SUSTAINABILITY ELEMENT 9


WELCOME TO
ROLLING HILLS
ESTATES

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Introduction

Introduction

The State of California has an ambitious target of carbon-neutrality by 2045 that relies upon efficient and orderly growth throughout California. Sustainability refers to efforts and practices aimed at balancing environmental conservation, social responsibility, and economic prosperity to meet present needs while ensuring the ability of future generations to meet their needs. This Sustainability Element focuses on creating a sustainable future for the City of Rolling Hills Estates (City). The overall goal or purpose of the Sustainability Element is to lay a roadmap for a low-carbon future that balances the needs of conservation and development and is protective of the well-being of families and the community. The Sustainability Element identifies goals, policies, and programs, consistent with other adopted elements of the City General Plan, to guide the City and its businesses and residents in their shared journey to a low-carbon future. The City developed this Sustainability Element through consideration of strategies identified in the Governor's Office of Planning and Research, "Creating Sustainable Communities and Landscapes"; through reevaluation of goals, policies, and programs in adopted elements of the City General Plan; by integrating prior climate action and climate adaptation planning efforts; and with input from the City's General Plan Advisory Committee (GPAC), Environmental Advisory Committee (EAC), and the public. The Sustainability Element builds upon the South Bay Cities Council of Governments' (SBCCOG) 2017 Climate Action Plan (CAP) for the City of Rolling Hills Estates and the 2019 Sub-Regional CAP for the Palos Verdes Peninsula and resulting climate change potential adaptation strategies. In addition, the City engaged in an extensive stakeholder engagement process through meetings with the City's GPAC, EAC, and virtual meetings and surveys with the public.

Purpose

The purpose of the Sustainability Element is to identify potential opportunities for the City to engage the community in establishing a blueprint for steady, responsible action in addressing the effects of climate change, so we leave a cleaner, more resilient environment for future generations in terms of air quality, greenhouse gas emissions, energy use, water resources, quality of life, land use, mobility, and waste management and recycling.

California cities must include an analysis of climate change in the environmental review of projects, such as individual developments, and plans such as the General Plan. The City is addressing climate change and sustainability at the General Plan level, which can facilitate future streamlining under the California Environmental Quality Act (CEQA) for projects consistent with the General Plan, and a General Plan itself requires environmental review under CEQA and therefore must include consideration of climate change. Since 1992, an increased awareness of global climate change and its causes and the renewed interest in environmental protection led to the enactment of new laws in California and renewed efforts to protect resources and reduce consumption. In the last 29 years, additional data has become available that reveals the extent of the issue. In 2009, California adopted a statewide Climate Adaptation Strategy (CAS) that summarizes climate change impacts and recommends adaptation strategies across seven sectors: Public Health, Biodiversity and Habitat, Oceans and Coastal Resources, Water, Agriculture, Forestry, and Transportation and Energy. California Senate Bill 379 (adopted in 2015) requires all cities and counties to include climate adaptation and resiliency strategies in the Safety Elements of their General Plans.

Relationship to Other General Plan Elements

Policies in the Sustainability Element are designed to balance environmental conservation, social responsibility, and economic prosperity to meet the City's present needs while ensuring the ability of future generations to meet their needs. The Sustainability Element is related to all seven Elements of the General Plan (Land Use Element, Mobility Element, Housing Element, Conservation Element, Open Space and Recreation Element, Noise Element, and Safety Element) as there is significant overlap between a sustainable future and planning for the City's future.

The Sustainability Element is linked to the Conservation Element, which contains goals and policies regarding protecting and improving air quality and water quality; conservation of water resources; stormwater management; liquid and solid waste management; preservation of cultural, historical, and natural resources; and preservation of character and viewsheds. The Sustainability Element relates to the Safety Element regarding resiliency to climate change impacts, including goals and policies updating the City's CAP. The Safety Element has a greater focus on hazardous materials that could be exacerbated by climate change, including wildfire risk and emergency preparedness, than does the Sustainability Element. The Mobility Element contains goals and policies regarding reducing vehicle miles traveled (VMT) and greenhouse gas (GHG) emissions, as well as multi-modal transportation.

Chapter Organization

This Sustainability Element describes baseline conditions within the City and considers goals, policies, and programs in relation to seven pillars of sustainability. This Sustainability Element includes four sections:

1. **Introduction**: The Introduction summarizes the general intent of the Sustainability Element as well as the relationship to other General Plan Elements and the 2017 CAP and 2019 Sub-Regional CAP.
2. **Baseline Conditions:** The Baseline Conditions section summarizes the seven pillars of sustainability.
3. **Goals and Policies**: The Goals and Policies section identifies ways to address sustainability for each of the seven pillars of sustainability:
    1. Air Quality and Greenhouse Gas Emissions
    2. Energy
    3. Water Resources
    4. Quality of Life
    5. Land Use
    6. Mobility
    7. Waste Management and Recycling
4. **Achieving City Goals, Implementation Plan and Schedule, and Fiscal Considerations:** The Achieving City Goals, Implementation Plan and Schedule, and Fiscal Considerations section provides a framework and identifies potential programs and partnerships for the implementation of Sustainability Element policies.

Relationship to Climate Action Plans

The City of Rolling Hills Estates CAP was developed by the City in cooperation with the SBCCOG in 2017. The City's 2017 CAP serves as a guide for action to reduce GHG emissions within the City by setting GHG emission reduction goals and establishing strategies and policies to achieve desired outcomes over the next 20 years. The 2017 CAP was prepared in accordance with State of California legislation that has been adopted since the 1990s to address climate change, such as Assembly Bill 32 (AB 32), Senate Bill 32 (SB 32), and the 2017 Climate Change Scoping Plan Update. The 2017 CAP includes a GHG emissions inventory, a list of existing sustainability efforts, climate action plan categories and measures, and implementation and monitoring guidance. The 2017 CAP is fully integrated into the Sustainability Element.

The Sub-Regional Climate Adaptation Plan was developed for 15 cities of the 16-city SBCCOG region in 2019, including the City of Rolling Hills Estates. The Sub-Regional CAP includes a vulnerability assessment and adaptation and resiliency strategies to allow cities to assess and mitigate the extent to which climate change will negatively impact South Bay communities. The vulnerability assessment informs the goals, policies, and implementation measures of the climate adaptation and resilience strategies in both the Safety Element and Sustainability Element. Adaptation strategies comprise a set of actions that the SBCCOG can take to help the sub-region prepare for the effects of climate change. The adaptation strategies from the Sub-Regional CAP have been integrated into the Sustainability Element as appropriate for the City.

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Baseline Conditions

Baseline Conditions

This section provides a summary of overall baseline conditions in the City of Rolling Hills Estates relevant to the seven pillars of sustainability. Goals, metrics, and indicators of success have been drafted for each of the seven sustainability pillars for which a baseline assessment: (1) Air Quality and Greenhouse Gases (GHG), (2) Energy, (3) Water Resources, (4) Quality of Life, (5) Land Use, (6) Mobility, and (7) Waste Management and Recycling.

The purpose of this baseline conditions analysis is to synthesize data provided by key stakeholders and characterize baseline conditions in establishment of a baseline assessment to track the impact of the Plan for the City. The Sustainability Element builds upon this assessment with consideration for the relationship between economic development, mobility/transportation, environment, and public health in establishing a blueprint for steady, responsible action, in addressing the effects of climate change, so we leave a cleaner, more resilient environment for future generations.

Baseline Conditions by Sustainability Pillar

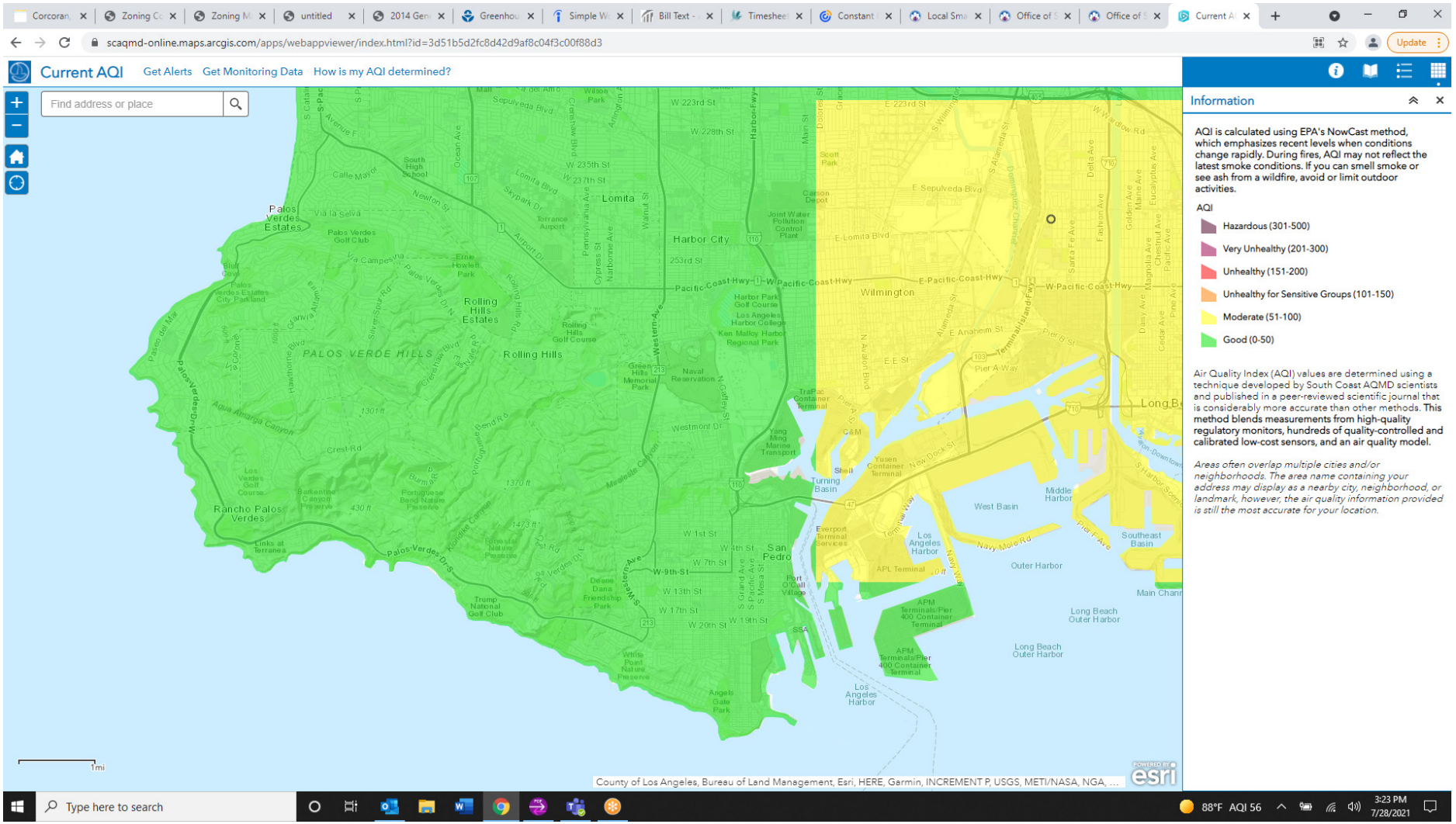
Pillar 1: Air Quality and GHG

Air Pollution: According to the South Coast Air Quality Management District (SCAQMD), the nearest air quality monitoring station to Rolling Hills Estates, Long Beach (Hudson), is located approximately 5.7 miles east of the City at 2425 Webster Street in the City of Long Beach, California.[1] The Long Beach (South) air quality station is located approximately 8.1 miles east of the City at 1305 East Pacific Coast Highway in Long Beach, and the Signal Hill air quality station is located approximately 8.4 miles east of the City at 1710 E. 20th Street in the City of Signal Hill, California.[2][3] With these air quality monitoring station sites, SCAQMD is able to calculate the air quality index (AQI) for the general area, which ranges from Good (0-50) to Hazardous (301-500) (see Figure 9-1, Example Current AQI Map).[4]

The AQI is the Environmental Protection Agency's index for reporting air quality, based on five major air pollutants regulated by the Clean Air Act: ground-level ozone, particle pollution (or particulate matter, such as PM2.5 and PM10), carbon monoxide (CO), sulfur dioxide (SO2), and nitrogen dioxide (NO2; Table 9-1, AQI for Ozone and Particle Pollution). Ozone (O3) at ground level is the primary component of smog, formed from the reaction of oxygen-containing compounds and other air pollutants in the presence of sunlight (levels are typically highest in the afternoon

1 South Coast AQMD. Updated May 7, 2020. Site Survey Report for Long Beach (Hudson). Available at: http://www.aqmd.gov/home/air-quality/clean-air-plans/monitoring-network-plan# (accessed March 1, 2021).
2 ibid.
3 ibid.
4 South Coast Air Quality Management District (South Coast AQMD). Current AQI. Accessed on March 1, 2021. Available at: https://scaqmd-online.maps.arcgis.com/apps/webappviewer/index.html?id=3d51b5d2fc8d42d9af8c04f3c00f88d3

Figure 9-1 Example Current AQI Map



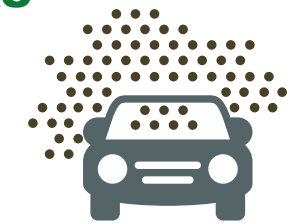
https://scaqmd-online.maps.arcgis.com/apps/webappviewer/index.html?id=3d51b5d2fc8d42d9af8c04f3c00f88d3

and hot days)[5]. PM2.5 is fine particle pollution that is 2.5 micrometers in diameter or smaller (such as vehicle exhaust, smoke, or emissions), while PM10 is inhalable (coarse) particle pollution with a diameter of 10 micrometers or less, such as dust, pollen, or mold. The 2016 SCAQMD Air Quality Management Plan indicates that in 2015 the Palos Verdes Peninsula, including Rolling Hills Estates, did not exceed the 8-hour Ozone Federal Standard or maximum ambient PM2.5 concentrations, ambient CO concentrations, ambient NO2 concentrations, ambient SO2 concentrations, sulfates, and lead (Pb)[6]. In 2015, ambient NO2 concentrations at the Long Beach-Hudson air monitoring station (which is near periodic diesel truck and bus activity) exceeded standards for only one day. Although the South Coast Basin is in attainment of the State and federal standards, NO2 is still of concern, since oxides of nitrogen (NOx) are precursors to both ozone and particulate matter. As noted in the regional Southern California Association of Governments (SCAG) Connect SoCal Plan, although air quality has improved significantly over the past decades, most areas in southern California have been designated as nonattainment or maintenance areas indicating that they fail to meet the health-based air quality standards pursuant to the Federal Clean Air Act in relation to transportation-related air pollutants.[7]

5 California Office of Environmental Health Hazard Assessment (OEHHA). January 2017. CalEnviroscreen 3.0. Available at: https://oehha.ca.gov/media/downloads/calenviroscreen/report/ces3report.pdf#page=30

6 South Coast Air Quality Management District. March 2017. Final 2016 Air Quality Management Plan. Available at: https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15

Most areas in southern California **fail to meet health-based air quality standards** and have been designated as **NONATTAINMENT** or **MAINTENANCE AREAS**



GHG Emissions: The 2017 City Climate Action Plan (CAP) and 2019 Sub-Regional CAP build upon a 2011 Community Greenhouse Gas Emissions inventory, which inventoried emissions in 1990, 2005, and 2007.[8] GHG emissions generation in the City has been reduced from 178,037 metric tons (MT) of carbon dioxide equivalent (CO2e) in 1990 to 134,040 MT CO2e in 2007. In 1990, solid waste generated approximately 50% of the City's GHG emissions, followed by gasoline (24%), electricity (15%), natural gas (10%), diesel fuel (1%), and commercial/industrial fuels and compressed natural gas (CNG; both were negligible). From 1990 to 2007, the GHG emissions scope shifted, with solid waste generating approximately 41% of the City's GHG emissions, followed by gasoline (26%), electricity (16%), natural gas (14%), diesel (2%), and commercial/industrial fuels and CNG (negligible). By sector, GHG emissions have been highest from solid waste (49.7% in 1990, 41.3% in 2007), followed by transportation (25.9% in 1990, 28.3% in 2007). Between 1990 and 2007, solid waste, transportation, and commercial/industrial sector emissions reduced

7 Southern California Association of Governments. 2020. Connect SoCal. Available at: https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal-plan_0.pdf?1606001176

8 South Bay Cities Council of Governments. January 2011. City of Rolling Hills Estates: Community Greenhouse Gas Emissions Inventory Report. Available at: https://www.southbaycities.org/sites/default/files/documents/inventories/RHE_Community_Inventory.pdf

Table 9-1 AQI for Ozone and Particulate Pollution

Daily AQI Color	Levels of Concern	Values of Index	Description of Air Quality
Green	Good	0 to 50	Air quality is satisfactory, and air pollution poses little or no risk.
Yellow	Moderate	51 to 100	Air quality is acceptable. However, there may be a risk for some people, particularly those who are unusually sensitive to air pollution.
Orange	Unhealthy for Sensitive Groups	100 to 150	Members of sensitive groups may experience health effects. The general public is less likely to be affected.
Red	Unhealthy	151 to 200	Some members of the general public may experience health effects; members of sensitive groups may experience more serious health effects.
Purple	Very Unhealthy	201 to 300	Health alert: The risk of health effects is increased for everyone.
Maroon	Hazardous	301 and higher	Health warning of emergency conditions: everyone is more likely to be affected.

Source: AirNow.gov. n.d. Air Quality Index (AQI) Basics. Available at: https://www.airnow.gov/aqi/aqi-basics/

as residential emissions increased from 15,557 MT CO2e in 1990 to 20,828 MT CO2e in 2007. The City's 2017 CAP is based on inventories from 2005, 2007, 2010, and 2012.[9] The 2017 CAP inventories indicate a 2005 baseline of 81,163 MT CO2e in 2005, approximately 60% of the 2011 inventory's 134,541 MT CO2e 2005 estimate, likely due to more refined modeling methods. The City also utilizes the Clean Power Alliance (CPA) to reduce emissions by providing clean power to businesses since June 2018 and residential participants since February 2019. Under this program, total energy consumption in 2020 totaled 50,896,910 kilowatt-hours (kWh).[10] Out of the total energy consumed, 24,770,841 kWh was 100% Green Power, 23,610,249 kWh was Clean Power (50% renewables), and 2,515,821 kWh was Lean Power (36% renewables). Each megawatt-hour (MWh) of energy delivered in 2020 via 100% Green Power had an emissions intensity of 0 pounds of CO2e per MWh; Clean Power had an emissions intensity of 509 pounds (0.23 MT) of CO2e per MWh; and Lean Power had an emissions intensity of 899 pounds (0.41 MT) of CO2e per MWh. This resulted in a weighted average emissions intensity for the total energy consumed in 2020 of 281 pounds (0.13 MT) of CO2e per MWh, compared to Southern California Edison's 2020 emissions intensity of 513 pounds (0.23 MT) of CO2e per MWh. Emissions intensity measures the volume of emissions per unit of gross domestic product (GDP). By reducing emission intensity, less pollution is created per unit of GDP. The City had negative total net GHG emissions in 2020 by participating in the CPA program, preventing 11,830,776 pounds (5,366 MT) of CO2e from being emitted into the atmosphere.

9 South Bay Cities Council of Governments. 2017. Climate Action Plan: City of Rolling Hills Estates. Available at: https://www.southbaycities.org/sites/default/files/RHE%20CAP.pdf

10 Clean Power Alliance. May 2021. 2020 Impact Report. Available at: https://cleanpoweralliance.org/wp-content/uploads/2021/05/CPA-2020-Impact-Report.pdf

GHG Reduction Targets: California Senate Bill (SB) 743 required new methodologies under the California Environmental Quality Act (CEQA) for evaluating transportation impacts that are better able to promote the state's goals of reducing GHG emissions and traffic-related air pollution; promoting the development of a multimodal transportation system; and providing clean, efficient access to destinations.[11] The required consideration of automobile vehicle miles traveled (VMT) as criteria in evaluation of evaluate environmental impacts pursuant to CEQA instead of level of service (LOS, or traffic flow and congestion) became effective on July 1, 2020. VMT refers to the amount and distance of automobile travel attributable to a project. Except for roadway capacity projects, a project's effect on automobile delay shall not constitute a significant environmental impact. For more information regarding VMT, please see the Mobility Element.

From the 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), the six-county SCAG region's GHG emissions reduction targets were set at 8% by 2020 and 19% by 2035 compared to 2005 emissions levels.[12] Total SCAG region emissions in 2020 were estimated to be 216 million MT CO2e in the 2020 Connect SoCal Plan, with approximately 38% of the emissions from transportation sources.[13] When 1990 data is not available, 15% below 2005 may be used as an estimate of 1990.[14] Therefore, based on 2005 emissions in the SCAG region for three primary sources of emissions in the SCAG region of 131.92 million MT CO2e, estimated 1990 emissions in the SCAG region are 112.13 million MT CO2e. Based on these estimates, the SCAG region did not meet its 2020 GHG emissions reduction targets. The 2020 RTP/SCS, the Connect SoCal Plan, provides strategies towards the region's GHG emissions reductions to meet 2035 emissions targets.[15]

In 2015, the City set the GHG emission reduction goals to reduce emissions back to 1990 levels by 2020 and 80% below 1990 levels by 2050, consistent with the State's Assembly Bill (AB) 32 (Global Warming Solutions Act) and SB 32 (Global Warming Solutions Act: Emissions Limit) GHG emission reduction targets. A longer-term goal was established for 2035 to reduce emissions by 49% below 2005 levels (Table 9-2, GHG Emissions Reduction Targets).

The City is on its way to meeting the 2035 target. With the City's GHG emissions reductions from participating in the CPA program alone (no changes to on-road transportation, natural gas, solid waste, water, off-road sources, or wastewater GHG emissions from 2012 levels), GHG emission levels in the City would be reduced from 71,902 MT CO2e in 2012 to approximately 58,466 to 66,860 MT CO2e in 2020, below the City's 2020 reduction target of 68,988 MT CO2e. Further actions are necessary to meet the 2035 and 2050 targets.

GHG Reduction Programs: The City of Rolling Hills Estates has already been actively developing measures and policies to mitigate the effects of climate change, such as increasing energy efficiency in municipal facilities, purchasing fuel-efficient fleet

11 State of California. Approved September 27, 2013. Bill Text - SB-743 Environmental quality: transit-oriented infill projects, judicial review streamlining for environmental leadership development projects, and entertainment and sports center in the City of Sacramento. Available at: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140SB743

12 South Bay Cities Council of Governments. 2017. Climate Action Plan: City of Rolling Hills Estates. Available at: https://www.southbaycities.org/sites/default/files/RHE%20CAP.pdf

13 Impact Sciences. December 2019. Connect SoCal Plan Draft PEIR. Available at: https://scag.ca.gov/sites/main/files/file-attachments/dpeir_connectsocal_3_8_greenhousegases.pdf?1606003491

14 CARB. 2014. First Update to the Climate Change Scoping Plan. Available at: https://ww3.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf, Accessed May 26, 2021.

15 Southern California Association of Governments. 2020. Connect SoCal. Available at: https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal-plan_0.pdf?1606001176

vehicles, developing water conservation ordinances, expanding office recycling, promoting alternative transportation options, and modifying procurement policies. The City's 2017 CAP has specific initiatives and programs that target the reduction of GHG emissions with the additional intention of improving the local air quality. Among the programs and policies put in place for GHG emission reduction is a commute trip reduction program. The steps to put this program into action includes working with local employers to subsidize or discount transit programs and increase carpooling or vanpools/shuttles from major stations, and implementing an employee education program. Additionally, for the Cool Cities program, the City adopted a new street sweeping contract that reduces the emission of particulate air pollution from paved roads, through the use of state-of-the-art equipment (SCAQMD certified), effectively reducing the use of polluting vehicles and increasing the use of alternative fuel vehicles. By participating in the CPA, the City prevents the same amount of GHG emissions as the activities shown at right.

Current Programs and Regulations

- AB 32 (Global Warming Solutions Act)
- SB 32 (Global Warming Solutions Act: Emissions Limit)
- California Air Resources Board (CARB) Mandatory Greenhouse Gas Reporting Regulation
- SCAQMD Air Quality Management Plan
- California Green Building Code (CALGreen)

Current Sustainability Programs

- Greener Path
- GHG Emissions and Air Pollution Reduction
- Rolling Hills Estates CAP and implementation strategies
- Clean Power Alliance

5,366
metric tons of CO2 emissions
are saved each year in Rolling Hills Estates by using renewable energy sources from CPA.

This is equal to:

Greenhouse gas emissions from
1,167
passenger vehicles driven for one year, or
13,485,820
miles driven by an average passenger vehicle

CO2 emissions from
603,803
gallons of gasoline consumed, or
975
homes' electricity use for one year, or
652,734,441
smartphones charged

Greenhouse gas emissions avoided by
203,377
incandescent bulbs switching to LED

Carbon sequestered by
88,728
tree seedlings grown for 10 years

Table 9-2 GHG Emissions Reductions Targets

Year	Actual GHG Emissions Levels in MT CO2e	State Reduction Targets in MT CO2e	City Reduction Targets in MT CO2e
1990	427 million MT net emissions in California[1]	[AB 32 Baseline]	
2005	81,163 MT in City of Rolling Hills Estates[2]		[2017 CAP Baseline] [2]
2012	71,902 MT in City of Rolling Hills Estates (an 11.4% decrease from 2005)[2]		
2020		427 million MT CO2e net emissions in California (AB 32 target: 1990 levels)[3]	68,988 MT in City[2]
2030		256.2 million MT CO2e net emissions in California (SB 32 target: 40% below 1990 levels)[2]	
2035			41,393 MT in City[2]
2050		85.4 million MT CO2e net emissions in California (Executive Order S-3-05 target: 80% below 1990 levels)[2]	13,798 MT in City
2050			80% below 1990 levels (35,607 based on 2011 inventory calculations,2 or 13,688 based on 2017 CAP)[2]

Note: MT CO2e: Metric tons carbon dioxide equivalent

Sources:

[1] California Environmental Protection Agency Air Resources Board. November 16, 2007. Staff Report: California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit. Available at: https://ww3.arb.ca.gov/cc/inventory/pubs/reports/staff_report_1990_level.pdf

2 South Bay Cities Council of Governments. December 2017. City of Rolling Hills Estates Climate Action Plan. Table 3: Rolling Hills Estates Community-Wide GHG Emissions by Sector from 2005 and 2012; Table 5: City of Rolling Hills Estates - State-Aligned Municipal GHG Reduction Targets - Appendix A. Available at: https://www.southbaycities.org/sites/default/files/RHE%20CAP.pdf

3 State of California. Approved September 27, 2006. Assembly Bill No. 32. An act to add Division 25.5 (commencing with Section 38500) to the Health and Safety Code, relating to air pollution. Available at: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200520060AB32

Pillar 2: Energy

Energy Consumption: Energy use in Rolling Hills Estates consists of natural gas (Southern California Gas Company) and electricity (Clean Power Alliance [95.4%] and Southern California Edison, or SCE [4.6%]). In 2012, before the City began participating in CPA in 2018, buildings and facilities accounted for 59% of the City's GHG emissions, and the City's electricity use accounted for approximately 11% of total municipal GHG emissions.[16] Of the 71,902 MT CO2e of GHG emissions in Rolling Hills Estates in 2012, residential energy use accounted for approximately 62% and electricity and natural gas use in the City accounted for approximately 47% of the total community GHG emissions. As of a January 2018 Existing Conditions Report, overall community energy use in the City is declining, with the exception of commercial natural gas consumption, showing an overall decrease in electricity use (Table 9-3, City Energy Use, 2005, 2012, and 2020).

Energy Efficiency Programs: To date, the City has implemented and maintained various energy efficiency strategies. The City adopted the Sierra Club's Cool Cities Program in 2007, committing the City to reduce their carbon footprint and work towards a greener and more sustainable city.[17] This program focused on reducing CO2 pollution to a level at least 7% below 1990 levels by 2012. The City has converted all City-owned traffic signals from incandescent to energy-efficient LED, a 90% energy savings. As of June 21, 2021, 94.5% of energy users in the City, including 94.1% of residential and 96.8% of commercial accounts (including municipal accounts), are participating in the CPA's 100% Green Power program. Green power sources provided by CPA in 2019 include solar power (89.6%), wind power (9.4%), and biomass and biowaste (1%).

For its efforts, the City has been recognized by SBCCOG through the Energy Leadership Partnership with SCE.[18] This partnership program seeks to incentivize cities to achieve measurable energy savings and promote planning for energy efficiency. Similarly, the Beacon Award Partnership program, sponsored by the Institute for Local Government and the Statewide Energy Efficiency Collaborative (SEEC), recognized the City for achieving Silver, Gold, and Platinum level of measurable reductions in GHG emissions and energy savings in 2015.

Current Programs and Regulations

- Clean Power Alliance (CPA)
- Sierra Club Cool Cities Program
- CALGreen

Programs and Regulations in Development

- Pilot project for Certified Green Zone city parkland: American Green Zone Alliance (AGZA) memorandum of understanding (MOU) to certify Howlett Park as a Certified Green Zone (no two-stroke engine/gasoline powered landscape maintenance equipment)

16 City of Rolling Hills Estates. January 2018. Rolling Hills Estates General Plan 2040: Existing Conditions Report.
17 South Bay Cities Council of Governments. 2017. Climate Action Plan: City of Rolling Hills Estates. Available at: https://www.southbaycities.org/sites/default/files/RHE%20CAP.pdf
18 South Bay Cities Council of Governments. 2017. Climate Action Plan: City of Rolling Hills Estates. Available at: https://www.southbaycities.org/sites/default/files/RHE%20CAP.pdf

Table 9-3 City Energy Use, 2005, 2012, and 2020

Year	City GHG Emissions Levels in MT CO2e	Community Energy Use in KWh or Therms	Municipal Energy Use in KWh or Therms
2005[1]	**Total**: 81,163 **Community**: 36,757 **Municipal**: 107	**Electricity**: Commercial/Industrial: 41,912,886 Residential: 29,656,674 **Natural Gas:** Commercial/Industrial Use: 547,972 Residential Use: 2,275,711	**Electricity**: Buildings & Facilities: 171,653 SCE Outdoor Lights: 4,584 City Outdoor Lights:174,285 Irrigation: 4,127 **Natural Gas:** 0
2012[1]	**Total**: 71,902 **Community**: 34,751 **Municipal**: 82	**Electricity**: Commercial/Industrial: 33,201,397 (decrease) Residential: 28,804,211 (decrease) **Natural Gas:** Commercial/Industrial Use: 567,827 (increase) Residential Use: 2,086,327 (decrease)	**Electricity**: Buildings & Facilities: 148,425 (decrease) SCE Outdoor Lights: 4,584 City Outdoor Lights: 103,060 (decrease) Irrigation: 1,186 (decrease) **Natural Gas:** 0
2020[2]	**Total**: Approximately 20,500 based on similar natural gas consumption to 2012 levels **From Electricity**:[2] 6,462	**Total Electricity Consumption**: 50,896,910 (decrease)	

Note: MT CO2e: Metric tons carbon dioxide equivalent. KWh: Kilowatt-Hour.

Sources: 1City of Rolling Hills Estates. January 2018. "Rolling Hills Estates General Plan 2040: Existing Conditions Report." Tables 5-8 and 5-9.

2 Clean Power Alliance. June 16, 2021. City of Rolling Hills Estates Net Greenhouse Gas Emissions from CPA Versus SCE. Electricity consumption is based on CPA retail sales, 2020.

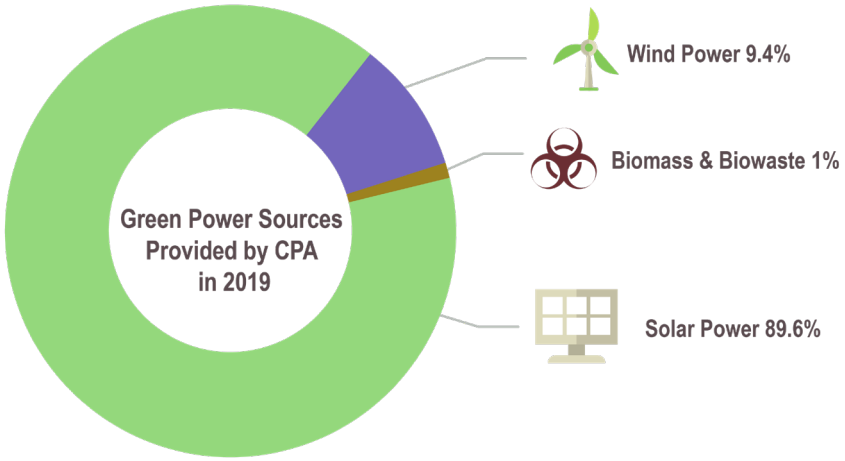
- Accessory Dwelling Unit (ADU) program with pre-approved, net zero ADU plans that will be available for the public to use, free of charge

Current Sustainability Programs

- Greener Path
- Clean Power Alliance
- Energy Efficiency
- Citywide Resources

Pillar 3: Water Resources

Water Resources: As stated in the Conservation Element, water resources in Rolling Hills Estates consist of surface waters, a small portion of the West Coast Subbasin of the Coastal Plan of the Los Angeles Groundwater Basin, and imported water from the West Basin Municipal Water District (WBMWD), a member agency of Metropolitan Water District of Southern California (MWD).[19] MWD owns and maintains the 1,100-acre-feet Palos Verdes Reservoir



19 City of Rolling Hills Estates. January 2018. Rolling Hills Estates General Plan 2040: Existing Conditions Report.

near the eastern edge of the City. The City is located within the Palos Verdes District, which does not use groundwater as a water supply source.[20] California Water Service Company (Cal Water) purchases imported water from MWD to serve the Palos Verdes area, which includes the cities of Palos Verdes Estates, Rolling Hills, Rolling Hills Estates, Rancho Palos Verdes, and a portion of Lomita.[21] Based on the vulnerability assessment that was conducted for the 2019 Sub-regional CAP in September 2019, annual precipitation in the City has averaged 12.8 inches from 1961 to 1990, with more frequent storms occurring during El Niño winters. Most of the imported water used in the City ultimately comes from snowmelt that originates in the Sierra Nevada mountain range, which is expected to continue to decline as a result of reduced winter precipitation levels and warmer temperatures.

Although no recycled water is currently being distributed to the Palos Verdes service area, the WBMWD plans to provide recycled water to the Palos Verdes District service area from the Edward C. Little Water Recycling Facility, which has the potential to deliver nearly 70,000 acre-feet per year of tertiary treated recycled water when fully constructed.[22] Palos Verdes Golf Course, which is located 0.1 mile northwest of the City of Rolling Hills Estates, is slated to be irrigated with recycled water starting in 2030.

Water Conservation Programs: As the City imports approximately 75% of its fresh water supply, the City has taken steps to decrease their reliance on imported water by investing more aggressively in local water sources including groundwater (19%) and recycled water (6%).[23] To date, the City of Rolling Hills Estates has implemented and maintained various water conservation strategies. The City Council adopted the Ahwahnee Water Principles for Resource-Efficient Communities Program, which emphasizes principles that indicate stewardship actions that cities and counties can take to reduce costs and improve the reliability and quality of water resources, such as low-flow toilets, dual plumbing, and community design techniques to maximize efficient use of resources, all of which have been included in the City's regulations[24] . In addition to this, the City uses the Water Conservation and Water Shortage Management Plan to increase water conservation planning, promote water use efficiency, and provide regulations to be implemented during times of declared water shortages and the Water Efficient Landscaping Ordinance (No. 658) to provide design guidance and maintenance practices for any new landscaping to be designed to conserve water.[25] The City's Stormwater Pollution and Urban Runoff Pollution Control (City Ordinance No. 698) implements the

20 California Water Service. Updated August 2016. Service Area Map for Palos Verdes District. Available at: https://www.calwater.com/docs/rates/maps/PV_SAM_2016.pdf (accessed June 29, 2021).
21 California Water Service. N.d. District Information. Available at: https://www.calwater.com/district-information/?dist=rd (accessed March 1, 2021).
22 California Water Service. June 2021. Draft 2020 Urban Water Management Plan: Palos Verdes District. Prepared by EKI Environment & Water, Inc., M.Cubed, and Gary Fiske and Associates.

23 2010 Urban Water Management Plans. The complete list of UWMPs is available from the California Department of Water Resources. Retrieved from http://www.waterhub.ucla.edu/watersources.html
24 South Bay Cities Council of Governments. 2017. Climate Action Plan: City of Rolling Hills Estates. Available at: https://www.southbaycities.org/sites/default/files/RHE%20CAP.pdf
25 ibid.

Clean Water Act, the Porter-Cologne Water Quality Control Act, and the City's municipal NPDES permit towards protection of water quality and stormwater retention and filtration on-site for new development. In 2015, the City adopted a Green Street Policy (Resolution No. 2339) to implement green street Best Management Practices (BMPs) as elements of street and roadway projects including public works capital improvement projects that provide water quality improvement, groundwater replenishment, attractive streetscapes, traffic calming, pedestrian and bicycle accessibility, reduction in the heat island effect, and creation of linear or pocket parks.

Current Programs and Regulations

- Ahwahnee Water Principles for Resource-Efficient Communities Program
- Water Conservation and Water Shortage Management Plan
- Water Efficient Landscaping Ordinance (No. 658)
- CALGreen
- Assembly Bill 715 (low-flush toilets and urinals)
- Senate Bill 407 (plumbing fixture standards)
- Water Conservation Act of 2009 (Senate Bill X7-7)

City water from snowmelt in the Sierra Nevadas is **EXPECTED TO DECLINE** as a result of reduced winter precipitation and warmer temperatures

Current Sustainability Programs

- Greener Path
- Stormwater Pollution and Urban Runoff Pollution Control (City Ordinance No. 698)
- Water Conservation
- Citywide Resources
- Metropolitan Water District
- West Basin Municipal Water District
- Water Saver Home
- California's Water Conservation
- Rainwater Harvesting Guide
- Green Street Policy (Resolution No. 2339)

Pillar 4: Quality of Life

Rolling Hills Estates has a peaceful quality of life away from major noise sources, including neighboring freeways, with a history of development within the City demonstrating a commitment to a high quality of life through its coastal adjacent, semi-rural character, providing quality community and visitor serving parks and recreation opportunities, schools, community facilities, and public safety services.[26] Similar to surrounding communities, Rolling Hills Estates has a population of primarily high-income residents with higher levels of education. In addition, the City is in close proximity to the employment clusters; however, expansion of industry and thus employment offerings within the city, are limited to areas designated for commercial use and within the City's Mixed-Use overlay.

Population Characteristics: According to the most recent local profile from SCAG, in 2018, the City had a population of 8,111 (Table 9-4, *2018 Population Statistical Summary for Rolling Hills*

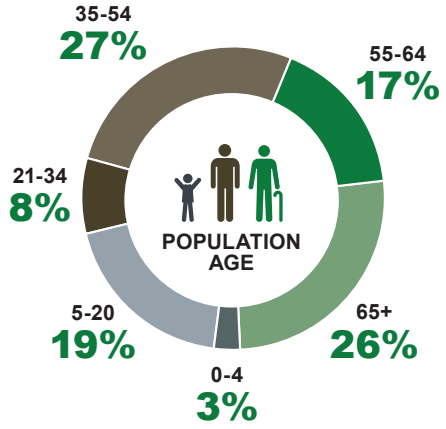
26 City of Rolling Hills Estates. January 2018. Rolling Hills Estates General Plan 2040: Existing Conditions Report.

Estates).[27] From 2000 to 2018, the population increased by 435, at a growth rate of 5.7%.

The population is primarily in the 35-54 (approximately 27%) and 65+ (26%) age groups, followed by the 5-20 age group (19%), 55-64 (17%), 21-34 (8%), and 0-4 (3%). Between 2000 and 2018, the 65+ age group increased by 663 people, while the 35-54 age group decreased by 26.8%.

The majority (approximately 74.9%) of the 3,101 housing units in the City are single-family detached homes, with 21.6% single-family attached, 2.3% multi-family, and 1.2% mobile homes. Approximately 55.5% of the existing housing stock was built before 1970, with the majority of the houses built between 1950 and 1979.

Parks, Recreation, and Community Health: The City is arranged within and atop natural hills and interlaced with canyon and open space areas, providing access to recreational open space opportunities. The City owns and maintains two public open spaces, eight parks, over 25 miles of trails, and 10 miles of bicycle paths.[28] [29] These parks provide passive and active recreational uses, athletic fields, and equestrian amenities. The recreation and open space accounts for approximately 56 acres of park space and 103 acres of open space, resulting in 7.0 park acres per 1,000 residents. This is well above the service standard of 4.0 park acres per 1,000 residents established in the Open Space and Recreation Element of the City General Plan and the County average of 3.3 park acres per 1,000 residents.[30] [31] Overall, parks and recreation facilities account for approximately 20% of land uses in the City.[32] In addition, the City has plans to increase park acreage and improve existing parks. Thus, the City provides parks and recreational facilities to its residents to maintain a high quality of life.



Access to parks and recreation is an indicator of community health, and the City is well-served by parks and recreation facilities. Additionally, the presence of bicycle and equestrian infrastructure provides Rolling Hills Estates with alternatives to drive, which has a positive impact on community health. While some sections of the City do not have access to a public park within a ten-minute walk, private parks and recreation centers, as well as the network of equestrian trails, provide additional recreational opportunities. However, private facilities are not accessible to all residents. Expansion of public parks and recreation facilities should be done in areas without public parks within a ten-minute walk and should address gaps in the bicycle system.[33]

27 Southern California Association of Governments. May 2019. Profile of the City of Rolling Hills Estates. Local Profiles Report 2019. Available at: https://scag.ca.gov/sites/main/files/file-attachments/rollinghillsestates_localprofile.pdf?1606011190 (accessed February 25, 2021).
28 City of Rolling Hills Estates. January 2018. Rolling Hills Estates General Plan 2040: Existing Conditions Report.
29 City of Rolling Hills Estates. N.d. City Parks and Recreation. Accessed February 26, 2021. https://www.ci.rolling-hills-estates.ca.us/government/community-services/city-parks-facilities-trails
30 City of Rolling Hills Estates. 1992. 1992 Open Space and Recreation Element. In the 1992 General Plan. Accessed February 26, 2021. https://www.ci.rolling-hills-estates.ca.us/government/planning/general-plan
31 City of Rolling Hills Estates. January 2018. Rolling Hills Estates General Plan 2040: Existing Conditions Report.
32 ibid.
33 ibid.

Access to health foods also determines community health. The Silver Spur commercial corridor of the City, located along Silver Spur Road between Crenshaw Boulevard and Hawthorne Boulevard, is best served by grocery stores, whereas the northern portion is not well served. However, all grocery stores in the City are located within an approximately five-minute walking distance of bus stops.[34]

Noise: To maintain the quiet, semi-rural, residential atmosphere, the City limits noise sources within Rolling Hills Estates and enforces the noise ordinance regulating exterior noises, such as construction, industry, and commercial properties, and interior noise levels. Future development within the City is currently required to minimize noise from operations, traffic, and visitors as much as possible and design is to consider potential negative impacts on surrounding land uses, especially residential.

Schools, Community Facilities, and Public Safety Services: Convenient access to community facilities and services, including schools, fire and police stations, libraries, hospital/medical facilities, and cultural/community centers can also impact community members' health.

The City is served by the Palos Verdes Peninsula Unified School District (PVPUSD), one of the top school districts in the area. There two elementary schools, one intermediate school, and one high school operated by PVPUSD that fall within City limits, in addition to two private schools. PVPUSD has sufficient capacity to accommodate existing and project enrollment through the 2026-2027 school year. However, despite the quality of schools, they are not evenly distributed, and most students are not able to walk to school. The two public elementary schools and two private schools are located in the north portion of the City, limiting accessibility by students from the southern portion. The middle school is located in the southern portion, limiting accessibility by students from the northern portion. However, most schools are within a five-minute walk to a bus stop.[35]

Community facilities in Rolling Hills Estates include City administrative offices, a community center, and a library. The community center is scheduled to be demolished and combined with a Nature Center facility, and the library has plans to construct an annex to serve as an additional meeting space. Public safety services are provided to the residents of Rolling Hills Estates through contracts with the Los Angeles County Fire Department, with one fire station, and the Los Angeles County Sheriff's Department (LACSD), with the Lomita Station. The average police response time to the City of Rolling Hills Estates in 2016-2017 was 4.7 minutes for emergent response, 7.7 minutes for priority response, and 20.9 minutes for routine response, all of which fall below both the LACSD and the LACSD Lomita Station standards. Most community facilities and public services, including City Hall, the community center, the fire station, and the library, are within a five-minute walking distance from bus stops.[36]

The Los Angeles County Fire Department (LACoFD) provides fire protection services, including enforcement of defensible space requirements and fuel modification requirements under a contract with the City. As stated in the Safety Element, the entirety of the Rolling Hills Estates community is located in a Very High Fire

34 ibid.

35 City of Rolling Hills Estates. January 2018. Rolling Hills Estates General Plan 2040: Existing Conditions Report.
36 City of Rolling Hills Estates. January 2018. Rolling Hills Estates General Plan 2040: Existing Conditions Report.

Table 9-4 2018 Population Statistical Summary for Rolling Hills Estates

Category	Rolling Hills Estates	Los Angeles County
2018 Total Population	8,111	10,283,729
2018 Population Density	2,272 persons/square mile	2,518 persons/square mile
2018 Number of Housing Units	3,101	3,546,863
2018 Average Household Size	2.8	3.0
2018 Median Age (Years)	50.5	36.0
2018 K-12 Public School Student Enrollment	3,413	1,482,258
Race/Ethnicity		
2018 Non-Hispanic White	53.0%	26.5%
2018 Non-Hispanic Asian	30.6%	14.3%
2018 Hispanic	9.9%	26.5%
2018 All Other Non-Hispanic	4.6%	2.7%
2018 Non-Hispanic Black	1.9%	7.9%
2018 Non-Hispanic American Indian or Alaska Native	0.0%	0.2%
Socioeconomics		
2018 Median Household Income	$131,471	$61,015
2018 Homeownership Rate	93.0%	52.4%
2018 Median Existing Home Sales Price	$995,000	$597,500
2017 Number of Jobs	7,080	4,767,204
2017 Average Salary Per Job	$59,072	$66,037
Mobility		
2018 Drive Alone to Work	86.4%	73.7%
2018 Mean Travel Time to Work	30.6 minutes	30.9 minutes

Source: Southern California Association of Governments. May 2019. Profile of the City of Rolling Hills Estates. Local Profiles Report 2019. Available at: https://scag.ca.gov/sites/main/files/file-attachments/rollinghillsestates_localprofile.pdf?1606011190 (accessed February 25, 2021).

Hazard Severity Zone.[37] Climatic changes such as drought, extreme heat, and conversion to invasive species may exacerbate wildfire risk. Conversion to non-native grass habitat can increase fire risk because exotic grasses may be a more ignitable fuel source than native habitat. Wildfire is a risk to community health, from increased exposure to fine particles and smoke in the air to injury and loss of life and damage of structures and public infrastructure. Higher average temperatures, increased frequency of extreme heat days, and increased fire frequency can create new public health concerns, particularly for vulnerable residents with underlying conditions.

Employment and Housing: The population of the City has remained steady at approximately 8,000 people for the past three decades, even as Los Angeles County experienced fast growth, reflecting a stable and built-out community. The City's households have a median income nearly 2.5 times higher than the County,[38] with a median household income of $131,471 and a homeownership rate of 93% (please see Table 9-2).[39] The occupations of employed residents of the City are 90% white collar, compared to 60% Countywide. Rolling Hills Estates residents primarily work in public administration, food services, arts, and healthcare sectors, and they commute all over the County to key professional service clusters. A nearly equal number of people commute in and out of the City for work each day. However, it should be noted that only 3% of residents also work within the City. Rolling Hills Estates has limited opportunities for industry within the City, as the primary employment opportunities in the City are concentrated in retail, food, education, and professional services.[40]

Occupations of employed residents of the City are **90% WHITE COLLAR** compared to 60 percent countywide

37 California Department of Forestry and Fire Protection (CAL FIRE). September 2011. Very High Fire Hazard Severity Zones in LRA As Recommended by CAL FIRE. Rolling Hills Estates. Available at: https://osfm.fire.ca.gov/media/5841/rolling_hills_estates.pdf

38 City of Rolling Hills Estates. January 2018. Rolling Hills Estates General Plan 2040: Existing Conditions Report.

39 Southern California Association of Governments. May 2019. Profile of the City of Rolling Hills Estates. Local Profiles Report 2019. Available at: https://scag.ca.gov/sites/main/files/file-attachments/rollinghillsestates_localprofile.pdf?1606011190 (accessed February 25, 2021).

40 City of Rolling Hills Estates. January 2018. Rolling Hills Estates General Plan 2040: Existing Conditions Report.

City households have a **median income** nearly **2.5X HIGHER** than the County

and a **home ownership** rate of **93%**

Current Programs and Regulations

- SCAG Connect SoCal Plan

Current Sustainability Programs

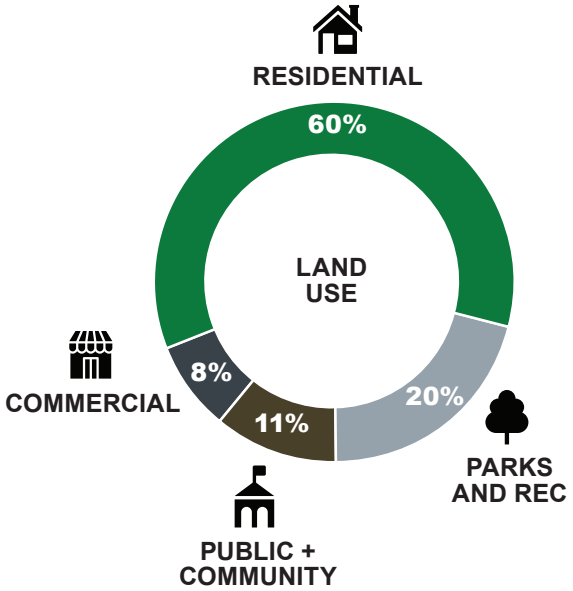
- Greener Path
- Solid Waste, Reuse, and Recycling
- Greenhouse Gas Emissions and Air Pollution Reduction
- Citywide Resources
- Equestrian & Horsekeeping - Best Management Practices
- Landscaping, Gardening & Pest Control - Best Management Practices
- Mobile Businesses - Best Management Practices
- Swimming Pool & Spa Maintenance
- LA County Smart Gardening
- South Bay Environmental Services Center

Pillar 5: Land Use

The City's primary goals related to land use include maintaining and enhancing the existing semi-rural character of the City and creating a greater mix of compatible uses within the City by retaining low-density housing to preserve the cultural and historic features, views, and aesthetic character of the City. The City aims to reduce development outside designated districts allowing for more homogeneous development within areas of the City to allow for preservation of such uses in each designated district. The City also aims to provide greater multi-modal connectivity to enhance the City's existing equestrian and trail system and to integrate historic and equestrian uses while providing connectivity from business and mixed-use districts to residential areas through trail extension serving pedestrians, bicyclists, transit users, and equestrian users. The quarry and country club properties have been redeveloped to accommodate 114-single-family residential units. There are little to no developable vacant and underutilized land for redevelopment opportunities remaining within the residential areas. However, the commercial district has potential for multi-family development opportunities near the commercial core that would aid in meeting future housing demands for the City.

Community Character: The City is bounded on the north by the cities of Torrance and Palos Verdes Estates, on the east by Lomita, unincorporated areas of Los Angeles County and Rolling Hills, and on the south and west by Rancho Palos Verdes. The elevation of the City of Rolling Hills Estates ranges from 300 to 1,200 feet above sea level.[41] The area is characterized by rough rolling terrain, canyons, and gullies. Portions within individual lots have also been left undeveloped due to the need for extensive grading

41 City of Rolling Hills Estates. 1992 Land Use Element. In the 1992 General Plan. Accessed February 26, 2021. https://www.ci.rolling-hills-estates.ca.us/government/planning/general-plan



and other measures that would otherwise be needed to make the land suitable for development. The majority of the City is located on the north and northeast-facing slopes of the hills. The land features rough terrain with canyons, winding roads, and lush vegetation. Slopes range from 7% to 25%, with the steepest slopes near Silver Spur and Indian Peak Roads.[42] Steep slopes, within urbanized areas, have remained undeveloped. Streets conform with the contours of the hillsides, result in curvilinear neighborhood street patterns.[43]

42 ibid.
43 City of Rolling Hills Estates. January 2018. Rolling Hills Estates General Plan 2040: Existing Conditions Report.

Rolling Hills Estates is primarily a low-density residential community composed of distinct neighborhood units. Each neighborhood in Rolling Hills Estates has a unique design, feel, and character.[44] Developed areas are predominantly low density residential in nature with very few undeveloped parcels remaining in the City. The Land Use Element of the General Plan states that the overall density of development in the City is low and ranges from 1 to 3 units per acre.[45] The one area of the City where higher intensity development is found is located along Silver Spur where the Peninsula Center is located. Both higher density residential development and a regional commercial retail center are located there.

Rolling Hills Estates has several distinct neighborhood units, each of which have different lot sizes and street patterns. Urban form in Rolling Hills Estates varies from neighborhood to neighborhood. Most residential streets end in cul-de-sacs, meaning there is little connectivity between various neighborhoods. Urban form is determined in large part by the neighborhood unit, and community members associate strongly with their neighborhoods. Though not all residents of the City are equestrians, many neighborhoods were designed with equestrians in mind. In some neighborhoods with equestrian uses, proximity to equestrian trails greatly impacts neighborhood form.[46]

The City was founded as a semi-rural equestrian community, and though it has since been developed, it retains much of this original character.[47] A network of equestrian trails and equestrian

44 ibid.
45 City of Rolling Hills Estates. 1992 Land Use Element. In the 1992 General Plan. Accessed February 26, 2021. https://www.ci.rolling-hills-estates.ca.us/government/planning/general-plan
46 City of Rolling Hills Estates. January 2018. Rolling Hills Estates General Plan 2040: Existing Conditions Report.
47 ibid.

facilities provide a major recreational resource for residents, with nearly as many miles of horse trails (25 miles) as city streets (30 miles).[48] The 2018 Existing Conditions Report states that Rolling Hills Estates' equestrian identity reverberates throughout the community and plays a significant role in urban design and placemaking, and that community members cherish the city's unique equestrian identity.[49] The comprehensive system of trails connects equestrians to most parts of the city.

General Plan and Zoning Land Use Designations: The Land Use Element of the General Plan designates the type of development that is permitted in specific areas of the City with standards for development intensity and population density. The Land Use Element of the General Plan consists of ten categories of land use that are described in the element and shown on the General Plan Map. Four of the land use designations relate to commercial development, four categories correspond to residential development, and a single category each provides for institutional and open space.[50] It is important to note that the Land Use Element represented the strategy for land use development through 2020; however, it does not accurately reflect the land uses that exist within the City in 2021.

The Comprehensive Zoning Ordinance of the City of Rolling Hills Estates is the primary implementation mechanism for the General Plan Land Use Policy and the land uses designated in the Land Use Element. The zoning ordinance regulates all development in the City by designating areas where specific land uses are allowed and is very specific in that every parcel of land in the City is assigned a zone district designation. The zoning districts implement the General Plan land use designations and include a total of ten General Plan and Zoning Land Use Designations (Table 9-5, General Plan and Zoning Land Use Designations), although the zoning districts are not limited to those listed in Table 9-5.[51]

The General Plan provides Overlay Designations, which identify additional development standards that must be considered in future planning and development. These overlay designations indicate additional development requirements above and beyond those included in the base General Plan land use designations and zone districts. There are eight overlay designations included in the City of Rolling Hills Estates Land Use Element including the Cultural Resources Overlay, Horse Overlay, Scenic Corridor Overlay, Parks Development Overlay, Ecological Resource Overlay, Multi-use Trail Overlay, Hazards Management Overlay, Mixed-Use Overlay.[52]

Existing Use of Land: Residential is the most common land use in the City and accounts for approximately 60% of the land uses. In addition, parks and recreational facilities comprise approximately 20% of land uses in the City with public and community facilities comprising of approximately 11% of all land uses, and commercial land uses totaling approximately 8% of the land uses in the City. Vacant areas in the City are very limited and comprise less than 1% of the land uses. Most neighborhoods consist of single-family residential development with a few neighborhoods of single family attached/townhomes or multi-family residential development. Most commercial land uses are located along Silver Spur Road, forming the community's primary retail and office corridor, with other commercial uses located through the city.

48 ibid.
49 ibid.
50 City of Rolling Hills Estates. 1992 Land Use Element. In the 1992 General Plan. Accessed February 26, 2021. https://www.ci.rolling-hills-estates.ca.us/government/planning/general-plan
51 City of Rolling Hills Estates. 1992 Land Use Element. In the 1992 General Plan. Accessed February 26, 2021. https://www.ci.rolling-hills-estates.ca.us/government/planning/general-plan
52 ibid.

Table 9-5 General Plan and Zoning Land Use Designations

General Plan Designation	Zone District	Description of Land Use
Estate Density & Very Low Density Residential (111 acres total)	RAE	Single-family detached residential units with a maximum density of 1 unit per 5 acres or 1 unit per acre and a population density of 3 persons per acre.
Low Density Residential (822 acres)	RA – 20,000, RPD	Single-family detached residential with a maximum density of 2 units per acre and a population density of 6 persons per acre
Medium Density Residential (184 acres)	RA - 10,000, RA - 15,000, and RPD	Single-family detached residential with a maximum density of between 2-4 units per acre, depending on applicable zone district. Population density ranges from 6 to 11 persons per acre.
High Density Residential (93 acres)	RPD	Multiple-family attached residential development with a maximum density of 8 units per acre and a population density of 22 persons per acre.
Commercial General (98 acres)	C-G: Commercial General	Retail Commercial with a maximum floor area ratio of 3 to 1.
Commercial Office (15 acres)	C-O: Commercial Office	Professional and administrative office uses with a maximum floor area ratio of 1 to 1.
Neighborhood Commercial (7 acres)	C-L: Commercial Limited	Business and professional services and retail with a maximum floor area ratio of 4 to 1.
Commercial Recreation (264 acres)	C-R: Commercial Recreation	Archery ranges, tennis courts, equestrian facilities, riding dubs, golf courses, and country dubs with a maximum floor area ratio of 0.25 to 1.
Open Space (100 acres)	No corresponding zone	
Institutional (342 acres)	I: Institutional	Schools, churches, and other public institutional uses with a maximum floor area ratio of 0.75 to 1.0.

Source: City of Rolling Hills Estates. 1992 "Land Use Element." In the 1992 General Plan. Accessed February 26, 2021. https://www.ci.rolling-hills-estates.ca.us/government/planning/general-plan

A substantial amount of development has occurred in Rolling Hills Estates through December 2017, including the Rolling Hills Country Club and various senior and mixed-use projects along Silver Spur Road.[53] However, there is little developable vacant and underutilized land in most parts of the City because it has been primarily developed.[54] Changes in land use are less likely to come from development and more likely to focus on strengthening existing assets, such as updating or redeveloping existing office spaces, and considering changing land use designations and development regulations in order to attract investment that best responds to the community's needs and priorities.[55] Additionally, while Rolling Hills Estates currently has a strong single-family housing market, with limited land for new development, future

53 City of Rolling Hills Estates. January 2018. Rolling Hills Estates General Plan 2040: Existing Conditions Report.
54 City of Rolling Hills Estates. 1992 Land Use Element. In the 1992 General Plan. Accessed February 26, 2021. https://www.ci.rolling-hills-estates.ca.us/government/planning/general-plan

55 City of Rolling Hills Estates. January 2018. Rolling Hills Estates General Plan 2040: Existing Conditions Report.

housing demand may be met by denser, multi-family development near the commercial core on Silver Spur Road where opportunity sites still exist. A nearly equal number of people commute into and out of Rolling Hills Estates for work each day, while only 3% of Rolling Hills Estates residents also work in the City.[56]

Current Programs and Regulations

- Comprehensive Zoning Ordinance of the City of Rolling Hills Estates
- SCAG Connect SoCal Plan
- Ahwahnee Water Principles for Resource-Efficient Land Use

Current Sustainability Programs

- Greener Path

56 City of Rolling Hills Estates. January 2018. Rolling Hills Estates General Plan 2040: Existing Conditions Report.

Pillar 6: Mobility

According to the most recent local profile from SCAG, from 2000 to 2010, the transportation mode choice for individuals who traveled to work by driving alone increased from 91% to 92%. Between 2010 and 2018, that percentage decreased to 86%, with 4% of the commuters carpooling, 1% using public transit, and the remaining 8% using other transportation modes, either by bicycling or walking to work or eliminating their commute with home-based employment.[57] From 2000 to 2018, there has been no change in public transit use (1%), a slight decrease in carpooling (7% to 4%) and an increase of 7% for other transportation modes (1% to 8%). Between 2000 and 2018, the average travel time to work decreased by approximately 4 minutes. Approximately 77.7% of households own two or more vehicles.

Access: The existing transportation facilities in the City include a public transportation system, bicycle facilities, pedestrian facilities, equestrian facilities, and a road network with public parking. In 2015, the City adopted a Green Street Policy (Resolution No. 2339) to implement green street BMPs as elements of street and roadway projects including public works capital improvement projects that provide water quality improvement, groundwater replenishment, attractive streetscapes, traffic calming, pedestrian and bicycle accessibility, reduction in the heat island effect, and creation of linear or pocket parks

Public Transportation System. Three different public transit agencies provide service to and within the City of Rolling Hills Estates: Metro, the Los Angeles Department of Transportation

57 Southern California Association of Governments. May 2019. Profile of the City of Rolling Hills Estates. Local Profiles Report 2019. Available at: https://scag.ca.gov/sites/main/files/file-attachments/rollinghillsestates_localprofile.pdf?1606011190 (accessed February 25, 2021).

(LADOT), and the Palos Verdes Peninsula Transit Authority (PVPTA). Metro Line 344 connects to the Harbor Gateway Transit Center, where customers can then access Downtown Los Angeles and San Pedro via the Metro Silver Line. LADOT also provides service to Downtown Los Angeles via a Commuter Express route that operates only during the morning and evening peak hours. PVPTA provides more localized weekday-only service with routes and stops throughout the Palos Verdes Peninsula. There are no SCAG-defined High-Quality Transit Areas within Rolling Hills Estates.

Bicycle Facilities. The approximately 10 miles of designated bikeway facilities within the City of Rolling Hills Estates are concentrated on heavily-trafficked arterial roadways (Figure 9-2, 2017 Bicycle Facilities). There is a Class II on-street bicycle lane and a Class I off-street shared-use path (part of the multi-use path) along Palos Verdes Drive North. There is a bike lane along Palos Verdes Drive East that extends south from Palos Verdes Drive North to the southern city limit. In the southwestern portion of the city, there are bike lanes along Crest Road, Hawthorne Boulevard, and a short portion of Highridge Road. Class I shared-use paths are also present along Hawthorne Boulevard north of Palos Verdes Drive North and along Palos Verdes Drive North.

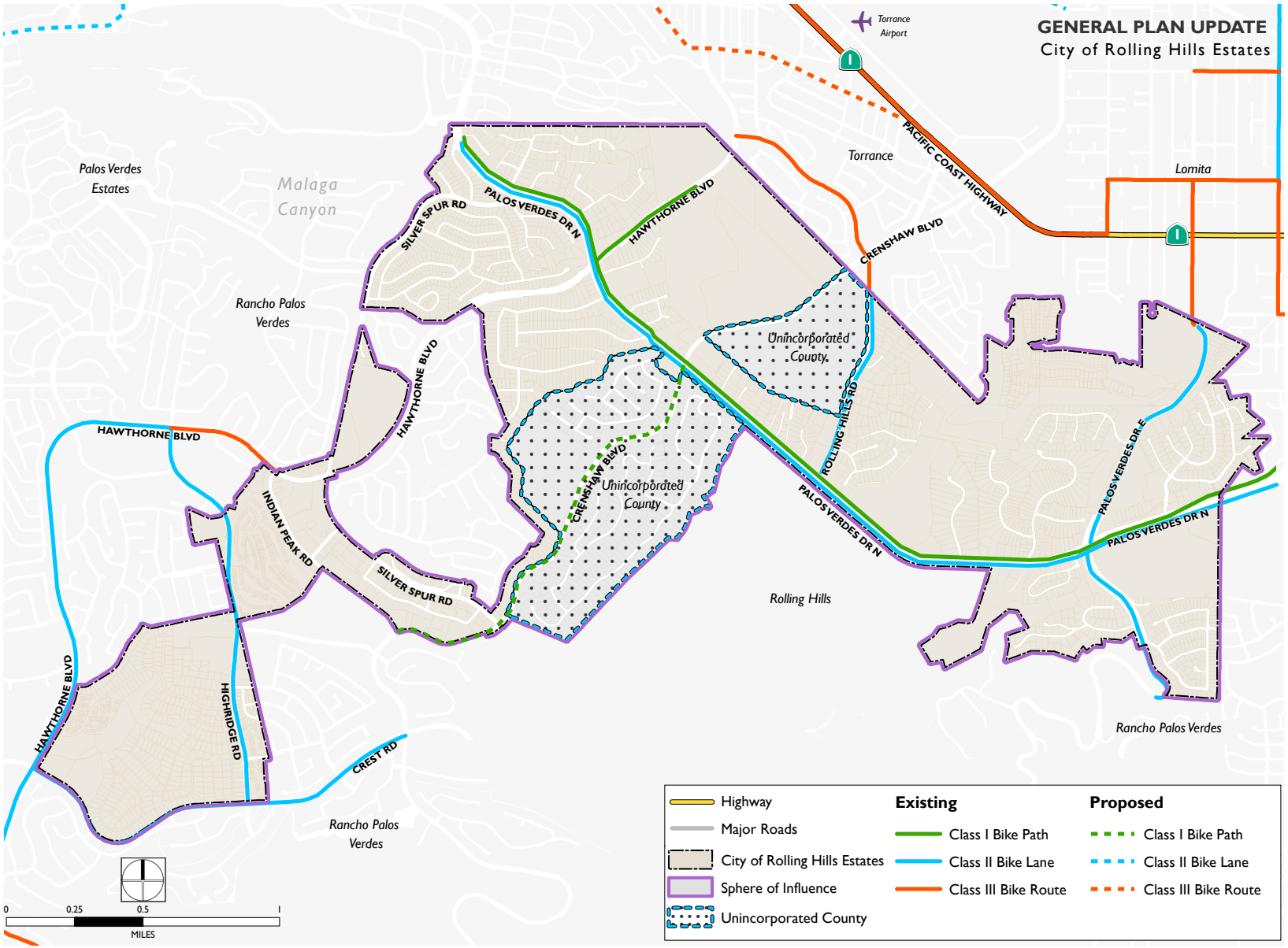
Pedestrian Facilities. Pedestrian facilities within Rolling Hills Estates primarily consist of sidewalks and pedestrian trails, though many residential streets lack sidewalks. Off-street multi-use trails provide pedestrian access along several major arterial roadways, where people walking share the space with equestrian users. Striped crosswalks are provided at signalized and some unsignalized intersections. There is a designated mid-block crossing on Palos Verdes Drive North, west of Academy Drive, that provides access to the Ranchview Multi-Use Trail.

Equestrian Facilities. Equestrian use is popular in Rolling Hills Estates, and the City has provided a significant number of staging, activity, and trail facilities for equestrians. There are over 25 miles of trails in the city that provide some level of access for people riding horses, in addition to the City-owned Peter Weber Equestrian Center. Some trails allow bicycle riders to share space with people riding horses and walking, while others are exclusively for people on foot and on horseback. Municipal riding rings are equipped with water spray systems for dust control, and dust control additives are applied periodically in riding rings to further reduce dust generation.[58]

Public Parking. Public parking lots in Rolling Hills Estates are located at the six public parks as well as at City Hall. Unrestricted on-street parallel parking is available throughout residential neighborhoods, except between 3:00 a.m. and 5:00 a.m. for anyone without a City-provided annual parking permit. Off-street parking is available at businesses and shopping centers, including covered parking garages at the Promenade and the Peninsula Shopping Center, at no cost to users. There are no designated park-and-ride facilities in Rolling Hills Estates, but there are park-and-ride lots in nearby Wilmington, San Pedro, and Carson for commuters who may be willing to carpool or use public transit for a portion of their work trip; the park-and-ride lot in Wilmington (at Pacific Coast Highway and Figueroa Street) provides access to Metro Silver Line express service to Downtown Los Angeles.

58 South Bay Cities Council of Governments. 2017. Climate Action Plan: City of Rolling Hills Estates. Available at: https://www.southbaycities.org/sites/default/files/RHE%20CAP.pdf

Figure 9-2 2017 Bicycle Facilities



Source: City of Rolling Hills Estates, 2017; Los Angeles County GIS Data, 2017; Dyett & Bhatia, 2017

DYETT & BHATIA Urban and Regional Planners

FEHR & PEERS

In 2018, **nearly half** of RHE commuters spent

MORE THAN 30 MINUTES

traveling to work

Usage: In 2018, 47.1% of Rolling Hills Estates commuters spent more than 30 minutes traveling to work.[59] Vehicle Miles Traveled (VMT) for Rolling Hills Estates residents are higher than the regional average for both daily work and recreational trips (Figure 9-3, 2017 VMT; Figure 9-5, 2012 VMT Compared to Regional Average, facing page).[60]

Counts/Volumes. Rolling Hills Estates residents use single-occupant vehicles for work commuting more than any mode of transportation (Figure 9-4, 2014 Commute Mode Choice). Other modes have low usage as compared to county, state, and national averages.[61] Rolling Hills Estates residents work from home at a higher rate as well, compared to county, state, and national averages. Between 2000 and 2018, the greatest change occurred in the percentage of individuals who traveled to work by other modes (work at home, walking, or biking); this share increased by 7.7 percentage points.[62] According to SCAG's 2019 "Profile of the City of Rolling Hills Estates", 22% of households in the city own one or no vehicles, while 78% of households own two (2) or more vehicles.[63]

59 Southern California Association of Governments. May 2019. Profile of the City of Rolling Hills Estates. Local Profiles Report 2019. Accessed February 25, 2021. Available at: https://scag.ca.gov/sites/main/files/file-attachments/rollinghillsestates_localprofile.pdf?1606011190
60 ibid.
61 ibid.
62 ibid.
63 ibid.

Figure 9-3 2017 VMT

	Home Based Work Trips	*Home Based Non-Work Trips*	*Non-Home Based Trips*	*Total Trips*
VMT per job	7.9	9.9	3.5	21.2
VMT per person	5.6	7.0	2.5	15.1

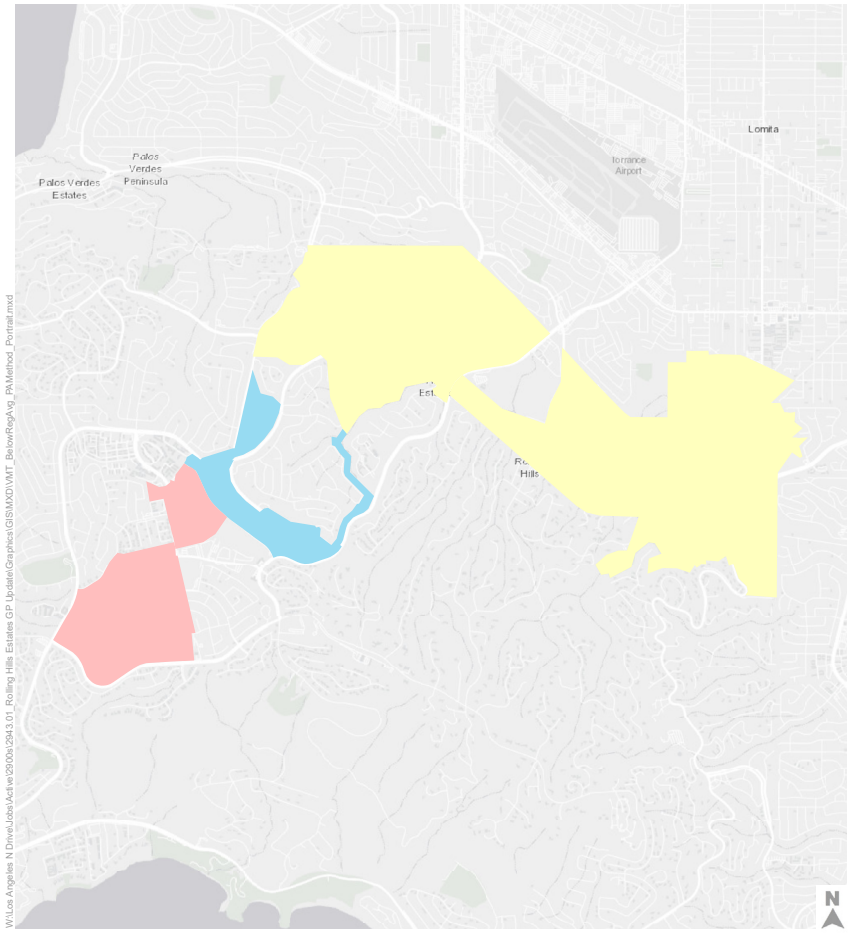
Source: Fehr & Peers, 2017

Figure 9-4 2014 Commute Mode Choice

Commute Mode Choice	*Rolling Hills Estates*	*Los Angeles County*	*California*	*United States*
Drive Alone	81.2%	72.6%	73.2%	76.4%
Carpool	6.7%	10.3%	11.1%	9.6%
Public Transportation	0.2%	7.0%	5.2%	5.1%
Walk	1.0%	2.9%	2.7%	2.8%
Taxicab, motorcycle, bicycle, or other means	0.9%	2.2%	2.5%	1.8%
Worked at home	9.9%	5.1%	5.3%	4.4%

Sources: ACS, 2014; Fehr & Peers, 2017

Figure 9-5 2021 VMT Compared to Regional Average



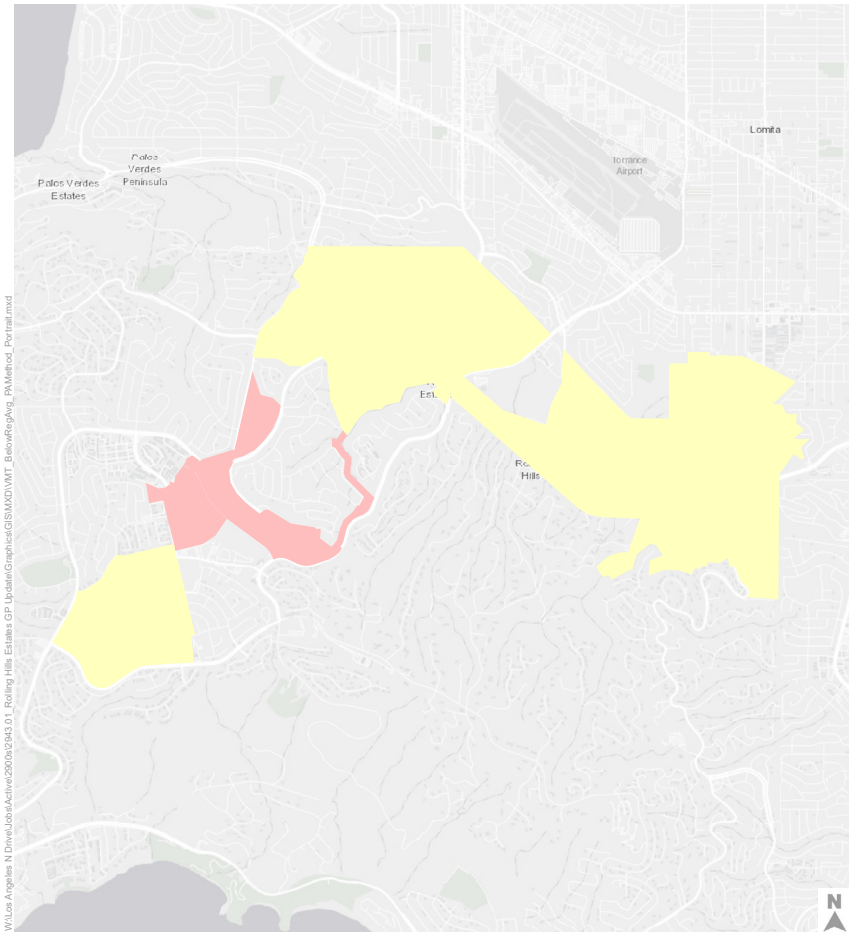
SCAG Model 2016 RTP

Figure 9

Low VMT Area Screening - Residential

Daily Residential Home Based VMT per Capita
Comparison to Citywide Average
2021 Baseline

< -15% below Citywide Average
0 to -15% below Citywide Average
Higher than Citywide Average



SCAG Model 2016 RTP

Figure 10

Low VMT Area Screening - Office

Daily Home Based Work VMT per Employee
Comparison to Citywide Average
2021 Baseline

0 to -15% below Citywide Average
Higher than Citywide Average

Traffic Volumes. A number of factors, including number of lanes, intersection operations, presence of driveways, heavy vehicle adjustment factor, and on-street parking generally determines roadway segment capacity. The analysis below applies the segment capacities obtained with counts collected in 2017 (Figure 9-6, *2017 Average Daily Traffic*).[64]

Pedestrian and Bicycle Counts. There are no recent citywide counts of people walking or bicycling.

Transit Service. The City of Rolling Hills Estates is served by three different transit providers: Metro, the Los Angeles Department of Transportation, and the Palos Verdes Peninsula Transit Authority (Figure 9-7, 2017 Transit Service Providers, page 9-35; Figure 9-8, 2017 Existing Transit Service, page 9-36). Peak hour service headways are relatively infrequent compared with more urban parts of Los Angeles County.

Safety: Between 2015 and 2019, 28 motor vehicle collisions involved people bicycling or walking. Of these, 27 involved a bicyclist while only 1 included a pedestrian, and 22 of these recorded collisions were located along Crenshaw Boulevard.

Figure 9-9 (page 9-37) shows the locations of crashes in and around Rolling Hills Estates between the years 2015 and 2019.

64 Source: Fehr & Peers, 2017.

Figure 9-6 2017 Average Daily Traffic

Roadway Segment	*ADT*
Silver Spur Road South of Kingspine Road	13,217
Palos Verdes Drive N west of Hidden Valley Road	18,391
Hawthorne Boulevard south of Rolling Hills Road	29,819
Hawthorne Boulevard south of Palos Verdes Drive N	29,530
Palos Verdes Drive N west of Crenshaw Boulevard	21,283
Crenshaw Boulevard north of Palos Verdes Drive N	26,264
Palos Verdes Drive N east of Eastvale Road	26,237
Rolling Hills Road north of Palomino Lane	9,829
Palos Verdes Drive E south of Club View Lane	10,587
Palos Verdes Drive N west of Strawberry Lane	33,192
Palos Verdes Drive E south of Palos Verdes Drive N	14,252
Hawthorne Boulevard between Indian Peak Rd & Silver Spur Road	30,814
Indian Peak Road south of Hawthorne Boulevard	7,264
Silver Spur Road north of Roxcove Drive	12,450
Crenshaw Boulevard north of Silver Spur Road	30,383
Highridge Road south of Country Lane	3,394

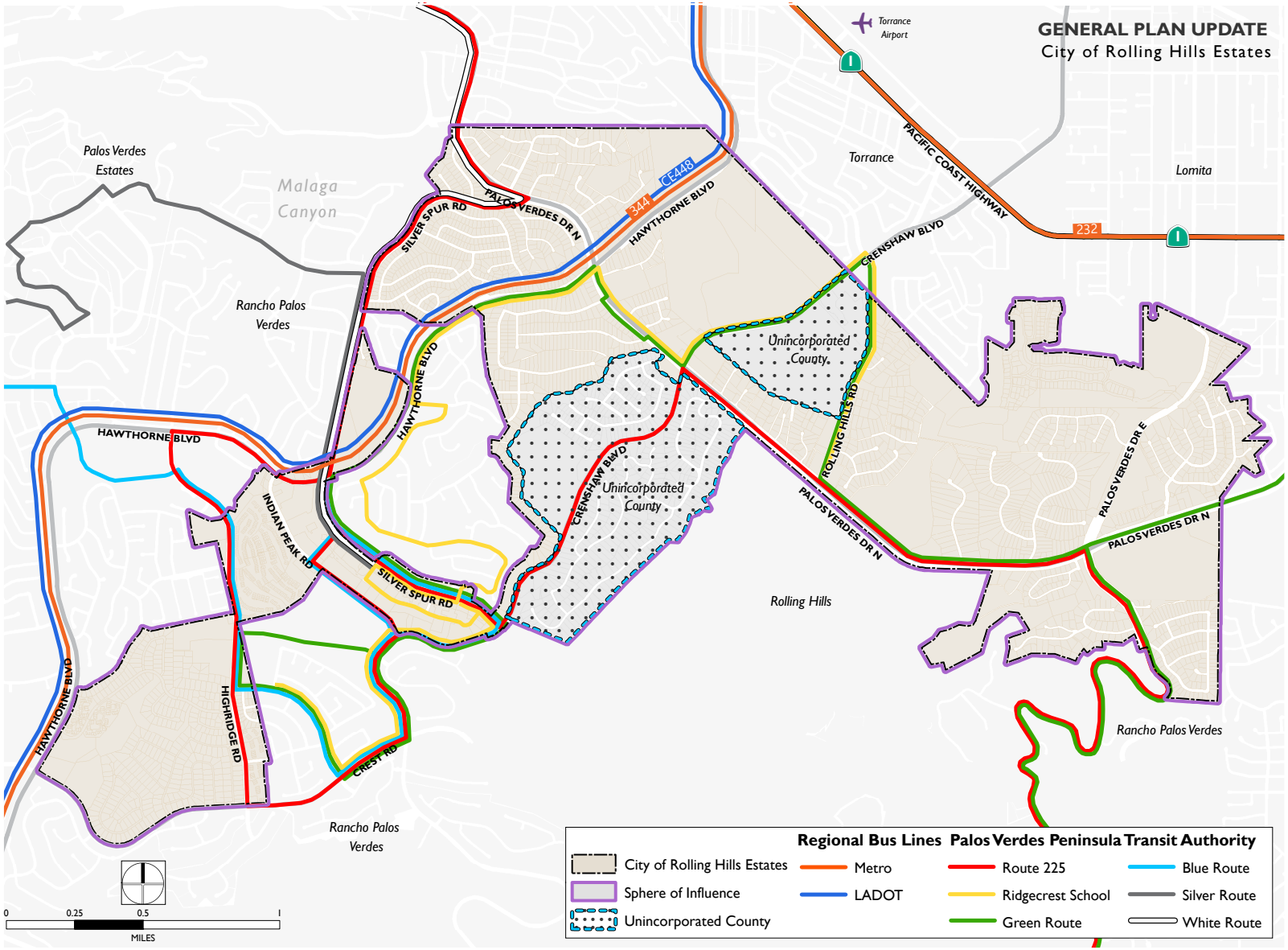
Source: Fehr & Peers, 2017

Figure 9-7 2017 Transit Service Providers

Transit Route	*Operator*	*Service Type*	*Service From*	*Weekday Headways*	
				AM	*PM*
344	Metro	Local	Ranchos Palos Verdes to Harbor Gateway	15-30 min	15-50 min
448	LADOT	Commuter Express	Rolling Hills Estates to Downtown Los Angeles	15-30 min	15-30 min
Ridgecrest	PVPTA	Shuttle	Rolling Hills Rd & Palos Verdes Drive N to Ridgecrest School	1 trip	60-75 min
225	PVPTA	Local	7th & Pacific to Palos Verdes & Via Valencia	40-60 min	40-60 min
Green	PVPTA	Local	Palos Verdes Library to Miraleste Plaza	15-30 min	15-40 min
Blue	PVPTA	Local	Palos Verdes Library to PV Intermediate School	10-15 min	10-15 min
Silver	PVPTA	Local	Palos Verdes Library to PV High School	90 min	60 min
White	PVPTA	Local	Palos Verdes Library to PV Intermediate School	35-45 min	20-70 min

Source: Fehr & Peers, 2017

Figure 9-8 2017 Existing Transit Service



Source: City of Rolling Hills Estates, 2017; Los Angeles County GIS Data, 2017; Dyett & Bhatia, 2017

DYETT & BHATIA Urban and Regional Planners

FEHR & PEERS

Figure 9-9 2015–2019 Collisions

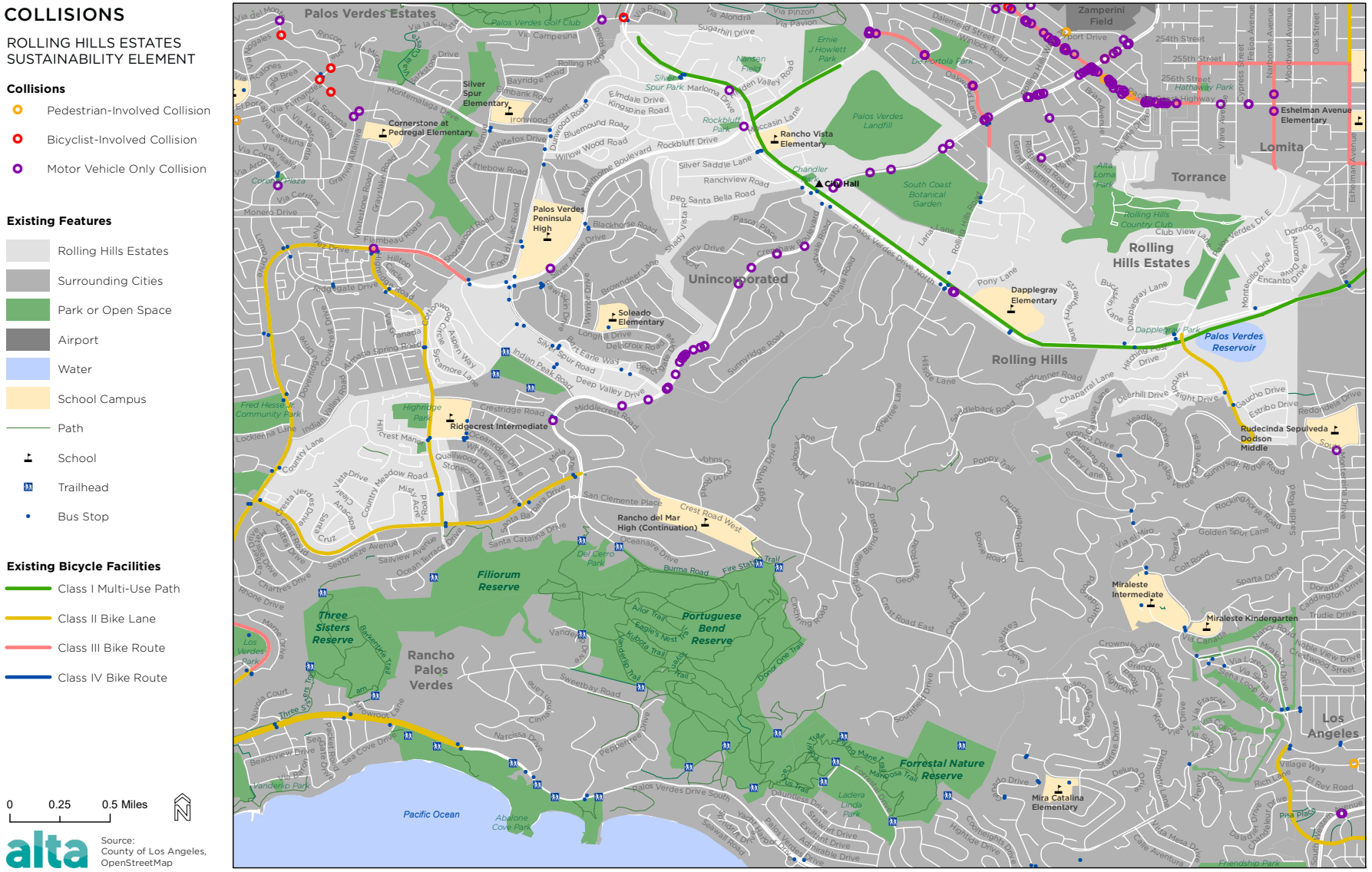


Figure 9-10 Silver Spur Road Sidewalk Project

Source: https://www.ci.rolling-hills-estates.ca.us/home/showpublisheddocument/12589/636220688432600000

Safe Routes to School Programs/Projects. The City applied for and received a state Safe Routes to School (SR2S) grant in the amount of $432,000 for the construction of a walking path on both sides of Silver Spur Road between Palos Verdes Drive North (PVDN) and Kingspine Road (Figure 9-10, Silver Spur Road Sidewalk Project, facing page). A portion of this SR2S grant was also used to fund the construction of the new crosswalk flashing beacon system adjacent to Rancho Vista Elementary School on Palos Verdes Drive North at Moccasin Lane. The Silver Spur Pedestrian Pathway Project and improvement to the Silver Spur Road and Marina Drive was approved by City Council in April of 2015 and has since been constructed.

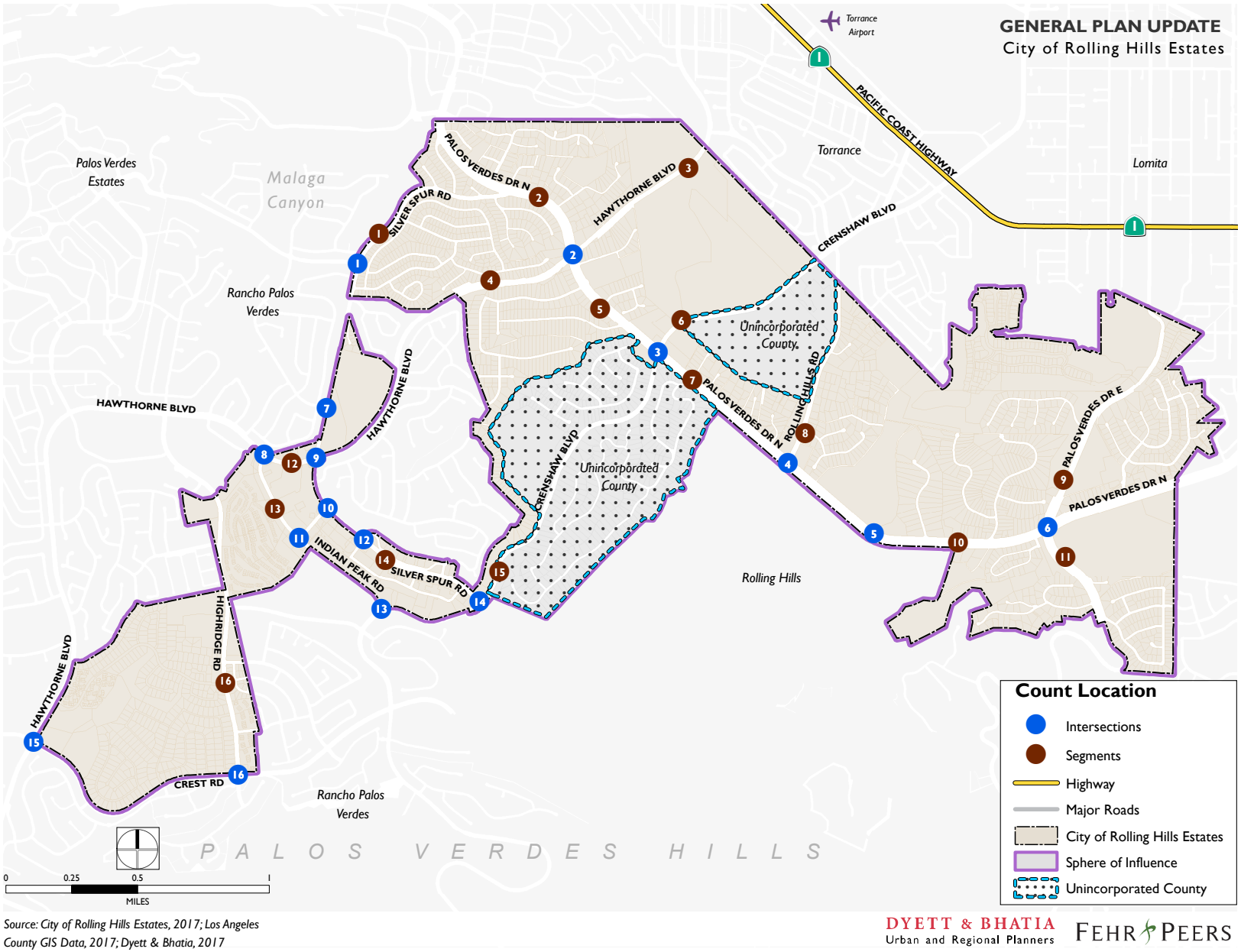
Figure 9-11 2017 Intersection Counts

N/S Street Name	*E/W Street Name*	*AM Peak Hour*		*PM Peak Hour*	
		V/C Ratio	*LOS*	*V/C Ratio*	*LOS*
Hawthorne Boulevard	Palos Verdes Drive N	0.846	D	0.664	B
Crenshaw Boulevard	Palos Verdes Drive N	0.738	C	0.737	C
Rolling Hills Road	Palos Verdes Drive N	0.840	D	0.909	E
Dapplegray Elementary School	Palos Verdes Drive N	0.896	D	0.944	E
Palos Verdes Drive E	Palos Verdes Drive N	0.725	C	0.708	C
Silver Spur Road	Montemalaga Drive	0.523	A	0.452	A
Silver Spur Road	Basswood Avenue	0.432	A	0.446	A
Silver Spur Road	Hawthorne Boulevard	0.668	B	0.717	C
Silver Spur Road	Norris Center Drive	0.350	A	0.469	A
Silver Spur Road	Drybank Drive	0.313	A	0.502	A
Silver Spur Road	Crenshaw Boulevard	0.681	B	0.786	C
Indian Peak Road	Hawthorne Boulevard	0.673	B	0.693	B
Indian Peak Road	Norris Center Drive	0.291	A	0.317	A
Indian Peak Road	Crenshaw Boulevard	0.571	A	0.533	A
Highridge Road	Crest Road	0.379	A	0.313	A
Hawthorne Boulevard	Crest Road	0.636	B	0.677	B

Source: Fehr & Peers, 2017

Traffic Stress & Congestion. Fehr & Peers collected intersection counts at 16 key intersections within the City in 2017 to assess operating conditions for vehicular traffic (Figure 9-11, 2017 Intersection Counts, Figure 9-12, 2017 Intersection Counts Map, page 9-40).

Figure 9-12 2017 Intersection Counts Map



Source: City of Rolling Hills Estates, 2017; Los Angeles County GIS Data, 2017; Dyett & Bhatia, 2017

DYETT & BHATIA Urban and Regional Planners

FEHR & PEERS

Figure 9-13 Community Emissions for 2005, 2007, 2010, and 2012

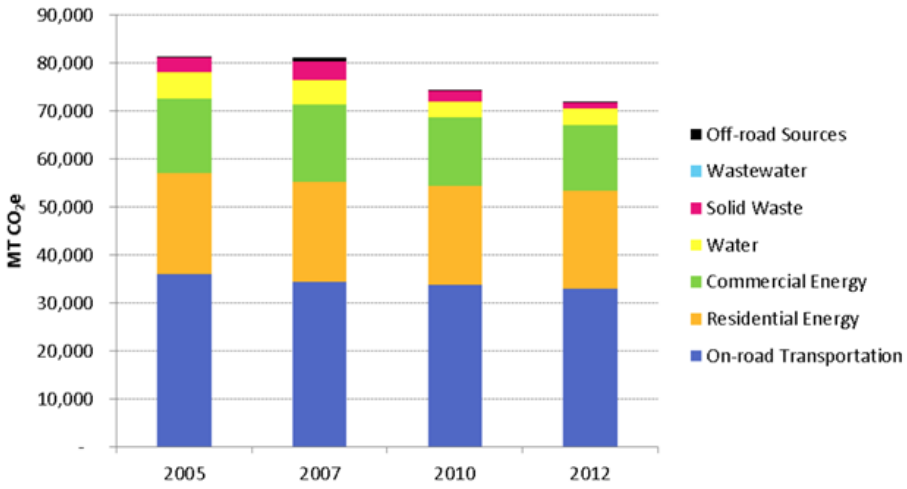


Figure 9-14 Community GHG Emissions by Sector for 2005 and 2012

Sector	2005 (MT CO_2e)	2012 (MT CO_2e)	% Change 2005 to 2012
On-road Transportation	35,916	33,040	-8.0%
Commercial Energy	15,647	13,636	-12.9%
Residential Energy	21,110	20,305	-3.8%
Solid Waste	3,084	1,369	-55.6%
Water	5,353	3,467	-35.2%
Off-road Sources	23	62	167.6%
Wastewater	30	23	-23.7%
Total	81,163	71,902	-11.4%

Sustainability: The share of municipal emissions from transportation related to employee commutes decreased between 2005 and 2012, but Fleet & Equipment-related emissions increased (Figure 9-13, Community Emissions for 2005, 2007, 2010, and 2012; Figure 9-14, Community GHG Emissions by Sector for 2005 and 2012).[65]

Vehicle Fleet Purchasing Policy. In order to improve the fuel efficiency of the City's vehicle fleet, low- or zero-emission vehicles (ZEVs) have been purchased as vehicles are retired from service.[66] In 2008, a new street sweeping contract was implemented that requires use of state-of-the-art equipment certified by the Air Quality Management District to reduce particulate air pollution emissions from paved roads by utilizing less-polluting vehicles and alternative fuel vehicles. The City continues to implement this program by replacing its vehicle fleet with compressed natural gas (CNG) vehicles. Additionally, the City's solid waste collection frequency contracted with Waste Management (trash, recycling, and yard waste) was reduced to once per week to increase collection efficiency and minimize consumption of fossil fuels, air emissions, as well as wear-and-tear on roads.[67] [68]

65 South Bay Cities Council of Governments. 2017. Climate Action Plan: City of Rolling Hills Estates. Available at: https://www.southbaycities.org/sites/default/files/RHE%20CAP.pdf
66 ibid.
67 Waste Management. N.d. Welcome Residents of Rolling Hills Estates. Available at: https://www.wm.com/us/local/ca/rolling-hills-estates/residential (accessed March 5, 2021).
68 South Bay Cities Council of Governments. 2017. Climate Action Plan: City of Rolling Hills Estates. Available at: https://www.southbaycities.org/sites/default/files/RHE%20CAP.pdf

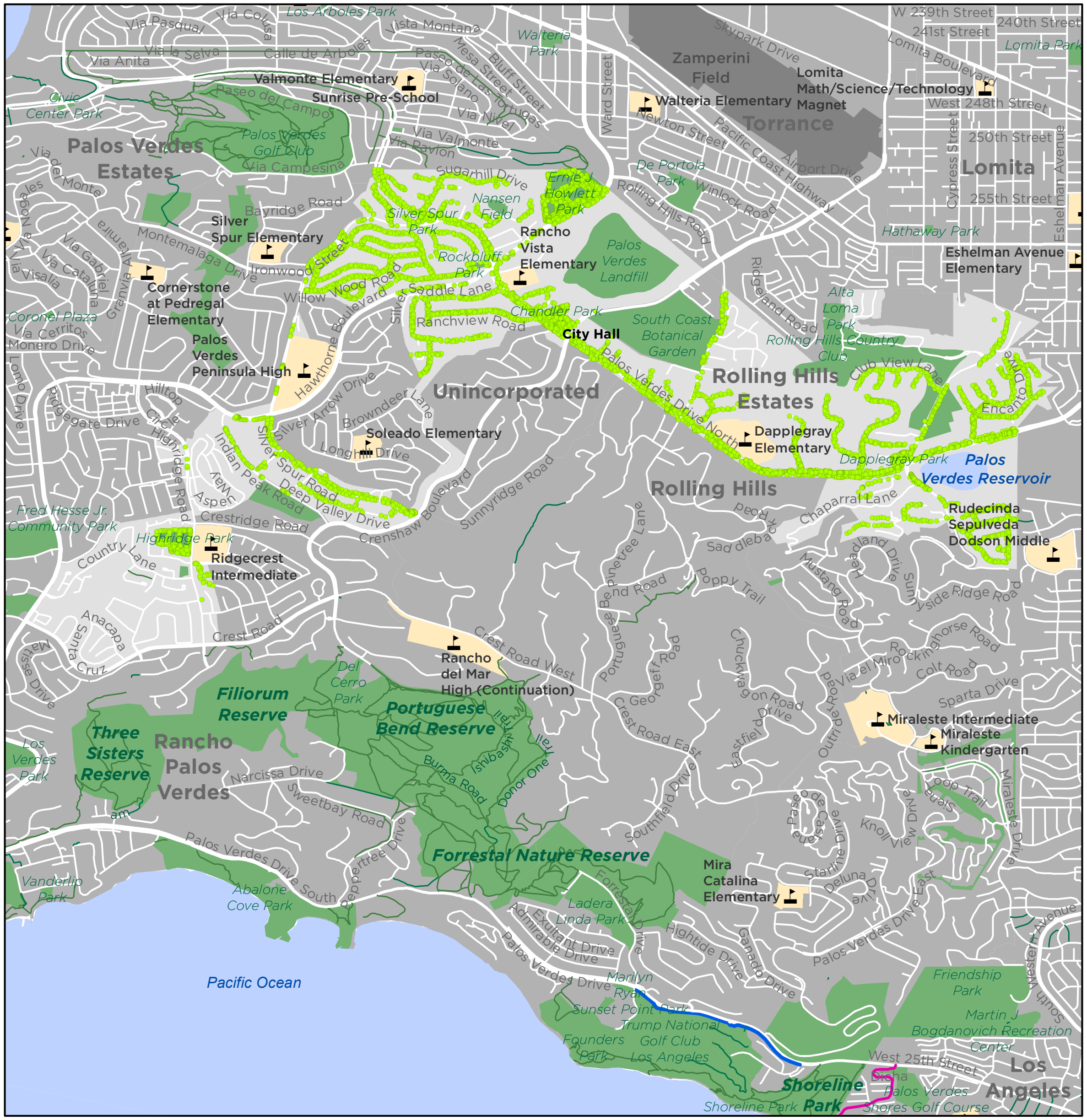
Figure 9-15 City Tree Canopy

CITY TREE CANOPY

ROLLING HILLS ESTATES
SUSTAINABILITY ELEMENT

Existing Features

- Tree Canopy*
- School
- School Campus
- Path
- Park or Open Space
- Airport
- Rolling Hills Estates
- Surrounding Cities
- Water



*All trees shown on this map are in the public right-of-way and on City-owned property

0 0.5 1 Miles

N

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Source:
County of Los Angeles,
OpenStreetMap

Table 9-6 PVPTA Vehicle Inventory, December 2020

	Vehicle No.	Manuf. Date	Model	License	VIN Number	Fuel	Mileage
1	1041	2008	ENC Type 7	1258409	1GBE5V1G98F403407	LPG	225,341
2	1042	2008	ENC Type 7	1258408	1Gbe5V1G28F403457	LPG	211,263
3	1043	2009	ENC Type 7	1329524	1GBE5VIG09F408349	LPG	171,366
4	1044	2009	ENC Type 7	1329526	1GBE5VIG99F408740	LPG	159,713
5	1046	2009	ENC Type 7	1329523	1GBE5V1G49F408094	LPG	185,877
6	1047	2010	ENC Type 7	1337944	1GBE5V1G29F408482	LPG	140,576
7	1048	2012	ENC Aerotech	1408873	1FDAF5GY3CEA73605	CNG	152,725
8	1049	2012	ENC Aerotech	1408872	1FDAF5GY1CEA73604	CNG	207,573
9	1050	2012	ENC Aerotech	1408871	1FDAF5GYXCEA73603	CNG	140,997
10	1051	2012	ENC Aerotech	1408874	1FDAF5GY5CEA73606	CNG	152,737
11	1052	2012	ENC Aerotech	1385818	1FDAF5GY7CEA73607	CNG	126,621
12	1053	2008	Blue Bird	1406943	1BABNBMA19F254636	CNG	98,244
13	1054	2008	Blue Bird	1460694	1BABNBMA78F254641	CNG	80,891
14	1055	2013	ENC Aerotech	1396831	1FDAF5GY8CEC51427	CNG	147,291
15	1056	2013	ENC Aerotech	1396832	1FDAF5GY6CEC58473	CNG	186,294
16	1057	2013	ENC Aerotech	1396833	1FDAF5GY2CEC62844	CNG	199,295
17	1058	2013	ENC Aerotech	1396834	1FDAF5GY4CEC73599	CNG	194,421
18	1059	2013	ENC Aerotech	1396835	1FDAF5GY9CEC73923	CNG	149,351
19	1060	2014	ENC XHF	1452400	1N9HDALG4EC084268	CNG	109,051
20	1061	2017	Blue Bird	1517215	1BABNBAA6HF333416	CNG	52,830
21	1062	2017	Startrans	1528683	1FDGF5GY4GEC06971	CNG	79,478
22	1063	2017	Startrans	1528684	1FDGF5GY6GEC06972	CNG	67,871
23	1064	2017	Startrans	1528685	1FDGF5GY8GEC06973	CNG	101,174
24	1065	2019	Startrans		1FDAF5GY5KED88274	CNG	6,834
25	1066						
26	1067						

Source: Martin Gombert, Administrator, Palos Verdes Peninsula Transit Authority. March 4, 2021. Email subject: PV Transit Fleet.

Sustainable Transportation Infrastructure. All traffic signals in the City have been converted from incandescent to energy-efficient LED, a 90% energy savings.[69]

- "Grass-paved parking systems [are] allowed" to increase the in-ground capture of stormwater.[70]
- There are over 6,200 City-installed and/or maintained trees located within the public right-of-way and on public lands (e.g., parks) that support comfortable pedestrian mobility and reduce localized heat impacts in the City (Figure 2-15, *City Tree Canopy,* page 2-42).
- As of December 2020, the fleet included 3 large buses, 2 mid-size vehicles, 20 cutaways, 17 CNG, and 8 LPG (Table 2-6, PVPTA Vehicle Inventory December 2020, previous page).
- LA Metro has committed to making its bus fleet 100% zero emission by 2030.[71]
- LADOT aims to make its entire bus fleet 100% emissions-free before the 2028 Olympic Games.[72]

Zero-Emission Automobiles. In Los Angeles County, there are 141,521 Zero-Emission Vehicles (ZEVs) (2%), compared with 6,827,293 non-ZEVs (98%) (Figure 9-16, *Vehicle Population in California – Los Angeles County*).[73] Within Rolling Hills Estates, electric vehicle charging infrastructure has been incorporated into the Silver Spur Center Development. There are now charging stations at four locations in the City: at Rolling Hills Estates City Hall (ChargePoint), Peninsula Center Library (Electrify America), the Silver Spur Court Condos at Crenshaw Boulevard/Silver Spur Road (ChargePoint), and the Promenade on the Peninsula shopping center (EVgo) (Figure 9-17, *Charging Stations,* page 9-46).[74]

Executive Summary from the General Plan Existing Conditions Report (2018)

CIRCULATION

- **Regional traffic and congestion within the Planning Area is limited, but are still perceived to impact quality of life.**

  Rolling Hills Estates' location on the Palos Verdes Peninsula means that most traffic on city streets is accessing a local destination, although some vehicles do travel through the city to access other destinations on the Peninsula. Palos Verdes Drive North is a street that sees high levels of congestion during some periods of the day and has been cited as a key concern by members of the community. The City's ability to manage congestion is limited, but it can consider implementing adaptive traffic control systems along major corridors, which could increase vehicle throughput.

69 ibid.
70 ibid.
71 Los Angeles County Metropolitan Transportation Authority (Metro). July 27, 2020. Metro Deploys First 60-foot Zero Emission Electric Bus for Revenue Service on the G Line (Orange) in the San Fernando Valley. Available at: https://www.metro.net/news/simple_pr/metro-deploys-first-60-foot-zero-emission-electric/
72 Los Angeles County Metropolitan Transportation Authority (Metro). February 21, 2020. LADOT Places Largest Electric Bus Order in U.S. History. Available at: https://www.metro-magazine.com/10112567/ladot-places-largest-electric-bus-order-in-u-s-history
73 California Energy Commission. N.d. Zero Emission Vehicle and Infrastructure Statistics. Available at: https://www.energy.ca.gov/data-reports/energy-insights/zero-emission-vehicle-and-charger-statistics
74 South Bay Cities Council of Governments. 2017. Climate Action Plan: City of Rolling Hills Estates. Available at: https://www.southbaycities.org/sites/default/files/RHE%20CAP.pdf

Figure 9-16 Vehicle Population in California – Los Angeles County

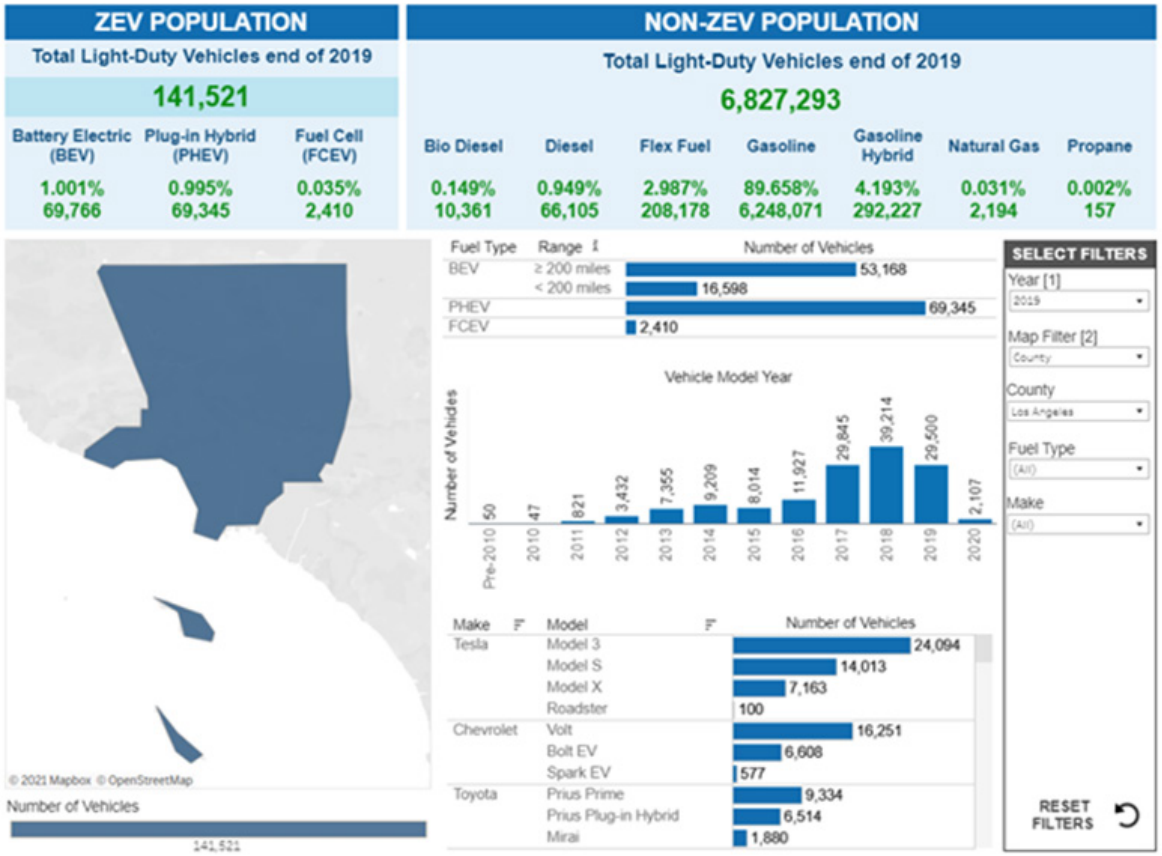


Figure 9-17 Charging Stations

CHARGING STATIONS

ROLLING HILLS ESTATES
SUSTAINABILITY ELEMENT

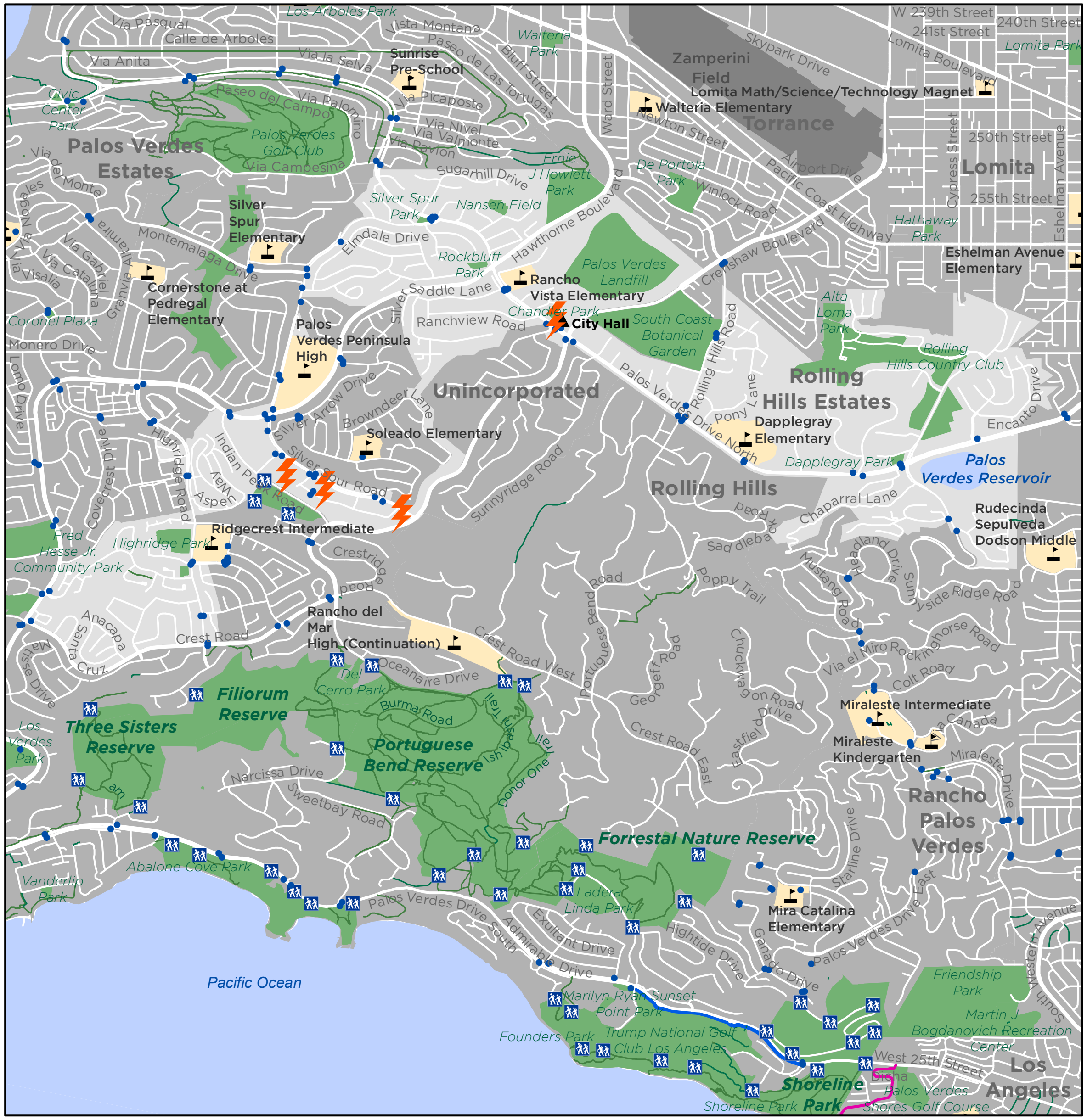
Existing Features

- Electric Vehicle Charging Station
- Bus Stop
- Trailhead
- School
- Path
- School Campus
- Park or Open Space
- Airport
- Surrounding Cities
- Water

0 0.5 1 Miles

N

Source:
County of Los Angeles,
OpenStreetMap



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- **Addressing gaps in the bicycle network may alleviate congestion.**

  Bicycle facilities currently exist in the eastern and western parts of the city, but there is no link between these two partial networks. Providing these connections will also connect the bicycling network in Rolling Hills Estates to existing bicycle facilities in neighboring cities. A planned Class I facility along Crenshaw Boulevard that was included in Metro's Active Transportation Strategic Plan (ATSP) would decrease the existing gap, but street grade and other safety concerns must be considered when designing new facilities.

- **The predominant mode of travel in Rolling Hills Estates is the automobile.**

  The vast majority of commuters drive, especially in single-occupant vehicles. The single-occupant mode share for Rolling Hills Estates is higher than the average for Los Angeles County and the state. Public transit and walking mode shares are less than half of the mode share in the rest of the County. In addition, carpooling is lower in Rolling Hills Estates. Reasons for this high level of vehicular travel include the city's land use pattern, which is primarily residential and requires residents to travel elsewhere for work, the low density of development, and the steep grade on some major roadways that may discourage residents from walking or bicycling.

- **There are currently no planned regional projects in Rolling Hills Estates.**

  The 2020 Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy (SCAG RTP/SCS) did not include any major projects located within Rolling Hills Estates, but projects in nearby cities may affect transportation within the city. The City should continue to monitor and be aware of impacts to local roadways, and coordinate with nearby cities, Metro, and Caltrans regarding changes in the transportation network.

ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES

- **While air quality is largely a regional issue, the land use, circulation, and growth decisions made by local communities, such as Rolling Hills Estates, affect regional air quality. The primary source of air pollution in Rolling Hills Estates is from on-road mobile sources such as automobiles, trucks, motorcycles, and buses.**

  In general, the South Coast Air Basin's air pollution is a consequence of emissions from the nation's largest urban area, meteorological conditions adverse to the dispersion of those emissions, and mountainous terrain surrounding the Basin. On-road mobile source emissions are directly related to regional vehicle miles traveled (VMT) on both local roadways and interstate freeways. As population growth in the region occurs, VMT increases, resulting in increased O3 precursor emissions. Particulate emissions are generated by wood smoke from residential fireplaces and from construction activities. Consumer products, architectural coatings, fertilizers, and asphalt paving

are also sources of air pollution within the city. Exposure to poor air quality should be considered when locating sensitive receptors, such as schools, playgrounds, and retirement homes, within the Planning Area.

Current Programs and Regulations

- SCAG Connect SoCal RTP/SCS Plan
- Safe Routes to School
- Vehicle Fleet Purchasing Policy
- CALGreen

Projects in Development

- The City has one existing dual-port electric vehicle (EV) charging station at City Hall and is applying for three other projects, including one SCE grant program for five additional dual-port charging stations at City Hall. The other two City EV charging station projects will include two dual-port charging stations at Ernie Howlett Park and several proposed locations for charging stations in the City's Right-of-Way.

Current Sustainability Programs

- Rolling Hills Estates Climate Action Plan
- Safe Routes to School
- Citywide Resources
- Southern California Edison Charge Ready Rebate Program[75] – dual-port EV charging station projects
- Green Street Policy (Resolution No. 2339

75 Southern California Edison. N.d. Charge Ready. Available at: https://www.sce.com/evbusiness/chargeready

Pillar 7: Waste Management and Recycling

Existing Solid Waste and Recycling: Solid waste collection in Rolling Hills Estates is provided by Waste Management, which collects trash, recycling, and yard waste on a weekly basis, as well as bulky items, used motor oil and filters, manure, and sharp items upon request.[76] The average resident disposed of 4.0 pounds per day of waste to landfills in 2015, down from 9.0 pounds per day in 2007.[77] The City of Rolling Hills Estates disposed a total of approximately 9,844 tons of solid waste in 2019.[78]

In 2015, the average resident disposed of **FOUR POUNDS OF WASTE** per day, down from **nine pounds per day in 2007**

After solid waste and recycling collection, contents are brought to landfills throughout the greater Los Angeles region. In 2019, approximately 80% of the City's solid waste went to El Sobrante Landfill in the City of Corona, located in Riverside County, California (Table 9-7, Solid Waste Disposal by Landfill). The remaining 10% went to eight other landfills in the Los Angeles

76 City of Rolling Hills Estates. January 2018. Rolling Hills Estates General Plan 2040: Existing Conditions Report.
77 CalRecycle Disposal Reporting System, 2017. Per Capita Disposal Rate Trends. Online. www.calrecycle.ca.gov/LGCentral/Reports/Viewer.aspx?P=JurisdictionID%3d414%26ReportName%3dDPGraphPopEmpNumbers%26ShowParameters%3dfalse%26AllowNullParameters%3dFalse.
78 CalRecycle, 2019. Jurisdiction Disposal by Facility: Los Angeles – Rolling Hills Estates 2019. Online. https://www2.calrecycle.ca.gov/LGCentral/DisposalReporting/Destination/DisposalByFacility

area.[79] The El Sobrante Landfill has a remaining capacity of 3,834,470 cubic yards and is projected for operation through 2047.[80]

Existing Waste Management and Recycling Programs:
The City of Rolling Hills Estates has adopted the Greener Path program, a sustainability program implementing initiatives to improve water, waste, air quality, and GHG emissions. The Greener Path program has taken the following steps related to reducing, reusing, and recycling solid waste, which have led to a 50% reduction in the generation of solid waste since 1990:[81]

- Implementation of a proactive litter abatement program for keeping public rights-of-way, streets, medians, parks, and trails free of litter and debris. All public streets are swept twice per month with accelerated sweeping in the downtown commercial area.
- The City prohibits improper disposal of manure by requiring that "Manure shall be kept in an enclosed container designed for such purpose. Manure that is not used for composting must be removed completely from individual properties at least once per week. Manure used for composting must be kept in an enclosed container designed for such purposes."
- Implementation of a state-of-the-art, three-cart system, making it easy for residents to recycle household plastic and glass containers, cans, and paper, as well as green waste and edible food recovery. As a result, there has been a substantial increase in waste diversion, with Rolling Hills Estates residents consistently keeping more than 60% of their waste out of the trash carts and out of landfills.
- Provision of curbside pickup of used oil and filters for recycling along with yard waste and other recyclables. Increased curbside collection of used oil by 160% and used oil filters by 590% under the City's new residential solid waste collection service. Manure collection and recycling service for horse owners is available through the City's franchise hauler. The City also provides pickup of bulky items at no extra cost to residents.

Table 9-7 Solid Waste Disposal by Landfill

Landfill Facility	Solid Waste (Tons)	Percent of Total Waste
Antelope Valley Public Landfill	962.88	9.8%
Azusa Land Reclamation Co. Landfill	160.66	1.6%
Chiquita Canyon Sanitary Landfill	36.91	0.4%
El Sobrante Landfill	8,107.9	82.4%
Frank R. Bowerman Sanitary LF	49.59	0.5%
Olinda Alpha Landfill	36.51	0.4%
Prima Deshecha Landfill	173.91	1.8%
Simi Valley Landfill & Recycling Center	50.83	0.5%
Sunshine Canyon City/County Landfill	264.62	2.7%
Total	**9,843.8**	**100%**

Source: *CalRecycle, 2019. Jurisdiction Disposal by Facility: Los Angeles – Rolling Hills Estates 2019. Online. https://www2.calrecycle.ca.gov/LGCentral/DisposalReporting/Destination/DisposalByFacility*

79 ibid.
80 CalRecycle. SWIS Facility/Site Activity Details - El Sobrante Landfill (33-AA-0217). Accessed February 26, 2021 https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2256?siteID=2402
81 City of Rolling Hills Estates. Greener Path. Accessed February 26, 2020. https://www.ci.rolling-hills-estates.ca.us/services/greener-path

- City parks and many transit stops are equipped with separate beverage container recycling collection containers along with trash cans.
- Peninsula cities collaborate on educational ads in publications targeted toward auto enthusiasts, regarding used oil and oil filter recycling.
- Reduced frequency of solid waste collection to once per week to increase collection efficiency and minimize consumption of fossil fuels, air emissions, as well as wear-and-tear on roads.

The City does not have a composting ordinance adopted in the Municipal Code; however, it encourages residents to donate compost, particularly that which has been generated by horses, to local greenhouses, nurseries, and botanical parks.[82] The City follows the County of Los Angeles' Construction and Demolition (C&D) Debris Recycling and Reuse Ordinance, which enforces the C&D diversion requirements of the 2016 CALGreen Manual:[83]

- All projects that generate C&D debris are to recycle or reuse the C&D debris at a minimum rate of 65%.
- All Universal Waste recovered from a nonresidential project site must be disposed of properly.
- All trees, stumps, rocks, and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled.

The City has adopted a Food Scrap Diversion Program for businesses and municipal facilities, effective since January 1, 2019, in accordance with Assembly Bill 1826.[84] The City's Food Scrap Diversion Program for residents (food waste collection) is scheduled to go into effect on July 1, 2021, prior to the state's January 1, 2022, mandatory implementation deadline.

Current Programs and Regulations

- Title 14 and Title 27 of California Code of Regulations
- CALGreen
- Annual shredding event and household hazardous waste curbside pick-up
- Assembly Bill 1826

Current Sustainability Programs

- Greener Path
- Solid Waste, Reuse, and Recycling
- Citywide Resources
- Waste Management Rolling Hills Estates residential resources: www.keepingRHEClean.wm.com
- HHW Permanent Collection Centers: City of LA - SAFE Collection Centers
- Location/date of Mobile HHW Events
- U-Waste disposal resources (household batteries, fluorescent bulbs): CA Dept. of Toxic Substances Control-Universal Waste

82 City of Rolling Hills Estates. January 2018. Rolling Hills Estates General Plan 2040: Existing Conditions Report.
83 Los Angeles County Public Works. Updates Effective January 1, 2017. Construction and Demolition Debris Recycling and Reuse Program. Available at: https://dpw.lacounty.gov/epd/cd/

84 State of California. Approved September 28, 2014. Assembly Bill No. 1926. Available at: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140AB1826

Citywide Programs

Greener Path

The City of Rolling Hills Estates promotes community-wide preservation initiatives related to open space, public trails and native habitat, and community resources, engagement, and environmental awareness education. These policies and ordinances include mandate clean streets, residences, trails, and commercial areas.

Storm Water Pollution and Urban Runoff:

- Screens the storm drain system to identify and eliminate illicit connections and discharges—only clean water should be discharged to the storm drain system.
- Implements a proactive litter abatement program for keeping public rights-of-way, streets, medians, parks, and trails free of litter and debris. All public streets are swept twice per month with accelerated sweeping in the downtown commercial area.
- Inspects industrial and commercial businesses to ensure that any outdoor activities/storage are conducted in a manner that does not discharge pollutants to the storm drain system and minimizes the potential for contact of pollutants with storm water runoff.
- Furnishes City parks with pet waste collection stations and requires dogs to be on leash.
- Prohibits improper disposal of manure by requiring that "Manure shall be kept in an enclosed container designed for such purpose. Manure that is not used for composting must be removed completely from individual properties at least once per week. Manure used for composting must be kept in an enclosed container designed for such purposes."
- Parks are maintained with the minimum amount of fertilizer necessary—playing fields are fertilized twice per year and fully composted top dressing is applied once per year.
- Implements integrated pest management practices which call for using physical barriers and controls first and when necessary the least toxic chemical control that is effective, e.g., wood chips are used in lieu of herbicide for weed control on horse trails.
- Inspects irrigation systems in City parks and recreational areas frequently for broken heads, overspray, and muddy areas.
- Adopted the Ahwahnee Water Principles for Resource-Efficient Land Use
- Requires new landscapes to be designed to conserve water using a water budget approach. These requirements apply to new landscaping for commercial, office and institutional developments and to developer-installed landscaping in residential subdivisions.
- In partnership with the Palos Verdes Peninsula Land Conservancy is eradicating invasive/exotic plants and conducting habitat enhancement and restoration of the native habitat in the George F Canyon Nature Preserve. This work is funded under a Riparian and Riverine grant by the California Department of Parks and Recreation 2000 Park Bond Act.

Solid Waste, Reuse, and Recycling:

- Achieved 50% reduction in the generation of solid waste since 1990.

- The City rolled out a new state-of-the-art, three-cart system, making it easy for residents to recycle household plastic and glass containers, cans, and paper, as well as green waste. As a result, there has been a substantial increase in waste diversion, with Rolling Hills Estates residents consistently keeping more than 60% of their waste out of the trash carts and out of landfills.
- Increased curbside collection of used oil by 160% and used oil filters by 590% under the City's new residential solid waste collection service.
- The City provides curbside pickup of used oil and filters for recycling along with yard waste and other recyclables. Manure collection and recycling service for horse owners is available through the City's franchise hauler. The City also provides pickup of bulky items at no extra cost to residents.
- Most City parks and many transit stops are equipped with separate beverage container recycling collection containers along with trash cans.
- A joint Peninsula cities ad in the Concours d'Elegance program magazine promotes used oil and oil filter recycling to auto enthusiasts.
- Adopted the Alameda County New Home Construction Green Building Guidelines as a City reference document and encourages the use of the LEED Green Building Rating System for construction projects within the City. http://www.stopwaste.org/home/index.asp?page=487

Greenhouse Gas Emissions and Air Pollution Reduction: City Council authorized the Mayor to sign the U.S. Mayors Climate Protection Agreement pledging to reduce greenhouse gas emissions by 7% by 2012—Sierra Club's Cool Cities initiative.

- New street sweeping contract requires the use of state-of-the-art equipment (Air Quality Management District certified) that reduces the emission of particulate air pollution from paved roads utilizing less-polluting vehicles and/or alternative fuel vehicles.
- Municipal riding rings are equipped with water spray systems for dust control and dust control additives are applied periodically in riding rings to further reduce dust generation.
- Reduced frequency of solid waste collection to once per week to increase collection efficiency and minimize consumption of fossil fuels, air emissions, as well as wear-and-tear on roads.
- Converted all traffic signal lights from incandescent to energy-efficient LED, a 90% energy savings.

Clean Power Alliance (CPA)

As of June 2017, the City of Rolling Hills Estates has been part of the Clean Power Alliance (CPA), which is comprised of 30 cities and the Counties of Los Angeles and Ventura working together to bring clean energy choices to our communities. The CPA began providing clean power for the commercial and municipal accounts in 2018, and for the residential community in February 2019. Under this program, total energy consumption in 2020 totaled 50,896,910 kWh. Of total energy consumed, 24,770,841 kWh was 100% Green Power, 23,610,249 kWh was Clean Power (50% renewables), and 2,515,821 kWh was Lean Power (36% renewables). Each MWh of energy delivered in 2020 via 100% Green Power had an emissions intensity of 0 pounds of CO_2e per MWh; Clean Power had an emissions intensity of 509 pounds of CO_2e per MWh; and Lean Power had an emissions intensity of 899 pounds of CO_2e per MWh. This resulted in a weighted average emissions intensity

for the total energy consumed in 2020 of 281 pounds of CO2e per MWh, compared to Southern California Edison's 2020 emissions intensity of 513 pounds of CO2e per MWh. Emissions intensity measures the volume of emissions per unit of GDP. By reducing emission intensity, less pollution is created per unit of GDP. The City had negative total net GHG emissions in 2020 by participating in the CPA program, preventing 5,366 MT CO2e from being emitted into the atmosphere.

Energy Efficiency

The City of Rolling Hills Estates has joined the statewide effort to reduce on-going energy consumption in City facilities by turning off lights in all unoccupied offices and storage areas; reducing the lighting in work areas and hallways to the minimum acceptable levels consistent with personal safety and security; and installing energy-efficient light bulbs. In addition, the City has decided to temporarily deactivate the up-lighting system on the nine Silver Spur Road medians.

Do Your Thing California: The City of Rolling Hills Estates has partnered with Energy Upgrade California to encourage energy efficiency.

Green Design

The Rolling Hills Estates City Council encourages its residents, business owners, and developers to consider the incorporation of resource efficient or "green" elements into remodel or new construction projects. The City Council adopted two resolutions on June 16, 2006 which encourage environmentally sensitive design within the City. Each of these resolutions is described below, and links to associated documents are provided.

First, Resolution No. 2103 adopts the Alameda County New Home Construction Green Building Guidelines as a City reference document. These guidelines summarize ways that sustainable design elements can be incorporated into remodel or new construction projects and provides a self-tracking green points system to indicate the number and type of green elements that are utilized. The resolution further encourages larger residential new construction and mixed-use projects to apply for LEED (Leadership in Energy and Environmental Design) Green Building Rating System® national certification to recognize sustainable design elements.

Second, Resolution No. 2104 adopts the Ahwahnee Water Principles for Resource-Efficient Land Use. These principles indicate stewardship actions that cities and counties can take to reduce costs and improve the reliability and quality of our water resources. The City Council will remain cognizant of these principles in forming policies that affect our precious water resources.

Water Conservation

Current City Regulations: The City adopted an amended ordinance for water conservation and raised its water restriction to Level 2 effective August 1, 2015.

Measures:

1. Watering Limited to Three Days a Week before 8 a.m. or after 6 p.m. Residential and commercial landscape irrigation is limited to no more than three assigned days per week based on a schedule established by the city's water retailer as seen below. This section does not apply to commercial growers or nurseries.

2. No Excessive Water Flow or Runoff. Watering in a manner that results in overspray or excessive runoff onto paved or hardscaped areas is prohibited.

3. Water Fountains and Decorative Water Features must have a water recirculation system.

4. No Watering within 48 hours After Measurable Rainfall. Watering any lawn or landscape area at any time within 48 hours after a measurable rainfall is prohibited. For the purposes of this regulation, a “measurable rainfall” means at least .25 inches of rainfall over a 24-hour period based on the rainfall precipitation map maintained by the Los County Department of Public Works, Water Resource Division, for the monitoring location listed as “Rolling Hills” or if such station is eliminated, then the monitoring station closest to the city’s boundary will be used.

5. Repair of Leaks within 72 hours. No person may permit or cause to permit the excess use, loss or escape of water through breaks, leaks or other malfunctions in the water user’s plumbing or distribution system for any period of time after such escape of water should have reasonably been discovered or corrected. All leaks must be repaired upon discovery, but no later than within 72 hours of notification by the city or the city’s water retailer unless other arrangements are made with the city or the city’s water retailer.

6. Washing Vehicles. Washing any automobile, truck, van, bus, motorcycle, boat or any other vehicle is restricted to the use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This provision does not apply to a commercial car washing facility.

7. Washing Hard or Paved Surfaces. Washing of hard or paved surfaces, including sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards or as surface preparation for the application of any architectural coating or painting. All such permitted washing must be done by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine, or a low-volume high-pressure water broom.

8. Drinking Water Served on Request. All eating and drinking establishments of any kind including any restaurant, hotel, cafe, cafeteria, bar or club, whether public or private, may only provide drinking water to any person upon an express request.

9. Restaurants Required to Use Water Conserving Technology. All eating and drinking establishments that require washing or cleaning of kitchen or dining room area flooring must do so using a hand-held bucket or similar container, a mop using bucket or similar container, or “waterbroom” technologies. Such establishments must also utilize water conserving nozzles on pre-rinse spray valves.

10. Commercial Lodging Establishment Linen Service. All hotels, motels, or bed and breakfasts must provide customers with an option of choosing to have towels and linens laundered daily. The establishment must prominently display notice of this option in each bathroom and sleeping room using clear and easily understood language.

11. Commercial Car Wash Businesses. On or after January 1, 2012, all "conveyor" style car wash systems must have and maintain water recycling systems.

Citywide Resources

In addition to Citywide programs, the City provides both local resources to residents and resources in coordination with other regional and statewide conservation programs to encourage community education and involvement related to water conservation, energy conservation, and hazardous waste resource.

- Rolling Hills Estates Climate Action Plan
- Equestrian & Horsekeeping - Best Management Practices
- Landscaping, Gardening & Pest Control - Best Management Practices
- Mobile Businesses - Best Management Practices
- Swimming Pool & Spa Maintenance
- Waste Management Rolling Hills Estates residential resources: www.keepingRHEClean.wm.com

Water & Energy Conservation:

- Southern California Edison Plug-in Electric Vehicles
- South Bay Environmental Services Center
- LA County Smart Gardening
- Metropolitan Water District:
- West Basin Municipal Water District
- Water Saver Home
- U.S. Green Building Council
- California's Water Conservation
- Rainwater Harvesting Guide

Household Hazardous Waste (HHW), E-Waste and Universal Waste:

- HHW Permanent Collection Centers: City of LA - SAFE Collection Centers English and Spanish
- Find location/date of Mobile HHW Events
- UC Davis Integrated Pest Management Online
- U-Waste disposal resources (household batteries, fluorescent bulbs): CA Dept. of Toxic Substances Control-Universal Waste

Goals and Policies

Goals and Policies

Air Quality and GHG

AQG Goal 9-1: Reduce greenhouse gas emissions

AQG Policy 9-1-1: Cooperate with the state to implement Senate Bill (SB) 32, which calls for reducing greenhouse gas (GHG) emissions to 40% below 1990 levels by 2030; Executive Order S-3-05, which calls for 80% below 1990 levels by 2050; SB 743, which requires new development projects to be assessed based on their potential to increase per capita vehicle miles traveled (VMT) instead of using level of service (LOS) (traffic congestion) towards the State's GHG emission reduction goals effective July 1, 2020; and future legislation designed to reduce GHG emissions.

AQG Policy 9-1-2: Lower the emissions caused by motor vehicles through education and outreach strategies that reduce VMT and encourage the adoption of near-zero emission and zero-emission vehicles.

AQG Policy 9-1-3: Promote energy-efficient building construction and operation practices that reduce emissions and improve air quality.

AQG Policy 9-1-4: Implement "carbon sinks," such as urban forests and soil amendments, to help meet the City Climate Action Plan's (CAP) current goal of reducing greenhouse emissions by 49% below 2005 levels, and future reduction goals resulting from updates to the City CAP.

AQG Policy 9-1-5: Continue to seek out opportunities within the City for "carbon sinks" to provide for regenerative, revegetation, and redevelopment projects sites such as the Palos Verdes Landfill.

AQG Goal 9-2: Reduce air pollutant emissions

AQG Policy 9-2-1: Continue to participate in regional efforts to meet state and federal air quality standards.

AQG Policy 9-2-2: Reduce local contributions of airborne pollutants to the air basin.

AQG Policy 9-2-3: Limit, when feasible, locating sensitive receptors near pollutant emitting sources.

AQG Policy 9-2-4: Expand dust mitigation programs for trails, equestrian centers, and recreational facilities.

AQG Policy 9-2-5: Create an air quality monitoring system to measure air pollutants within the City.

AQG Policy 9-2-6: Educate City staff, contractors, residents, and visitors about sustainable driving practices such as reducing excessive speeding, preventing car idling, regular car maintenance for maximizing fuel efficiency, and carpooling.

AQG Goal 9-3: Prepare for long-term adaptability

AQG Policy 9-3-1: Participate in regional strategies, plan to implement SB 375, and explore the use of private transportation pilot programs to offset the cost and lack of regional public transportation.

AQG Policy 9-3-2: Pursue lobbying strategies to encourage transit agencies to provide increased high-quality transit opportunities on the Palos Verdes Peninsula.

AQG Policy 9-3-3: Continue to seek funding opportunities, such as grant funding and government programs, to provide for new and continued financing mechanisms to support climate and long-term adaptability.

Energy

ENG Goal 9-1: Reduce energy consumption

ENG Policy 9-1-1: Require that all new development meets or exceeds the state and local energy conservation requirements.

ENG Policy 9-1-2: Evaluate feasible local "green" building standards that are capable of reducing consumptive energy use derived from carbon-based fuels.

ENG Policy 9-1-3: Reduce energy consumption in City operations by prioritizing energy-efficient design guidelines for new and renovated City buildings and the acquisition of energy-efficient equipment.

ENG Policy 9-1-4: Provide education, outreach, and training programs for residents and businesses to increase awareness of energy conservation techniques.

ENG Policy 9-1-5: Promote innovative building, site design, and orientation techniques that minimize energy use.

ENG Policy 9-1-6: Support efforts of the City's electricity provider that increase energy conservation in all households and businesses.

ENG Policy 9-1-7: Adopt green building guidelines and/or incentives, which may include assessing green building techniques as a formal stage of City design review.

ENG Policy 9-1-8: Adopt requirements for new and existing buildings to exceed the CALGreen Code by 10% and meet net zero requirements by 2040.

ENG Policy 9-1-9: Educate the public on sustainable building practices and the environmental and economic benefits they offer.

ENG Policy 9-1-10: Implement LEED certifiable or similar building standards for the City's new development, modifications, and maintenance projects so City facilities serve as a model for energy efficiency.

ENG Policy 9-1-11: Incorporate state-of-the-art energy features in new public buildings and significant remodeling of existing buildings that meet or exceed the most recent Building Energy Efficiency Standards in Title 24 (California Building Code).

ENG Goal 9-2: Use renewable energy

ENG Policy 9-2-1: Support the development and use of alternative energy technologies for regional and local use. Remove barriers to use of individual energy systems that are consistent with City aesthetic and design objectives.

ENG Policy 9-2-2: Support State legislative initiatives to revise utility rates in a manner that provides incentives for energy conservation and provides funding for research and development of alternative energy sources.

ENG Policy 9-2-3: Support efforts at the State and federal levels relative to the funding of research and the development of renewable/reusable energy sources.

ENG Policy 9-2-4: Prioritize the application of active solar energy systems in residential development by facilitating, where possible, the efforts of federal and state entities in the allocation of cost incentive programs.

ENG Policy 9-2-5: Explore the possibility of identifying City facilities that can accommodate solar installations and additional alternative fuel vehicle infrastructure.

ENG Goal 9-3: Commission and monitor energy systems

ENG Policy 9-3-1: Support State agencies' efforts to adopt regulations that can increase the thermal integrity of buildings, increase the efficiency of combustion equipment, and reduce building thermal loads through controls or automation.

ENG Policy 9-3-2: Promote the installation of heat recovery and co-generation facilities, where feasible, in new institutional, public, and commercial developments.

ENG Policy 9-3-3: Continue to seek additional funding opportunities to support programs and demonstration projects, and formalize interagency partnerships, to support energy technology and conservation.

Water Resources

WTR Goal 9-1: Protect fresh water availability

WTR Policy 9-1-1: Continue to participate in regional programs that protect water resources in Rolling Hills Estates.

WTR Policy 9-1-2: Require that applications for major new development projects address the adequacy and reliability of water supplies as described in SB 610.

WTR Goal 9-2: Reduce potable water consumption

WTR Policy 9-2-1: Implement public and private education and outreach programs to reduce water use and water waste associated with landscape irrigation, including the planting of native and drought-tolerant plants, use of efficient irrigation systems, and rainwater harvesting.

WTR Policy 9-2-2: Evaluate the use of state-of-the-art approaches to City-wide water supply, demand, and conservation, including the feasibility of on-site reuse of reclaimed water.

WTR Policy 9-2-3: Cooperate with the efforts of other cities and agencies and pursue City-sponsored ventures to make use of recycled water more cost effective. Prioritize establishment of recycled water infrastructure and services and implement the use of recycled water at schools, parks, City facilities, libraries and other potential irrigation, or commercial use sites.

WTR Policy 9-2-4: Evaluate the installation of efficient irrigation systems at City facilities (e.g., drip irrigation, soil moisture sensors and automatic irrigation systems) that minimize runoff and evaporation, and which maximize the water that will reach the plant roots.

WTR Policy 9-2-5: Consider requiring the plumbing retrofit of older existing residential and non-residential buildings with water-efficient plumbing fixtures when the unit is sold.

WTR Goal 9-3: Monitor water systems

WTR Policy 9-3-1: Analyze current water conservation programs for City facilities (such as plumbing retrofits) to expand, as necessary, the effectiveness of efforts to reduce water consumption.

WTR Policy 9-3-2: Maintain contingency plans for continuing water service in the event of large-scale emergencies.

WTR Policy 9-3-3: Continue to seek additional funding opportunities to support programs and demonstration projects, and formalize interagency partnerships, to support water system upgrades and conservation.

WTR Goal 9-4: Manage and harvest stormwater

WTR Policy 9-4-1: Explore how private on-site storm water capture systems can be designed and maintained to maximize protection of surface water quality and beneficially utilize rainwater.

WTR Policy 9-4-2: Incorporate Low Impact Development (LID) strategies into City infrastructure projects.

WTR Policy 9-4-3: Explore the implementation of stormwater management techniques such as permeable pavements, cisterns, bioretention areas, vegetated swales / dry swales, curb and gutter elimination, and vegetated filter strips for City-owned infrastructure (e.g., streets, street medians, and parks).

WTR Goal 9-5: Prevent surface and groundwater contamination

WTR Policy 9-5-1: Maintain a high percentage of permeable areas within facilities belonging to the City. Achieving this increase through the use of low impact development and green street elements when redeveloping the City's facilities, such as George F Canyon Nature Center and redevelopment of Rolling Hills Road.

WTR Policy 9-5-2: Continue to fulfill the City's responsibilities relative to the requirements of the Water Resources Control Board issued permit programs by enforcing regulations aimed at reducing urban runoff pollution and protection of groundwater quality from onsite wastewater treatment systems (also known as septic systems).

WTR Policy 9-5-3: Incorporate measures to prevent groundwater contamination including requirements to minimize/eliminate the use of pesticides and herbicides through promoting integrated pest management practices; limiting use of synthetic fertilizers; phasing out septic systems; and providing relevant information to the residents, businesses, and institutions.

WTR Policy 9-5-4: Continue coordination with Los Angeles County Sanitation District (LACSD) on the management of the closed Palos Verdes Landfill and avoidance of surface and groundwater contamination.

WTR Goal 9-6: Maintain wetland and surface water functions

WTR Policy 9-6-1: Investigate the efficacy and long-term benefits—both environmentally and fiscally—of using pervious pavement systems.

WTR Policy 9-6-2: Preserve natural canyon hydrology and native riparian habitats for both ecosystem functions and the retention and filtration of stormwater runoff and prevent hydromodification of these natural drainage courses in accordance with the City's municipal code and stormwater permit.

Quality of Life

QOL Goal 9-1: Improve community quality of life

QOL Policy 9-1-1: Support and expand the availability of City's youth services.

QOL Policy 9-1-2: Support programs offering services to seniors, including opportunities for social interaction, access to public transportation, and assistance programs and services.

QOL Policy 9-1-3: Establish funding and review available sites to develop a community center to support events and recreational programs for children, youth, and seniors.

QOL Policy 9-1-4: Continue to provide opportunities for public participation in City planning decisions. Provide a range of participation methods that meet the needs of all residents, with a particular emphasis on encouraging participation among youth.

QOL Policy 9-1-5: Support and organize community events throughout the city that require increasing sustainability measures such as zero waste, compostable products, certified vendors, eco-label, lifecycle certified products, biodegradable products, locally sourced products, carbon neutral certified products, and fair trade certified products.

QOL Policy 9-1-6: Continue to provide information on the City's website and other electronic media and methods regarding upcoming events, public hearings and meetings, municipal services, City news, and other important civic information.

QOL Policy 9-1-7: Expand City volunteer program opportunities to encourage City residents and staff to participate in community service programs.

QOL Goal 9-2: Stimulate sustainable growth and development

QOL Policy 9-2-1: Seek community equity and balance within the City among competing quality of life and environmental factors.

QOL Policy 9-2-2: Locate City facilities equitably so that they are accessible to all members of the community.

QOL Goal 9-3: Develop local skills and capabilities

QOL Policy 9-3-1: Partner with other organizations and agencies to develop and implement City sustainability education programs.

QOL Goal 9-4: Minimize noise and vibration

QOL Policy 9-4-1: Require mitigation to avoid and/or minimize noise impacts based on targets established by City ordinance (Chapter 8.32 - NOISE), the Noise Element of the General Plan, and through noise and vibration monitoring.

QOL Goal 9-5: Minimize light pollution

QOL Policy 9-5-1: Expand dark skies standards in the City Zoning code (Chapter 17.42 - LIGHTING) that encourage energy-efficient and dark skies friendly practices.

QOL Goal 9-6: Preserve cultural and historic resources

QOL Policy 9-6-1: Promote City programs and services that foster awareness of cultural diversity and heritage.

QOL Goal 9-77: Preserve views and local character

QOL Policy 9-7-1: Enhance existing standards to ensure development minimizes disruption of viewsheds within the community.

QOL Policy 9-7-2: Identify locations for major streetscape improvements such as landscaped medians, enhanced crosswalks, street trees, directional signage, benches, and public art.

QOL Goal 9-8: Enhance public space

QOL Policy 9-8-1: Explore new development standards that prioritize pedestrians by requiring amenities that address improved site accessibility, adequate lighting for safety, wayfinding for areas of interest, landscaping, benches, minimized parking areas and curb cuts along commercial street frontages, and urban plazas and gathering spaces in commercial development.

QOL Policy 9-8-2: Ensure the consideration of pedestrian, equestrians, and cyclists in all land use planning related to public spaces.

QOL Goal 9-9: Prepare for long-term adaptability

QOL Policy 9-9-1: Encourage wildfire resilience strategies such as slope stabilization, implementation of defensible spaces, fire retardant landscaping or firescaping, and annual vegetation/brush clearance.

QOL Policy 9-9-2: Require fuel modification plan reviews to be concurrent with any required fire department and building department reviews during any upgrade, retrofit, or remodel of structures for fire hardening of the entire property.

QOL Policy 9-9-3: Promote and encourage family- and community-oriented emergency evacuation plans for enhancing circulation flow/pattern during an emergency.

QOL Policy 9-9-4: Strengthen infrastructure reliability, including the development of emergency backup capabilities; continued emergency preparedness inspection efforts by City, County and Service utility providers; and relocation of utilities underground where feasible.

QOL Policy 9-9-5: Reduce extreme heat effects through heat island cooling strategies such as green infrastructure from trees and vegetation cover and green spaces, cool roofs, cool pavements and other surface materials, and green roofs.

QOL Policy 9-9-6: Update the City's Climate Action Plan to reflect current General Plan policies and implementation measures.

QOL Policy 9-9-7: Continue to seek additional funding opportunities to support sustainability programs and demonstration projects, and formalize interagency partnerships to support long-term adaptability planning and technology implementation.

Land Use

LND Goal 9-1: Preserve prime habitat and significant ecological areas

LND Policy 9-1-1: Continue to require detailed biological and other appropriate environmental resource and hazard studies for development and ensure that appropriate mitigation is employed to avoid and/or minimize impacts as identified in the City's municipal stormwater permit, LID) Manual, and Los Angeles County General Plan.

LND Policy 9-1-2: Investigate the value and feasibility of establishing City areas as habitat mitigation/banking sites.

LND Policy 9-1-3: Continue to seek additional funding opportunities to support programs and demonstration projects to support preservation and conservation of prime habitat and significant ecological areas.

LND Goal 9-2: Preserve greenfields

LND Policy 9-2-1: Maintain and enhance City open space by preserving and siting appropriate densities and locations to maximize conservation and air quality benefits.

LND Policy 9-2-2: Develop City Best Management Practices for open space siting and maintenance; designate areas for preservation of open space and wildlife habitat.

LND Goal 9-3: Reduce pesticide and fertilizer impacts

LND Policy 9-3-1: Increase awareness of existing incentive programs to replace private lawns with drought tolerant landscaping and native plants.

LND Goal 9-4: Preserve species biodiversity

LND Policy 9-4-1: Establish pilot programs and projects that demonstrate the benefits and beauty of drought-tolerant and native landscaping through collaboration with external agencies, such as local watershed organizations and utility districts.

LND Goal 9-5: Control invasive species

LND Policy 9-5-1: Require landscaping designs for City facilities, parks, and street medians to include measures such as tree protection, stormwater treatment, planting of native and drought tolerant landscaping and avoiding the planting of invasive plants per California Invasive Plant Council (Cal-IPC) Responsible Landscaping guidelines.

LND Goal 9-6: Restore disturbed soils

LND Policy 9-6-1: Explore improving/restoring quality of soil used in landscaping at City facilities.

Mobility

MBL Goal 9-1: Improve mobility, health, safety, and access

MBL Policy 9-1-1: Promote residents' and business owners' awareness and education of traffic congestion's effect on air pollution and greenhouse gas emissions and help create voluntary programs that reduce traffic throughout the City.

MBL Policy 9-1-2: Coordinate land use, circulation, and infrastructure improvement efforts with regional planning agencies, and surrounding municipalities.

MBL Goal 9-2: Encourage alternate modes of transportation

MBL Policy 9-2-1: Develop a City fleet that, to the extent feasible, uses clean alternative fuel, near-zero-emission, and zero-emission vehicles.

MBL Policy 9-2-2: Pursue the enhancement of bicycle, equestrian, pedestrian, carpool, and public transit infrastructure (e.g., bus stop shelters) set forth in the Mobility Element to help decrease vehicle miles traveled and vehicle trips.

MBL Policy 9-2-3: Coordinate with regional transit providers to incorporate near-zero-emission and zero-emission vehicles into the public transit system.

MBL Policy 9-2-4: Provide best practice transportation and end-of-trip facilities (e.g., bike and horse parking, bike repair stations,

bus stop shelters, and electric vehicle charging stations) that encourage walking, bicycling, equestrian use, the use of public transit, and utilizing electric vehicles.

MBL Policy 9-2-5: Continue to seek additional funding opportunities to support programs (e.g., educational campaigns, encouragement programs, events) and demonstration projects and formalize interagency partnerships to support sustainable, active transportation and increased opportunities for high-quality transit on the Palos Verdes Peninsula.

MBL Goal 9-3: Improve site accessibility and wayfinding

MBL Policy 9-3-1: Provide landscaping, benches, minimized parking areas, and curb cuts along commercial street frontages, and clear pedestrian-scale wayfinding for areas of interest to enhance accessibility for people walking and bicycling.

Waste Management and Recycling

WST Goal 9-1: Support sustainable procurement practices

WST Policy 9-1-1: In contracting waste haulers, consider their ability, commitment, and proven record of recycling and composting waste.

WST Policy 9-1-2: Continue to seek additional funding opportunities and interagency partnerships to support programs and demonstration projects for waste management and recycling.

WST Goal 9-2: Use recycled materials

WST Policy 9-2-1: Continue and expand public education and outreach programs regarding reduction and recycling of materials.

WST Goal 9-3: Divert waste from landfills

WST Policy 9-3-1: Pursue efforts, through community partners, education, and outreach, to increase composting, recycling, organic waste processing; and provide opportunities for reducing waste generation.

WST Goal 9-4: Provide for deconstruction and recycling

WST Policy 9-4-1: Reassess the City's Source Reduction and Recycling Element (California Integrated Waste Management Act) as needed to determine whether new goals or programs are required.

WST Goal 9-5: Reduce net embodied energy

WST Policy 9-5-1: Adopt City guidelines for City goods purchases that incorporate consideration of packing and shipping materials used.

WST Policy 9-5-2: Use local/regional materials and consider Environmental Product Declaration (EPD) information when making City purchasing decisions.

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Achieving City Goals, Implementation Plan and Schedule, and Fiscal Considerations

Achieving City Goals, Implementation Plan and Schedule, and Fiscal Considerations

The Government Code (Section 65400(a)(1)) requires that upon adoption of a general plan, a planning agency shall "investigate and make recommendations to the legislative body regarding reasonable and practical means for implementing the general plan." This section identifies potential implementation programs and provides a framework for implementation of the Sustainability Element policies, including potential partnerships.

Achieving City Goals

Implementation measures (IMs) have been developed for each sustainability pillar based on the 2017 Climate Action Plan (CAP), 2019 Sub-Regional CAP adaptation strategies, survey results, and potential actions that can be taken to carry out the policies in Section 3 of the Sustainability Element.

Pillar 1: Air Quality and GHG

AQG Goal 9-3

IM AQG 9-3-1: Review the City CAP and identify which strategies can be implemented in the near term based on funding and support.

Pillar 2: Energy

IM ENG 9-1: Implement pilot project for Certified Green Zone City parkland: American Green Zone Alliance (AGZA) memorandum of understanding (MOU) to certify Howlett Park as a Certified Green Zone (no two-stroke engine/gasoline powered landscape maintenance equipment).

IM ENG 9-2: Develop Accessory Dwelling Unit (ADU) program with preapproved, net zero ADU plans that will be available for the public to use, free of charge.

IM ENG 9-3: Continue to implement existing energy conservation, audit, and renewable energy programs, including Clean Power Alliance (CPA), Sierra Club Cool Cities Program, Greener Path, and Southern California Edison Plug-in Electric Vehicles.

PILLAR 1 **Air Quality and GHG**

PILLAR 2 **Energy**

PILLAR 3 **Water Resources**

PILLAR 4 **Quality of Life**

PILLAR 5 **Land Use**

PILLAR 6 **Mobility**

PILLAR 7 **Waste Management/ Recycling**

ENG Goal 9-1

IM ENG 9-1-1: City to explore the possibility of developing an energy reinvestment fund for implementing energy efficiency projects.

IM ENG 9-1-2: Post links on website/social media and provide materials at public events to educate and train the community as the first step towards increasing energy efficiency.

IM ENG 9-1-3: Staff outreach efforts to homeowner associations (HOAs) and other housing groups regarding energy efficiency programs.

IM ENG 9-1-4: Promote financing programs to promote, incentivize, or require residential home energy renovations.

IM ENG 9-1-5: Increase businesses' participation in existing energy efficiency programs that are low-cost or provide a financial benefit to the business through City outreach to business groups.

IM ENG 9-1-6: Promote existing incentivized programs such as Energy Update California.

IM ENG 9-1-7: Educate City staff, developers, and other potential stakeholders on future Title 24 updates and the additional energy efficiency opportunities for new residential development so that City staff will act as a resource to encourage implementation of energy efficiency building measures beyond those that are required in current Title 24 Standards.

IM ENG 9-1-8: Post links on website/social media and provide materials at public events to provide City staff with a framework to interact with and educate community members about behavioral and technological changes that can increase energy efficiency.

IM ENG 9-1-9: Educate City staff, developers, and other potential stakeholders on future Title 24 updates and the additional energy efficiency opportunities for new commercial development.

IM ENG 9-1-10: Promote financing programs to promote or require commercial energy retrofits.

IM ENG 9-1-11: Conduct energy audits on a routine basis every 3 to 5 years.

IM ENG 9-1-12: Retrofit traffic signals and outdoor lighting as needed to replace standard incandescent traffic signals with LED lamps using Southern California Edison (SCE) rebates and other comparable advances in technology as they become available and feasible for implementation.

ENG Goal 9-2

IM ENG 9-2-1: Encourage and support on-site installation and use of renewable and alternative energy generation systems for residential, commercial, institutional, and industrial uses.

IM ENG 9-2-2: Develop and adopt policies for generating energy from renewable and alternative energy sources such as solar power (includes photovoltaics [PV] and thermal), energy storage, microgrids, geothermal, biomass, fuel cells, and other comparable advances in technology as they become available and feasible for implementation.

IM ENG 9-2-3: Work with different stakeholders and utilize different tools to create awareness towards renewable energy generation and storage, including the following:

- Work with investor-owned utilities or CCAs and local, regional, and state partners to identify, implement, or promote financial tools to encourage on-site alternative and renewable energy generation projects.
- Update the City's website to include links to information for renewable and alternative energy rebates, incentives, and case studies.
- Promote community awareness to conserve energy in conjunction with using renewable and alternative energy.

IM ENG 9-2-4: Explore renewable energy and storage options for municipal operations, including

- Explore renewable and alternative energy technologies.
- Explore renewable and alternative energy technologies including solar PV, solar thermal, microgrids, energy storage, wind, geothermal, wave/tidal, and fuel cells to increase capacity for municipal operated and owned facilities and properties, as well as evaluate their suitability.

Pillar 3: Water Resources

IM WTR 9-1: Continue to implement existing water conservation and water quality improvement programs, including Ahwahnee Water Principles for Resource-Efficient Communities Program, Water Conservation and Water Shortage Management Plan, Water Efficient Landscaping Ordinance (No. 658), and Greener Path.

IM WTR 9-2: Explore feasibility of collaborating with other peninsula cities to install a recycled water system for landscape irrigation in the City.

WTR Goal 9-2

IM WTR 9-2-1: Explore participating in SoCal WaterSmart's Public Agency Landscape (PAL) program to receive a no-cost landscape irrigation audit and incentives to replace older landscape equipment with new, water-efficient models.

Pillar 4: Quality of Life

QOL Goal 9-9

IM QOL 9-9-1: Consider collaborating with the Los Angeles County Fire Department (LACoFD) to install demonstration fire retardant landscaping or firescaping garden to educate the public about appropriate materials, spacing, and maintenance.

IM QOL 9-9-2: Coordinate with Peninsula cities and neighboring agencies to develop a Multi-jurisdictional Wildfire Protection Strategy/Plan.

IM QOL 9-9-3: Develop a wildfire evacuation traffic control plan and educate residents about evacuation routes.

IM QOL 9-9-4: Replant fire affected areas to reduce erosion and landslide. Plan to revegetate slopes soon after wildfires with desirable native species that support native habitat and have robust root systems to keep soil in place.

IM QOL 9-9-5: Educate residents about wildfire preparedness and prevention to ensure that residents are aware of best practices for wildfire preparedness and prevention.

IM QOL 9-9-6: Encourage residents/visitors to sign up for the City's emergency notification system.

IM QOL 9-9-7: Develop a protocol to alert residents when wildfire smoke endangers air quality and encourage residents, visitors, and stakeholders to sign up for the City's emergency notification system. Educate residents about strategies they can take to reduce their exposure to poor air quality.

IM QOL 9-9-8: Encourage tree planting at plan check.

IM QOL 9-9-10: Plant trees for shade and carbon sequestration.

IM QOL 9-9-11: Promote farmers' markets to the community through websites, newsletters, or flyers.

IM QOL 9-9-12: Encourage creation of new green space or open space in the community.

IM QOL 9-9-13: Encourage residents to utilize passive cooling techniques on their own property. The City could distribute information through publications, website postings, or workshops. Information covered may include planting shade trees, installing cool roofs and cool pavements, and properly insulating homes.

IM QOL 9-9-14: Ensure greater frequency of extreme heat days is considered in relevant City plans and policies and develop City best practices to guide operation during extreme heat days. Coordinate with Los Angeles County Public Health and Emergency Management Agencies to ensure that applicable plans account for new heat projections. Plans may include but not be limited to City Emergency Response Plans, Hazard Mitigation Plans, Heat Response Plans. Encourage schools to consider extreme heat days in their closure and operation policies. Develop a protocol for how the City will respond to extreme heat events.

IM QOL 9-9-15: Ensure that home-bound populations receive the resources they need during extreme heat events. Partner with health care providers and nonprofit organizations to ensure that vulnerable populations that are home bound during extreme heat are delivered water, medicine, and other critical resources. Local nonprofits, such as the Palos Verdes Peninsula Village and Palos Verdes Peninsula Seniors, may be potential partners in these efforts.

IM QOL 9-9-16: Provide active transport users with extreme heat education. Develop an outreach campaign to educate active transportation users about heat illness prevention and recovery. Collaborate between relevant departments, including but not limited to Emergency Response, Public Health, and Transportation. Maximize reach by utilizing multiple communication channels.

IM QOL 9-9-17: Ensure that the City's tree management and irrigation practices use resources efficiently. Urban forestry can achieve multiple adaptation goals by reducing urban heat, mitigating flooding, facilitating groundwater recharge, and enhancing biodiversity. Measure the baseline of resources used to maintain the City forests and create a plan to reduce excess use. For example, audit water use for City plants or green spaces and determine an appropriate water budget and reductions.

Pillar 5: Land Use

LND Goal 9-6

IM LND 9-6-1: Provide resources and information regarding composting to educate the public on how to grow organic edible plants. Provide interested stakeholders with resources and information related to developing community gardens for consistency with WST Goal 3 for reducing waste generation in the planning of future landfill closures.

Pillar 6: Mobility

MBL Goal 9-2

IM MBL 9-2-1: Encourage electric vehicle (EV) use with incentives such as dedicated reduced fee EV charging stations in the public right-of-way in high-demand areas, such as the commercial district along Silver Spur Road.

IM MBL 9-2-2: Expand availability of (or install) EV charging stations at City-owned facilities.

IM MBL 9-2-3: Publicize City EV charging and parking policies.

IM MBL 9-2-4: Work with Transit Agencies to implement a Bus Rapid Transit System.

IM MBL 9-2-5: Work with Transit Agencies to improve transit connectivity.

IM MBL 9-2-6: Provide transit buses with signal prioritization devices.

IM MBL 9-2-7: Encourage municipal telecommuting and alternative work schedules (voluntary).

IM MBL 9-2-8: Work with local employers to increase carpooling.

IM MBL 9-2-9: Adopt a Vision Zero statement or commit to reducing/eliminating traffic-related deaths and serious injuries in the City.

IM MBL 9-2-10: Increase education regarding the use of more sustainable transportation options to reduce greenhouse gas emissions and improve air quality.

IM MBL 9-2-11: Improve ADA accessibility to provide universal access citywide

IM MBL 9-2-12: Increase the provision of end-of-trip facilities (e.g., bike parking) that encourage walking, bicycling, equestrian use, and transit ridership

Pillar 7: Waste Management and Recycling

WST Goal 9-3

IM WST 9-3-1: Educate residents about waste reduction and diversion. Provide information to residents about recycling, composting, and source reduction opportunities on the website, newsletters, or flyers.

IM WST 9-3-2: Explore requiring residential projects to exceed the CalGreen standard of construction and demolition (C&D) diversion. Explore adoption of a C&D Recycling Ordinance that exceeds diversion requirements outlined in Chapter 20.87 of the Los Angeles County Code.

IM WST 9-3-3: Provide tools for educating businesses about methods for waste reduction and diversion. Provide information to businesses about recycling, composting, and source reduction opportunities on the website, newsletters, or flyers.

IM WST 9-3-4: Develop a solid waste management plan before approving permits for special events as required by California Assembly Bill 2176 for large venues and events, through the following:

- Banned plastic bags – Adopt an ordinance to eliminate plastic bags, which will decrease waste going to the landfill and will increase the use of reusable bags.
- Require food waste management and recycling at special events – Before approving permits, investigate requiring special events' solid waste management plans to include food waste collection and recycling.

IM WST 9-3-5: Implement programs to educate employees about waste reduction and provide them with tools to conserve resources at the facilities.

IM WST 9-3-6: Consider alternative methods for landfill diversion, such as anaerobic digesters.

WST Goal 9-4

IM WST 9-4-1: Implement a Recycle at Work program – Continue a program, Recycle at Work, to educate employees about the benefits of recycling and waste reduction in the workplace.

Implementation Plan and Schedule

The proposed implementation measures are anticipated to be a mix of on-going, short-term, and longer-term actions and programs (Table 9-8, Timeframe for Implementation).

These measures, together with the overall goals and policies in relation to the seven pillars of sustainability, serve as a blueprint for steady, responsible action in addressing the effects of climate change, so that we leave a cleaner, more stable environment for future generations.

Table 9-8 Timeframe for Implementation

Timeframe	Sustainability Pillar						
	Air Quality and GHG (AQG)	Energy (ENG)	Water Resources (WTR)	Quality of Life (QOL)	Land Use (LND)	Mobility (MBL)	Waste Management and Recycling (WST)
Ongoing	IM AQG 3.1	IM ENG 3 IM ENG 1.2 IM ENV 1.3 IM ENG 1.4 IM ENG 1.5 IM ENG 1.6 IM ENG 1.7 IM ENG 1.8 IM ENG 1.9 IM ENG 1.10 IM ENG 1.12 IM ENG 2.1 IM ENG 2.3 IM ENG 2.4	IM WTR 1	IM QOL 9.3 IM QOL 9.4 IM QOL 9.5 IM QOL 9.6 IM QOL 9.8 IM QOL 9.10 IM QOL 9.11 IM QOL 9.12 IM QOL 9.13 IM QOL 9.14 IM QOL 9.15 IM QOL 9.16 IM QOL 9.17	IM LND 6.1	IM MBL 2.1 IM MBL 2.7 IM MBL 2.8 IM MBL 2.9 IM MBL 2.10 IM MBL 2.11 IM MBL 2.12	IM WST 3.1 IM WST 3.3 IM WST 3.5 IM WST 3.6
2 years or less		IM ENG 1 IM ENG 2				IM MBL 2.3	IM WST 4.1
2–5 years		IM ENG 1.1 IM ENG 1.11 IM ENG 2.2		IM QOL 9.1 IM QOL 9.2 IM QOL 9.7		IM MBL 2.2	IM WST 3.2
5 years						IM MBL 2.4 IM MBL 2.5 IM MBL 2.6	IM WST 3.4
More than 5 years			IM WTR 2				

Fiscal Considerations

This section provides a summary of the potential funding sources and opportunities available for the implementation of sustainability programs and demonstration projects. The purpose of this section is to identify potential opportunities available to the City to secure financial resources and pursue partnerships with third parties, with the desired outcome of actualizing the goals and policies delineated in this Sustainability Element.

Types of Funding Sources

In addition to the City's typical operating budget, assessment fees, and user fees, the City may utilize outside funding sources for the implementation of projects and programs. These funding sources are in the form of bonds, grants, and partnerships and include federal, state, regional, local, and private sources. Leveraging these funding sources for development of these sustainability programs and projects allows for the preservation for the City's operating budgets for program operation and maintenance of City facilities and programs. A variety of options exist to further plan, design, and construct sustainability-focused programs and projects (see above).

Bonds are a common tool used to finance improvements. In finance, a bond is an instrument of indebtedness of the bond issuer to the holders. The most common types of bonds include municipal bonds and corporate bonds. Bonds can be in mutual funds or can be in private investing where a person would give a loan to a company or the government. There are generally four types of bonds that could be considered by the City to finance the implementation of capital improvements to achieve sustainability programs, goals, and policies: general obligation, catastrophe, resilience, and green (Table 9-9, Bonds).

Table 9-9 Bonds

Bond Type	Sustainability Pillar						
	AQ/ GHG	Energy	Water Resources	Quality of Life	Land Use	Mobility	Waste/ Recycling
General Obligation	X	X	X	X	X	X	X
Catastrophe				X			
Resilience	X	X	X	X		X	X
Green	X	X	X	X	X	X	X

Local governments can use **General Obligation bonds** to finance infrastructure investments, either for projects focused on climate adaptation or for general projects that incorporate resilience elements[1]. General Obligation bonds require a two-thirds majority vote.

Catastrophe bonds are triggered in the event of a designated natural disaster and can be used to finance recovery and insure against damage. Catastrophe bonds can be sponsored by cities.

Resilience bonds can be used to finance risk mitigation/adaptation projects as well as insure against extreme events. Resilience bonds give local governments rebates to fund projects.

Green bonds have mainly been used historically for sustainability and climate mitigation projects, but they are beginning to be used for adaptation. Green bonds may offer low interest rates. There is potential to use green bonds for projects that have adaptation and sustainability co-benefits.

Special Districts, Taxes, and Fees

The establishment of special districts is another financial tool available to the City. Special districts are an appropriate tool to facilitate the provision of specialized services to meet the needs of the City. Encompassing multiple local government entities, these districts require focused expertise and long-term partners that understand the nuances within the services they provide (Table 9-10, Special Districts, Taxes, and Fees). The City may also employ a local tax or an assessment fee to fund public services ranging from education to garbage collection and sewer maintenance. Local taxes come in many forms, from property taxes and payroll taxes to sales taxes and licensing fee (Table 9-10).

1 Jesse M. Keenan. Published by Routledge. 2019. Climate Adaptation Finance and Investment in California. Available at: http://opr.ca.gov/docs/20181106-Keenan_Climate_Adaptation_Finance_and_Investment_in_California_2018.pdf

Table 9-10 Special Districts, Taxes, and Fees

Special Districts, Taxes, and Fees Type	Sustainability Pillar						
	AQ/ GHG	Energy	Water Resources	Quality of Life	Land Use	Mobility	Waste/ Recycling
Special assessment districts			X	X	X		
Business improvement districts (BID)		X	X	X	X		X
Special taxes	X	X	X	X	X		X
Ad valorem property tax	X	X	X	X	X	X	X
Tax increment financing (TIF)	X	X	X	X	X	X	X
General taxes	X	X	X	X	X	X	X
Gas tax	X					X	
Service district fees		X	X				X
Carbon impact fee	X	X	X			X	X
Linkage fee		X	X	X			
Development impact fee	X	X	X	X	X	X	X
Transient occupancy taxes		X	X	X	X		X

Special assessment districts distribute the cost of improvement projects through taxes to the landowners in the district who are directly benefiting from the investment. They may require a majority vote from landowners for approval. Geological hazard abatement districts can be used to finance adaptation projects and have been used to mitigate coastal erosion and landslides.

Business improvement districts (BID) may be established through city ordinance. BIDs fund improvements through assessments against properties or businesses in the district. The investments must benefit those being assessed the cost. Cities can coordinate BIDs that cross city lines. For example, a BID could be used for an urban heat mitigation project to reduce energy costs, associated with cooling, for property owners.

Special taxes require majority vote approval. Special taxes could come in the form of parcel taxes, sales taxes, utility tax, business tax, and so forth. Revenue from special taxes may be used to fund adaptation projects. Special taxes are distinct from special assessment districts because they can generally benefit a region rather than have focused benefits to specific properties.

Ad valorem property taxes are based on property values and are an added local tax on top of state property taxes. Revenue earned can be used to finance General Obligation bonds. Ad valorem taxes apply in defined districts and require majority voter approval.

Tax increment financing (TIF) districts dedicate future increases in tax revenue to infrastructure improvements. Two types of TIFs are infrastructure finance districts and enhanced infrastructure finance districts (EIFDs). EIFDs are special districts that commit a percentage of future property tax revenue to fund infrastructure investments. Cities can establish EIFDs to finance climate adaptation projects. AB 733 (2017) explicitly authorizes municipalities to create EIFDs for “projects that enable communities to adapt to the impacts of climate change, including, but not limited to, higher average temperatures, decreased air and water quality, the spread of infectious and vector-borne diseases, other public health impacts, extreme weather events, sea level rise, flooding, heat waves, wildfires, and drought.” These districts do not add new taxes but rather dedicate future revenue.

General tax funds can be used to fund adaptation projects as line items on the general budget or by passing an expenditure plan.

A local **gas tax** can be added by a local government on top of the tax already collected by the state. This revenue could be used to fund adaptation projects related to transportation. Increasing local gas tax requires a majority vote.

Service district fees, such as sewage and water and utility rates, can be used to fund local government projects. Public utilities can use revenue from rates to fund projects that help them adapt to climate change.

Carbon impact fees can be required for new commercial development towards funding climate adaptation efforts, with exemptions for projects such as all-electric buildings or affordable housing that align with City climate adaption goals.

Linkage fees can be required for new developments to pay a fee to assist in paying for certain government services. Linkage fees have most commonly been used for affordable housing but could be used by governments to fund resilience projects on infrastructure associated with the new development.

Development impact fees can be required for new development in a designated area to pay a fee to fund projects that mitigate their impact. Impact fee revenue might be used fund adaptation projects and protect new development from climate impacts. Example uses of impact fees include flood mitigation infrastructure and urban greening.

Transient occupancy taxes can be collected by the city on temporary lodging such as hotels and motels. This tax is generally a percent of the total price of lodging charged. This is also known as a “hotel tax” or “bed tax.”

Grants

Public agencies throughout California use a wide variety of grant monies. Grants are available from a variety of sources, such as governments, local councils, and some charitable organizations. At the time of preparation of this Sustainability Element, a number of potential sources of grant monies could be used to support development and implementation of programs, goals, and policies related to sustainability by the City, residents, businesses, or other stakeholders (Table 9-11, Grants). The grant opportunities for climate adaptation listed below have been compiled from the SBCCOG’s climate adaptation strategies from the 2019 sub-regional CAP and a review of available federal, state, regional, and county grant opportunities.

Table 9-11 Grants

Grant Type	Sustainability Pillar						
	AQ/ GHG	Energy	Water Resources	Quality of Life	Land Use	Mobility	Waste/ Recycling
Active Transportation Program (ATP), California Transportation Commission and Caltrans						X	
CAL FIRE California Forest Improvement Program (CFIP)				X	X		
CAL FIRE Urban and Community Forestry grants	X		X	X	X		
California Climate Investments	X	X	X	X	X	X	X
California Coastal Conservancy (CCC) Climate Ready Program				X	X		
California Coastal Conservancy Proposition 1 grants			X	X	X		
California Department of Fish and Wildlife (CDFW) grants			X		X		
California Department of Forestry and Fire Protection (CAL FIRE) California Climate Investments Forest Health grant program			X	X	X		
California Department of Housing and Community Development (HCD) Housing-Related Parks program					X		
California Department of Parks and Recreation (DPR) Habitat Conservation Fund grants					X		
California Energy Commission Grants		X	X		X	X	

Table 9-11 Grants (continued)

Grant Type	Sustainability Pillar						
	AQ/ GHG	Energy	Water Resources	Quality of Life	Land Use	Mobility	Waste/ Recycling
California Infrastructure and Economic Development Bank (IBank) California Lending for Energy and Environmental Needs (CLEEN) Center-IBank Infrastructure State Revolving Fund (ISRF) program		X					
California Natural Resources Agency (CNRA) Urban Greening program		X	X	X	X		
California Ocean Protection Council (OPC) Proposition 1 grants			X				
California Office of Emergency Services (OES) Emergency Management Performance Grants				X			
California Senate Bill 5 (SB 5) California Drought, Water, Parks, Climate, Coastal Protection and Outdoor Access for All Act of 2018			X	X	X		
California State Parks' Office of Grants and Local Services (OGALS) Program					X	X	
California Wildlife Conservation Board-Adaptation and Resiliency Program					X		
Community Development Block Grant Program (CDBG) U.S. Department of Housing and Urban Development (HUD)		X	X	X	X		
Environmental Enhancement and Mitigation Funds (EEMP), California Natural Resources Agency					X	X	

Grant Type	Sustainability Pillar						
	AQ/ GHG	Energy	Water Resources	Quality of Life	Land Use	Mobility	Waste/ Recycling
Land and Water Conservation Fund (LWCF) Grants, California Department of Parks and Recreation				X	X	X	
Los Angeles County Measure W (2018) Safe Clean Water Program grants			X				
Los Angeles County Safe, Clean Neighborhood Parks and Beaches Measure of 2016 (Measure A) grants			X	X	X	X	
OPC Proposition 84 grants			X				X
Rivers, Trails and Conservation Assistance (RTCA) Program, National Park Service (NPS)					X	X	
SGC Transformative Climate Communities (TCC) program	X	X					
Smart Growth Program, U.S. Environmental Protection Agency					X	X	
Southern California Association of Governments (SCAG) Sustainable Communities Program					X	X	
Strategic Growth Council (SGC) Affordable Housing and Sustainable Communities (AHSC) program					X	X	
Sustainable Communities Planning Grant and Incentives (SCPGI) Program, California Strategic Growth Council	X					X	
Transportation Investment Generating Economic Recovery (TIGER) grants				X		X	
Water Resources Board Grants			X				

Other Potential Sources

In addition to traditional sources of funding, such as bonds, special districts, taxes, fees, and grants, there are seven additional potential sources of funds that might be used by the City, residents, businesses, or other stakeholders for specific types of sustainability projects (Table 9-12, Other Potential Sources). These parties may be able to provide funding for certain types of projects if they align with regional goals and GHG reduction strategy implementation measures.

Potential Partnerships

The issues and challenges that are faced by the City to achieve their desired outcomes related to progressing towards a carbon-neutral future are of a magnitude that warrants the consideration of development of partnerships and alliances that can support the City's progress toward contributing to a more sustainable future. Collaboration with other aligned institutions is a powerful tool that can be used by the City in their pursuit of sustainable outcomes (Table 9-13, Potential Partnerships). Partnerships are recommended with other agencies, organizations, and utility providers that share common goals and for which potential co-benefits exist, such as demonstration projects and more regional utility upgrades that support GHG emissions reductions.

Table 9-12 Other Potential Sources

Funding Source	Sustainability Pillar						
	AQ/ GHG	Energy	Water Resources	Quality of Life	Land Use	Mobility	Waste/ Recycling
California State cap-and-trade revenues	X	X	X	X	X	X	X
Developer contributions (monetary or in-kind)	X	X	X	X	X	X	X
Federal stimulus/infrastructure packages	X	X	X	X		X	X
Local Congressmember's appropriations requests	X	X	X	X	X	X	X
Los Angeles Metropolitan Transportation Authority (Metro) Measure M local return						X	
South Coast Air Quality Management District (SCAQMD)	X	X		X		X	
Southern California Edison (SCE) rebate programs		X				X	

Table 9-13 Potential Partnerships

Potential Partnership	Sustainability Pillar						
	AQ/ GHG	Energy	Water Resources	Quality of Life	Land Use	Mobility	Waste/ Recycling
California Coastal Commission			X		X		
California Department of Toxic Substances Control (DTSC)							X
Clean Power Alliance (CPA)	X	X					
Elected officials (County Supervisor, U.S. Representative)	X	X	X	X	X	X	X
Energy Upgrade California		X					
Los Angeles County Sanitation Districts			X				X
Los Angeles County, Department of Building & Safety		X	X		X		
Los Angeles Department of Transportation (LADOT)						X	
Los Angeles Metropolitan Transportation Authority (Metro)						X	
Metropolitan Water District of Southern California (MWD)			X	X	X		
Other Palos Verdes Peninsula Cities (e.g., Rolling Hills, Palo Verdes Estates, Rancho Palos Verdes Torrance)	X	X	X	X	X	X	X
Palos Verdes Peninsula Land Conservancy				X	X		
Palos Verdes Transit Authority						X	
Sierra Club	X	X	X		X		X
South Bay Cities Council of Governments (SBCCOG)	X	X				X	
South Coast Air Quality Management District (SCAQMD)	X					X	
South Coast Botanic Garden			X	X	X		
Southern California Association of Governments (SCAG)	X	X		X	X	X	
Southern California Edison (SCE)	X	X				X	
U.S. Green Building Council (USGBC)	X	X	X		X		
UCLA Luskin Center for Innovation		X	X	X			X
Waste Management							X
West Basin Municipal Water District			X		X		

Appendix A:
Community Input Survey Results

Appendix 9-A: Community Input Survey Results

The Sustainability Element has been prepared with input from the City's General Plan Advisory Committee (GPAC), Environmental Advisory Committee (EAC), and individual members of the community. Four meetings were held regarding the Sustainability Element:

- December 15, 2020: Joint EAC-GPAC visioning meeting
- March 8, 2021: EAC meeting to review the characterization existing conditions
- March 29, 2021: Community meeting
- April 7, 2021: EAC meeting focused on goals and policies

From December 22, 2020, to January 6, 2021, visioning survey results were collected from the City's GPAC and EAC for the Sustainability Element. On February 10, 2021, the City posted social media notices, website notices, and sent email blasts to the stakeholder distribution list and EAC for a community input map online survey. Survey responses were collected from February 10, 2021 through April 19, 2021. In mid-March 2021, the City posted social media notices, website notices, and sent email blasts to the stakeholder distribution list and EAC for a text-based community input survey via SurveyMonkey. Survey responses were collected from mid-March 2021 through April 19, 2021.

The survey for public input formulated questions that encompassed the importance of the pillars; defining or interpretation of sustainability; willingness to participate in programs; household effort towards sustainability such as recycling, composting, energy, and water conservation; transportation modes, usage, preferences, barriers, and concerns; and lifestyle or quality of life as it relates to accessibility of food, community districts, and getting around town via varying modes as walking, biking, equestrian, public transit, and driving.

Sustainability Pillars

The most important pillars to the participants, in order of preference, were land use (65%), quality of life and waste management at a tie for second (50%), followed by air quality and water resources (35%), energy (20%), and mobility (5%).

Participants

The survey participants varied in age, gender, and ethnicity. For instance, the age groups were ages 25 to 35 years old, 45 to 54 years old, 55 to 64 years old, and 65+ years old. The largest participating group was the 65+ age group (42.9%) followed by 55 to 64 age group (38.1%), 45 to 54 age group (14.3%), and 25 to 34 age group (4.8%). In addition, the gender participation was almost equally balanced with male participation at 47.6% and female participation was slightly higher at 52.4%. There was no self-identified gender participation. Furthermore, the ethnic makeup included three categories: White/Caucasian, Asian/Asian American, and Hispanic/Latino. The participation of White/Caucasian (89.5%), Asian/Asian American (10.5%), and Hispanic/Latino (5.3%) is listed in order from highest participation to lowest, respectively, which added to a total percentage of 105.3%. The percentage

was tallied based on participation numbers, which indicated that 19 participants responded while 2 participants skipped the question, totaling 21 participants overall. Yet itemized totals indicated that the White/Caucasian category had 17 responses, Asian/Asian American had 2 responses, and Hispanic/Latino had 1 response, totaling 20 responses. The difference in the total numbers of participants and the itemized category responses is why the total percentage is over 100.

Defining Sustainability

Participants were asked to describe sustainability towards the later part of the survey. It was defined in a variety of ways. There were various terms used from overall or larger concepts down to topic-level concepts: reuse, recycle, efficient, minimize footprint of waste and emissions, conservation, less waste, rewilding, renewable resources, preserve for multiple generations, not short term, and measures to effectively optimize the use of our finite resources. Another interpretation included a description as minimizing waste through recycling, efficient use of energy, procuring consumables from local sources, buying from local businesses, and creating energy locally for community use.

Citywide and Community Participation

Participants were asked in a variety of questions about participation in programs as well as in sustainability efforts that would contribute toward the community and/or at the citywide level. Most participants were open to receiving informational material on programs and most were likely to participate in citywide programs. For instance, regarding informational material on programs for increasing air quality and reducing carbon footprint, 73.7% of participants said yes, they were interested. As to informational material for programs regarding reducing household waste, water use, and energy use, the responses were all yes. The response to reduction of waste was at 71.4%, reduction in water use at 52.4%, and reduction in energy use during summers and winters response were at 66.7%. Surprisingly, only 47.6% responded to being interested in the CPA Program.

Waste Management and Recycling

Participants were asked a series of questions regarding recycling, composting, and green waste. For an overall question asking if participants are actively composting or recycling green waste at home, over half the participants answer yes (57.1%). In addition, with regard to rubbish receptacles, the next series of questions asked how full the waste bins were during the weekly pickups. The responses were based on the level or capacity of the bins such as full, half full, or nearly empty. The responses for the trach bins at full and half full were tallied at 42.9% for each capacity, and for nearly empty only 14.3%. The tallies for the level of the recycling bin were completely full at 57.4%, half full at 42.9%, and none under nearly empty. Likewise, the tallies for green waste consist of completely full at 71.4%, half full at 19.1%, and nearly empty at 9.5%.

Energy

Participants were asked a variety of questions related to audits, solar panels, and energy sources. For instance, when asked if participants had participated in home energy audits, the response was an overwhelming no at 80.9%, with the remaining 19.1% answering yes. Likewise, for having solar panels on roofs, 80.9%

answered no, with the remaining 19.1% answering yes. Regarding household renewable sources, 85.7% responded no, and 14.3% responded yes. Of the participants responding yes, the sources within households consisted of hydrogen fuel, electric vehicles, hybrid vehicle, solar panels for photovoltaic and hot water heater, plus solar water heater.

Water Resources

The participants were asked about water capture and grey water use. For instance, for water use, the participants were asked if they used on-site water such as from rain barrels, diversion tank or cisterns for irrigation purposes. The responses were 71.4% no and 28.6% yes. As to greywater, they were asked if there was a current grey water system in place, and the response was 100% no.

Mobility

For mobility, there were two categories based on input: comments from questions under the online survey and user comments from the city map. They are described under each of the two subcategories: Survey Input and City Map.

Survey Input

For the online survey, a series of questions relating to transportation, mode of transport, emission type, public trails (equestrian and pedestrian related), biking, and public transit systems as well as possible barrier to some of the mobility options. First, participants were asked to identify their preferred method of transport around town. The most preferred method was gasoline powered at 65%. The tally followed in a descending order: other mode such as hybrid or hybrid gas/electric (15%), electric (10%), hydrogen (5%), and by horse (5%). The number of vehicles per household was 2-3 vehicles at 80.9%, followed by 1 vehicle at 14.3%, and 4 or more vehicles at 4.8%. When asked if the household currently uses zero-emissions vehicles, an overwhelming 95.2% said no and only 4.8% said yes.

When it came to trails, the question of how often the participant used the trails resulted in 2-3 times a week being the most common response at 52.4%, followed by less than 1 time a month at 33.3%, 1 time a week at 9.5%, and 1 time a month at 4.8%. The participants were also asked two follow-up questions: whether they would be willing to use the trails more if the trails were expanded or extended to the business district, and if they would be willing to use the trails more if the trails had safety improvements. On the first follow-up question, 61.9% said no. On the second follow-up question, 52.4% said yes. However, based on the answers, it seems that the expansion or extension of trails may not motivate people as much as increasing the safety factor through improvements.

Some barriers or challenges were identified during the survey process. For instance, to determine areas of challenges, the participants were asked about other modes of mobility that included walking or using assisted mobility device, biking, equestrian, transit/bus, or driving. The first part of this question identified the percentage of usage among the various modes: walking/using assisted mobility device (42.9%), biking (42.9%), equestrian (28.6%), transit/bus (42.8%), and driving (42.8%). As to walking or other mobility device, challenges were identified as dealing with worn asphalt sidewalks, difficult for people using walkers (vibration, uncomfortable), no walking trails/path at Peninsula Center, noisy and heavy traffic on Hawthorne/Crenshaw, and allowing strollers on trails—stroller path from PVDN to botanic gardens for safely

walking from Palos Verdes. Biking challenges included safety concerns and that the area was too hilly. For equestrian, the challenge was no hitching posts for horses (at the business district). For transit/bus, responses included that no one uses the bus to take kids and run errands around the hill and that they would love to take buses to the commercial district, but the schedule is not convenient. Under driving, the responses included that the participants own cars because it is convenient and will never use the public bus and that there is traffic. When asked if participants would visit the commercial district more via walking, bike riding, or horse riding, a small majority of 52.4% said no.

City Map

Input provided by participants to the online city map has been categorized in relation to pedestrian, biking, and driving use.

Pedestrian Input

- Two-foot sidewalk either needs to be expanded or neighbors backing along Silver Spur Blvd need to maintain their brush encroaching along sidewalk. People walking/biking that use the sidewalk do not have enough space between plants.
- AM Congestion
- Walk to Ralphs
- Well-designed walkways. Model for any new pedestrian/bike routes
- Pedestrian route circuitous and uninviting.
- Pedestrian route from Peninsula Shopping Center to the Post Office is circuitous, dangerous and uninviting. Starting at Penn Center upper level, the walker has to go to lower level by walking down a narrow walkway that terminates at a stairway taking the walker to a parking lot, then the walker has to go across parking area to the walkway that takes the walker to Deep Valley Rd. After crossing the street, the walker is sent to the second level of the Promenade or must walk along a driveway to…
- Pedestrian walkway along driveway down to lower level is narrow and ends before the driveway reaches the lower level.
- Walkway takes walker to second level of the Promenade, which encourages the walker to instead walk along the driveway leading to the parking lot.
- Frequently walk to Dapplegray Lanes' homeowners ring
- My family walks along the botanical garden trail either to Chandler Park or beyond empty saddle club
- My family walks along PV Dr N to Chandler Park, City Hall, and Dapplegray Lanes to see the Peacocks. The vehicles are traveling well above the posted speed limit. Other times there is congestion. I'm concerned the high speed limit is pitching traffic from PCH onto PV Dr N and into our community. I've witnessed Waze when on PCH tell me to take PV Dr N even when I'm heading North to avoid PCH traffic. Is it possible a lower speed limit would actually help with congestion?
- Could use a bike path/jogging path/stroller allowable walkway on Rolling Hills Rd. You can't use the horse trail so you're otherwise basically on the street.

- Crossing to Silver Spur Elem — anything to make it more kid friendly since there isn't a crossing guard.
- Add pedestrian access to the Botanic Gardens. It is walking distance from home, but only if I walk my early elementary kids down Crenshaw, which isn't a pedestrian-friendly plan. There's a bridge already — remove the locked gate.
- Please allow access from the horse/hiking trails to the botanical garden entrance, increasing the walkability of our neighborhoods and increasing safety for the children of our community.
- Remove trees and widen sidewalk to accommodate two walkers.
- Add concrete walk between the NE concrete walk from the NE corner of PV Dr N & Hawthorne Blvd to the Bus Stop like you have on the SW corner.

Biking Input

- Need more bicycle paths as those path lead to public space also nature area as well major bus lines.
- Barriers - No official mark paths
- Children who need to bike around do not have space on the sidewalk to go from Montemalaga to PV Dr N along Silver Spur.
- Destination - Bike from my home to Crest Road
- Routes - Well designed, safe biking route used by families even with young children as well solo bikers.

Driving Input

- Destination
  - Homeowners' association of 368 town homes over 68 acres
  - frequent destination
  - frequent trips
  - home
  - AM Congestion
  - To go from Silver Spur/PVDN to PVDE/PVDN can take 45 mins in the afternoon (normal school session). Alleviate congestion and people speeding & overtaking from right turn lane going to Westfield
  - Make many trips to the post office
  - Ralph's grocery store
  - Rolling Hills United Methodist Church
  - Frequent destination for horse trailers
- Route
  - Congestion
  - PM congestion
- Barrier
  - Traffic Congestion
  - PM Congestion

Quality of Life

Nearly all the participants (95.2%) get their household groceries at the local grocery store, while less than half of the participants also attend a farmer's market for household groceries. Regarding community gardens, 80% of participants said they would not use one, while 61.9% said they would not use one even if they were available. As to noise, 80.9% of participants said they live in a very quiet neighborhood, while 19% live in occasionally noisy neighborhoods, and none live in neighborhoods exposed to regular noise sources.

Sustainability Improvements

Participants also voiced their concerns and provided input toward sustainability improvements for the City. Comments include allowing water reclamation opposed to past years of frustration; organizing "feet buses" by schools for safe travel for children to/from school; encouraging walking to parks, where feasible; increasing solar use in the commercial district; including a composting program or via the weekly rubbish pick-ups similar to Redondo Beach; encouraging the use of Palos Verdes Transit Authority as much as possible; improving residential bandwidths to allow for telecommuting and reduce need for transportation; consideration of large water collection such as ponds, tanks, or systems similar to Redondo Beach; education on grey water systems for embracing concept by community; and that the business district makes for a difficult trek by foot or bicycle along the Palos Verdes Drive corridor for accessing shops, restaurants, and stores.