶

Required Approvals

City of Cupertino

Required approvals include:

- adoption of the CAP Update/GHG Emissions Thresholds Initial Study-Negative Declaration;
- approval of the CAP Update; and
- adoption of a CEQA GHG Emissions Thresholds resolution.

Although individual plans or projects may be implemented later under the umbrella of the CAP Update, each individual plan or project would be subject to separate environmental review under CEQA.

Other Public Agencies

The City of Cupertino has sole approval authority over the CAP Update. There are no other public agencies whose approval is required.

¹⁶ Cupertino, City of. 2022. Future GHG Emissions Forecasts Memorandum.

Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact that is “Potentially Significant” or “Less than Significant with Mitigation Incorporated” as indicated by the checklist on the following pages.

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input type="checkbox"/> Geology/Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials |
| <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources |
| <input type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation | <input type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Wildfire | <input type="checkbox"/> Mandatory Findings of Significance |

Determination

Based on this initial evaluation:

- I find that the proposed project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.
- I find that the proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.
- I find that the proposed project **MAY** have a “potentially significant impact” or “less than significant with mitigation incorporated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.

- I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



Lead Agency Representative Signature

Andre Duurvoort

Lead Agency Representative Printed Name

16 August, 2022

Date

Sustainability Division Manager

Title

Environmental Checklist

1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a. *Would the project have a substantial adverse effect on a scenic vista?*
- c. *In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

The Cupertino General Plan and General Plan Environmental Impact Report (EIR) identify the Santa Cruz Mountains and Montebello Foothills as the major scenic resources in the vicinity of Cupertino.^{17,18} However, the General Plan EIR notes that scenic views of these resources are generally limited to intermittent glimpses from major roadways such as Stevens Creek Boulevard and Homestead Road looking westward due to the built-out and flat nature of Cupertino. No streets or other locations within Cupertino have been designated by the City as scenic corridors or scenic

¹⁷ Cupertino, City of. 2014. General Plan EIR. Available: <<http://64.165.34.13/weblink/0/doc/391441/Electronic.aspx>>. Accessed February 7, 2022.

¹⁸ Cupertino, City of. 2014. General Plan Land Use and Community Design Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

vistas, although the General Plan does contain Policy LU-12.4, Hillside Views, that outlines the City's goal of preserving hillside and mountain views.^{19,20}

As policy and guidance documents, the CAP Update and GHG Emissions Thresholds do not propose specific development or changes to land use and zoning that would result in impacts to scenic vistas and visual character or conflict with City policies regulating scenic resources. However, implementation of some CAP Update measures and actions may promote infrastructure development and other physical changes through policies and programs. CAP Update Actions BE-2.7, BE-3.7, and BE-3.8 promote installation of small-scale solar photovoltaic (PV) systems and battery energy storage systems to increase renewable energy generation and storage in Cupertino. CAP Measure TR-1 encourages the installation of EV charging stations in order to support ZEV adoption. Additionally, CAP Update Measure CS-1 facilitates the expansion of the urban forest and Action CS-2.1 seeks to increase natural areas within Cupertino to support carbon sequestration, which could have a positive effect on scenic resources by adding new tree cover and green spaces.

While the CAP Update measures and actions may result in future projects that slightly alter the visual character of Cupertino, CAP Update-related projects would generally be limited to the existing developed areas of Cupertino and would be small-scale in nature. In addition, CAP Update-related projects and actions, including those identified above, would be required to adhere to City development zoning and regulations that protect aesthetic resources, including Cupertino Municipal Code (CMC) Chapter 19.168, Architectural and Site Review, which establishes the City's Design Review process.²¹ Compliance with the CMC would ensure that potential future infrastructure development and redevelopment related to the CAP Update would be carefully integrated with the existing character of the Cupertino community, minimizing potential aesthetic impacts. In addition, CAP Update projects and actions would be reviewed for consistency with the Cupertino General Plan policies related to scenic resources prior to approval. Thus, the CAP Update and GHG Emissions Thresholds would result in a **less than significant impact** related to scenic vistas and visual character or scenic quality.

b. Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

There are no officially designated state scenic highways within Cupertino. In addition, the City has not designated any local roadways as scenic corridors.²² The nearest designated state scenic highway is a portion of State Route 9 running approximately from Saratoga Avenue to Rose Avenue located two miles to the southeast of Cupertino city limits at its closest point. In addition, I-280 from the Santa Clara County line to Interstate 880 (I-880) is eligible for listing as a state scenic highway but has not been officially designated.²³

Due to the distance between Cupertino and the nearest designated State scenic highway, as well as the developed nature of Cupertino and the surrounding communities, views of Cupertino from I-280

¹⁹ Cupertino, City of. 2014. General Plan EIR. Available: <<http://64.165.34.13/weblink/0/doc/391441/Electronic.aspx>>. Accessed February 7, 2022.

²⁰ Cupertino, City of. 2014. General Plan Land Use and Community Design Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

²¹ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 19.168. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 16, 2022.

²² Cupertino, City of. 2014. General Plan EIR. Available: <<http://64.165.34.13/weblink/0/doc/391441/Electronic.aspx>>. Accessed February 7, 2022.

²³ California Department of Transportation (Caltrans). 2022. California State Scenic Highway System Map. Available: <<https://www.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aaca>>. Accessed February 16, 2022.

are not available. The portion of I-280 that is eligible for designation as a State scenic highway passes through the northernmost area of Cupertino and the northern portions of the City are visible from this roadway. As policy and guidance documents, the CAP Update and GHG Emissions Thresholds do not propose specific development or changes to land use and zoning that would result in impacts to scenic resources within a State scenic highway. However, implementation of some CAP Update measures and actions may promote infrastructure development that could alter the visual quality of future project sites.

CAP Update Actions BE-2.7, BE-3.7, and BE-3.8 promote installation of small-scale solar photovoltaic (PV) systems and battery energy storage systems to increase renewable energy generation and storage in Cupertino. CAP Measure TR-1 encourages the installation of EV charging stations in order to support ZEV adoption. Additionally, CAP Update Measure CS-1 facilitates the expansion of the urban forest and Action CS-2.1 seeks to increase natural areas within Cupertino to support carbon sequestration. Depending on the location of future CAP Update-related projects, such infrastructure may be visible from I-280. However, discretionary development would be required to adhere to City development regulations, such as CMC Chapter 19.168, Architectural and Site Review, in order to retain character of Cupertino and minimize environmental impacts.²⁴ In addition, discretionary development would be reviewed for consistency with the General Plan prior to approval. Thus, the CAP Update and GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to State scenic highways.

d. Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

Cupertino is an urbanized community and contains many existing sources of light and glare including street and vehicle lighting, security lighting, interior and exterior building lighting, and reflective building materials. The CAP Update would not involve land use or zoning changes that could result in intensified development and associated sources of light and glare. Rather the CAP Update would promote sustainable infrastructure development and redevelopment that is complimentary to existing land uses in Cupertino. Likewise, the GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, as policy documents, the CAP Update and GHG Emissions Thresholds would not directly result in impacts related to light and glare. However, implementation of CAP Update Actions BE-2.7, BE-3.7, and BE-3.8 promote installation of small-scale solar PV systems and battery energy storage systems to increase renewable energy generation and storage in Cupertino. Solar panels have the potential to result in new sources of glare within Cupertino if not thoughtfully designed and located. The design and location of future solar infrastructure would be complimentary to existing development in Cupertino, such as the addition of small-scale rooftop solar panels, which would reduce potential glare impacts. Furthermore, CAP Update projects and actions would be reviewed for consistency with the CCR Title 24 lighting standards (CCR Title 24 Part 6), CMC Chapter 19.168, Architectural and Site Review, and CMC Chapter 19.102, Glass and Lighting Standards, which provide requirements for exterior lighting and building materials to limit glare and light trespass, including nighttime light

²⁴ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 19.168. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 16, 2022.

trespass.^{25,26,27} In addition, CAP Update projects or actions would be reviewed for consistency with the Cupertino General Plan and other applicable regulatory land use actions prior to approval. Compliance with these regulations would minimize environmental impacts related to light and glare by limiting the use of highly reflective materials and requiring the shielding of exterior lighting. Thus, the CAP Update and GHG Emissions Thresholds would result in a **less-than-significant impact** related to light and glare.

Cumulative Impacts

The cumulative projects scenario is buildout of the Cupertino General Plan and the in-progress Housing Element Update. Buildout of the General Plan and in-progress Housing Element Update in Cupertino would result in an anticipated total population of 65,690 by 2030.²⁸ Cumulative impacts related to scenic resources and visual character would generally be site-specific, and cumulative projects are not anticipated to contribute to cumulative aesthetic impacts with adherence to Cupertino General Plan policies and the CMC. Likewise, although increased development associated with buildout of the General Plan would result in increased sources of light and glare within Cupertino, the General Plan EIR determined that adherence to the CMC and General Plan policies would ensure that cumulative development anticipated under buildout of the General Plan would not result in significant light and glare impacts.²⁹ Because of the developed nature of Cupertino, future infrastructure projects under the CAP Update, in combination with other cumulative projects anticipated under Cupertino General Plan buildout, would be small scale and would not adversely impact the visual character of the Cupertino community. In addition, future development in Cupertino would be required to comply with the City's Design Review process and be reviewed against applicable Cupertino General Plan policies and City's design standards for design quality and compatibility with adjacent land uses. Therefore, implementation of the CAP Update and GHG Emissions Thresholds would result in a **less-than-significant cumulative impact** related to aesthetics.

²⁵ California Energy Commission (CEC). 2019. 2019 Building Energy Efficiency Standards for Residential and Nonresidential Buildings. Available: <https://www.energy.ca.gov/sites/default/files/2021-06/CEC-400-2018-020-CMF_0.pdf>. Accessed February 17, 2022.

²⁶ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 19.168. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 16, 2022.

²⁷ Ibid.

²⁸ Cupertino, City of. 2022. Future GHG Emissions Forecasts Memorandum.

²⁹ Cupertino, City of. 2014. General Plan EIR. Available: <<http://64.165.34.13/weblink/0/doc/391441/Electronic.aspx>>. Accessed February 7, 2022.

2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*
- b. *Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?*
- e.1. *Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?*

Cupertino is characterized primarily by urban and suburban development. Maps prepared pursuant to the Farmland Mapping and Monitoring Program identify Cupertino as Urban and Built-up Land, and no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance is mapped within

Cupertino.³⁰ Likewise, there are no Williamson Act contracts within Cupertino.³¹ Cupertino contains a few scattered areas with zoning designations of Agriculture Residential (A) primarily located near the fringes of Cupertino city limits to the southwest, northwest, and northeast.³² The Cupertino General Plan Land Use and Community Design Element includes Goal LU-12 to preserve and protect the City's hillside and natural areas by maintaining the low-intensity residential, agricultural, and open space uses in Cupertino.³³

The CAP Update measures and actions focus on electrification of buildings, improving active transportation, ZEV and public transit infrastructure, water conservation, reducing solid waste sent to landfills, and increasing carbon sequestration through additional trees and greenspace. CAP Update actions would not involve projects or policies that would result in increased development or impacts related to conversion or loss of farmland. Additionally, the GHG Emissions Thresholds would provide guidance during CEQA review and do not propose development or changes to land use and zoning that could result in the loss of farmland or conflict with existing agricultural zoning. Therefore, the CAP Update and GHG Emissions Thresholds would result in **no impact** related to degradation of agricultural resources or conversion of agricultural land to non-agriculture uses, nor would there be a conflict with existing zoning or Cupertino General Plan land use designations.

c. *Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?*

d. *Would the project result in the loss of forest land or conversion of forest land to non-forest use?*

e.2. *Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use?*

According to the General Plan EIR, Cupertino does not contain forest or timberland resources, and no parcels are zoned for Timberland Production.^{34,35} CMC Chapter 14.12, Protected Tree Ordinance, establishes policies, regulations, and standards to ensure tree protection within the City.³⁶ In addition, the Cupertino General Plan contains a number of goals, policies, and strategies such as Policy LU-6.7, Heritage Trees, Strategy LU-12.3.3, Trees, and Strategy ES-2.1.5, Urban Forest, that illustrate the City's commitment to managing and preserving Cupertino's urban forest.

The CAP Update aligns with the Cupertino's General Plan by including measures such as CAP Update Measure CS-1, which seeks to facilitate the implementation of an urban forest master plan to

³⁰ California Department of Conservation. 2022. California Important Farmland Finder Map. Available at: <<https://maps.conservation.ca.gov/dlrp/ciff/>>. Accessed February 17, 2022.

³¹ Santa Clara County. 2022. Williamson Act Properties. Available at: <<https://sccplanning.maps.arcgis.com/apps/webappviewer/index.html?id=1f39e32b4c0644b0915354c3e59778ce>>. Accessed February 17, 2022.

³² Cupertino, City of. 2019. Zoning Map. Available at: <<https://www.cupertino.org/home/showpublisheddocument/13535/637279090319370000>>. Accessed February 17, 2022.

³³ Cupertino, City of. 2014. General Plan Land Use and Community Design Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

³⁴ Cupertino, City of. 2014. General Plan EIR. Available: <<http://64.165.34.13/webink/0/doc/391441/Electronic.aspx>>. Accessed February 7, 2022.

³⁵ Cupertino, City of. 2019. Zoning Map. Available at: <<https://www.cupertino.org/home/showpublisheddocument/13535/637279090319370000>>. Accessed February 17, 2022.

³⁶ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 14.18. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 16, 2022.

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increase the number of trees throughout Cupertino. The CAP Update does not include actions that would result in the loss of forest land or the conversion of forest land to non-forest use, nor would it conflict with or cause the rezoning of forest, timber land, or Timberland Production areas. Likewise, the GHG Emissions Thresholds would provide guidance during CEQA review and do not propose development or changes to land use and zoning that could result in the loss of forestland or conflict with existing zoning for forest uses. Therefore, the CAP Update and GHG Emissions Thresholds would result in **no impact** related to degradation of forestry resources or conversion of forest land to non-forest uses, nor would there be a conflict with existing zoning.

Cumulative Impacts

The cumulative projects scenario is buildout of the Cupertino General Plan and the in-progress Housing Element Update. Buildout of the General Plan and in-progress Housing Element Update in Cupertino would result in an anticipated total population of 65,690 by 2030.³⁷ As Cupertino's population grows and development intensifies in the future with buildout of the General Plan, there is the potential for loss of the limited areas of farmland within Cupertino. However, as discussed above, the CAP Update and GHG Emissions Thresholds do not propose new development, including new development on farmland, and do not include any measures or actions that would significantly impact agricultural resources. Likewise, the CAP Update and GHG Emissions Thresholds would not involve land use or zoning changes that could result in cumulative impacts related to conversion or loss of farmland or forest land. Rather, CAP Update Measure CS-1 would ensure that the urban forest is maintained and that additional trees are planted throughout Cupertino. Therefore, implementation of the CAP Update and GHG Emissions Thresholds would result in **no cumulative impact** related to agricultural and forestry resources.

³⁷ Cupertino, City of. 2022. Future GHG Emissions Forecasts Memorandum.

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3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a. *Would the project conflict with or obstruct implementation of the applicable air quality plan?*

The federal Clean Air Act (CAA) governs air quality in the United States and is administered by the U.S. EPA at the federal level. Air quality in California is also governed by regulations under the California CAA, which is administered by CARB at the State level. At the regional and local levels, local air districts typically administer the federal and California CAA. As part of implementing the federal and California CAA, the U.S. EPA and CARB have established ambient air quality standards for major pollutants at thresholds intended to protect public health. Cupertino is located within the San Francisco Bay Area Air Basin (the Air Basin), which includes the nine Bay Area counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, southwestern Solano, and southern Sonoma. The Air Basin is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). As the local air quality management agency, BAAQMD is required to monitor air pollutant levels to ensure that State and federal air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether or not the standards are met or exceeded, the Air Basin is classified as being in “attainment” or “nonattainment.” Under State law, air districts are required to prepare a plan for air quality improvement for pollutants for which the district is in non-attainment. BAAQMD is in non-attainment for the State and federal ozone standards, the State and federal PM_{2.5} (particulate matter up to 2.5 microns in size) standards, and the State PM₁₀ (particulate matter up to 10 microns in size) standards and is required to prepare a plan for improvement.³⁸ The sources, health effects, and typical controls associated with criteria pollutants are described in Appendix A.

³⁸ Bay Area Air Quality Management District (BAAQMD). 2017. Air Quality Standards and Attainment Status. Available: <<http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status>>. Accessed February 17, 2022.

The Bay Area 2017 Clean Air Plan provides a plan to improve Bay Area air quality and protect public health as well as the climate. The legal impetus for the Clean Air Plan is to update the most recent ozone plan, the 2010 Clean Air Plan, to comply with State air quality planning requirements as codified in the California Health and Safety Code. Although steady progress has been made toward reducing ozone levels in the Bay Area, the region continues to be designated as non-attainment for both the one-hour and eight-hour State ozone standards as noted previously. In addition, emissions of ozone precursors in the Bay Area contribute to air quality problems in neighboring air basins. Under these circumstances, State law requires the Clean Air Plan to include all feasible measures to reduce emissions of ozone precursors and reduce transport of ozone precursors to neighboring air basins.³⁹

The Federal Clean Air Act Amendments (CAAA) mandate that states submit and implement a State Implementation Plan (SIP) for areas not meeting air quality standards. The SIP includes pollution control measures to demonstrate how the standards will be met through those measures. The SIP is established by incorporating measures established during the preparation of Air Quality Management Plans (AQMP) and adopted rules and regulations by each local Air Pollution Control District (APCD) and AQMD, which are submitted for approval to CARB and the U.S. EPA.⁴⁰ The goal of an AQMP is to reduce pollutant concentrations below the NAAQS through the implementation of air pollutant emissions controls.

The CAP Update would not involve land use or zoning changes or specific development. Rather the CAP Update would promote sustainable infrastructure development and redevelopment that is complimentary to existing land uses in Cupertino. Likewise, the GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. CAP Update measures and actions focus on increasing the use of renewable energy, building electrification, improving active transportation, ZEV and public transit infrastructure, increasing urban trees, and reducing waste production and water use. Implementation of CAP Update actions, such as those aimed at reducing VMT, electrifying vehicles, and reducing natural gas use through building electrification, would have co-benefits to air quality within the Air Basin, would help BAAQMD meet applicable air quality plan goals, and would generally reduce sensitive receptor exposure to pollutant concentrations. Although the purpose and intended effect of the CAP Update is to reduce GHG emissions generated in Cupertino to help reduce the effects of climate change, many of its actions would also reduce criteria pollutant (i.e., air quality) emissions. CAP Update Measures BE-2 through BE-4 involve reducing the use of natural gas through building electrification of new and existing buildings, thereby reducing criteria pollutants associated with building energy use. In addition, CAP Update Measures TR-1 and TR-2 seek to improve active transportation and public transit facilities and programs in order to reduce VMT and increase the use of sustainable transportation options in Cupertino. CAP Update Measures TR-3 and TR-5 encourage the adoption of ZEVs and low-emissions off-road vehicles and equipment by enhancing EV infrastructure and providing incentives for community members and commercial fleets to purchase ZEVs and all-electric equipment such as lawnmowers and leaf blowers. Additionally, CAP Update Measure TR-4 includes actions to disincentivize the use of single-occupancy diesel and gasoline vehicles. These energy- and transportation-related strategies would reduce air quality emissions as well as GHG emissions. Therefore, the CAP Update and GHG Emissions Thresholds are consistent with the 2017

³⁹BAAQMD. 2017. Final Clean Air Plan: Spare the Air Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area. Final 2017 Clean Air Plan. Available: <http://www.baaqmd.gov/~media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en>. Accessed February 17, 2022.

⁴⁰CARB. 2017. 2016 State Strategy for the State Implementation Plan. Available: <<https://ww3.arb.ca.gov/planning/sip/2016sip/2016sip.htm>>. Accessed February 17, 2022.

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Clean Air Plan and would have **no impact** related to a conflict with or obstruction of the applicable air quality plan.

- b. *Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard?*

The GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to an increase of criteria pollutants. Likewise, the CAP Update would not involve land use or zoning changes but would instead promote sustainable infrastructure development and redevelopment. As a policy document, the CAP Update would not result in impacts related to criteria pollutants. However, implementation of the following CAP Update actions may promote construction activities that would temporarily generate criteria pollutants during the construction phase.

CAP Update Actions BE-2.4, BE-2.6, BE-2.7, BE-2.9 through BE-2.11, BE-3.1, BE-3.5, BE-3.6, and BE-3.8 promote electrification of existing residential and commercial buildings, which may require minor construction to modify the electrical and natural gas connections to existing buildings. CAP Update Actions TR-1.1 through TR-1.5 would encourage development of new bicycle infrastructure, which may involve construction activities to create new bike lanes and bike/pedestrian paths throughout Cupertino. CAP Update Actions TR-3.2, TR-3.4, and TR-3.12 would incentivize or require the installation of new EV charging stations. In addition, CAP Update Action CS-1.3 seeks to increase the number of trees throughout Cupertino, which may require the use of construction equipment for the moving and placement of trees.

Construction-related air quality impacts are generally associated with fugitive dust (PM₁₀ and PM_{2.5}) and exhaust emissions from heavy construction vehicles and soil hauling trucks, in addition to reactive organic gases (ROG) that would be released during the drying phase upon application of architectural coatings. However, implementation of CAP Update actions would not include large-scale construction within Cupertino and would involve temporary and short-term criteria pollutant emissions. In addition, future projects would be required to comply with CMC Chapter 17.04, Standard Environmental Protection Requirements, which includes measures to reduce pollutant emissions during construction.⁴¹ As such, the CAP Update would result in low-level criteria pollutant emissions and negligible impacts to air quality. CAP Update projects or actions would also be reviewed for consistency with BAAQMD air quality regulations and other applicable local, State, and federal regulations once project details and locations are known. Thus, the construction required for implementation of the CAP Update would result in a less-than-significant impact related to net increase of criteria pollutants.

With respect to operational emissions, many of the CAP Update actions would have the secondary benefit of reducing criteria pollutant emissions, such as strategies aiming to increase reduce natural gas use, promote EVs, reduce on- and off-road gasoline fuel use, and reduce VMT. Therefore, implementation of the CAP Update would be beneficial by helping Cupertino meet applicable air quality plan goals. In addition, future CAP Update projects would be required to comply with local, regional, and State air quality regulations. Therefore, the CAP Update and GHG Emissions Thresholds would result in a **less-than-significant impact** related to criteria pollutant emissions.

⁴¹ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 17.04. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 16, 2022.

c. *Would the project expose sensitive receptors to substantial pollutant concentrations?*

The GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to exposure of sensitive receptors to substantial pollutant concentrations. However, implementation of the CAP Update actions as described under *Response 3b.*, above, promote infrastructure development and redevelopment that may result in temporary construction activities. Construction-related air quality impacts are generally associated with fugitive dust (PM₁₀ and PM_{2.5}) and exhaust emissions from heavy construction vehicles and soil hauling trucks, in addition to ROG that would be released during the drying phase upon application of architectural coatings. However, implementation of CAP Update actions would not include large-scale construction, construction-related emissions would be temporary, and construction would be required to comply with the environmental protection measures identified in CMC Chapter 17.04, Standard Environmental Protection Requirements, such as dust control and low-ROG coating requirements.⁴² As such, implementation of the CAP Update would result in low-level toxic air contaminant emissions associated with construction.

While the CAP Update could result in construction-related impacts related to toxic air contaminants and exposure to sensitive receptors, CAP Update projects or actions would be reviewed for consistency with BAAQMD air quality regulations and other applicable local, State, and federal regulations, such as CMC Chapter 17.04, Standard Environmental Protection Requirements, once project details and locations are known to ensure compliance. Thus, construction associated with implementation of the CAP Update would not result in substantial emissions of toxic air contaminants and exposure to sensitive receptors. No operational toxic air contaminant emissions are anticipated with implementation of the CAP Update. Therefore, the CAP Update and GHG Emissions Thresholds would have a ***less-than-significant impact*** related to exposure of sensitive receptors to toxic air contaminants.

d. *Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

The CARB 2005 *Air Quality Land Use Handbook: A Community Health Perspective* identifies land uses associated with odor complaints which include: sewage treatment plants, landfills, recycling facilities, waste transfer stations, petroleum refineries, biomass operations, auto body shops, coating operations, fiberglass manufacturing, foundries, rendering plants, and livestock operations.⁴³ The GHG Emissions Thresholds would provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not have construction or operational impacts related to odors. The CAP Update includes Measure W-1a which seeks to reduce community landfilled organics by 75 percent by 2025 and reduce inorganic waste by 35 percent by 2030. Actions associated with this measure include implementing the organic waste diversion requirements of Senate Bill (SB) 1383, encouraging food waste diversion at residential, commercial and institutional developments, and increasing access to recycling facilities and programs. As such, the CAP Update could result in minor odors related to organic waste collection. However, green waste collection bins and compost application are not identified on the list of “Sources of Odor Complaints” (Table 1-4) as provided in

⁴² Cupertino, City of. 2022. Cupertino Municipal Code Chapter 17.04. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 16, 2022.

⁴³ CARB. 2005. Air Quality and Land Use Handbook: A Community Health Perspective. Available at: <<https://ww3.arb.ca.gov/ch/handbook.pdf>>. Accessed February 17, 2022.

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the *CARB Air Quality Land Use Handbook* and would not be anticipated to result in other odors that would adversely affect a substantial number of people.⁴⁴ Therefore, the CAP Update and GHG Thresholds would not facilitate development that could create odors, and there would be a ***less-than-significant impact*** related to odors exposure.

Cumulative Impacts

The cumulative projects scenario is buildout of the Cupertino General Plan and the in-progress Housing Element Update. Buildout of the General Plan and in-progress Housing Element Update in Cupertino would result in an anticipated total population of 65,690 by 2030.⁴⁵ Cumulative projects anticipated under Cupertino General Plan buildout could exceed applicable BAAQMD thresholds or be inconsistent with the 2017 Clean Air Plan. However, implementation of the CAP Update and GHG Emissions Thresholds would have a less-than-significant contribution related to potential cumulative air quality impacts within the air basin and on sensitive receptors within Cupertino, given that the CAP Update and GHG Emissions Thresholds would result in community-wide reduction of GHG emissions, energy use, single-occupancy vehicle travel, and associated air pollutant emissions. As such, implementation of the CAP Update and GHG Emissions Thresholds would not result in adverse impacts related to contribution of criteria pollutants to the air basin and exposure of sensitive receptors to toxic air contaminants. Therefore, implementation of the CAP Update and GHG Emissions Thresholds would result in a ***less-than-significant cumulative impact*** related to air quality.

⁴⁴ CARB. 2005. Air Quality and Land Use Handbook: A Community Health Perspective. Available at: <<https://ww3.arb.ca.gov/ch/handbook.pdf>>. Accessed February 17, 2022.

⁴⁵ Cupertino, City of. 2022. Future GHG Emissions Forecasts Memorandum.

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4 Biological Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?*

Cupertino is a primarily urbanized community with limited habitat to support special status species. However, natural areas in the western boundary of Cupertino, within the Montebello Foothills, and along Stevens Creek may provide habitat that supports special status species such as California red-legged frog, western leatherwood, white-tailed kite, and Cooper's hawk.⁴⁶ In addition, migratory and nesting birds protected by Sections 3503, 3503.5, and 3513 of the California Fish and Game Code (CFGC) and the Migratory Bird Treaty Act (MBTA) may utilize trees, landscaping, and structures throughout Cupertino for nesting habitat. CMC Chapter 17.04, Standard Environmental Protection Requirements, CMC Chapter 14.12, Protected Tree Ordinance, and the Cupertino General Plan Environmental Resources Element incorporate goals and policies to protect biological resources, such as plants, trees, wildlife habitats, wetlands and rivers, and rare and endangered species in Cupertino.^{47, 48, 49}

The GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not have construction or operational impacts related to special status species and their habitats. Likewise, the CAP Update would not involve land use or zoning changes. Rather the CAP Update would address infrastructure development and programming to reduce GHG emissions and increase sustainable practices within Cupertino. As a policy document, the CAP Update would not directly result in impacts related to wildlife species identified as candidate, sensitive, or special status. However, implementation of the following CAP Update measures and actions may promote infrastructure development and redevelopment and may result in impacts to species through construction activities.

CAP Update Actions BE-2.4, BE-2.6, BE-2.7, BE-2.9 through BE-2.11, BE-3.1, BE-3.5, BE-3.6, and BE-3.8 promote electrification of existing residential and commercial buildings, which may require minor construction to modify the electrical and natural gas connections to existing buildings. CAP Update Actions TR-1.1 through TR-1.5 would encourage development of new bicycle infrastructure, which may involve construction activities to create new bike lanes and bike/pedestrian paths throughout Cupertino. CAP Update Actions TR-3.2, TR-3.4, and TR-3.12 would incentivize or require the installation of new EV charging stations. In addition, CAP Update Action CS-1.3 seeks to plant additional trees throughout Cupertino, which may require the use of construction equipment for the moving and placement of trees. These actions have the potential to disturb nesting habitat for birds and raptors protected under the CFGC and MBTA. However, construction activities for future CAP Update projects would be required to comply with the provisions of the MBTA and CFGC, as well as CMC Chapter 17.04, Standard Environmental Protection Requirements, which includes requirements for nesting bird and roosting bat avoidance. Compliance with City, State, and federal

⁴⁶ Cupertino, City of. 2014. General Plan EIR. Available: <<http://64.165.34.13/weblink/0/doc/391441/Electronic.aspx>>. Accessed February 7, 2022.

⁴⁷ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 17.04. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 16, 2022.

⁴⁸ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 14.18. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 16, 2022.

⁴⁹ Cupertino, City of. 2014. General Plan Environmental Resources and Sustainability Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

requirements for the protection of special status species would be required for all future CAP Update-related projects and would minimize the potential for impacts to biological resources.

Furthermore, the CAP Update measures and actions would not conflict with the CMC or objectives and policies of the Cupertino General Plan related to wildlife but would rather be consistent with and promote those policies. CAP Update measures and actions involving infrastructure development or redevelopment would generally apply to the urbanized areas of Cupertino, with little application to parks, open spaces area, or undeveloped portions of Cupertino where sensitive habitat and related species may be present. In addition, CAP Update Measure CS-1 facilitates the implementation of an urban forest master plan that would increase tree canopy throughout Cupertino and Action CS-2.1 would create new natural areas to support a biodiverse ecology and improve carbon sequestration. These measures and actions would help increase habitat for special status species and migratory and nesting birds. As such, the CAP Update would not have a substantial adverse effect on candidate, threatened, or endangered wildlife species either directly through individual take or indirectly through species habitat modification. Therefore, the CAP Update and GHG Emissions Thresholds would result in a *less-than-significant impact* related to special-status wildlife species.

- b. *Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*
- c. *Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

Approximately 80 percent of Cupertino consists of urban land that does not support sensitive natural communities or wetlands. Sensitive natural communities within Cupertino are generally limited to the western fringes of Cupertino and include freshwater marsh, riparian scrub and forest, valley oak woodland, redwood forest, and chaparral. In addition, Stevens Creek, Calabazas Creek, Saratoga Creek, Regnart Creek, and Heney Creek run through Cupertino.⁵⁰ CMC Chapter 17.04, Standard Environmental Protection Requirements, CMC Chapter 14.12, Protected Tree Ordinance, and the Cupertino General Plan Environmental Resources Element incorporate goals and policies to protect biological resources, including sensitive habitats and wetlands and in Cupertino.^{51, 52, 53}

The GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not have construction or operational impacts related to riparian, wetland, or other sensitive habitats. Likewise, the CAP Update would not involve land use or zoning changes but would instead promote sustainable infrastructure development and redevelopment within urbanized areas of Cupertino, with little application to parks, open spaces area, or other locations where riparian, wetland, and sensitive habitat is located. Furthermore, CAP Update Measure CS-1

⁵⁰ Cupertino, City of. 2014. General Plan EIR. Available: <<http://64.165.34.13/weblink/0/doc/391441/Electronic.aspx>>. Accessed February 7, 2022.

⁵¹ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 17.04. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 16, 2022.

⁵² Cupertino, City of. 2022. Cupertino Municipal Code Chapter 14.18. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 16, 2022.

⁵³ Cupertino, City of. 2014. General Plan Environmental Resources and Sustainability Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

facilitates the implementation of an urban forest master plan that would increase tree canopy throughout Cupertino and Action CS-2.1 would create new natural areas to support a biodiverse ecology, increase recreation opportunities, and improve carbon sequestration. These measures and actions align with the Cupertino General Plan Environmental Resources Element goals and policies related to the preservation of sensitive habitats, such as Goal ES-5 which seeks to protect riparian, natural, and sensitive habitats in the rural areas of Cupertino.

In addition, future CAP Update-related projects would be required to adhere to City development regulations and Cupertino General Plan policies, including CMC Chapter 17.04, Standard Environmental Protection Requirements, and CMC Chapter 14.12, Protected Tree Ordinance, to limit the potential for project impacts to biological resources. In addition, the location and details of future CAP Update-related projects would be reviewed for consistency with applicable local, regional, and State regulations related to sensitive habitat prior to approval. As such, the CAP Update would not have a substantial adverse effect on riparian habitat or sensitive natural community, such as wetlands. Therefore, the CAP Update and GHG Emissions Thresholds would have a ***less-than-significant impact*** related to sensitive natural plant communities.

d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Cupertino is largely developed and offers limited habitat to provide migratory wildlife corridors or wildlife nursery sites. Areas that may support wildlife movement are generally limited to the western fringes of Cupertino in the Montebello Foothills, as well as the creeks and streams that traverse Cupertino including Stevens Creek, Calabazas Creek, Saratoga Creek, Regnart Creek, and Heney Creek run through Cupertino.⁵⁴ CMC Chapter 17.04, Standard Environmental Protection Requirements, CMC Chapter 14.12, Protected Tree Ordinance, and the Cupertino General Plan Environmental Resources Element incorporate goals and policies to protect biological resources, including habitat that could support migratory wildlife corridors and nursery sites.^{55, 56, 57} For example, the Cupertino General Plan Environmental Resources Element includes Policy ES-5.4, Hillside Wildlife Migration, which seeks to maintain wildlife access to migratory corridors within the hillsides in western Cupertino.

The GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not have construction or operational impacts related to interference with species movement or wildlife nurseries. Likewise, the CAP Update would not involve land use or zoning changes but would instead promote sustainable infrastructure development and redevelopment within urbanized areas of Cupertino, with little application to parks, open spaces area, or other locations where habitat supporting wildlife migration and nurseries may be present. Furthermore, CAP Update Measure CS-1 facilitates the implementation of an urban forest master plan that would increase tree canopy throughout Cupertino and Action CS-2.1 would create new natural areas to

⁵⁴ Cupertino, City of. 2014. General Plan EIR. Available: <<http://64.165.34.13/weblink/0/doc/391441/Electronic.aspx>>. Accessed February 7, 2022.

⁵⁵ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 17.04. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 16, 2022.

⁵⁶ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 14.18. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 16, 2022.

⁵⁷ Cupertino, City of. 2014. General Plan Environmental Resources and Sustainability Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

support a biodiverse ecology, increase recreation opportunities, and improve carbon sequestration. These measures and actions align with the Cupertino General Plan Environmental Resources Element goals and policies related to the preservation of natural habitats, such as Goal ES-5 which seeks to protect habitats that support wildlife movement in the rural areas of Cupertino.

In addition, future CAP Update-related projects would be required to adhere to City development regulations and Cupertino General Plan policies, including CMC Chapter 17.04, Standard Environmental Protection Requirements, and CMC Chapter 14.12, Protected Tree Ordinance, to limit the potential for project impacts to biological resources. In addition, the location and details of future CAP Update-related projects would be reviewed for consistency with applicable local, regional, and State regulations related to sensitive habitat prior to approval. As such, the CAP Update would not have a substantial adverse effect on wildlife migratory corridors or nursery sites. Therefore, the CAP Update and GHG Emissions Thresholds would have a ***less-than-significant impact*** related to interference with species movement or wildlife nursery use.

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The CMC Chapter 17.04, Standard Environmental Protection Requirements, as well as the General Plan Environmental Resources Element incorporate goals and policies for biological resources protection within Cupertino.^{58, 59} Additionally, CMC Chapter 14.18, Protected Tree Ordinance, was established to preserve trees and enhance the ecological benefit to the community by providing for the regulation of planting, management, maintenance, preservation and, where necessary, removal of trees.⁶⁰

The GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not have construction or operational impacts related to biological resources. Likewise, the CAP Update would not involve land use or zoning changes but would instead promote sustainable infrastructure development and redevelopment within urbanized areas of Cupertino. The purpose and intended effect of the CAP Update is to reduce GHG emissions generated in Cupertino to help reduce the effects of climate change. Implementation of proposed CAP Update measures and actions would be beneficial by helping Cupertino meet applicable local policies and ordinances for protecting biological resources, including the CMC Chapter 14.18, Protected Tree Ordinance, and the General Plan Environmental Resources Element goals. Specifically, CAP Update Measure CS-1 facilitates the implementation of an urban forest master plan that would increase tree canopy throughout Cupertino and Action CS-2.1 would create new natural areas to support a biodiverse ecology, increase recreation opportunities, and improve carbon sequestration. Future CAP Update-related projects would also be required to comply with CMC Chapter 17.04, Standard Environmental Protection Measures, and CMC Chapter 14.18, Protected Tree Ordinance, during any construction activities. As such, the CAP Update would not conflict with or obstruct implementation of the applicable policies for preserving biological resources and would not affect the City's ability to attain goals and policies that protect biological resources. Therefore, the CAP Update and GHG

⁵⁸ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 17.04. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 16, 2022.

⁵⁹ Cupertino, City of. 2014. General Plan Environmental Resources and Sustainability Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

⁶⁰ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 14.18. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 16, 2022.

Emissions Thresholds would result in **no impact** related to consistency with local biological resources protection policies.

- f. *Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?*

No portion of Cupertino is currently subject to a Habitat Conservation Plan or Natural Community Conservation Plan. CMC Chapter 17.04, Standard Environmental Protection Requirements, CMC Chapter 14.12, Protected Tree Ordinance, and the Cupertino General Plan Environmental Resources Element incorporate goals and policies to protect biological resources in Cupertino.⁶¹ ⁶² ⁶³ The GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not have construction or operational impacts related to conflict with an adopted Habitat Conservation Plan or the applicable Cupertino policies and goals related to biological resources. Likewise, The CAP Update would not facilitate specific development projects, nor would it add or enable new development that would conflict with the CMC or General Plan. Therefore, the CAP Update and GHG Emissions Thresholds would have **no impact** related to consistency with an adopted habitat or natural community conservation plan.

Cumulative Impacts

The cumulative projects scenario is buildout of the Cupertino General Plan and the in-progress Housing Element Update. Buildout of the General Plan and in-progress Housing Element Update in Cupertino would result in an anticipated total population of 65,690 by 2030.⁶⁴ As a guidance document, the GHG Emissions Thresholds would not result in any development or land use changes that could lead to cumulative impacts. Implementation of CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, could result in impacts to biological resources during infrastructure and building construction. However, as described in *Responses 4a. through 4f.*, above, infrastructure development or redevelopment resulting from implementation of the CAP Update would be required to comply with applicable Cupertino General Plan policies, Cupertino Standard Environmental Protection Requirements, and State and federal regulatory requirements regarding avoidance of special wildlife species and habitat. In addition, the CAP Update would not result in new building construction and contains actions that prioritize the preservation of trees and natural habitats. Therefore, implementation of the CAP Update and GHG Emissions Thresholds would result in a **less-than-significant cumulative impact** related to biological resources.

⁶¹ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 17.04. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 16, 2022.

⁶² Cupertino, City of. 2022. Cupertino Municipal Code Chapter 14.18. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 16, 2022.

⁶³ Cupertino, City of. 2014. General Plan Environmental Resources and Sustainability Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

⁶⁴ Cupertino, City of. 2022. Future GHG Emissions Forecasts Memorandum.

5 Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a. *Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?*

According to the City’s General Plan Land Use and Community Design Element, there are 13 historic sites, 14 commemorative sites, and nine community landmarks of historical significance within Cupertino. General Plan Goal LU-6 and its associated policies and strategies outline the City’s intention to preserve these historic and cultural resources.⁶⁵

The GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to historical resources. Likewise, the CAP Update would not involve land use or zoning changes but would promote infrastructure development and redevelopment that would be complimentary to existing development. CAP Update projects would be required to comply with Cupertino General Plan Land Use and Community Design Element goals, policies, and programs related to the preservation of historic resources, including Policy LU-6.2, Historic Sites, and Policy LU-6.3, Historic Sites, Commemorative Sites, and Community Landmarks. These Policies require that any projects on historic sites meet the Secretary of the Interior Standards for the Treatment of Historic Properties and require that any projects on historic sites, commemorative sites, and community landmarks provide educational and commemorative tools on the project site to explain the historic significance of the resource. CAP Update-related projects and actions would be reviewed for compliance with applicable local, regional, and State regulations regarding cultural resources and the Cupertino General Plan Land Use and Community Design Element to avoid adverse impacts related to historic resources. Therefore, the CAP Update and GHG Emissions Thresholds would result in a **less-than-significant impact** related to historical resources.

⁶⁵ Cupertino, City of. 2014. General Plan Land Use and Community Design Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

b. *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

The Cupertino General Plan EIR identifies a number of recorded archaeological resources within Cupertino and notes the potential for undiscovered archaeological resources throughout the Santa Clara Valley area.⁶⁶ General Plan Goal LU-6 and its associated policies and strategies outline the City's intention to preserve cultural resources within Cupertino.⁶⁷ In addition, CMC Chapter 17.04, Standard Environmental Protection Requirements, establishes specific requirements in Section 17.04.050(E), Cultural Resources Permit Requirements, for the protection of archaeological resources during project development.⁶⁸

The GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not have construction or operational impacts related to archaeological resources. Likewise, the CAP Update would not involve land use or zoning changes but would promote infrastructure development and redevelopment that would generally be limited to previously developed and disturbed areas of Cupertino where the presence of archaeological resources is unlikely. Nonetheless, there is a possibility for archaeological sites not previously recorded to be present in areas where CAP Update projects could occur. In particular, CAP Update Actions BE-2.4, BE-2.6, BE-2.7, BE-2.9 through BE-2.11, BE-3.1, BE-3.5, BE-3.6, BE-3.8, TR-1.1 through TR-1.5, TR-3.2, TR-3.4, TR-3.12, WW-1.7, and CS-1.3 may result in small-scale construction that could expose previously undiscovered archaeological resources during ground disturbing activities.

Future CAP Update projects would be located and designed strategically to reduce ground disturbance to the maximum extent possible. In addition, CAP Update projects and actions would be reviewed for consistency with applicable local, regional, and State archeological regulations prior to final siting and construction and would be required to implement best management practices (BMPs) in accordance with CMC Chapter 17.04, Standard Environmental Protection Requirements. The CMC includes specific requirements for projects in areas with no known archaeological resources, including construction crew training on the potential for the discovery of archaeological resources and requirements for the protection and investigation of any archaeological resources encountered during ground disturbance, as well as more stringent requirements for archaeological assessments for sites where known cultural resources exist. As such, archeological resources would be protected prior to and/or upon discovery and, thus, impacts would be reduced to a minimal level. Therefore, the CAP Update and GHG Emissions Thresholds would result in a **less-than-significant impact** related to archaeological resources.

c. *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

There is a possibility of encountering unknown buried human remains throughout Cupertino. The GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not have construction or operational impacts related to human remains. Likewise, the CAP Update

⁶⁶ Cupertino, City of. 2014. General Plan EIR. Available: <<http://64.165.34.13/weblink/0/doc/391441/Electronic.aspx>>. Accessed February 7, 2022.

⁶⁷ Cupertino, City of. 2014. General Plan Land Use and Community Design Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

⁶⁸ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 17.04. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-97167#JD_Ch.17.04>. Accessed February 16, 2022.

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would not involve land use or zoning changes but would promote infrastructure development and redevelopment that would generally be limited to previously developed and disturbed areas of Cupertino where the presence of human remains is unlikely. However, there is the potential for future CAP Update-related projects to encounter unknown human remains during project construction activities. As established in CMC Chapter 17.04, Standard Environmental Protection Requirements, future CAP Update projects would be required to comply with California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98 regulations related to burial findings, including notification, assessment, and treatment of burial sites. Therefore, the CAP Update and GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to human remains.

Cumulative Impacts

The cumulative projects scenario is buildout of the Cupertino General Plan and the in-progress Housing Element Update. Buildout of the General Plan and in-progress Housing Element Update in Cupertino would result in an anticipated total population of 65,690 by 2030.⁶⁹ Planned buildout of the City of Cupertino under the General Plan would cumulatively increase the potential for adverse effects on historic and archaeological resources in Cupertino. As a guidance document, the GHG Emissions Thresholds would not result in cumulative impacts; however, the CAP Update could incrementally contribute to this cumulative effect through small scale construction activities that could affect previously undiscovered cultural resources. Impacts to historic and archaeological resources are generally site-specific. Accordingly, as required under applicable laws and regulations, potential impacts associated with future development in Cupertino, including CAP Update-related projects, would be addressed on a case-by-case basis as project details and locations are determined. Future projects in Cupertino, including those associated with implementation of the CAP Update, would be required to comply with the Cupertino General Plan Land Use and Community Design Element policies and CMC Chapter 17.04, Standard Environmental Protection Requirements, that require the identification and protection of sites and structures of historical, archaeological, and cultural significance in order to avoid impacts related to cultural resources. Therefore, implementation of the CAP Update and GHG Emissions Thresholds would result in an overall ***less-than-significant cumulative impact*** related to cultural resources.

⁶⁹ Cupertino, City of. 2022. Future GHG Emissions Forecasts Memorandum.

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6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. *Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

California is one of the lowest per-capita energy users in the United States, ranked 48th in the California is one of the lowest per-capita energy users in the United States, ranked 46th in the nation, due to its energy efficiency programs and mild climate.⁷⁰ California consumed 279,510 gigawatt-hours (GWh) of electricity and 2,074,302 million cubic feet of natural gas in 2020.^{71,72} The single largest end-use sector for energy consumption in California is transportation (39.1 percent), followed by industry (23.5 percent), commercial (19.2 percent), and residential (18.3 percent).⁷³ Adopted in 2018, SB 100 accelerates the State’s Renewable Portfolio Standards Program, codified in the Public Utilities Act, by requiring electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

The City of Cupertino has demonstrated its commitment to energy efficiency and renewable energy through many efforts, as described in the *Existing Sustainability Setting* section above. The City has adopted the California Green Building Standards Code (CALGreen), pursuant to CMC Chapter 16.58, Green Building Standards Code, which requires efficiency measures to reduce energy use and provide energy reduction benefits.⁷⁴ The City has also completed communitywide GHG emissions inventories for years 2010 and 2018, including GHG emissions related to building energy and

⁷⁰ U.S. Energy Information Administration (USEIA). 2021. “California - Profile Overview.” Last modified: February 18, 2021. Available: <<https://www.eia.gov/state/?sid=CA>> Accessed February 22, 2022.

⁷¹ CEC. 2020. Electricity Consumption by County. Available: <<http://www.ecdms.energy.ca.gov/elecbycounty.aspx>>. Accessed February 22, 2022.

⁷² USEIA. 2022. Natural Gas: Natural Gas Consumption by End Use. January 31, 2022. Available: <https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_SCA_a.htm>. Accessed February 22, 2022.

⁷³ USEIA. 2021. “California - Profile Overview.” Last modified: February 18, 2021. Available: <<https://www.eia.gov/state/?sid=CA>> Accessed February 22, 2022.

⁷⁴ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 16.58. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 22, 2022.

transportation fuel use, which are summarized in Table 1. Transportation (specifically on-road passenger and commercial vehicles) and building energy use (specifically residential and commercial electricity and natural gas use) were responsible for the most GHG emissions within the Cupertino community in 2018. Passenger and commercial vehicles in Cupertino accounted for 435,922,675 VMT in 2018. Residential, non-residential, and direct access electricity use in Cupertino totaled 317,448,722 kWh in 2018. Residential and non-residential natural gas use in Cupertino totaled 7,532,350 therms in 2018.⁷⁵

The GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to wasteful consumption of energy resources. The CAP Update is a policy document containing climate action strategies to reduce communitywide GHG emissions. The CAP Update would encourage energy efficiency and a transition away from natural gas use in existing residential and nonresidential building stock through new policies and educational campaigns as well as new requirements for proposed new buildings through Measures BE-2 through BE-4. The CAP Update would also incentivize increased use of renewable energy sources and renewable energy production and storage within Cupertino through Measures BE-1 and BE-5 and Actions BE-3.7 and BE-3.8. Additionally, the CAP Update would reduce transportation-related energy consumption by increasing active transportation and public transit use, reducing VMT, and reducing the use of gasoline vehicles through Measures TR-1 through TR-4.

Implementation of some CAP Update measures and actions, such as the installation of new active transportation infrastructure, would require small-scale construction. However, energy use for the construction of such projects would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. In addition, construction contractors would be required to comply with the provisions of CCR Title 13 Sections 2449 and 2485, which would minimize unnecessary fuel consumption. Construction equipment would be subject to the United States Environmental Protection Agency (U.S. EPA) Construction Equipment Fuel Efficiency Standard, which would also minimize inefficient, wasteful, or unnecessary fuel consumption. Furthermore, pursuant to the applicable regulatory requirements such as the 2019 CALGreen (CCR Title 24, Part 11), future infrastructure projects would comply with construction waste management practices to divert a minimum of 65 percent of construction and demolition debris. These practices would result in efficient use of energy necessary to construct CAP Update-related projects. Upon completion of construction for any CAP Update-related infrastructure development and redevelopment, non-renewable energy use would be reduced by increasing renewable energy production and storage and reducing VMT within the City.

The purpose and intended effect of the CAP Update is to reduce GHG emissions generated within the Cupertino community to minimize the effects of climate change, including those emissions generated by energy demand and supply. The CAP Update would not result in the use of non-renewable resources in a wasteful or inefficient manner; rather, it would assist in reducing use of non-renewable energy resources and increasing the production of local renewable energy. Therefore, the CAP Update and GHG Emissions Thresholds would result in **no impact** related to the wasteful, inefficient, or unnecessary consumption of energy.

⁷⁵ Cupertino, City of. 2022. Future GHG Emissions Forecasts Memorandum.

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b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Relevant plans and policies that aim to increase energy efficiency and the production of renewable energy include SB 100, 2019 CALGreen (Title 24 Part 11), and 2019 California Building Energy Efficiency Standards (Title 24 Part 6). SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the State's Renewables Portfolio Standard Program and requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045. CALGreen (Title 24 Part 11) institutes mandatory minimum environmental performance standards for all ground-up new construction of non-residential and residential structures. In addition, the California Building Energy Efficiency Standards (Title 24 Part 6) establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. CCR Title 24 (Parts 6 and 11) is updated periodically to incorporate and consider new energy-efficiency technologies and methodologies as they become available. New construction and major renovations must demonstrate their compliance with the current Building Energy Efficiency Standards through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the CEC.

Cupertino is part of the SVCE, a Joint Powers Agreement which provides electricity primarily from clean, renewable sources. Cupertino would continue to reduce its use of nonrenewable energy resources as the electricity and power resources generated by renewable sources provided by SVCE continues to increase to comply with State requirements through SB 100, which requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045. The CAP Update includes measures and actions to reduce non-renewable electricity use and increase production and storage of renewable energy, as discussed further below, and would therefore align with the overall intent of SB 100.

In addition, the City of Cupertino has adopted CALGreen (Title 24 Part 11) and the California Building Energy Efficiency Standards (Title 24 Part 6) pursuant to CMC Title 16, Buildings and Construction.⁷⁶ Therefore, construction and operation associated with infrastructure projects stemming from the CAP Update would be designed to comply with the energy source standards of the CALGreen and the California Building Energy Efficiency Standards. Future CAP Update projects would be required to demonstrate compliance with the CALGreen and the California Building Energy Efficiency Standards by implementing sustainability and energy efficiency measures such as high-efficiency lighting and HVAC systems, low-flow water fixtures, dual-paned windows, and water efficient landscaping and irrigation systems. Compliance with these regulations would minimize potential conflicts with adopted energy conservation plans.

As discussed under *Response 6a.*, above, CAP Update Measures BE-2 through BE-4 seek to decrease non-renewable energy consumption in new and existing buildings by requiring electrification and phasing out natural gas use. Additionally, Measures BE-1 and BE-5 would decrease non-renewable energy use by reducing the non-SVCE usage and increasing the use of biofuels at the Apple campus, while Actions BE-3.7 and BE-3.8 would encourage the production and storage of local renewable energy. These measures and actions are consistent with the goals and policies established by SB 100, CALGreen, and the California Building Energy Efficiency Standards. Therefore, the CAP Update

⁷⁶ Cupertino, City of. 2022. Cupertino Municipal Code Title 16. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 22, 2022.

and GHG Emissions Thresholds would result in **no impact** related to consistency with State and local renewable energy and energy efficiency plans.

Cumulative Impacts

The cumulative projects scenario is buildout of the Cupertino General Plan and the in-progress Housing Element Update. Buildout of the General Plan and in-progress Housing Element Update in Cupertino would result in an anticipated total population of 65,690 by 2030.⁷⁷ As a guidance document, the GHG Emissions Thresholds would not result in any development or land use changes that could result in cumulative impacts. Implementation of the CAP Update would result in reducing the use of non-renewable energy resources across the community by phasing out natural gas use, increasing the use of the SVCE, and reducing gasoline vehicle use. Implementation of the CAP Update would also increase the production and storage of renewable energy within Cupertino by incentivizing the inclusion of small-scale solar and battery storage projects. As Cupertino's population grows and development intensifies in the future, actions contained within the CAP Update would ensure that planned new development not related to the CAP Update is constructed to strict energy efficiency standards and that VMT is reduced. As the CAP Update would result in decreased non-renewable energy use within Cupertino and would align with existing plans and policies related to renewable energy and energy efficiency, implementation of the CAP Update and GHG Emissions Thresholds would result a **no cumulative impact** related to energy.

⁷⁷ Cupertino, City of. 2022. Future GHG Emissions Forecasts Memorandum.

7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Expose people or structures to potentially substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a. *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*
- *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?*
 - *Strong seismic ground shaking?*
 - *Seismic-related ground failure, including liquefaction?*
 - *Landslides?*

Cupertino is located in a seismically active region, and there are several active faults within the vicinity of Cupertino that could cause seismic-related impacts. The San Andreas Fault is the closest fault and is located approximately one mile southwest of the City at its closest approach. Other prominent faults in the area include the Hayward Fault located eight miles to the east and the San Gregorio Fault located 15 miles to the southwest.⁷⁸ There are no Alquist-Priolo Fault Zones within Cupertino.⁷⁹ According to the Cupertino General Plan EIR, there is minimal risk of fault rupture within Cupertino; however, earthquakes from the nearby faults have the potential to generate severe to violent ground shaking within the City.⁸⁰ Areas of Cupertino susceptible to liquefaction are generally limited to lands adjacent to creeks such as Stevens, Regnart, and Calabazas Creeks and the majority of Cupertino has no to low potential for landslides except for in the Montebello Foothills at the western boundary of Cupertino. The majority of Cupertino is flat and not susceptible to landslides; however, western Cupertino within the Montebello Foothills and areas adjacent to steep banks along Stevens Creek are within mapped landslide hazard zones.^{81,82} In 2017, Santa Clara County, in partnership with Cupertino and the other incorporated cities within the County, adopted a Local Hazard Mitigation Plan (LHMP) to assess hazards and reduce risks prior to a disaster event, including seismic and geological hazards. In addition, the Cupertino General Plan Health and Safety Element provides goals, policies, and strategies to prepare for and minimize earthquake-related hazards.⁸³

Although Cupertino is at risk of earthquake-induced ground shaking and associated hazards, the CAP Update is a policy document containing climate strategies and supporting actions to reduce GHG emissions and is consistent with the Cupertino General Plan, LHMP, and other regional and State seismic regulations. The CAP Update does not propose habitable development or policies that could result in exposure of people to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure including liquefaction, or landslides. Likewise, the GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or

⁷⁸ Cupertino, City of. 2014. General Plan Appendix E: Geologic and Seismic Hazards. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

⁷⁹ California Geological Survey. 2022. Earthquake Zones of Required Investigation. Available: <<https://maps.conservation.ca.gov/cgs/EQZApp/app/>>. Accessed February 22, 2022.

⁸⁰ Cupertino, City of. 2014. General Plan EIR. Available: <<http://64.165.34.13/weblink/0/doc/391441/Electronic.aspx>>. Accessed February 7, 2022.

⁸¹ Cupertino, City of. 2014. General Plan Appendix E: Geologic and Seismic Hazards. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

⁸² California Geological Survey. 2022. Earthquake Zones of Required Investigation. Available: <<https://maps.conservation.ca.gov/cgs/EQZApp/app/>>. Accessed February 22, 2022.

⁸³ Cupertino, City of. 2014. General Plan Health and Safety Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

operational impacts related to risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure including liquefaction, or landslides. Therefore, the CAP Update and GHG Emissions Thresholds would result in **no impact** related to seismic- and landslide-related hazards.

b. Would the project result in substantial soil erosion or the loss of topsoil?

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to substantial loss of topsoil. Likewise, the CAP Update would not involve land use or zoning changes but would promote sustainable infrastructure development. As a policy document, the CAP Update would not directly require ground-disturbing activities. However, implementation of several CAP Update actions may result in small-scale construction activities that could cause soil erosion or the loss of topsoil during construction. CAP Update Actions BE-2.4, BE-2.6, BE-2.7, BE-2.9 through BE-2.11, BE-3.1, BE-3.5, BE-3.6, and BE-3.8 promote electrification of existing residential and commercial buildings, which may require minor construction to modify the electrical and natural gas connections to existing buildings. CAP Update Actions TR-1.1 through TR-1.5 would encourage development of new bicycle infrastructure, which may involve construction activities to create new bike lanes and bike/pedestrian paths throughout Cupertino. CAP Update Actions TR-3.2, TR-3.4, and TR-3.12 would incentivize or require the installation of new EV charging stations. In addition, CAP Update Action CS-1.3 seeks to plant additional trees throughout Cupertino. As such, the CAP Update could result in construction-related soil erosion and topsoil loss impacts associated with such installations and plantings.

CAP Update projects and actions would be reviewed for consistency with CMC and other local and State erosion and grading regulations prior to final siting and construction. The potential for CAP Update project construction activities involving soil disturbance to result in increased erosion and sediment transport by stormwater to surface waters would be minimized, because future projects would be required to comply with CMC Chapter 16.08, Excavations, Grading, and Retaining Walls, and Chapter 9.18, Stormwater Pollution Prevention and Watershed Protection, which include erosion and sediment control standards, and/or a the National Pollutant Discharge Elimination System (NPDES) Construction General Permit provided by the Regional Water Quality Control Board.^{84,85} These regulations require BMPs such as the covering of graded slopes and stockpiled materials, storm drain protection, and use of fiber rolls and silt fences to reduce erosion and topsoil loss from stormwater runoff. Compliance with the CMC and/or Construction General Permit would ensure that BMPs are implemented during construction and minimize substantial soil erosion or the loss of topsoil. Therefore, the CAP Update and GHG Emissions Thresholds would result in a **less-than-significant impact** related to soil erosion and loss of topsoil.

⁸⁴ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 16.08. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 22, 2022.

⁸⁵ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 9.18. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 22, 2022.

- c. *Would the project be located on a geologic unit or soil that is unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?*
- d. *Would the project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code, creating substantial risks to life or property?*

According to the Cupertino General Plan General Plan Health and Safety Element, portions of Cupertino subject to liquefaction are limited to the areas immediately adjacent to creeks and drainage features, such as Stevens Creek and Calabazas Creek. Most of Cupertino is characterized by low to no potential for landslides, other than in the areas within the Montebello Foothills and steep slopes associated with Stevens Creek.⁸⁶ Expansive soils are known to be most prevalent in the northeastern portion of Cupertino, and soils throughout Cupertino may be characterized by other unstable properties and subject to subsidence or lateral spreading.⁸⁷ The Cupertino General Plan Health and Safety Element, CMC, and California Building Code (CBC) contain regulations for structural design and soil hazards in order to mitigate potential impacts related to unstable soils.

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to project location on an unstable geologic unit or soil. Likewise, the CAP Update is a policy document that does not propose specific development or land use changes. Some of the proposed measures and actions in the CAP Update would support small-scale construction projects, such as EV charging stations. However, CAP Update projects and actions would be reviewed for consistency with local and State geotechnical regulations prior to final siting and construction. New structures would be required to comply with CMC Chapter 16.04, Building Code, which adopts the latest CBC, including measures to address unstable soil conditions.⁸⁸ Therefore, the CAP Update and GHG Emissions Thresholds would result in a **less-than-significant impact** related to risks associated with unstable geologic units or soils.

- e. *Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

The CAP Update and GHG Emissions Thresholds would not involve the development of habitable structures and, thus, no use of septic tanks or alternative wastewater disposal systems would be required. Therefore, **no impact** would occur related to soil capability support of alternative wastewater disposal systems.

- f. *Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

According to the Cupertino General Plan EIR, the majority of Cupertino overlies alluvium deposits of the Holocene, which are too recent to contain fossils. The western edge of Cupertino, within the Montebello Hills, contain quaternary non-marine terrace and Plio-Pleistocene non-marine deposits,

⁸⁶ Cupertino, City of. 2014. General Plan Health and Safety Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

⁸⁷ Cupertino, City of. 2014. General Plan EIR. Available: <<http://64.165.34.13/weblink/0/doc/391441/Electronic.aspx>>. Accessed February 7, 2022.

⁸⁸ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 16.04. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 22, 2022.

which have the potential to contain fossils.⁸⁹ CMC Section 17.04.050(H), Paleontological Resources Permit Requirements, establishes requirements and procedures for the protection of paleontological resources during ground disturbing activities.⁹⁰

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to paleontological resources. Likewise, the CAP Update would not involve land use or zoning changes but would instead promote infrastructure development and redevelopment primarily within previously developed areas of Cupertino. As a policy document, the CAP Update would not directly result in impacts related to paleontological resources or unique geologic features. CAP Update measures and actions that would involve construction activities, such as those related to building electrification retrofits and EV charging infrastructure, would involve work within existing, previously graded and disturbed areas where the likelihood of encountering intact and previously undiscovered paleontological resources would be minimal. In general, CAP Update projects would be located and designed to reduce ground disturbance to the maximum extent possible. Nonetheless, there is a possibility that small-scale construction projects may expose paleontological resources during ground-disturbing activities. To reduce such risks, future CAP Update-related projects and actions would be reviewed for consistency with geotechnical and paleontological regulations prior to final siting and construction. CAP Update projects would also be required to implement BMPs in accordance with CMC Section 17.04.050(H), Paleontological Resources Permit Requirements, that requires implementation of best practices when previously undiscovered paleontological resources are unearthed during project construction.⁹¹ Therefore, the CAP Update and GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to paleontological resources or unique geologic features.

Cumulative Impacts

The cumulative projects scenario is buildout of the Cupertino General Plan and the in-progress Housing Element Update. Buildout of the General Plan and in-progress Housing Element Update in Cupertino would result in an anticipated total population of 65,690 by 2030.⁹² As a guidance document, the GHG Emissions Thresholds would not result in any development or land use changes that could result in cumulative impacts. However, planned, proposed, and approved projects assumed under General Plan buildout in combination with future CAP Update-related projects could expose additional people and property to seismic and geologic hazards that are present in the region. The magnitude of geologic hazards for individual projects, including those associated with implementation of the CAP Update, would depend upon the location, type, and size of development and the specific hazards associated with individual sites. Specific geologic hazards associated with individual project sites would be limited to those sites without affecting other areas. Similarly, potential impacts to paleontological resources associated with each individual site would be limited to that site without affecting other areas, and impacts related to these resources would be minimized on a case-by-case basis. Compliance with existing regulations, including CBC requirements, City-issued permit requirements, the Cupertino General Plan, the CMC, and/or Construction General Permit requirements, would minimize potential cumulative seismic and

⁸⁹ Cupertino, City of. 2014. General Plan EIR. Available: <<http://64.165.34.13/weblink/0/doc/391441/Electronic.aspx>>. Accessed February 7, 2022.

⁹⁰ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 17.04. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 22, 2022.

⁹¹ Ibid.

⁹² Cupertino, City of. 2022. Future GHG Emissions Forecasts Memorandum.

geologic impacts. Seismic and geologic hazards and paleontological resources would be addressed on a case-by-case basis and would not result in cumulative impacts. Therefore, implementation of the CAP Update and GHG Emissions Thresholds would result in an overall ***less-than-significant cumulative impact*** related to geology and soils.

8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with any applicable plan, policy, or regulation adopted to reduce the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a. *Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?*

The greenhouse effect is a natural occurrence that helps regulate the temperature of the Earth. The majority of radiation from the sun hits Earth’s surface and warms it. The surface in turn radiates heat back towards the atmosphere, known as infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping into space and re-radiate it in all directions. This process is essential to support life on Earth, because it warms the planet by approximately 60°F. Emissions from human activities since the beginning of the industrial revolution (approximately 270 years ago) have been adding to the natural greenhouse effect by resulting in increased gases in the atmosphere that trap heat and contribute to an average increase in Earth’s temperature. Global warming is the observed increase in the average temperature of the Earth’s surface, and climate change is the resultant change in wind patterns, precipitation, and storms over an extended period.

GHGs produced by human activities include CO₂, methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride, hydroflourocarcons, and perfluorinated compound (see Appendix B for details related to these GHG gases).⁹³ Combustion of fossil fuels (gasoline, natural gas, and coal), deforestation, and decomposition of waste release carbon into the atmosphere that had been locked underground and stored in oil, gas, and other hydrocarbon deposits or in the biomass of surface vegetation. Since 1750, estimated concentrations of CO₂, CH₄, and N₂O in the atmosphere have increased by over 36 percent, 148 percent, and 18 percent respectively, primarily due to human activity. Emissions of GHGs affect the atmosphere directly by changing its chemical composition.

Changes to the land surface also indirectly affect the atmosphere by changing the way in which Earth absorbs gases from the atmosphere. Potential impacts in California due to climate change include sea level rise, more extreme-heat days and high-ozone days, larger and more frequent

⁹³ The CAP Update only considers emissions of CO₂, CH₄, and N₂O, because these are the GHGs most relevant to local government policymaking. These gases comprise a large majority of GHG emissions at the community level. The remaining gases are emitted primarily in private sector manufacturing and electricity transmission and are the subject of regulation at the State level. Therefore, these gases were omitted from the CAP Update.

forest fires, and more frequent and severe drought years.⁹⁴ Although GHG emissions do not typically cause direct health impacts at a local level, GHG emissions can result in indirect health impacts by contributing to climate change, which can have public health implications. The primary public health impacts of climate change include the following:

- Increased incidences of hospitalization and deaths due to increased incidences of extreme heat events;
- Increased incidences of health impacts related to ground-level ozone pollution due to increased average temperatures that facilitate ozone formation;
- Increased incidences of respiratory illnesses from wildfire smoke due to increased incidences of wildfires;
- Increased vector-borne diseases due to the growing extent of warm climates; and
- Increased stress and mental trauma due to extreme events and disasters, economic disruptions, and residential displacement.⁹⁵

Cupertino has completed communitywide GHG emissions inventories for 2010 and 2018, which are summarized in Table 1. Table 1 also provides estimated 1990 emissions levels for informational purposes. The transportation sector was the largest contributor to Cupertino's GHG emissions, followed by the energy sector. Figure 4 and Table 4 summarize the communitywide GHG emissions forecast under three scenarios: 1) business-as-usual projections, 2) business-as-usual projections with State measures, and 3) the City of Cupertino target reduction path along with State measures. As shown therein, under the business-as-usual scenario, communitywide GHG emissions are forecasted to increase to approximately 379,192 MT of CO₂e (5.77 MT of CO₂e per capita) by the year 2030, based on anticipated economic and population growth. However, with implementation of State laws and programs, communitywide GHG emissions would decline to approximately 331,247 MT of CO₂e (5.04 MT of CO₂e per capita) by 2030. Implementation of the CAP Update alongside State laws and programs would reduce communitywide GHG emissions to approximately 222,436 MT of CO₂e (3.39 MT of CO₂e per capita) by 2030.

The strategies included in the CAP Update combined with State-wide legislation and initiatives will enable the City of Cupertino to meet its target of reducing communitywide GHG emissions output to 222,867 MT of CO₂e by 2030, which represents a 45 percent reduction below 1990 levels. This exceeds the SB 32 target for 2030 to reduce total GHG emissions 40 percent below 1990 levels. In addition, Cupertino has a longer-term goal of achieving carbon neutrality by 2040 and has proposed the CAP Update as a pathway to make progress toward this goal. As shown in Table 3 and Table 4, implementation of the CAP Update would achieve an approximately 45 percent reduction in communitywide GHG emissions below 1990 levels by 2030 and an approximately 83 percent reduction in communitywide GHG emissions below 1990 levels by 2040. Therefore, the City goal of carbon neutrality and the associated CAP Update establish a trajectory that provide GHG emissions reductions greater than those required by SB 32 for 2030. Because SB 32 is considered an interim target toward meeting the 2045 State goal of carbon neutrality, implementation of the CAP Update would be considered substantial progress toward meeting the State's long-term 2045 goal. Avoiding interference with, and making substantial progress toward, these long-term State targets is

⁹⁴ CARB and California Environmental Protection Agency (CalEPA). 2009. Environmental Health and Equity Impacts from Climate Change and Mitigation Policies in California: A Review of the Literature. Available: <<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.386.4605&rep=rep1&type=pdf>>. Accessed February 23, 2022.

⁹⁵ State of California. 2018. California's Fourth Climate Change Assessment Statewide Summary Report. Available: <<http://www.climateassessment.ca.gov/state/>>. Accessed February 23, 2022.

important, because these targets have been set at levels that achieve California’s fair share of international emissions reduction targets that will stabilize global climate change effects and help avoid the associated adverse environmental consequences.

The CAP Update includes a list of 27 measures and their associated actions intended to reduce communitywide GHG emissions. Implementation of the CAP Update would result in the reduction of communitywide operational GHG emissions, while only generating temporary GHG emissions during construction of infrastructure such as EV charging stations and building energy efficiency upgrades. Additionally, the CAP Update would serve as a pathway to reduce GHG emissions and introduce other beneficial environmental and sustainability effects. These benefits include reduction in building energy consumption, vehicle miles traveled (and thus air pollution), and solid waste generation. The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning and, thus, would not result in construction or operational impacts related to GHG emissions. The GHG Emissions Thresholds would establish GHG emissions targets and analysis methodologies consistent with the goals established by the CAP Update that are enforced during CEQA review with the intention of reducing GHG emissions associated with construction and operation of future projects and plans in Cupertino. Therefore, the CAP Update and GHG Emissions Thresholds would result in a **no impact** related to generation of GHG emissions.

b. Would the project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The CARB 2017 Climate Change Scoping Plan outlines a pathway to achieving the 2030 reduction targets set under SB 32, which are considered interim targets toward meeting the long-term 2045 carbon neutrality goal established by EO B-55-18. The CAP Update and GHG Emissions Thresholds are policy-level documents that establish measures and policies to reduce GHG emissions within Cupertino in an effort to also comply with State regulations. As discussed under *Response 8a.* above, the CAP Update includes strategies that would reduce Cupertino GHG emissions to 45 percent below 1990 levels by 2030 and to 83 percent below 1990 levels by 2040. The purpose of the CAP Update is to meet Cupertino’s proportionate fair share of the Statewide GHG emissions reduction target set by SB 32 and work toward the State’s longer-term target of carbon neutrality identified in California Executive Order B-55-18.

The CAP Update would not conflict with any applicable GHG reduction plans, including the CARB 2017 Climate Change Scoping Plan. Rather, the CAP Update identifies how Cupertino would achieve consistency with the Statewide GHG emissions limit and would serve as a pathway to reduce GHG emissions and introduce other beneficial environmental and sustainability effects. These benefits include reduction in building energy consumption, vehicle miles traveled (and thus air pollution), and solid waste generation. The CAP Update creates a GHG emissions reduction strategy consistent with Section 15183.5 of the CEQA Guidelines for the City of Cupertino. Likewise, the GHG Emissions Thresholds would establish GHG emissions targets and analysis methodologies consistent with the CAP Update and would be enforced during CEQA review with the intention of reducing GHG emissions associated with construction and operation of future projects and plans in Cupertino. Therefore, the CAP Update and GHG Emissions Thresholds would result in **no impact** related to consistency with applicable GHG emissions reduction plans, policies, and regulations.

Cumulative Impacts

The cumulative projects scenario is buildout of the Cupertino General Plan and the in-progress Housing Element Update. Buildout of the General Plan and in-progress Housing Element Update in Cupertino would result in an anticipated total population of 65,690 by 2030.⁹⁶ Analyses of GHG emissions and climate change are cumulative in nature, as they affect the accumulation of GHG emissions in the atmosphere. Cumulative projects under Cupertino General Plan buildout that exceed the thresholds discussed above would have a significant impact related to GHG emissions and climate change, both individually and cumulatively. The CAP Update creates a GHG emissions reduction strategy consistent with Section 15183.5 of the CEQA Guidelines for the City of Cupertino. The CAP Update also includes a series of measures and actions that are intended to reduce communitywide GHG emissions to 45 percent below 1990 levels by 2030, with a goal of carbon neutrality by 2040, which provides substantial progress toward Cupertino meeting State goals. As such, the CAP Update would result in the overall reduction of GHG emissions. Some GHG emissions would occur during construction of CAP Update-related infrastructure projects; however, these emissions would be temporary and minor in nature. Furthermore, as a guidance document, the GHG Emissions Thresholds would not result in cumulative impacts. Rather, the GHG Emissions Thresholds would establish GHG emissions targets and analysis methodologies that are enforced during CEQA review with the intention of reducing GHG emissions associated with construction and operation of cumulative buildout. Therefore, implementation of the CAP Update and GHG Emissions Thresholds would result in an overall ***less-than-significant cumulative impact*** related to GHG emissions.

⁹⁶ Cupertino, City of. 2022. Future GHG Emissions Forecasts Memorandum.

9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*
- b. *Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to hazardous materials. The CAP Update is a policy document containing measures and actions to reduce GHG emissions. The CAP Update does not involve identified site-specific development and, for the most part, it would not facilitate new development that would involve the routine use of hazardous materials. Implementation of some of the CAP Update actions, such as building electrification retrofits and installation of EV charging stations, would require construction activities. Construction would involve the temporary use of hazardous materials such as vehicle fuels and fluids that could be released should an accidental leak or spill occur. However, these types of materials are not considered acutely hazardous, and storage, handling, and disposal of these materials are regulated by the California Department of Toxic Substances Control, U.S. EPA, and Occupational Safety & Health Administration. In addition, standard construction BMPs for the use and handling of such materials would avoid or reduce the potential for such conditions to occur. Any use of potentially hazardous materials during construction of projects would comply with all local, State, and federal regulations regarding the handling of potentially hazardous materials, including Title 49 of the Code of Federal Regulations and Title 22, Division 4.5 of the CCR. Risk of spills would cease after construction is completed. Therefore, construction activities related to CAP Update actions would not be anticipated to create upset and accident conditions involving the release of hazardous materials, and operation of the majority of CAP Update-related projects would not involve the routine transport, use, or disposal of hazardous materials during operation.

However, CAP Update Actions BE-3.7 and BE-3.8 emphasize increasing local renewable energy production and battery energy storage facilities within Cupertino by encouraging commercial developments to include small-scale solar and/or battery storage systems in their design. Hazardous materials used in battery energy storage systems would generally consist of the lithium-ion batteries. Lithium-ion technology is a common battery storage medium and is considered one of the safest and most efficient methods of energy storage on the market. During normal operation, lithium-ion batteries do not represent a risk to off-site receptors, and safety standards applicable to energy storage facilities and safety certification tests established by independent bodies, such as Underwriters Laboratories, National Fire Protection Association, and International Electrotechnical Commission would prevent any reasonable possibility of a substantial adverse effect on the environment related to the lithium-ion batteries. However, in the unlikely event of a fire, there is a risk of the accidental release of hazardous materials associated with battery energy storage systems. Any future proposed battery energy storage facilities would, therefore, be carefully reviewed for appropriate locations, safety measures, and consistency with the Cupertino General Plan, CMC, and applicable local, State, and federal regulations. Therefore, the CAP Update and GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to creating a significant hazard through the routine transport, use, or disposal of hazardous materials and reasonably foreseeable upset and accident conditions involving the release of hazardous materials.

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- c. *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?*

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to handling hazardous materials in the vicinity of schools. Likewise, the CAP Update is a policy containing strategies to reduce GHG emissions. The CAP Update does not include site-specific proposals and development, nor would it emit or handle hazardous materials. Implementing some CAP Update actions may require future development or improvements, such as EV charging stations, small scale battery energy storage, and building improvements related to electrification. However, CAP Update projects and actions would be reviewed to ensure the appropriate location of projects in relation to existing development in Cupertino and would be reviewed for consistency with the Cupertino General Plan, CMC, and applicable local, State, and federal regulations. Therefore, the CAP Update and GHG Thresholds would result in a **less-than-significant impact** related to handling of hazardous materials within 0.25 mile of schools.

- d. *Would the project be located on a site included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to project site location on a site listed on a hazardous material site. Likewise, the CAP Update is a policy document containing actions and supporting measures to reduce GHG emissions and does not propose land use changes. The proposed CAP Update does not include site-specific proposals and development, but CAP measures and actions could result in future projects that could be located on a listed hazardous materials site. However, CAP Update projects and actions would be reviewed to ensure the appropriate location of projects in relation to existing development in Cupertino and would be reviewed for consistency with the Cupertino General Plan and CMC Chapter 17.04, Standard Environmental Protection Requirements, which establishes requirements for completing environmental assessments to determine the potential for site contaminations and permitting requirements if contamination is present on a site.⁹⁷ In addition, future CAP Update projects would be required to comply with all other applicable local, State, and federal regulations pertaining to hazardous materials, such as those discussed under *Response 9a*. Therefore, the CAP Update and GHG Thresholds would result in a **less-than-significant impact** related to location on a listed hazardous materials site.

- e. *For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

Cupertino does not contain any airports. The nearest airport to Cupertino is the San Jose International Airport, located approximately four miles northeast of the Cupertino city limits boundary. Furthermore, the GHG Emissions Thresholds and CAP Update are policy documents that would not increase airport activity or result in additional habitable development or commercial development that could increase potential exposure of residents and employees to aircraft-related

⁹⁷ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 17.04. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 22, 2022.

hazards. Therefore, the CAP Update and GHG Emissions Thresholds would result in **no impact** related to risks associated with location proximate to a public airport.

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The CAP Update and GHG Emissions Thresholds are policy documents intended to reduce GHG emissions. The proposed CAP Update and GHG Emissions Thresholds do not involve site-specific development, nor would they facilitate new development that would interfere with adopted emergency plans. Implementation of some CAP Update measures, such as Measure TR-1 which would provide for the addition of new bicycle and pedestrian infrastructure, may involve construction within the local right-of-way. Construction activities have the potential to require lane closures and may impact traffic and vehicle speeds on the affected roadways; however, these impacts would be temporary and access to roadways would be maintained throughout project construction. Furthermore, future projects involving work in the public right-of-way would be required to coordinate with the City to ensure appropriate construction staging and adequate vehicular and pedestrian access on adjacent roadways, pursuant to CMC Chapter 14.08, Encroachments and Use of City Rights-of-Way.⁹⁸ Therefore, the CAP Update and GHG Emissions Thresholds would result in **no impact** related to impairment or interference with implementation of an emergency response or evacuation plan.

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

According to the Cupertino General Plan Health and Safety Element, the majority of Cupertino is urbanized and is at low risk of wildland fire. Areas of Cupertino susceptible to wildland fire are limited to the western boundary of Cupertino within the Montebello Foothills.⁹⁹ The CAP Update and GHG Emissions Thresholds do not propose specific development or new residential or commercial land uses that could be subject to wildland fire, nor would they result other physical changes to the environment that could increase the risk of a wildland fire. In addition, the CAP Update includes Measures AR-2 and AR-3 to improve community preparedness and response to climate-related hazards, including wildfire and associate air pollution risks. Therefore, the Update and GHG Emissions Thresholds would result in **no impact** related to risks associated with exposure to wildland fires.

Cumulative Impacts

The cumulative projects scenario is buildout of the Cupertino General Plan and the in-progress Housing Element Update. Buildout of the General Plan and in-progress Housing Element Update in Cupertino would result in an anticipated total population of 65,690 by 2030.¹⁰⁰ As a guidance document, the GHG Emissions Thresholds would not result in any development or land use changes that could result in cumulative impacts related to hazardous materials and hazards. Hazards and hazardous materials impacts are typically site-specific in nature. CAP Update projects, in combination with other cumulative projects anticipated under Cupertino General Plan buildout, are

⁹⁸ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 14.08. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 22, 2022.

⁹⁹ Cupertino, City of. 2014. General Plan Health and Safety Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

¹⁰⁰ Cupertino, City of. 2022. Future GHG Emissions Forecasts Memorandum.

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not anticipated to contribute to cumulative hazards and hazardous materials impacts with adherence to applicable Cupertino General Plan policies, CMC requirements, and State and federal regulatory requirements. Therefore, implementation of the CAP Update and GHG Emissions Thresholds would result in a ***less-than-significant cumulative impact*** related to hazards and hazardous materials.

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10 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(i) Result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iv) Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. *Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?*

The GHG Emissions Thresholds is a guidance document as does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to water quality standards. Likewise, the CAP Update is a policy document containing actions intended to reduce GHG emissions within Cupertino and does not propose specific development or land use changes. CAP Update Actions BE-2.4, BE-2.6, BE-2.7, BE-2.9 through BE-2.11, BE-3.1, BE-3.5, BE-3.6, and BE-3.8 promote electrification of existing residential and commercial buildings, which may require minor construction to modify the electrical and natural gas connections to existing buildings. CAP Update Actions TR-1.1 through TR-1.5 would encourage development of new bicycle infrastructure, which may involve construction activities to create new bike lanes and bike/pedestrian paths throughout Cupertino. CAP Update Actions TR-3.2, TR-3.4, and TR-3.12 would incentivize or require the installation of new EV charging stations. In addition, CAP Update Action CS-1.3 seeks to plant additional trees throughout Cupertino, which may require the use of construction equipment for the moving and placement of trees. These actions may result in small scale construction activities in the future that could result in temporary water quality impacts due to soil erosion and ground disturbance, as further discussed under *Response 10c* and in Section 7, *Geology and Soils*.

However, CAP Update projects and actions would be reviewed for consistency with local and State regulations, including the NPDES permitting program that requires implementation of Stormwater Pollution Prevention Plans (SWPPPs) and the CMC Chapter 16.08, Excavations, Grading, and Retaining Walls, and CMC Chapter 9.18, Stormwater Pollution Prevention and Watershed Protection, that include erosion and sediment control standards.^{101,102} These regulations require BMPs to reduce water quality impacts from construction activities. Compliance with the CMC and/or NPDES permitting program would ensure that BMPs are implemented during construction to minimize potential impacts to surface and groundwater quality. As such, the CAP Update's related infrastructure and retrofit projects would not result in new or different wastewater discharge that would violate water quality standards, waste discharge requirements, or otherwise degrade surface or groundwater quality. Therefore, the CAP Update and GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to surface or groundwater water quality in Cupertino.

- b. *Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to groundwater supplies. Likewise, the CAP Update does not propose development or land use changes, but rather is a policy document containing strategies intended to reduce GHG emissions and increase sustainability. CAP Update Measure WW-1 seeks to decrease community water use through water efficiency retrofits and sustainable landscaping and irrigation. Reduced water use within Cupertino would aid in maintaining groundwater supplies. Additionally, the CAP Update includes Measure CS-1 which

¹⁰¹ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 16.08. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 22, 2022.

¹⁰² Cupertino, City of. 2022. Cupertino Municipal Code Chapter 9.18. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 22, 2022.

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facilitates the preparation of an Urban Forest Master Plan and requires planting and maintaining new trees throughout Cupertino. Encouragement of tree planting and thus provision of pervious areas in Cupertino would increase groundwater recharge. As such, implementing the CAP Update would have a beneficial effect related to local groundwater recharge as well as support groundwater management in Cupertino. Therefore, the CAP Update and GHG Emissions Thresholds would result in **no impact** related to impedance of sustainable groundwater management.

- c. *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*
- *Result in substantial erosion or siltation on- or off-site?*
 - *Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*
 - *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*
 - *Impede or redirect flood flows?*

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to alterations in drainage patterns and impervious surfaces. Likewise, the CAP Update does not propose specific development or land use changes, but rather emphasizes strategies intended to reduce GHG emissions and increase sustainability in Cupertino. Implementation of several CAP Update measures and actions may promote infrastructure development and small-scale construction activities within Cupertino. CAP Update Actions BE-2.4, BE-2.6, BE-2.7, BE-2.9 through BE-2.11, BE-3.1, BE-3.5, BE-3.6, and BE-3.8 promote electrification of existing residential and commercial buildings, which may require minor construction to modify the electrical and natural gas connections to existing buildings. CAP Update Actions TR-1.1 through TR-1.5 would encourage development of new bicycle infrastructure, which may involve construction activities to create new bike lanes and bike/pedestrian paths throughout Cupertino. CAP Update Actions TR-3.2, TR-3.4, and TR-3.12 would incentivize or require the installation of new EV charging stations. In addition, CAP Update Action CS-1.3 seeks to plant additional trees throughout Cupertino, which may require the use of construction equipment for the moving and placement of trees.

Implementation of these CAP Update actions would primarily occur within previously developed areas and would not result in substantial alterations to Cupertino's existing drainage pattern and amount of impervious surface. Construction of CAP Update projects could result in erosion as discussed in Section 7, *Geology and Soils*. However, impacts to drainage and water quality during construction would be minimized through the implementation of BMPs as required by the CMC and NPDES Construction General Permit program. In addition, CAP Update projects would be in accordance with the Cupertino General Plan Environmental Resources Element, which includes goals and policies for the protection and preservation of creeks, streams, and groundwater within Cupertino.¹⁰³ Furthermore, CAP Update Measure CS-1 would increase trees and associated permeable surfaces within Cupertino, which would improve drainage and water quality. Therefore, the CAP Update and GHG Emissions Thresholds would not substantially alter drainage patterns or

¹⁰³ Cupertino, City of. 2014. General Plan Environmental Resources and Sustainability Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

impervious surface within Cupertino and impacts related to erosion, flooding, and polluted runoff would be **less-than-significant impact**.

d. *Would the project result in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?*

Cupertino is not located within designated seiche or tsunami zones. A small portion of Cupertino is within the 100-year flood zone and most of the western and central areas of Cupertino are within the 500-year flood zone defined by Federal Emergency Management Agency (FEMA).¹⁰⁴ Therefore, areas of Cupertino are at risk of flooding.

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to flooding and the risk of pollutants. Likewise, the CAP Update does not propose specific development or land use changes, but rather emphasizes strategies intended to reduce GHG emissions and increase sustainability in Cupertino. Implementation of several CAP Update measures and actions may promote infrastructure development and small-scale construction activities within Cupertino. As described under *Response 10c.*, CAP Update projects would not impede or redirect flood flows, and as discussed under *Response 9a. and 9b.* in Section 9, *Hazards and Hazardous Materials*, CAP Update projects would generally not involve the regular use or storage of hazardous materials with the exception of battery energy storage that include the storage of lithium-ion batteries. Future CAP Update projects, such as battery energy storage facilities, would be reviewed for compliance with the applicable local and State regulations related to flooding and hazardous materials use and storage, including CMC Chapter 9.12, Hazardous Materials Storage, and CBC standards for construction within flood-prone areas.¹⁰⁵ Furthermore, any projects associated with implementation of the CAP Update located in flood-prone areas must comply with CMC Chapter 16.52, Prevention of Flood Damage, which provides requirements to mitigate potential flood risks.¹⁰⁶ Therefore, the CAP Update and GHG Emissions Thresholds would result in a **less-than-significant impact** related to flooding and inundation resulting in release of pollutants.

e. *Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to obstruction of a water quality control plan. The CAP Update would not include activities that would result in the direct extraction of groundwater. Rather, the CAP Update encourages water savings through Measure WW-1. The CAP Update would not interfere with or obstruct implementation of water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Therefore, the CAP Update and GHG Emissions Thresholds would result in **no impact** related to consistency with a water quality control plan or sustainable groundwater management plan.

¹⁰⁴ Cupertino, City of. 2014. General Plan EIR. Available: <<http://64.165.34.13/weblink/0/doc/391441/Electronic.aspx>>. Accessed February 7, 2022.

¹⁰⁵ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 9.12. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 22, 2022.

¹⁰⁶ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 16.52. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 22, 2022.

Cumulative Impacts

The cumulative projects scenario is buildout of the Cupertino General Plan and the in-progress Housing Element Update. Buildout of the General Plan and in-progress Housing Element Update in Cupertino would result in an anticipated total population of 65,690 by 2030.¹⁰⁷ As a guidance document, the GHG Emissions Thresholds would not result in any development or land use changes that could result in cumulative impacts related to hydrology. Implementation of the CAP Update and GHG Emissions Thresholds would not contribute to an increase in development but could result in infrastructure development projects and minor construction activities. As such, implementation of the CAP Update and other cumulative projects could have incremental impacts related to hydrology and water quality, such as erosion and sedimentation due to construction activities. However, the CAP Update's contribution to such impacts would be minor and temporary, and the CAP Update would have the long-term effect of reducing water use. Furthermore, CAP Update-related projects, in combination with other cumulative projects anticipated under Cupertino General Plan buildout, are not anticipated to contribute to cumulative hydrology and water quality impacts with adherence to applicable Cupertino General Plan and CMC policies as well as applicable local, State, and federal regulatory requirements. Therefore, implementation of the CAP Update would result in an overall ***less-than-significant cumulative impact*** related to hydrology and water quality.

¹⁰⁷ Cupertino, City of. 2022. Future GHG Emissions Forecasts Memorandum.

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11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a. Would the project physically divide an established community?

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to division of an established community. Likewise, the CAP Update is a policy document containing strategies that are consistent with the Cupertino General Plan and does not include actions or specific development projects that would divide an established community. CAP Update Measures TR-1 and TR-2 facilitate the provisioning of new bike and pedestrian infrastructure and amenities, improved public transit connectivity, and enhanced safety and active transportation throughout the community. Such actions would help to increase connectivity within the Cupertino community. Therefore, the CAP Update and GHG Emissions Thresholds would result in **no impact** related to division of an established community.

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning and, thus, would not result in a construction or operational conflict with land use plans and policies. Rather, the GHG Emissions Thresholds would establish GHG emissions targets and analysis methodologies consistent with the goals established by the CAP Update that are enforced during CEQA review with the intention of reducing GHG emissions associated with construction and operation of future projects and plans in the City. Likewise, the CAP Update is a policy document containing programs that are consistent with the City’s General Plan, including General Plan Goal ES-1 and Strategy ES-1.1.1, that direct the City to adopt and maintain a CAP that allows for CEQA streamlining.¹⁰⁸ Nonetheless, implementing the CAP Update would require some modification of existing policies, including developing and implementing new programs, and projects, or modifying existing ones.

¹⁰⁸ Cupertino, City of. 2014. General Plan Environmental Resources and Sustainability Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

For example, CAP Update Measure BE-2, BE-3, and BE-4 include adoption of new building ordinances or updates to the existing municipal code to require building electrification for new and existing developments. CAP Update Measure TR-1 and TR-3 may involve updates to the municipal code to require bicycle parking and EV charging infrastructure in new and existing developments. CAP Update Measure TR-5 would include adoption of an ordinance to phase out the use of gasoline-powered off-road equipment. In addition, CAP Measure W-1 would involve the adoption of new plans and policies related to the reduction of single-use plastics, construction and demolition debris, and organic food waste to reduce the amount of waste going to the landfill, while CAP Update Action CS-2.4 includes adoption of an embodied carbon emissions ordinance that encourages or requires carbon to be sequestered in building materials. Lastly, CAP Measure WW-1 would include an ordinance to reduce water use by requiring water efficient fixtures, plumbing, and landscaping irrigation for residential land uses. In order to implement these measures, the CMC, Cupertino General Plan, and other applicable City documents may need to be amended to reflect new or modified requirements. However, where modifications of existing policies are needed, such as updates to policies related to energy, solid waste, EV infrastructure, and active transportation, the CAP Update measures and actions would result in greater avoidance or reduction of environmental effects. Furthermore, future updates to existing policies or via new proposed policies would require a separate public review process and environmental review in accordance with applicable local and State regulations. Therefore, the CAP Update and GHG Emissions Thresholds would result in ***no impact*** related to consistency with current land use plans or policies.

Cumulative Impacts

The cumulative projects scenario is buildout of the Cupertino General Plan and the in-progress Housing Element Update. Buildout of the General Plan and in-progress Housing Element Update in Cupertino would result in an anticipated total population of 65,690 by 2030.¹⁰⁹ The CAP Update and GHG Emissions Thresholds are policy documents containing programs that are consistent with the City's General Plan goals to increase sustainability and reduce Cupertino's contribution to climate change impacts. Nonetheless, implementing the CAP Update and GHG Emissions Thresholds would require some modification of existing policies, including developing and implementing new programs, and projects, or modifying existing ones. The proposed policy changes are consistent with the intent of the goals and policies established within the City General Plan and would not cumulatively contribute to any environmental impacts. Cumulative projects, including the CAP Update, would be required to adhere to City development regulations and Cupertino General Plan policies to retain land use character and minimize environmental impacts. Future CAP Update-related projects and actions would be reviewed for consistency with the Cupertino General Plan, CMC, and other applicable regulatory land use actions prior to approval and would have the overall effect of greater avoidance or reduction of environmental effects. Therefore, implementation of the CAP Update and GHG Emissions Thresholds would result in ***no cumulative impact*** related to land use.

¹⁰⁹ Cupertino, City of. 2022. Future GHG Emissions Forecasts Memorandum.

12 Mineral Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. *Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*
- b. *Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?*

The Cupertino General Plan Environmental Resources and Sustainability Element does not identify any mineral resources or active mineral resources recovery sites within Cupertino city limits. A small portion of Cupertino in the southwest of Cupertino was in use as a quarry in the past, but this operation ceased in the 1970s and minerals in that area have been depleted.¹¹⁰ Furthermore, the CAP Update and GHG Emissions Thresholds would not facilitate development projects within the City that could result in the loss of availability of known mineral resources. Therefore, the CAP Update and GHG Emissions Thresholds would result in **no impact** related to mineral resource.

Cumulative Impacts

The cumulative projects scenario is buildout of the Cupertino General Plan and the in-progress Housing Element Update. Buildout of the General Plan and in-progress Housing Element Update in Cupertino would result in an anticipated total population of 65,690 by 2030.¹¹¹ The Cupertino General Plan does not identify mineral resources or active mineral resource extraction operations within Cupertino. As such, CAP Update projects and the GHG Emissions Thresholds, in combination with other cumulative projects anticipated under Cupertino General Plan buildout, are not anticipated to contribute to cumulative impacts to mineral resources. Thus, implementation of the CAP Update and GHG Emissions Thresholds would result in **no cumulative impact** related to mineral resources.

¹¹⁰ Cupertino, City of. 2014. General Plan Environmental Resources and Sustainability Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

¹¹¹ Cupertino, City of. 2022. Future GHG Emissions Forecasts Memorandum.

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13 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. *Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Noise is unwanted sound that disturbs human activity. Environmental noise levels typically fluctuate over time, and different types of noise descriptors are used to account for this variability. Noise level measurements include intensity, frequency, and duration, as well as time of occurrence. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). Because of the way the human ear works, a sound must be about 10 dBA greater than the reference sound to be judged as twice as loud. In general, a 3 dBA change in community noise levels is noticeable, while 1-2 dBA changes generally are not perceived. Quiet suburban areas typically have noise levels in the range of 40-50 dBA, while arterial streets are in the 50-60+ dBA range. Normal conversational levels are in the 60-65 dBA range, and ambient noise levels greater than 65 dBA can interrupt conversations.

Noise levels typically attenuate (or drop off) at a rate of 6 dBA per doubling of distance from point sources (such as construction equipment). Noise from lightly traveled roads typically attenuates at a rate of about 4.5 dBA per doubling of distance. Noise from heavily traveled roads typically attenuates at about 3 dBA per doubling of distance, while noise from a point source typically attenuates at about 6 dBA per doubling of distance. Noise levels may also be reduced by the introduction of intervening structures. For example, a single row of buildings between the receptor

and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm that breaks the line-of-sight reduces noise levels by 5 to 10 dBA.

The Cupertino General Plan Health and Safety Element identifies roadway traffic as the major source of noise within Cupertino. In addition, railroads, mechanical equipment, and aircraft overhead also contribute to the noise environment of Cupertino. The Cupertino General Plan Health and Safety Element and CMC Chapter 10.48, Community Noise Control, aim to ensure appropriate noise levels considered compatible for community noise environments.^{112, 113} The City’s normally acceptable exterior noise exposure standards (CNEL) are shown below in Table 5.

Table 5 Land Use Compatibility for Community Noise Exposure

	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Unacceptable
Residential- Low Density	60 dB or less	55-70 dB	71-75 dB	Over 75 dB
Residential- Multi-family	65 dB or less	60-70 dB	71-75 dB	Over 75 dB
Motels and Hotels	65 dB or less	60-70 dB	71-80 dB	Over 80 dB
Schools, Libraries, Hospitals, Nursing Homes, Churches	70 dB or less	60-70 dB	71-80 dB	Over 80 dB
Auditoriums, Concert Halls, Amphitheaters	n/a	70 dB or less	n/a	Over 70 dB
Sports Arena, Outdoor Spectator Sports	n/a	75 dB or less	n/a	Over 75 dB
Playgrounds and Neighborhood Parks	70 dB or less	n/a	67-75 dB	Over 75 dB
Golf Courses, Riding Stables, Water Recreation, Cemeteries	75 dB or less	n/a	70-80 dB	Over 80 dB
Office Buildings, Commercial and Professional Centers	60 dB or less	67-77 dB	Over 75 dB	n/a
Industrial, Manufacturing, Utilities, Agriculture	75 dB or less	70-80 dB	Over 75 dB	n/a

Source: City of Cupertino General Plan Health and Safety Element, Figure HS-8

Construction noise is regulated by CMC Section 10.48.053, Grading, Construction and Demolition, which provides an exemption to the noise regulations for construction occurring between the hours of 7:00 am and 8:00 pm on weekdays and 9:00 am to 6:00 pm on weekends. Construction noise is permitted during the above specified house provided that one of the following conditions is met:

- No individual device produces a noise level more than eighty-seven dBA at a distance of twenty-five feet (7.5 meters); or
- The noise level at any nearby property does not exceed 80 dB.

¹¹² Cupertino, City of. 2014. General Plan Health and Safety Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

¹¹³ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 10.48. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 22, 2022.

In addition, construction is not permitted within 750 feet of a residential area on Saturdays, Sundays, and holidays unless it is an emergency.¹¹⁴

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to excessive noise levels. The CAP Update is a policy document containing programs that are consistent with the General Plan. Some of the CAP Update actions would support small scale construction projects that could result in temporary noise. CAP Update Actions BE-2.4, BE-2.6, BE-2.7, BE-2.9 through BE-2.11, BE-3.1, BE-3.5, BE-3.6, and BE-3.8 that promote electrification of existing residential and commercial buildings, which may require minor construction to modify the electrical and natural gas connections to existing buildings. CAP Update Actions TR-1.1 through TR-1.5 would encourage development of new bicycle infrastructure, which may involve construction activities to create new bike lanes and bike/pedestrian paths throughout Cupertino. CAP Update Actions TR-3.2, TR-3.4, and TR-3.12 would incentivize or require the installation of new EV charging stations. In addition, CAP Update Action CS-1.3 seeks to plant additional trees throughout Cupertino, which may require the use of construction equipment for the moving and placement of trees. However, CAP Update projects and actions would be reviewed for consistency with the Cupertino General Plan and CMC, and construction activities would be required to comply with the provisions of the CMC Chapter 10.48, Community Noise Control, including the permitted construction hours and maximum noise limits.¹¹⁵ Therefore, the CAP Update would not result in significant construction noise related impacts.

The CAP Update does not include future projects that would result in substantial operational noise. Rather, the CAP Update encompasses a suite of GHG-reduction opportunities that affect the transportation sector and its associated noise. For example, CAP Update Strategies TR-1 through TR-5 encourage adoption of EVs and electric small engine and off-road equipment, which are quieter than gas-powered alternatives, disincentivize the use of gasoline-powered vehicles, and facilitate improvements to bicycle and public transit circulation to increase active transportation and transit ridership and decrease VMT. These strategies would reduce traffic-related noise in Cupertino, which is the major source of noise pollution identified in the General Plan Health and Safety Element.¹¹⁶ In addition, CAP Update Action TR-5.3 would seek to increase the use of electric landscaping aligning with the provisions of CMC Section 10.48.051, Landscape Maintenance Activities, that seeks to reduce noise related to landscaping equipment use. Therefore, the CAP Update and GHG Emissions Thresholds would not generate excessive noise levels; thus, there would be a ***less-than-significant impact*** related to noise exposure.

b. Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as

¹¹⁴ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 10.48. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 22, 2022.

¹¹⁵ Ibid.

¹¹⁶ Cupertino, City of. 2014. General Plan Health and Safety Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

groundborne noise.¹¹⁷ Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or Root Mean Square (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings.¹¹⁸ Vibration significance ranges from approximately 50 vibration decibels (VdB), which is the typical background vibration-velocity level, to 100 VdB, the general threshold where minor damage can occur in fragile buildings. The general human response to different levels of groundborne vibration velocity levels is described in Table 6.

Table 6 Human Response to Different Levels of Groundborne Vibration¹¹⁹

Vibration Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many people
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day

VdB = vibration decibels
 Source: Federal Transit Administration Transit Noise and Vibration Impact Assessment Manual

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to groundborne vibration. The CAP Update is a policy document containing programs that are consistent with the Cupertino General Plan. Some of the proposed CAP Update measures and actions would support small-scale construction projects, such as EV charging station construction and new bicycle lanes, that may result in a temporary, minor increase in groundborne vibration during construction. However, CAP Update projects would be subject to review by the City for compliance and consistency with the Cupertino General Plan and CMC and construction activities would be required to comply with applicable local, State, and federal regulations to ensure that temporary construction impacts related to groundborne vibration would not occur. Furthermore, CAP Update projects would not include operational sources of groundborne vibration. Thus, the CAP Update and GHG Emissions Thresholds would result in a **less-than-significant impact** related to groundbourne vibration.

¹¹⁷ Caltrans. 2020. Transportation and Construction Vibration Guidance Manual (CT-HWANP-RT-13-069.25.3). Available: <<https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf>>. Accessed February 24, 2022.

¹¹⁸ Federal Highway Administration (FHWA). 2006. FHWA Highway Construction Noise Handbook. (FHWAHEP-06-015; DOT-VNTSC-FHWA-06-02). Available: <https://www.fhwa.dot.gov/Environment/noise/construction_noise/handbook/handbook00.cfm>. Accessed February 24, 2022.

¹¹⁹ Federal Transit Administration. 2018. Transit Noise and Vibration Impact Assessment Manual. <https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf>. Accessed February 24, 2022.

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- c. *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

Cupertino does not contain any airports and is not within the airport land use plan or noise contours for the nearest airport, the San Jose International Airport.¹²⁰ Furthermore, the GHG Emissions Thresholds and CAP Update are policy documents that would not increase airport activity or result in additional habitable development or commercial development that could increase potential exposure of residents and employees to aircraft-related noise. Therefore, the CAP Update and GHG Emissions Thresholds would result in **no impact** related to aviation-related noise exposure.

Cumulative Impacts

The cumulative projects scenario is buildout of the Cupertino General Plan and the in-progress Housing Element Update. Buildout of the General Plan and in-progress Housing Element Update in Cupertino would result in an anticipated total population of 65,690 by 2030.¹²¹ The CAP Update and GHG Emissions Thresholds are policy documents containing programs that are consistent with the Cupertino General Plan Health and Safety Element. As a guidance document, the GHG Emissions Thresholds would not result in any development or land use changes that could result in cumulative impacts related to noise. However, future CAP Update-related projects, in combination with other cumulative projects anticipated under Cupertino General Plan buildout, would support construction projects, such as EV charging station construction, that may result in a temporary increase in groundborne vibration or noise levels. However, cumulative projects, including CAP Update projects, would be subject to review by the City for compliance with the Cupertino General Plan and CMC and would be required to comply with applicable local, State, and federal regulations governing construction noise and vibration. Additionally, the CAP Update encompasses a suite of GHG-reduction opportunities that would decrease VMT and traffic-related noise. As such, implementation of the CAP Update would not generate permanent, excessive groundborne vibration or noise levels. Therefore, the CAP Update and GHG Emissions Thresholds would result in an overall **less-than-significant cumulative impact** related to noise.

¹²⁰ Cupertino, City of. 2014. General Plan Health and Safety Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

¹²¹ Cupertino, City of. 2022. Future GHG Emissions Forecasts Memorandum.

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14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. *Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*
- b. *Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to substantial unplanned population growth or the displacement of existing people or housing. Likewise, the CAP Update is a policy document containing measures and actions to increase sustainability and does not include any programs that would result in new housing or jobs or alterations to existing housing. In addition, the CAP Update does not propose new infrastructure, such as roadways or utilities, that could indirectly lead to new population growth or development. Therefore, the CAP Update would not directly increase the population, indirectly induce additional unplanned population growth, or displace people or housing. Therefore, the CAP Update and GHG Emissions Thresholds would result in **no impact** related to population and housing.

Cumulative Impacts

The cumulative projects scenario is buildout of the Cupertino General Plan and the in-progress Housing Element Update. Buildout of the General Plan and in-progress Housing Element Update in Cupertino would result in an anticipated total population of 65,690 by 2030.¹²² As a guidance document, the GHG Emissions Thresholds would not result in any development or land use changes that could result in cumulative impacts related to population and housing. Similarly, CAP Update projects, in combination with other cumulative projects anticipated under Cupertino General Plan

¹²² Cupertino, City of. 2022. Future GHG Emissions Forecasts Memorandum.

buildout, are not anticipated to displace people or housing nor induce substantial unplanned population growth within Cupertino. Specifically, the CAP Update would not contribute to person or housing displacement in Cupertino nor result in population growth beyond that already assumed and planned for in the Cupertino General Plan and in accordance with Cupertino 2040 population projections. Therefore, the CAP Update and GHG Emissions Thresholds would result in ***no cumulative impact*** related to population and housing.

15 Public Services

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

1. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*

- *Fire protection?*
- *Police protection?*
- *Schools?*
- *Parks?*
- *Other public facilities?*

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to public services. The CAP Update is a policy document containing programs that are consistent with the Cupertino General Plan. Implementation of the CAP Update and its proposed measures and actions would not result in increases in population or new employment opportunities that could induce population growth, as further discussed in Section 14, *Population and Housing*. As such, the CAP Update would not require the construction of new or physically altered governmental facilities to serve additional population, the construction of which could cause significant environmental impacts. CAP Update Strategy

CRW-1 and Actions S8 and S9 would help to increase community resiliency and reduce vulnerability to the impacts of climate change and mitigate hazards such as flooding and wildfire within Pleasanton, thereby reducing the burden on local public services related to such natural disasters. Furthermore, future CAP 2.0 projects and actions would be reviewed for consistency with the Pleasanton General Plan and other applicable local and State regulations related to public services. Therefore, the CAP Update and GHG Emissions Thresholds would result in **no impact** related to public services in terms of need for the construction of new or altered governmental facilities.

Cumulative Impacts

The cumulative projects scenario is buildout of the Cupertino General Plan and the in-progress Housing Element Update. Buildout of the General Plan and in-progress Housing Element Update in Cupertino would result in an anticipated total population of 65,690 by 2030.¹²³ As a guidance document, the GHG Emissions Thresholds would not result in cumulative impacts related to public services and facilities. Likewise, implementation of CAP Update projects, in combination with other cumulative projects anticipated under Cupertino General Plan buildout, would not result in increases in population or induce additional population growth beyond that assumed under the Cupertino General Plan and in accordance with Cupertino 2040 population projections. Therefore, implementation of the CAP Update would not result in substantial cumulative need to expand public services facilities. Thus, CAP Update and GHG Emissions Thresholds would result in an overall **less-than-significant cumulative impact** related to public services.

¹²³ Cupertino, City of. 2022. Future GHG Emissions Forecasts Memorandum.

16 Recreation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*
- b. *Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

Cupertino is a primarily urbanized community with parks and recreational spaces incorporated throughout Cupertino. There are a total of 165 acres of City-owned public parks in Cupertino, and 220 acres of regional parks and trails are available in the vicinity of Cupertino. The Cupertino General Plan Recreation, Parks, and Community Services Element identifies goals, policies, and programs to manage the local parks and recreational facilities and protect open space resources within Cupertino.¹²⁴ The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to parks or recreational facilities. The CAP Update is a policy document containing programs that are consistent with Cupertino’s General Plan, including the recreation and open space policies established in the Recreation, Parks, and Community Services Element. As described in Section 14, *Population and Housing*, the CAP Update would not result in substantial population growth or direct land use changes. As such, implementation of the CAP Update would not result in a substantial physical deterioration of parks or other recreational facilities or result in the need to expand recreational facilities. Therefore, the CAP Update and GHG Emissions Thresholds would result in **no impact** related to the need for construction of new or altered recreational facilities.

¹²⁴ Cupertino, City of. 2014. General Plan Recreation, Parks, and Community Services Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

Cumulative Impacts

The cumulative projects scenario is buildout of the Cupertino General Plan and the in-progress Housing Element Update. Buildout of the General Plan and in-progress Housing Element Update in Cupertino would result in an anticipated total population of 65,690 by 2030.¹²⁵ As a guidance document, the GHG Emissions Thresholds would not result in cumulative impacts related to parks and recreational facilities. Likewise, implementation of CAP Update projects, in combination with other cumulative projects anticipated under Cupertino General Plan buildout, would not result in increases in population or induce additional population growth beyond that assumed under the Cupertino General Plan and in accordance with Cupertino 2040 population projections. Therefore, implementation of the CAP Update would not result in substantial cumulative deterioration of recreational facilities or the need to construct new recreational facilities. Therefore, implementation of the CAP Update and GHG Emissions Thresholds would result in *no cumulative impact* related to recreation.

¹²⁵ Cupertino, City of. 2022. Future GHG Emissions Forecasts Memorandum.

17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a. *Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?*
- b. *Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?*

The Cupertino General Plan Mobility Element includes the following goals:

- **Goal M-1:** Actively participate in regional planning processes to coordinate local planning and to advocate for decisions that meet and complement the needs of Cupertino.
- **Goal M-2:** Promote improvements to city streets that safely accommodate all transportation modes and persons of all abilities.
- **Goal M-3:** Support a safe pedestrian and bicycle street network for people of all ages and abilities.
- **Goal M-4:** Promote local and regional transit that is efficient, frequent, and convenient and reduce traffic impacts.
- **Goal M-5:** Ensure safe and efficient pedestrian and bicycle access to schools while working to reduce school-related congestion.
- **Goal M-6:** Promote innovative strategies to provide efficient and adequate vehicle parking.
- **Goal M-7:** Review and update TIA policies and guidelines that allow for adequate consideration for all modes of transportation including automobiles, walking, bicycles and transit.
- **Goal M-8:** Promote policies to help achieve state, regional and local air quality and greenhouse gas emission reduction targets.

- **Goal M-9:** Promote effective and efficient use of the city's transportation network and services.
- **Goal M-10:** Ensure that the City's transportation infrastructure is well-maintained for all modes of transportation and that projects are prioritized on their ability to meet the City's mobilities goals.¹²⁶

Additionally, the City adopted a Bicycle Transportation Plan in 2016 and Pedestrian Transportation Plan in 2018 to make active transportation within Cupertino a safe and pleasant option by providing a dedicated bicycle and pedestrian network. The Bicycle and Pedestrian Transportation Plans also implement the Cupertino General Plan goals, policies, and programs related to complete streets by building a blueprint for a system of bikeways and pedestrian facilities across Cupertino.^{127, 128}

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to conflict with a program, plan, ordinance, or policy addressing the transportation circulation system. The CAP Update is a policy document containing strategies and policies that are consistent with the Cupertino General Plan Mobility Element and Bicycle and Pedestrian Plans. CAP Update Measure TR-1 facilitates the continued implementation of the Bicycle and Pedestrian Transportation plans and the development of new bicycle and pedestrian facilities, including bike and pedestrian paths, secure bike parking, and bike share and micro-mobility stations, in order to achieve a 15 percent bike mode share by 2030. Similarly, CAP Update Measure TR-2 would implement improvements to the public transit system and services, such as an expansion of the Via-Cupertino Shuttle service and free public transit pilot programs, to achieve a 29 percent mode share for public transit by 2030. Additionally, CAP Update Measures TR-3 and TR-4 incentivize and facilitate EV adoption and a reduction in the use of gasoline-powered vehicles, aligning with General Plan Goal M-8 to promote policies that help achieve regional and State air quality and GHG emissions goals.

The CAP Update measures would advance active transportation and public transit within Cupertino and decrease VMT and associated air pollutants and GHG emissions. The CAP Update measures would be consistent with the Cupertino General Plan Mobility Element and Bicycle and Pedestrian Transportation Plans goals related to improving multi-modal facilities, reducing VMT and single-occupancy vehicles, encouraging active transportation, and reducing vehicle congestion within Cupertino. Furthermore, the CAP Update would seek to reduce VMT within Cupertino, consistent with CEQA Guidelines section 15064.3, subdivision (b). Therefore, the CAP Update and GHG Emissions Thresholds would result in **no impact** related to consistency with plans addressing the transportation circulation system.

¹²⁶ Cupertino, City of. 2014. General Plan Mobility Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

¹²⁷ Cupertino, City of. 2016. Bicycle Transportation Plan. Available: <<https://www.cupertino.org/home/showpublisheddocument/3479/636443578340030000>>. Accessed February 24, 2022.

¹²⁸ Cupertino, City of. 2018. Pedestrian Transportation Plan. Available: <<https://www.cupertino.org/home/showpublisheddocument/16864/636650034974470000>>. Accessed February 24, 2022.

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- c. *Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?*
- d. *Would the project result in inadequate emergency access?*

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to risk associated with transportation design, incompatible use, or emergency access. The CAP Update is a policy document containing strategies that are consistent with the Cupertino General Plan, including the Mobility Element, and would not facilitate development beyond that allowed under the Cupertino General Plan. Implementation of some CAP Update actions, such as Actions TR-1.1 through TR-1.5 that would provide for new bicycle and pedestrian facilities and complete streets, may involve construction within the local right-of-way. Construction activities have the potential to require lane closures and may impact traffic and vehicle speeds on the affected roadways; however, these impacts would be temporary and access to roadways would generally be maintained throughout project construction. Furthermore, future projects involving work in the public right-of-way would be required to coordinate with the City to ensure appropriate construction staging and adequate emergency access on adjacent roadways pursuant to CMC Chapter 14.08, Encroachments and Use of City Rights-of-Way.¹²⁹ Compliance with the CMC would ensure that significant impacts to the circulation system design, including safety impacts and emergency access, would not occur. As such, construction of CAP Update projects would not create transportation design hazards or result in inadequate emergency access. Furthermore, the CAP Update would facilitate increased active transportation and public transit use and decreased VMT within Cupertino, which in turn would reduce potential transportation hazards and congestion conditions that can hinder emergency response. Thus, the CAP Update and GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to transportation hazards and emergency access.

Cumulative Impacts

The cumulative projects scenario is buildout of the Cupertino General Plan and the in-progress Housing Element Update. Buildout of the General Plan and in-progress Housing Element Update in Cupertino would result in an anticipated total population of 65,690 by 2030.¹³⁰ The goals, policies, objectives, measures, and actions included in the Cupertino General Plan Mobility Element and Bicycle and Pedestrian Transportation Plans promote a safe and efficient transportation network that serves all modes and the reduction of VMT and associated air pollutants and GHG. The GHG Emissions Thresholds would not conflict with these goals or result physical projects and associated cumulative impacts related to transportation. Likewise, the CAP Update measures and actions would not conflict with the objectives and policies of the General Plan or Bicycle and Pedestrian Transportation Plans but would rather be consistent with and promote those plans. Therefore, the CAP Update and GHG Emissions Thresholds would result in an overall ***less-than-significant cumulative impact*** related to transportation.

¹²⁹ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 14.08. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 22, 2022.

¹³⁰ Cupertino, City of. 2022. Future GHG Emissions Forecasts Memorandum.

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18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 2024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significant of the resource to a California Native American tribe?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code § 5020.1 (k)?*
- b. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 2024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significant of the resource to a California Native American tribe?*

On April 22, 2022, the eight following Native American Heritage Commission (NAHC)-identified local Native American tribal groups were formally notified that the City initiated environmental review of the CAP Update and GHG Emissions Thresholds and were invited to provide consultation:

- Amah Mutsun Tribal Band
- Amah Mutsun Tribal Band of Mission San Juan Bautista
- Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
- North Valley Yokuts Tribe
- Tamien Nation
- Indian Canyon Mutsun Band of Costanoan
- The Ohlone Indian Tribe
- Wuksache Indian Tribe/Eshom Valley Band

Under AB 52, Native American tribes have 30 days to respond and request further project information and formal consultation. Responses were received via email on April 24 and May 25, 2022 from the Muwekma Ohlone Indian Tribe of the San Francisco Bay Area and Indian Canyon Mutsun Band of Costanoan, respectively. In email responses sent to the tribes on June 2, 2022, the City indicated that it would keep the tribes informed of any future CEQA-related projects and proceedings associated with the CAP Update and any tribal cultural resources or human remains discovered during ground disturbing activities. The City of Cupertino will continue to comply with the requirements of AB 52, and any consultation that takes place subsequent to the publication of the Draft IS-ND will be incorporated into the results of the Final IS-ND.

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to tribal cultural resources. Likewise, the CAP Update would not involve land use or zoning changes that would increase development within Cupertino but would instead promote sustainable infrastructure development within the urbanized area of Cupertino. As a policy document, the CAP Update would also not directly entail ground disturbing activities. However, future implementation of CAP Update actions related to existing building energy, EV charging infrastructure, active transportation, water conservation, and tree planting may include construction activities with the potential to disturb previously undiscovered tribal cultural resources, as discussed further below.

Electrification retrofits associated with CAP Update Actions BE-2.4, BE-2.6, BE-2.7, BE-2.9 through BE-2.11, BE-3.1, BE-3.5, BE-3.6, and BE-3.8 may change the physical environment through the need for upgraded service and electrical panels, branch circuit upgrades, installation of condensate drains to facilitate the installation of electric heat pumps for water and space heating, and ground disturbance to remove nature gas infrastructure. The physical changes these upgrades would entail are dependent on the year of building construction and location of electrical and service panels and plumbing connection of condensate drains, which sometimes may include modifications to the interior and/or exterior of buildings for wiring and panel replacement and minor excavation for connection of drainage to sewer systems.

CAP Update Actions TR-1.1 through TR-1.5 would encourage development of new bicycle infrastructure, which may involve construction activities to create new bike lanes and bike/pedestrian paths throughout Cupertino. CAP Update Actions TR-3.2, TR-3.4, and TR-3.12 would incentivize or require the installation of new EV charging stations. Installation of EV chargers and new bike and pedestrian facilities would primarily impact previously disturbed areas within existing parking lots and public rights-of-way. However, the physical changes these installations and enhancements would entail are dependent on the location of construction for the EV charging

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connections and active transportation infrastructure, which in some cases may include minor temporary excavation and grading.

CAP Update Action CS-1.3 seeks to plant additional trees throughout Cupertino, which may require the use of construction equipment for the moving and placement of trees. These actions could result in ground disturbance related to the construction of new infrastructure and planting new trees.

Implementation of these CAP Update actions could impact unknown tribal cultural resources during construction that involves below-grade activities in previously undisturbed soils. However, future CAP Update projects would be located and designed strategically to reduce ground disturbance to the maximum extent possible. In addition, CAP Update projects and actions would be reviewed for consistency with applicable local, regional, and State tribal cultural and archaeological regulations prior to final siting and construction and would be required to implement BMPs in accordance with CMC Chapter 17.04, Standard Environmental Protection Requirements. CMC Chapter 17.04 includes a requirement that projects within areas of known cultural resources as documented in the 2015 General Plan EIR and the archaeological or tribal cultural resources cannot be avoided, the project must complete a subsurface evaluation for cultural resources in consultation with a tribal representative. In addition, CMC Chapter 17.04 includes standard requirements for all projects, including worker environmental awareness training and a requirement during all ground disturbing activities that if potential tribal cultural resources are unearthed, construction must be halted, the City must be contacted, and a qualified professional must be hired to investigate and make recommendations.¹³¹ As such, tribal cultural resources would be protected prior to and/or upon discovery and, thus, impacts would be reduced to a minimal level. Therefore, the CAP Update and GHG Emissions Thresholds would result in a **less-than-significant impact** related to tribal cultural resources.

Cumulative Impacts

The cumulative projects scenario is buildout of the Cupertino General Plan and the in-progress Housing Element Update. Buildout of the General Plan and in-progress Housing Element Update in Cupertino would result in an anticipated total population of 65,690 by 2030.¹³² As a guidance document, the GHG Emissions Thresholds would not result in construction projects and would not affect tribal cultural resources. CAP Update projects, in combination with other cumulative projects anticipated under Cupertino General Plan buildout, could increase the potential for adverse effects to unknown tribal cultural resources in Cupertino. However, impacts to tribal cultural resources are site-specific; accordingly, as required under applicable laws and regulations, potential impacts associated with cumulative developments would be addressed on a case-by-case basis as cumulative project details and locations become known. CAP Update projects and other cumulative projects would be required to comply with the CMC Chapter 17.04, Standard Environmental Protection Requirements, for the protection and proper treatment of any resources discovered during ground disturbance, which would minimize the potential for significant impacts to tribal cultural resources. Therefore, the CAP Update and GHG Emissions Thresholds would result in a **less-than-significant cumulative impact** related to tribal cultural resources.

¹³¹ Cupertino, City of. 2022. Cupertino Municipal Code Chapter 17.04. Available: <https://codelibrary.amlegal.com/codes/cupertino/latest/cupertino_ca/0-0-0-96144>. Accessed February 16, 2022.

¹³² Cupertino, City of. 2022. Future GHG Emissions Forecasts Memorandum.

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19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a. *Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not have direct construction or operational impacts related to utilities and service systems. The CAP Update is a policy document aimed at reducing water, solid waste, and energy consumption and related GHG emissions and does not include site-specific infrastructure designs or project proposals. Furthermore, implementation of the CAP Update would not result in an increase in population and

housing, nor would it facilitate growth beyond that anticipated by the Cupertino General Plan. As such, implementing the CAP Update would not create new demand related to water, wastewater, stormwater drainage, electric power, natural gas power, or telecommunications utilities. However, projects resulting from implementation of the CAP Update could include redevelopment and/or restructuring of electricity and natural gas power facilities and infrastructure, as well as new local renewable energy generation and storage and water infrastructure projects. Potential impacts related to these strategies are discussed further below.

Water Supply Facilities/Infrastructure

San Jose Water and California Water Service are the water suppliers serving Cupertino. The water service providers purchase their water from the Santa Clara Valley Water District, which sources its water from the Rinconada Treatment Plan and groundwater wells.¹³³ The CAP Update and GHG Emissions Thresholds would not result in new land uses that would contribute to an increase in water use compared to existing conditions. Rather, CAP Update Measure WW-1 seeks to decrease water consumption by 15 percent compared to 2018 levels. In addition, CAP Update Action WW-1.7 may involve the operation of a new brackish water/desalinization program that would increase water supplies, if feasible. Construction and operation of any new brackish water/desalination infrastructure by the Santa Clara Valley Water District (Valley Water) would require discretionary review by Valley Water (the lead agency for that program) when project locations and details are known and, thus, would be evaluated in accordance with CEQA at the time of such review. As the CAP Update and GHG Emissions Thresholds would result in reduced water use, the relocation or construction of new or expanded water facilities would not be required and ***impacts would be less-than-significant***.

Wastewater Treatment Facilities/Infrastructure

Cupertino Sanitary District (CSD) and Sunnyvale Sanitary operate the sanitary sewer systems serving Cupertino. Wastewater from the CSD is conveyed and treated at the San Jose/Santa Clara Water Pollution Control Plan (SJ/SCWPCP), while wastewater generated in the Sunnyvale Sanitary district is treated by the City of Sunnyvale.¹³⁴ The CAP Update and GHG Emissions Thresholds would not result in new land uses that would generate sanitary wastewater or otherwise contribute to an increase in wastewater treatment requirements. The amount or characteristics of wastewater treated at the SJ/SCWPCP or by the City of Sunnyvale would not change compared to existing conditions with implementation of the proposed plans. Therefore, the CAP Update and GHG Emissions Thresholds would not require relocation or construction of new wastewater collection or treatment infrastructure and ***no impact*** would occur.

Stormwater Drainage Facilities/Infrastructure

The City of Cupertino maintains a system of storm drains, gutters, and ditches to convey stormwater generated during rain events. As discussed in Section 10, *Hydrology and Water Quality*, the GHG Emissions Thresholds provide guidance during CEQA review, and do not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not have direct construction or operational impacts related to stormwater drainage facilities. implementation of CAP Update Actions related to building electrification, renewable energy

¹³³ Cupertino, City of. 2014. General Plan Infrastructure Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

¹³⁴ Ibid.

production and storage, transportation, water, and urban trees may promote infrastructure development that would involve small-scale construction. Construction of projects implemented in accordance with the CAP Update could result in erosion and potential changes to drainage patterns. However, as described in Section 7, *Geology and Soils*, and Section 10, *Hydrology and Water Quality*, CAP Update projects would be required to comply with local, State, and federal requirements during construction that would control stormwater runoff, erosion, and potential impacts to the stormwater drainage system. Furthermore, CAP Update Measure CS-1 encourages the planting of additional urban trees within the community, which would help to reduce impermeable groundcover and stormwater flows to the City's drainage facilities. Therefore, **no impact** related to need for construction or expansion of stormwater drainage facilities and infrastructure would occur.

Electric Power Facilities/Infrastructure

Electric power service in the City is provided by SVCE using transmission infrastructure operated and maintained by Pacific Gas & Electric (PG&E). The CAP Update and GHG Emissions Thresholds would not involve new land uses or development that require new or additional electric service. CAP Update Measure BE-1 promotes the use of SVCE-supplied energy for residential and commercial uses to increase the use of clean electricity. CAP Update Measure BE-2 through BE-4 promote electrification of new and existing buildings. CAP Update Actions BE-3.7 and BE-3.8 support installation of small-scale solar PV systems and battery storage facilities throughout Cupertino to provide greener renewable electricity within Cupertino. In addition, CAP Update Measure TR-3 encourages new EV infrastructure throughout Cupertino. These CAP Update measures and actions may slightly alter electricity demand within Cupertino. However, the CAP Update would serve as a pathway to reduce GHG emissions, including emissions related to energy consumption, and other beneficial environmental and sustainability effects. These benefits include a reduction in energy consumption. Therefore, the CAP Update and GHG Emissions Thresholds would result in a **less-than-significant impact** related to construction, expansion, or relocation of electric power facilities and infrastructure.

Natural Gas Power Facilities/Infrastructure

PG&E provides natural gas services to Cupertino. The CAP Update and GHG Emissions Thresholds would not involve new land uses that require new or additional natural gas service that could require the construction of new or expanded natural gas facilities. CAP Update Measures BE-2 through BE-4 would encourage or require building electrification in new and existing buildings to reduce natural gas consumption within Cupertino. Implementation of these actions could involve alterations, such as abandonment or removal, to existing natural gas infrastructure as natural gas use is reduced. However, the CAP Update would serve as a pathway to reduce GHG emissions, including emissions related to energy consumption, and other beneficial environmental and sustainability effects. These benefits include a reduction in natural gas consumption. Therefore, the CAP Update and GHG Emissions Thresholds would result in a **less-than-significant impact** related to construction, removal, or relocation of natural gas power facilities and infrastructure.

Telecommunications Facilities/Infrastructure

The city is served by existing telecommunications companies such as AT&T, Verizon, and Comcast. The CAP Update would not alter existing telecommunications facilities and infrastructure and would not involve new land uses or development that would require new telecommunications

infrastructure. Therefore, the CAP Update and GHG Emissions Thresholds would result in **no impact** related to need for construction or expansion of telecommunication facilities and infrastructure.

- b. *Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?*
- c. *Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to water supplies. Similarly, the CAP Update is a policy-level document that does not include site-specific infrastructure designs or project proposals, nor does it grant entitlements for development that would have the potential to increase demand for water supply or wastewater treatment. Rather the CAP Update contains measures and actions to reduce water use, such as Measure WW-1, that includes actions to require water efficient fixtures and landscaping irrigation, promote graywater use, and education the community on water conservation. Thus, the CAP Update and GHG Emissions Thresholds would result in **no impact** related to water supply and wastewater treatment.

- d. *Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*
- e. *Would the project comply with federal, State, and local management and reduction statutes and regulations related to solid waste?*

Recology South Bay is responsible for collecting and disposing of solid waste generated by residential, commercial, and industrial customers in Cupertino. Waste generated in Cupertino is sent to the Newby Island Sanitary Landfill, which has a maximum daily throughput of 4,000 tons of waste per day and is permitted to operate through 2041.^{135,136}

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to solid waste. Likewise, the CAP Update would not facilitate increased development and, thus, would result in an increase in solid waste collection and disposal demand. Rather, the CAP Update includes measures and actions, such as Measures W-1a, W-1b, and W-2, that would reduce solid waste production, increase the diversion of organic and food waste, reduce construction and demolition debris, and increase participation in recycling programs in order to minimize waste being sent to the landfill. Therefore, the CAP Update and GHG Emissions Thresholds would result in **no impact** related to solid waste.

Cumulative Impacts

The cumulative projects scenario is buildout of the Cupertino General Plan and the in-progress Housing Element Update. Buildout of the General Plan and in-progress Housing Element Update in

¹³⁵ Cupertino, City of. 2014. General Plan Infrastructure Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

¹³⁶ CalRecycle. 2022. SWIS Facility/Site Activity Details: Newby Island Sanitary Landfill. Available: <<https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1362?siteID=3388>>. Accessed February 25, 2022.

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Cupertino would result in an anticipated total population of 65,690 by 2030.¹³⁷ Other cumulative projects anticipated under Cupertino General Plan buildout could result in increases in population and additional use of or need for utilities and service systems. However, implementation of the GHG Emissions Thresholds and CAP Update and related infrastructure projects would not contribute to increases in population or induce additional population growth that would require additional use of existing utilities or service systems. Rather, implementation of the CAP Update would result in reduced energy and water consumption and solid waste and wastewater production. Thus, implementation of the CAP Update GHG Emissions Thresholds would result in an overall ***less-than-significant cumulative impact*** related to utilities and service systems.

¹³⁷ Cupertino, City of. 2022. Future GHG Emissions Forecasts Memorandum.

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20 Wildfire

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

-
- a. *If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?*
- b. *If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*
- c. *If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

- d. *If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

According to the California Department of Forestry and Fire Protection (CalFIRE), the majority of the Cupertino is not located in designated California Fire Hazard Severity Zones; however, Cupertino contains and is adjacent to areas classified as moderate, high, and very high fire hazard severity zones at the wildland fringes located at the southern and western borders of the City.¹³⁸ According to the Cupertino General Plan Health and Safety Element, wildfire poses a high risk to portions of Cupertino at the urban-wildland fringe. The central, urbanized portions of Cupertino are not subject to wildfire risk.¹³⁹

Though there are areas within and adjacent to Cupertino that are at risk of wildfires, the CAP Update and GHG Emissions Thresholds are policy-level documents that do not propose new residential, commercial, or institutional development that could be at risk from wildfire, nor does they grant entitlements for development that would have the potential to directly cause wildfire. Rather, the CAP Update would aim to reduce Cupertino's contributions to and vulnerability to the effects of climate change, such as drought, wildfire, and flooding. In addition, the CAP Update includes Measures AR-2 and AR-3 to improve community preparedness and response to climate-related hazards, including wildfire and associate air pollution risks. Thus, the CAP Update and GHG Emissions Thresholds would result in **no impact** related to wildfire.

Cumulative Impacts

The cumulative projects scenario is buildout of the Cupertino General Plan and the in-progress Housing Element Update. Buildout of the General Plan and in-progress Housing Element Update in Cupertino would result in an anticipated total population of 65,690 by 2030.¹⁴⁰ The CAP Update and GHG Emissions Thresholds do propose new habitable development that could be at risk from wildfire, nor do they grant entitlements for development that would have the potential to cause wildfire. Rather, the CAP Update includes measures and actions to the reduce the effects of climate change, such as drought, wildfire, and flooding. Thus, the CAP Update and the GHG Emissions Thresholds would result in **no cumulative impact** related to wildfire.

¹³⁸ California Department of Forestry and Fire Protection (CalFIRE). 2022. Fire Hazard Severity Zone Viewer. Available: <<https://egis.fire.ca.gov/FHSZ/>>. Accessed February 25, 2022.

¹³⁹ Cupertino, City of. 2014. General Plan Health and Safety Element. Available: <<https://records.cupertino.org/WebLink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino&cr=1>>. Accessed February 7, 2022.

¹⁴⁰ Cupertino, City of. 2022. Future GHG Emissions Forecasts Memorandum.

21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Does the project:

a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a. *Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

The intent of the CAP Update and GHG Emissions Thresholds is to reduce GHG emissions from Cupertino community operations through implementation of measures and actions related to energy use, water consumption, transportation, solid waste, and carbon sequestration. The CAP Update and GHG Emissions Thresholds are consistent with the Cupertino General Plan and encourage residents, businesses, and institutions to reduce energy and water use, fuel use, VMT, and solid waste generation and the associated GHG emissions. The CAP Update would not facilitate development that would eliminate or threaten wildlife habitats or eliminate important examples of the major periods of California history or prehistory. Therefore, as discussed in more detail in Section 4, *Biological Resources*, Section 5, *Cultural Resources*, and Section 18, *Tribal Cultural*

Resources, the CAP Update and GHG Emissions Thresholds would result in a **less-than-significant impact** related to biological and cultural resources.

- b. *Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

Implementation of the CAP Update would result in a cumulatively beneficial reduction of GHG emissions and air pollutant emissions across Cupertino. In addition, as discussed throughout the respective cumulative impacts discussions within this document, the CAP Update and GHG Emissions Thresholds would not result in significant cumulative impacts. Rather, implementation of the CAP Update would be consistent with Cupertino General Plan policies aimed at reducing emissions of GHGs and air pollutants, reducing VMT, reducing energy and water supply demands on utilities, and decreasing solid waste generation. Therefore, the CAP Update and GHG Emissions Thresholds would result in an overall **less-than-significant cumulative impact** related to all CEQA topics addressed within this document.

- c. *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

In general, impacts to human beings are associated with air quality, GHG emissions and climate change, hazards and hazardous materials, noise, and transportation impacts. As detailed in the preceding sections, the CAP Update and GHG Emissions Thresholds would not result, either directly or indirectly, in substantial adverse effects related to air quality, GHG emissions, hazards, noise, and transportation. As discussed in more detail in Section 3, *Air Quality*, Section 13, *Noise*, and Section 17, *Transportation*, the CAP Update could cause temporary construction impacts related to transportation, air quality, and noise that could, in turn, affect human beings but would not result in substantial adverse effects. In addition, as discussed throughout this document, the CAP Update would serve as a pathway to reduce operational GHG emissions and would result in other positive environmental and sustainability effects. These benefits include reduction in building energy and water consumption, VMT, and solid waste generation and improved air quality. Therefore, the CAP Update and GHG Emissions Thresholds would result in a **less-than-significant impact** related to potential for adverse effects on human beings.

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Appendix A

Sources, Health Effects, and Typical Controls Associated with Criteria Pollutants

Sources, Health Effects, and Typical Controls Associated with Criteria Pollutants

Pollutant	Sources	Health Effects	Typical Controls
Ozone (O ₃)	Formed when reactive organic gases (ROG) and nitrogen oxides react in the presence of sunlight. ROG sources include any source that burns fuels (e.g., gasoline, natural gas, wood, oil); solvents; petroleum processing and storage.	Breathing difficulties, lung tissue damage, vegetation damage, damage to rubber and some plastics.	Reduce motor vehicle reactive organic gas (ROG) and nitrogen oxide (NO _x) emissions through emission standards, reformulated fuels, inspections programs, and reduced vehicle use. Limit ROG emissions from commercial operations, gasoline refueling facilities, and consumer products. Limit ROG and NO _x emissions from industrial sources such as power plants and manufacturing facilities.
Carbon monoxide (CO)	Any source that burns fuel such as automobiles, trucks, heavy construction and farming equipment, residential heating.	Chest pain in heart patients, headaches, reduced mental alertness.	Control motor vehicle and industrial emissions. Use oxygenated gasoline during winter months. Conserve energy
Nitrogen dioxide (NO ₂)	See Carbon Monoxide.	Lung irritation and damage. Reacts in the atmosphere to form ozone and acid rain.	Control motor vehicle and industrial combustion emissions. Conserve energy.
Sulfur dioxide (SO ₂)	Coal or oil burning power plants and industries, refineries, diesel engines.	Increases lung disease and breathing problems for asthmatics. Reacts in the atmosphere to form acid rain.	Reduce use of high sulfur fuels (e.g., use low sulfur reformulated diesel or natural gas). Conserve energy.
Respirable particulate matter (PM ₁₀)	Road dust, windblown dust, agriculture and construction, fireplaces. Also formed from other pollutants (NO _x , SO _x , organics).	Increased respiratory disease, lung damage, cancer, premature death, reduced visibility, surface soiling.	Control dust sources, industrial particulate emissions, woodburning stoves and fireplaces. Reduce secondary pollutants which react to form PM ₁₀ . Conserve energy.
Fine particulate matter (PM _{2.5})	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning. Also formed from reaction of other pollutants (NO _x , SO _x , organics, and NH ₃).	Increases respiratory disease, lung damage, cancer, and premature death, reduced visibility, surface soiling. Particles can aggravate heart diseases such as congestive heart failure and coronary artery disease.	Reduce combustion emissions from motor vehicles, equipment, industries, and agricultural and residential burning. Precursor controls, like those for ozone, reduce fine particle formation in the atmosphere.
Lead	Metal smelters, resource recovery, leaded gasoline, deterioration of lead paint.	Learning disabilities, brain and kidney damage. Control metal smelters.	No lead in gasoline or paint.
Sulfur Dioxide (SO ₂)	Coal or oil burning power plants and industries, refineries, diesel engines.	Increases lung disease and breathing problems for asthmatics. Reacts in the atmosphere to form acid rain.	Reduce use of high sulfur fuels (e.g., use low sulfur reformulated diesel or natural gas). Conserve energy.
Sulfates	Produced by reaction in the air of SO ₂ , (see SO ₂ sources), a component of acid rain.	Breathing difficulties, aggravates asthma, reduced visibility.	See SO ₂

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Pollutant	Sources	Health Effects	Typical Controls
Hydrogen Sulfide	Geothermal power plants, petroleum production and refining, sewer gas.	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations).	Control emissions from geothermal power plants, petroleum production and refining, sewers, and sewage treatment plants.
Visibility Reducing Particulates	See PM _{2.5}	Reduced visibility (e.g., obscures mountains and other scenery), reduced airport safety.	See PM _{2.5}
Vinyl Chloride	Exhaust gases from factories that manufacture or process vinyl chloride (construction, packaging, and transportation industries).	Central nervous system effects (e.g., dizziness, drowsiness, headaches), kidney irritation, liver damage, liver cancer.	Control emissions from plants that manufacture or process vinyl chloride, installation of monitoring systems.
Toxic Air Contaminant (TAC)	Combustion engines (stationary and mobile), diesel combustion, storage and use of TAC-containing substances (i.e., gasoline, lead smelting, etc.)	Depends on TAC, but may include cancer, mutagenic and/or teratogenic effects, other acute or chronic health effects.	Toxic Best Available Control Technologies (T-BACT), limit emissions from known sources.

Source: Compiled by Rincon Consultants, Inc. in March 2022

Appendix B

Description of Greenhouse Gases of California Concern

Description of Greenhouse Gases of California Concern

Greenhouse Gas	Physical Description and Properties	Global Warming Potential (100 years)	Atmospheric Residence Lifetime (years)	Sources
Carbon dioxide (CO ₂)	Odorless, colorless, natural gas.	1	50–200	Burning coal, oil, natural gas, and wood; decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; oceanic evaporation; volcanic outgassing; cement production; land use changes
Methane (CH ₄)	Flammable gas and is the main component of natural gas.	28 ¹⁴¹	12	Geological deposits (natural gas fields) extraction; landfills; fermentation of manure; and decay of organic matter
Nitrous oxide (N ₂ O)	Nitrous oxide (laughing gas) is a colorless GHG.	298	114	Microbial processes in soil and water; fuel combustion; industrial processes
Chloro-fluoro-carbons (CFCs)	Nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (level of air at the Earth's surface); formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms.	3,800–8,100	45–640	Refrigerants aerosol propellants; cleaning solvents.
Hydro-fluoro-carbons (HFCs)	Synthetic human-made chemicals used as a substitute for CFCs and contain carbon, chlorine, and at least one hydrogen atom.	140 to 11,700	1–50,000	Automobile air conditioners; refrigerants
Per-fluoro-carbons (PFCs)	Stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface.	6,500 to 9,200	10,000–50,000	Primary aluminum production; semiconductor manufacturing
Sulfur hexafluoride (SF ₆)	Human-made, inorganic, odorless, colorless, and nontoxic, nonflammable gas.	22,800	3,200	Electrical power transmission equipment insulation; magnesium industry, semiconductor manufacturing; a tracer gas

¹⁴¹ The City of Cupertino used a 20-year Global Warming Potential for methane.

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Greenhouse Gas	Physical Description and Properties	Global Warming Potential (100 years)	Atmospheric Residence Lifetime (years)	Sources
Nitrogen trifluoride (NF ₃)	Inorganic, is used as a replacement for PFCs, and is a powerful oxidizing agent.	17,200	740	Electronics manufacture for semiconductors and liquid crystal displays.

Source: Compiled by Rincon Consultants, Inc. in March 2022
