

# GREENHOUSE GAS REDUCTION STRATEGY

for the  
CITY OF SAN JOSÉ  
June, 2011

## Purpose

The City of San José has prepared this Greenhouse Gas Reduction Strategy (GHGRS, or Strategy) in conjunction with the preparation of the *Envision San José 2040 General Plan Update* process to ensure that the implementation of the General Plan Update aligns with the implementation requirements of Assembly Bill 32 (AB32) – the Global Warming Solutions Act of 2006. AB32 requires the State of California as a whole to reduce greenhouse gas emissions to 1990 levels by the year 2020.

The purposes of this Greenhouse Gas Reduction Strategy are to:

1. Capture and consolidate GHG reduction efforts already underway by the City of San José;
2. Distill policy direction on GHG reduction from the *Envision San José 2040 General Plan Update*;
3. Quantify GHG reductions that could result from land use changes incorporated in the *Envision General Plan Land Use / Transportation diagram*;
4. Create a framework for the ongoing monitoring and revision of this Greenhouse Gas Reduction Strategy;
5. Achieve General Plan-level environmental clearance for future development activities (through the year 2020) occurring within the City of San José.

This GHG Reduction Strategy has been prepared in accordance with the Bay Area Air Quality Management District (BAAQMD) California Environmental Quality Act (CEQA) Guidelines, and in conformance with CEQA Guidelines Section 15183.5, which specifically addresses Greenhouse Gas Reduction Plans.

The State CEQA Guidelines for Greenhouse Gas Reduction Strategies include requirements to describe current and projected future greenhouse gas emissions, including potential reduction measures, and a comparison of these projected emission quantities to a future reduction target. The State Guidelines also require Greenhouse Gas reduction strategies to include a plan for monitoring the local jurisdiction's progress in implementing the Strategy, and require that the Strategy be adopted in a public process including environmental review. The *Envision San José 2040 General Plan Update* included an extensive public review process and preparation of an Environmental Impact Report in fulfillment of these requirements.

This Strategy document provides: 1) an overview of the environmental context, including an overview of climate science and background information regarding greenhouse gas emissions; 2) a summary of the State of California's and the San Francisco Bay Area Region policy frameworks for regulation of greenhouse gases; and 3) the City of San José's approach to establishing a greenhouse gas reduction target within the overall policy context, including reduction measures and actions largely contained in the *Envision San José 2040 General Plan*.

# Background – Environmental Context

## *Climate Science Overview*

Unlike emissions of criteria pollutants (six common air pollutants including nitrogen dioxide, carbon monoxide, ozone, sulfur dioxide, particulate matter and lead) and toxic air pollutants, which have local or regional impacts, emissions of GHGs have a broader, global impact. Global warming is a process whereby GHGs accumulating in the atmosphere contribute to an increase in the temperature of the earth's atmosphere. The principal GHGs contributing to global warming are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and fluorinated compounds. The primary GHGs of concern and their climate change potential are summarized in Table 1.

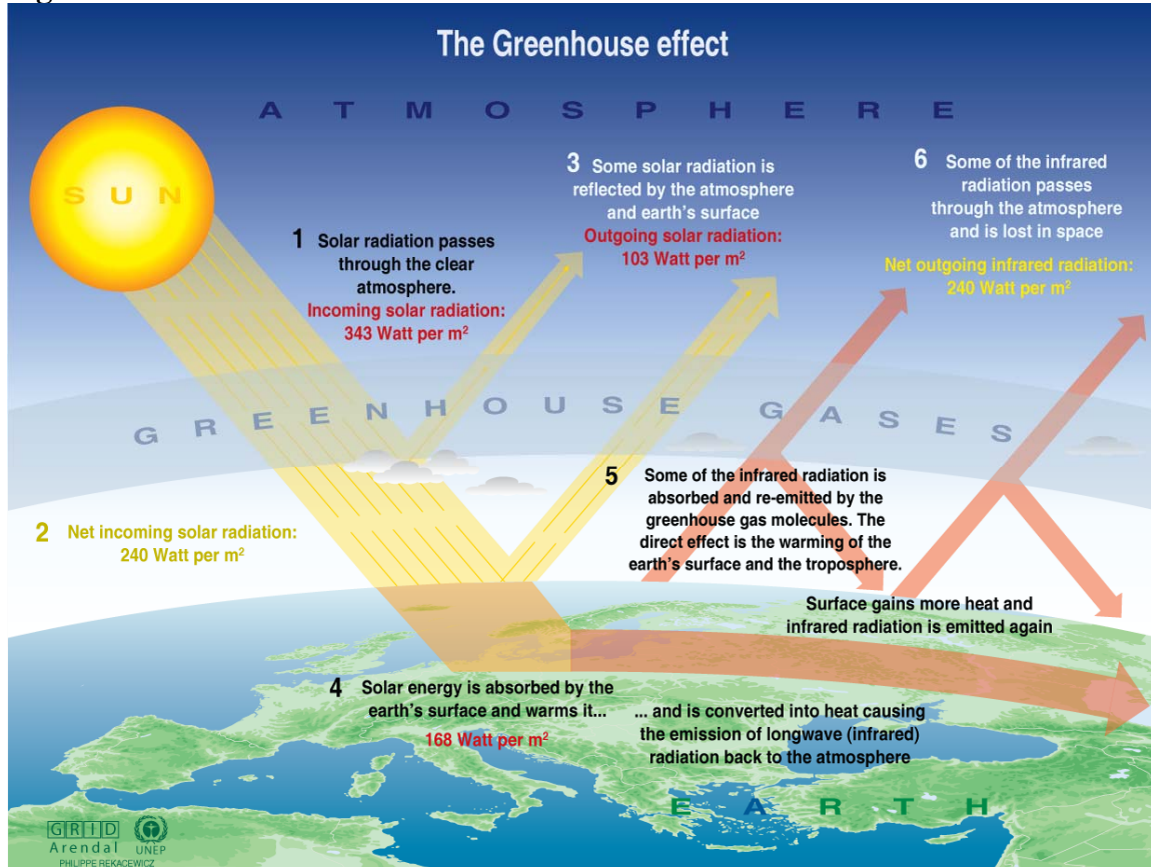
Greenhouse gases allow visible and ultraviolet light from the sun to pass through the atmosphere, but they prevent heat from escaping back out into space, a process known as the 'greenhouse effect', which is described graphically in Figure 1. Human-caused emissions of these GHGs in excess of natural ambient concentrations are understood to be responsible for intensifying the greenhouse effect and have led to an alteration of the balance of energy transfers between the atmosphere, space, land, and the oceans and a trend of unnatural warming of the earth's climate. According to the Intergovernmental Panel on Climate Change (IPCC), it is extremely unlikely that global climate change of the past 50 years can be explained without the contribution from human activities.

For example, the global atmospheric concentration of the greenhouse gas carbon dioxide has increased from an estimated pre-industrial value of about 280 parts per million (ppm) to 379 ppm in 2005. Previous scientific assessments assumed that to limit global temperature rise to just 2-3°C above pre-industrial levels, greenhouse gas concentrations would need to be stabilized in the range of 450-550 parts per million (ppm) of carbon dioxide-equivalent (CO<sub>2</sub>e). Now the science indicates that a global temperature rise of 2°C would not prevent dangerous interference with the climate system. Recent scientific assessments suggest that global temperature rise should be kept below a 2°C increase over pre-industrial levels by stabilizing greenhouse gas concentrations below 350 ppm CO<sub>2</sub>e, a significant reduction from the current level of 385 ppm CO<sub>2</sub>e.<sup>1</sup>

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<sup>1</sup> BAAQMD. *Bay Area AQMD Air Quality CEQA Guidelines*. May 2011. Available at: <[http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines\\_May%202011\\_5\\_3\\_11.ashx](http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines_May%202011_5_3_11.ashx)>

Figure 1: Schematic of the Greenhouse effect.



Sources: Okanagan university college in Canada, Department of geography, University of Oxford, school of geography; United States Environmental Protection Agency (EPA), Washington; Climate change 1995, The science of climate change, contribution of working group 1 to the second assessment report of the intergovernmental panel on climate change, UNEP and WMO, Cambridge university press, 1996.

In order to create a methodology to assess relative levels of greenhouse gases, the notion of a carbon dioxide equivalent (CO<sub>2e</sub>) has been created. CO<sub>2e</sub> is a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential (GWP) of a GHG, is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, one ton of methane (CH<sub>4</sub>) has the same contribution to the greenhouse effect as approximately 21 tons of carbon dioxide (CO<sub>2</sub>) (refer to Table 1). Therefore, CH<sub>4</sub> is a much more potent GHG than CO<sub>2</sub>. Expressing emissions in CO<sub>2e</sub> takes the contributions of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if all greenhouse gases were CO<sub>2</sub>.

**Table 1**  
**Examples of Greenhouse Gases**

Gas	Sources	Global Warming Potential <sup>1</sup>
Carbon dioxide (CO <sub>2</sub> )	Fossil fuel combustion in stationary and point sources; emission sources includes burning of oil, coal, gas.	1
Methane (CH <sub>4</sub> )	Incomplete combustion in forest fires, landfills, and leaks in natural gas and petroleum systems, agricultural activities, coal mining, wastewater treatment, and certain industrial processes.	21
Nitrous oxide (N <sub>2</sub> O)	Fossil fuel combustion in stationary and point sources; other emission sources include agricultural soil management, animal manure management, sewage treatment, adipic acid production, and nitric acid production.	310
Chlorofluorocarbons (CFC) and Hydro-chlorofluorocarbons (HCFC)	Agents used in production of foam insulation; other sources include air conditioners, refrigerators, and solvents in cleaners.	140-11,700
Sulfur hexafluoride (SF <sub>6</sub> )	Electric insulation in high voltage equipment that transmits and distributes electricity, including circuit breakers, gas-insulated substations, and other switchgear used in the transmission system to manage the high voltages carried between generating stations and customer load centers.	23,900
Perfluorocarbons (PFC's)	Primary aluminum production and semiconductor manufacturing.	6,500 - 9,200

<sup>1</sup>The concept of a global warming potential (GWP) was developed to compare the ability of each greenhouse gas to trap heat in the atmosphere relative to another gas. The definition of a GWP for a particular greenhouse gas is the ratio of heat trapped by one unit mass of the greenhouse gas to that of one unit mass of CO<sub>2</sub> over a specified time period.

Sources: U.S. EPA. *High Global Warming Potential Gases*. Available at: <http://www.epa.gov/highgwp/scientific.html>

The EPA defines high global warming potential gases (high GWPs) as those from 140-23,900 times more potent than CO<sub>2</sub> in terms of their capabilities to trap heat in the atmosphere over a 100-year period.

U.S. EPA. *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 – 2008*. Available at:

[http://epa.gov/climatechange/emissions/downloads10/US-GHG-Inventory-2010\\_Report.pdf](http://epa.gov/climatechange/emissions/downloads10/US-GHG-Inventory-2010_Report.pdf)

## **Statewide and Regional Emissions Inventories**

### **California Emissions Inventory**

The California Air Resources Board (CARB) has compiled a GHG inventory of statewide human-generated GHG emissions and GHG sinks (ways to trap to lessen carbon dioxide emissions).<sup>2</sup> Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the transportation, utility, industrial/manufacturing, residential, commercial and agricultural sectors.<sup>3</sup> Combustion of fossil fuel in the transportation sector (which includes all cars on the road) was the single largest source of California's GHG emissions from 2000-2008, accounting for 36.5 percent of the state's total GHG emissions (Figure 2). This sector was followed by the electric power generation sector including both in-state and out-of-state sources (24 percent) and the industrial sector (21 percent). It is important to understand the sources of greenhouse gas emissions, in order to better understand how to reduce them.

Gross emissions of greenhouse gas across California have increased 4.3 percent from the year 2000 to 2008, from 458 million metric tons (MMT) of CO<sub>2</sub>e in 2000 to 478 million metric tons in 2008, peaking at a maximum of 484 million metric tons in 2004. During the same period, California's population grew by 11.8 percent from 34.1 to 38.1 million people and the rate of GHG emissions per person decreased from 13.4 to 12.5 metric tons of CO<sub>2</sub>e per person per year.

In 2008, due in part to significantly increased fuel prices, there was a slight decrease in total vehicle miles traveled on California highways. Emissions associated with electric power generation varied with hydrologic conditions and the amount of hydropower that was produced in-state or imported, because hydropower does not emit greenhouse gases. There was no clear overall trend for industrial emissions over this same eight year period and emissions from the commercial and residential sectors have remained about the same from 2000 to 2008.<sup>4</sup>

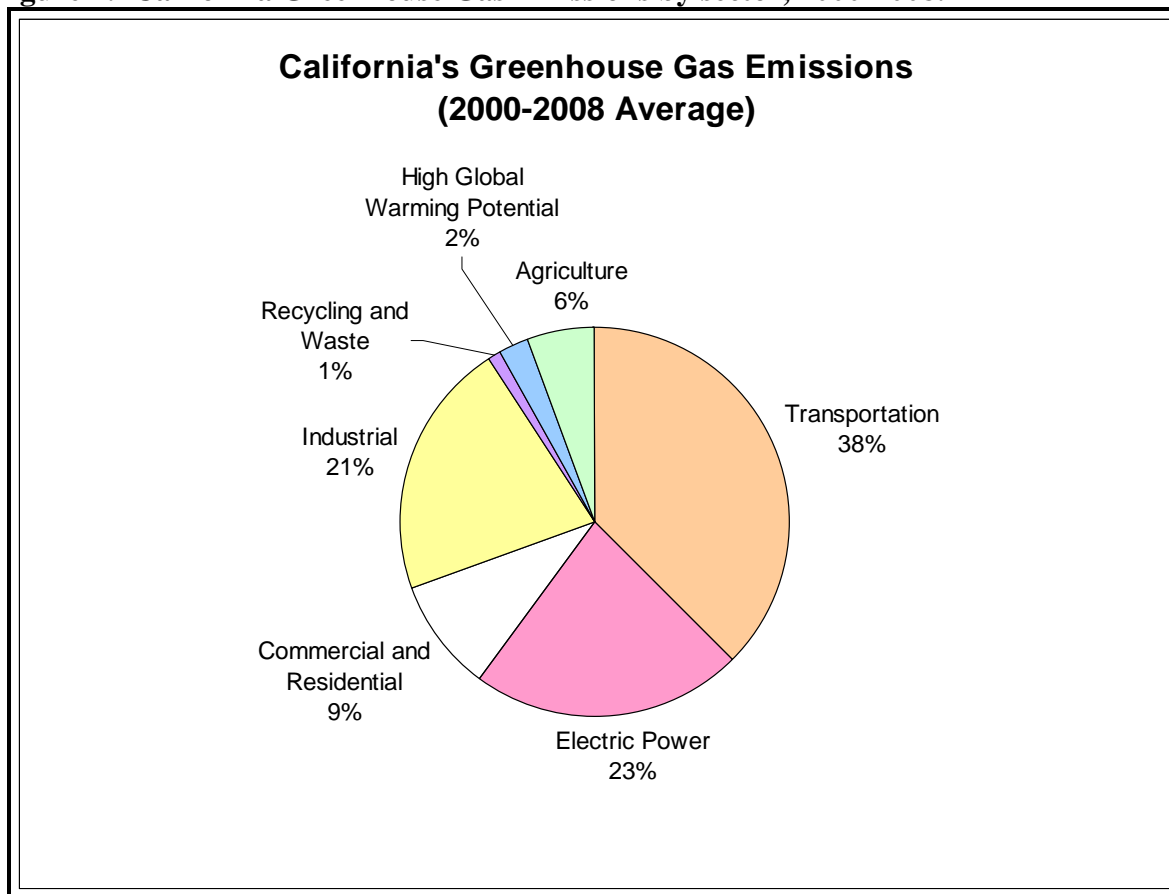
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<sup>2</sup> California Air Resources Board. *California Greenhouse Gas Inventory for 2000-2008*. May 12, 2010. Available at: < <http://www.arb.ca.gov/cc/inventory/data/data.htm> >.

<sup>3</sup> High Global Warming Potential (GWP) emissions, as defined in the California Scoping Plan, are gases that pose unique challenges because just a few pounds of these materials can have an equivalent effect on global warming as several tons of carbon dioxide and they persist in the atmosphere for a long time. High GWP chemicals are used in many different applications such as refrigeration, air conditioning systems, fire suppression systems, the production of insulating foam, and insulating electrical equipment such as transformers. High GWP gases are primarily released through leaking systems and during disposal.

<sup>4</sup> California Air Resources Board. *Trends in California Greenhouse Gas Emissions for 2000 to 2008 – by Category as Defined in the Scoping Plan*. May 28, 2010. Available at: <[http://www.arb.ca.gov/cc/inventory/data/tables/ghg\\_inventory\\_trends\\_00-08\\_2010-05-12.pdf](http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_trends_00-08_2010-05-12.pdf)>

**Figure 2: California Greenhouse Gas Emissions by sector, 2000-2008.**



### **Bay Area Emissions Inventory**

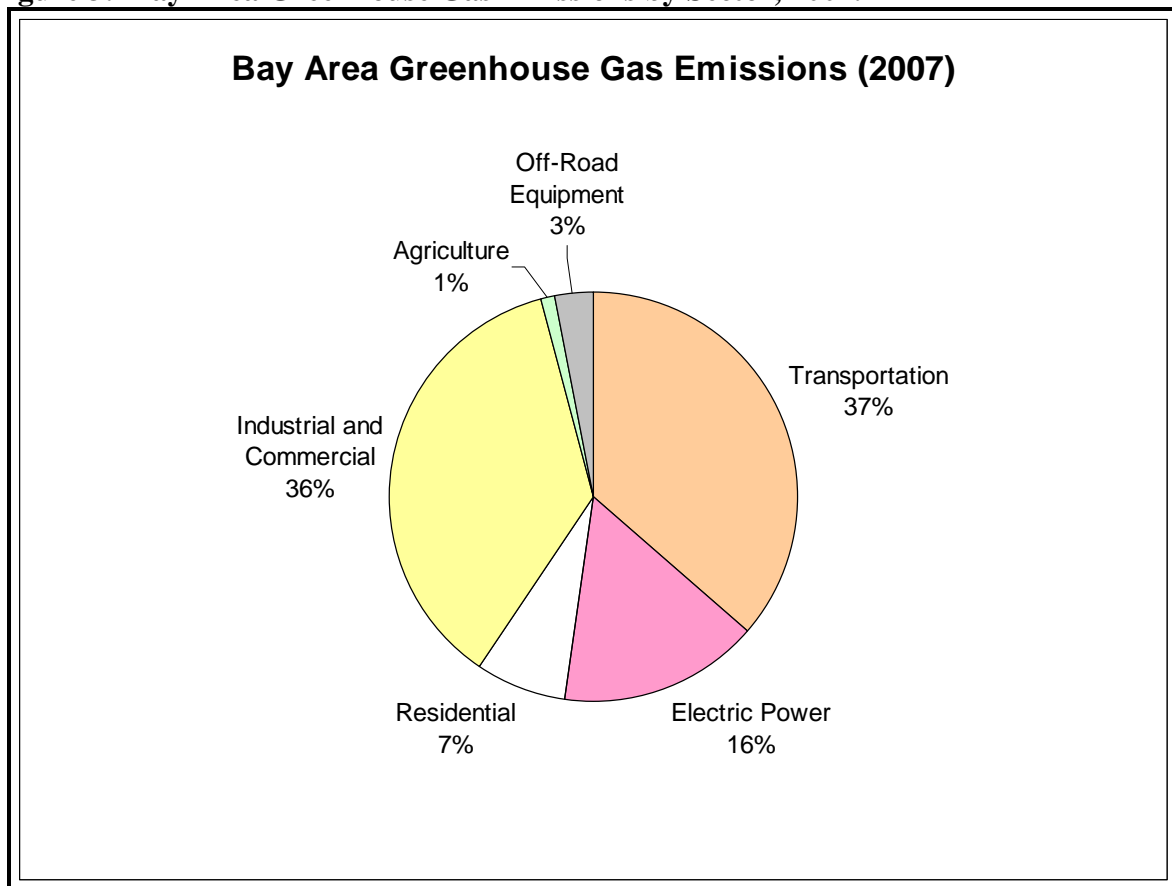
An inventory of greenhouse gas emissions for the Bay Area region has been prepared by BAAQMD for GHGs contributing to climate change. This Greenhouse Gas Source Inventory estimates direct and indirect emissions from emission sources within the BAAQMD jurisdiction. Direct emissions refer to emissions produced from onsite combustion of energy, such as natural gas used in furnaces and boilers, emissions from industrial processes, and fuel combustion from mobile sources. Indirect emissions are emissions produced offsite from energy production and water conveyance due to energy use and water consumption. The latest version of the BAAQMD inventory, updated in 2010, provides information on 2007 emissions.<sup>5</sup> In 2007, there were an estimated 95.8 million metric tons of GHG emission associated with the nine Bay Area counties. As shown in the summary by sector of the California statewide inventory, transportation is one of the largest sources of GHG emissions, contributing 36.4 percent in the Bay Area and 38% for California (refer to Figures 2 and 3). In the Bay Area, industrial and commercial uses emitted a similar amount of GHG emissions (36.4 percent) followed by electricity generation (15.9 percent) and residential uses (7.1 percent).

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<sup>5</sup> BAAQMD. "Greenhouse Gases". Available at: <<http://www.baaqmd.gov/Divisions/Planning-and-Research/Emission-Inventory-and-Air-Quality-Related/Emission-Inventory/Greenhouse-Gases.aspx>>

The BAAQMD GHG emissions inventory also provides a breakdown of GHG emissions by County. Santa Clara County produces slightly less GHG emissions on a per capita basis than the region as a whole, with emissions from Santa Clara County making up 19.6 percent of the total GHG emissions and 25 percent of the total population for the nine Bay Area counties. In Santa Clara County, approximately 42 percent of GHG emissions were associated with transportation, 25 percent with industrial and commercial processes and operations, 19 percent with electricity use or generation, 8.5 percent with residential fuel use and the remainder with off road equipment (such as planes, construction vehicles, and boats) and agricultural operations. This data highlights that measures to reduce GHG emissions from vehicles will likely need to be a primary means of reducing the overall levels of greenhouse gas emissions within Santa Clara County.

**Figure 3: Bay Area Greenhouse Gas Emissions by Sector, 2007.**



The City of San José’s Greenhouse Gas Reduction Strategy uses 2008 as a baseline year for an estimate of community-wide GHG emissions. The estimated emissions are summarized in Table 2. (2008 was selected as an appropriate baseline year based upon data availability and economic conditions at that time.) The Greenhouse Gas emissions baseline for the year 2008 is 7.61 million metric tons of CO<sub>2</sub>e. Consistent with statewide and regional GHG emissions inventories, transportation activity within San José produces the highest proportion of GHG emissions, but account for a higher percentage of the total local emissions than they do for either Bay Area or statewide emissions (46 percent of the local component compared to about 37 percent for the region or state). Emissions from the transportation sector are further broken down in Table 3. Residential emissions for San José are estimated to be slightly higher than the level of commercial

and industrial emissions. (Note that emissions for a local power plant, the Metcalf Energy Center, are not included in the industrial sector because emissions associated with the production of energy by the power plant are already accounted for in the calculation of emissions related to the various land uses that act as consumers of that power.<sup>6</sup>)

<b>Table 2</b>		
<b>2008 Baseline GHG Emission Inventory for San José</b>		
<b>Sector/Category</b>	<b>Annual Emissions MMT CO<sub>2</sub>e</b>	<b>Percent</b>
Transportation <sup>7</sup>	3.52	46.3
Residential	1.47	19.3
Commercial	1.33	17.5
Industrial	1.03	13.5
Waste	0.26	3.4
<b>Total Baseline GHG Emissions</b>	<b>7.61</b>	<b>100</b>

Source: City of San José.

<b>Table 3</b>		
<b>2008 Baseline Transportation Sector GHG Emission Inventory</b>		
<b>Vehicle Type</b>	<b>2008 GHG Emissions (MMT CO<sub>2</sub>e)</b>	
	<b>Within City</b>	<b>City-Generated</b>
<b>On-Road Vehicles</b>	<b>3.270</b>	<b>3.475</b>
Light-Duty Vehicles <sup>a</sup>	2.808	2.995
Medium- and Heavy-Duty Vehicles	0.462	0.481
<b>Off-Road Vehicles</b>	<b>0.042</b>	<b>0.042</b>
Locomotives	0.009	0.009
Ships & Boats	0.021	0.021
Commercial Aircraft & Ground Support Equip.	0.012	0.012
<b>Total Transportation Sector GHG Emissions</b>	<b>3.31</b>	<b>3.52</b>

<sup>a</sup> Includes medium-duty passenger vehicles (commercial medium-duty vehicles represented in row below).

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<sup>6</sup> Emissions from the Metcalf Energy Facility in 2008 and reported to the ARB totaled about 1.28 MMT of CO<sub>2</sub>e (California Air Resources Board. "Mandatory Greenhouse Gas Reporting, 2008 Reported Emissions". Available at: <<http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg-reports.htm>>).

<sup>7</sup> City-generated total of 2008 transportation emissions, as shown in Table 3.

# State and Regional Policy Framework

## **State of California Policy Framework**

California has been a national leader in the development of policy to address the effects of greenhouse gases and in creating legislation to mitigate both GHG emissions and the impacts of climate change. To date, several concrete steps have been taken to reduce the levels of GHG emissions in the state (i.e., low carbon fuel standard), and several specific impact mitigation strategies (i.e., a GHG emissions cap-and-trade program) are under consideration for future policy adoption or implementation. The following discussion addresses key legislative actions which have shaped the current greenhouse gas regulations.

### California Global Warming Solutions Act

With the California Global Warming Solution Act adopted in 2006 (also known as Assembly Bill 32 or AB 32), the California Air Resources Board (CARB) has:

- Established a statewide GHG emissions cap for 2020, based on 1990 emissions.
- Adopted mandatory reporting rules for significant sources of GHG emissions.
- Adopted a comprehensive plan, known as the *Climate Change Scoping Plan*, that identifies how emission reductions will be achieved from significant GHG sources via regulations, market mechanisms and other actions.

CARB has developed regulations to achieve the maximum possible levels of technologically-feasible and cost-effective reductions in GHG emissions, including provisions for using both market mechanisms and alternative compliance mechanisms. These regulations however have not been finally adopted due to a legal challenge. As a result of that legal challenge, CARB has been directed to evaluate the potential impacts of those proposed regulations prior to imposing any mandates or authorizing market mechanisms. This analysis must evaluate several factors, including but not limited to potential impacts upon: California's economy, the environment and public health; equity between regulated entities; electricity reliability, and conformance with other environmental laws. CARB has also been directed to ensure that the rules do not disproportionately impact low-income communities.

The *Climate Change Scoping Plan* (Scoping Plan) adopted in December 2008, is the State's comprehensive plan to achieve GHG reductions in California. The Scoping Plan has a range of GHG reduction actions which were developed to achieve a reduction of 169 million metric tons (MMT) CO<sub>2</sub>e emissions, or approximately 28 percent from the State's projected 2020 emission level of 596 MMT of CO<sub>2</sub>e under a "business-as-usual" scenario. These actions include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system. This set of actions, including measures taken by local jurisdictions, would allow the State to return to 1990 emission levels as required by AB 32. While many of the measures identified in the Scoping Plan will be implemented by state government or at a statewide-level, the primary responsibility of local and regional government is to implement changes to local land use patterns and to improve local transportation systems. These actions, which fall within areas of local government policy control, in combination with the statewide measures, are a relatively small component of the total body of policy actions that will be necessary to achieve the total statewide GHG emissions reduction targets by 2020.

### Executive Order S-3-05

In 2005, Governor Arnold Schwarzenegger issued Executive Order S-3-05 (EO S-3-05) establishing the following near-term, mid-term, and long-term GHG emission reduction targets for California:

- by 2010, reduce GHG emissions to 2000 levels;
- by 2020, reduce GHG emissions to 1990 levels;
- by 2050, reduce GHG emissions to 80 percent below 1990 levels.

The long-term 2050 target represents the reduced level scientists believe is necessary to reach atmospheric GHG concentrations that will equate to a less than 2°C increase in average temperature since the pre-industrial era (below 350 ppm CO<sub>2</sub>e), as needed to stabilize the climate.

### Senate Bill 375 – Redesigning Communities to Reduce Greenhouse Gases

Senate Bill 375 (SB 375), signed into law in September 2008, builds on AB 32 by requiring CARB to develop regional GHG reduction targets to be achieved within the automobile and light truck sectors by the year 2020 and 2035. These regional targets will help achieve the goals of AB 32 and the Air Resources Board's Scoping Plan by requiring changed land use patterns and improved transportation systems. Subsequently, metropolitan planning organizations [for the Bay Area, the Metropolitan Transportation Commission (MTC) in partnership with the Association of Bay Area Governments (ABAG)] will be required to create so-called 'sustainable community strategies', designed to meet the emissions reduction targets, as part of their jurisdiction's Regional Transportation Plan.

Passenger vehicles are the largest single source of GHG emissions in California, accounting for approximately 28 percent of the state's total between 2000 and 2008.<sup>8</sup> Reducing GHG from passenger vehicles can be accomplished through three strategies: improved fuel efficiency for vehicles, use of fuel with a lower carbon-intensity and a reduction in total (per capita) driving. While the first two strategies rely upon actions taken at the State or Federal level, the third can be influenced through land use planning and policy decisions made at the local level, including municipalities such as San José. Accordingly, CARB has established targets for the reduction of greenhouse gases per capita from passenger vehicles for each region within the State, with the intent that local metropolitan planning organizations work with local jurisdictions to implement policies to achieve those targets. One available measure, which correlates to greenhouse gas emissions from local automobile travel, is Vehicle Miles Travelled (VMT). VMT can be used to describe the total and average distances travelled by residents of a local jurisdiction under existing and forecast future conditions. A second important measure is Vehicle Hours Traveled (VHT) which describes the amount of time spent travelling by a jurisdiction's residents. While less commonly used, VHT may be a better indicator of future greenhouse gas emissions in that an automobile generates greenhouse gas emissions as long as it running regardless of the distance actually travelled and travel at a slower speed may produce higher emission per mile depending upon engine design efficiency. Both factors (e.g., distance and duration of travel) are also

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<sup>8</sup> California Air Resources Board. *California Greenhouse Gas Inventory for 2000-2008*. May 12, 2010. Available at: <<http://www.arb.ca.gov/cc/inventory/data/data.htm>>

addressed by sorting VMT data by speed of travel, as was done in the General Plan Environmental Impact Report.

The target for the Bay Area region, adopted in September 2010 by CARB, is a seven percent (7%) reduction in greenhouse gases per capita from passenger vehicles by 2020 compared to 2005 emissions levels. The target for the year 2035 is a fifteen percent (15%) reduction per capita from passenger vehicles when compared to emissions in 2005. These emission reduction targets only apply to emissions sources associated with land use and transportation strategies and do not include emission reductions due to the California Low Carbon Fuel Standards or Pavley emission control standards.

As further discussed later in this document, the Envision San José 2040 General Plan directly supports SB 375 by incorporating policies and a land use plan designed to minimize the numbers of VMT and VHT within and to/from the City.

#### Low Carbon Fuel Standard (LCFS)

California's Low Carbon Fuel Standard requires fuel providers to reduce the carbon intensity of transportation fuels sold in the state, dramatically expanding the market for alternative fuels. By 2020, the LCFS will result in reduced carbon content in all passenger vehicle fuels sold in California by 10 percent. The LCFS was established by Executive Order S-01-07 in 2007.

#### Clean Car Standards – Pavley Regulations

In recent years, CARB has adopted amendments to the “Pavley” regulations that are designed to reduce greenhouse gas (GHG) emissions in new passenger vehicles. It is expected that the Pavley regulations will reduce GHG emissions from new California passenger vehicles by about 22 percent by 2012 and about 30 percent by 2016, as well as improve fuel efficiency and reduce motorists’ fuel costs.<sup>9</sup>

#### Renewables Portfolio Standard for Energy Generation

California's Renewables Portfolio Standard (RPS) is one of the most ambitious renewable energy standards in the country. Initially, the RPS program required electric power corporations to increase procurement from eligible renewable energy resources by at least one percent of their retail sales annually, until they reached 20 percent by 2010. In 2008 then Governor Schwarzenegger established a 33% state renewable goal by 2020 in Executive Order S-14-08.

On April 12, 2011, California Governor Jerry Brown signed Senate Bill 2X into law, requiring that 33 percent of the state’s electric generation come from renewable sources by 2020. Under S.B. 2X, all electricity suppliers must meet a 20 percent renewables target by Dec. 31, 2013, a 25 percent target by the end of 2016, and achieve the 33 percent criterion by the end of 2020. S.B. 2X applies to all electricity retailers in the state – investor-owned utilities, municipal utilities and independent sellers.

The California Public Utilities Commission (CPUC) and the California Energy Commission (CEC) jointly implement the RPS program. To the extent that several types of renewable energy

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<sup>9</sup> CARB. “Clean Car Standards - Pavley, Assembly Bill 1493”. Accessed September 15, 2010. <<http://www.arb.ca.gov/cc/ccms/ccms.htm>>.

sources (e.g., hydropower, wind and solar) have limited GHG emissions associated with power generation when compared to energy generated through combustion processes, implementation of this standard would likely significantly reduce GHG emissions associated with electric power generation.

#### California Environmental Quality Act (CEQA)

Under recent modifications to the CEQA Guidelines (March 2010), public agencies must consider the effects of greenhouse gas emissions of proposed projects and identify mitigation for greenhouse gas emissions or the effects of greenhouse gas emissions, including but not limited to the effects associated with transportation or energy consumption that would result from a proposed project.

### **Regional Policies – Bay Area Air Quality Management District**

The Bay Area Air Quality Management District (BAAQMD) is the regional governmental agency that regulates sources of air pollution within the nine San Francisco Bay Area Counties. Several key activities of BAAQMD particularly related to greenhouse gas emissions are described below.

#### Regional Clean Air Plans

BAAQMD and other agencies prepare Clean Air Plans as required under the State and Federal Clean Air Acts. The Bay Area 2010 Clean Air Plan (CAP) provides a comprehensive plan to improve Bay Area air quality and protect public health through implementation of a control strategy designed to reduce emissions and decrease ambient concentrations of harmful pollutants. The most recent CAP also includes measures designed to reduce GHG emissions.

#### BAAQMD CEQA Air Quality Guidelines

The BAAQMD California Environmental Quality Act (CEQA) Air Quality Guidelines are intended to serve as a guide for those who prepare or evaluate air quality impact analyses for projects (Project-level) and plans (Plan-level) in the San Francisco Bay Area. The Guidelines include information on legal requirements, BAAQMD rules, plans and procedures, methods of analyzing air quality impacts, thresholds of significance, mitigation measures, and background air quality information. In June 2010, the Air District's Board of Directors adopted new CEQA thresholds of significance and an update of their CEQA Guidelines. The updated BAAQMD CEQA Guidelines review and describe assessment methodologies, and mitigation strategies for criteria pollutants, air toxics, odors, and greenhouse gas emissions.

The adopted Plan-level BAAQMD CEQA environmental review thresholds, applicable to the preparation of a General Plan such as the *Envision San José 2040 General Plan*, call for use of one of two options: either a GHG efficiency-based metric or development of a GHG Reduction Strategy. If a Plan would result in operational-related greenhouse gas emissions of 6.6 metric tons (MT) per Service Population (residents + employees) per year of carbon dioxide equivalents or more, it would make a cumulatively considerable contribution to greenhouse gas emissions and result in a cumulatively significant impact to global climate change. The BAAQMD CEQA Air Quality Guidelines also outline a methodology for estimating greenhouse gases and components of a Greenhouse Gas Reduction Strategy, that once adopted, can be employed in lieu of greenhouse gas analyses for individual projects where the project is consistent with an adopted GHG Reduction Strategy.

# City of San José Greenhouse Gas Reduction Strategy Policy Framework

The *Envision San José 2040 General Plan* includes a Greenhouse Gas Reduction Strategy to identify specific policies incorporated within the Envision General Plan that will reduce GHG emissions and provides an analysis of the effectiveness of those policies, in fulfillment of the BAAQMD Plan-level CEQA requirements with the intent that future projects that conform to the Envision General Plan may make use of the Envision General Plan Greenhouse Gas Reduction Strategy in lieu of performing an individual project analysis. The City will also evaluate future development for consistency with a Council Policy for the Implementation of the Greenhouse Gas Reduction Strategy.

The *Envision San José 2040 General Plan* Environmental Impact Report (EIR) analyzes the greenhouse gas impacts of the City's land use decisions through the year 2035, along with the potential reduction strategies and the greenhouse gas monitoring process and provides environmental clearance for the Greenhouse Gas Reduction Strategy. The General Plan incorporates goals, policies and sustainability indicators for a wide variety of environmental concerns, including those originally developed as part of San José's Green Vision initiative in 2007. These goals, policies and measures address energy use, water conservation, waste diversion, green building practices and other topics that collectively contribute to the City's reduction of its potential GHG emissions. The General Plan includes an annual reporting process to monitor the success of these policies. The Greenhouse Gas Reduction Strategy, an appendix to the General Plan, provides a quantitative and qualitative analysis of the emission reduction benefits that will be achieved through these policies, along with those that will be achieved through implementation of the General Plan Land Use / Transportation Diagram.

## **Establishment of a GHG Reduction Target**

The BAAQMD CEQA Guidelines identify three possible thresholds for assessing the required reduction in GHG by the year 2020:

1. Reducing Greenhouse Gas emissions to 1990 levels by the year 2020;
2. Reducing GHG emissions 15% below a baseline year (2008 or earlier) by 2020; or
3. Meeting the plan efficiency threshold of 6.6 metric tons of CO<sub>2</sub> equivalent per service population per year (MT CO<sub>2</sub>e / SP / year). Service population is defined as the number of residents plus the number of people working within San José.

San José is electing to use the third threshold as the basis for its Greenhouse Gas Reduction Strategy, equating to a plan efficiency threshold (6.6 MT CO<sub>2</sub>e / SP / year) for the year 2020.

As specifically allowed under recent amendments to the CEQA Guidelines, the City of San José has chosen to rely upon the quantitative GHG emissions threshold of significance which has been established by BAAQMD for the purpose of evaluating 'Plan-level' or comprehensive long-term planning initiatives such as a General Plan or Specific Plan. The following discussion is based on the BAAQMD 'Plan-level' GHG significance thresholds.

## **San José Greenhouse Gas Reduction Measures**

Within the Envision San José 2040 General Plan, the City of San José is proposing a variety of measures to help reduce greenhouse gases over the timeframe of the General Plan. The types of GHG reduction actions fall into two categories: specific actions that the City is taking to reduce greenhouse gases, and measures that will be effectuated on a project-by-project basis through implementation of the City's General Plan land use Diagram and land use policies to help reduce greenhouse gases resulting from those projects.

### City Initiated Actions to Reduce Greenhouse Gases

In terms of specific actions, the City is initially relying on City-sponsored initiatives over which it has control, particularly actions already described in the City's *Green Vision* (GV). Examples of actions that the City will perform include *Beneficially Reusing 100% of the City's Wastewater* (GV Goal#6), a goal planned to be accomplished following rebuilding of the City's Water Pollution Control Plant, and *Installing Higher Efficacy Public Street and Area Lighting*, which will be accomplished through implementation of the City's adopted Streetlight Master Plan (GV Goal #9). Such actions constitute the bulk of quantifiable actions contained within the table entitled Greenhouse Gas Reduction Strategy Measures, Attachment A, and Greenhouse Gas Reduction Policies – City Implementation Measures, Attachment C included at the end of the Strategy.

Through the Green Vision, the Envision San José 2040 General Plan, and other environmental initiatives, the City has outlined a wide-ranging program to make the City more sustainable and to take significant steps to reduce GHG emissions generated by City-sponsored activities. The components of the anticipated actions within the City's sustainability program will provide substantial greenhouse gas reductions, on the order of 0.7 million metric tons of CO<sub>2</sub>e emissions avoided per year when fully implemented.

City policies and adopted municipal codes, such as its Green Building Policies and water efficiency development standards, reduce energy and water use throughout the City as development and redevelopment occurs. Along with state-mandates such as the CalGreen building code, these City implemented requirements reduce greenhouse emissions from the built environment on a per capita and per employee basis.

### GHG reductions through implementation of the Land Use Transportation / Diagram

The City of San José also established policies which will direct, guide or influence actions to be taken by other parties and contribute to the reduction of greenhouse gas emissions on a "project-by-project" basis. The City's most effective strategy for reducing GHG emissions is the land use plan (Land Use / Transportation Diagram) contained in the *Envision San José 2040 General Plan*. This Diagram was specifically designed to minimize greenhouse gas emissions along with other environmental impacts by guiding the City's future growth in a form which will reduce the need for automobile travel while also promoting transit use, bicycling and walking as alternative means of mobility instead of automobiles. By creating opportunities for more compact mixed-use neighborhoods to form, and providing villages and retail opportunities near existing lower-density communities, residents of the City of San José will have more opportunities to live healthy lives and have a full complement of proximate services without relying exclusively on automobiles for transportation.

The Diagram embodies numerous goals, objectives and policies contained within the General Plan. Several of the highest level goals stated within the General Plan, identified as "Key

Concepts”, support the reduction of greenhouse gas emissions, including the Urban Village, Employment Center, Complete Streets, Destination Downtown, Greenline, Environmental Stewardship, and Design for a Healthy Community concepts. While each of these Key Concepts is addressed by specific General Plan policies that contribute to the reduction of greenhouse gas emissions and which are itemized later in this Strategy, they are also embodied in the City’s plan for how and where the City will direct future housing and job growth.

In accordance with the Urban Village and Destination Downtown Concepts, the great majority of the City’s future growth will occur as higher density mixed-use development on sites with good access to transit facilities. In addition, throughout the City, new buildings and supporting infrastructure will be designed in a way to foster pedestrian and bicycle use. Consistent with the Employment Center concept, a significant amount of job growth capacity is provided on sites with good access to regional transit systems. This concentration of job growth better supports transit use, as was determined through extensive traffic modeling of potential growth scenarios, recent research and observation of the land use patterns in cities with an established high level of transit use, many of them cities with a higher daytime population due to workforce than nighttime numbers of residents. The City’s use of a Greenline, or Urban Growth Boundary, further strengthened through the Envision General Plan Land Use / Transportation Diagram, greatly restricts outward growth and focuses new development into the City’s central areas. Following these concepts, and community and Task Force input, the Envision Land Use / Transportation Diagram was thus designed to reduce vehicle travel.

#### GHG emission reductions attributed to General Plan policies

The City’s Greenhouse Gas Emission Strategy is embedded throughout the *Envision San José 2040 General Plan* in its policies and programs that are designed to help the City sustain its natural resources, grow efficiently, and meet state legal requirements for greenhouse gas (GHG) emissions reduction. Multiple policies and actions in the General Plan have greenhouse gas reduction benefits, including those that address land use, housing, transportation, energy efficiency, renewable energy, reduced water usage, solid waste generation and recycling, and reuse of historic buildings. The City’s Green Vision, as reflected in these policies, also provides a monitoring component that allows for adaptation and adjustment of City programs and initiatives related to sustainability and associated reductions in greenhouse gas emissions. General Plan policies address both new construction and retrofit of existing development. For example, General Plan goal MS-1 and its policies support the Green Vision goal of achieving 100 million square feet of new or retrofitted green buildings within San José by 2040. Proposed General Plan Policies that would provide for reduced greenhouse gas emissions from transportation and the built environment in San José associated with new development and redevelopment are numerous and are listed in Attachment B. City implementation policies and actions that would provide for monitoring and implementation to assure reduced greenhouse gas emissions citywide are listed in Attachment C.

#### Limiting factors

San José is an already developed city of nearly 1 million residents with a well-established land use pattern that is primarily suburban and auto-oriented in nature. While San José is the largest residential community within the region, the regional employment center is located to the northwest of San José, while the regional transit system is centered upon San José’s Downtown. As a result of these land use patterns, a large share of the employed residents of San José commute daily by automobile to a job located outside of the City’s boundaries and the region’s

transit systems are underutilized. While the *Envision San José 2040 General Plan* establishes an ambitious policy framework specifically designed to address this problem through multiple strategies, much of the current land use pattern is likely to remain into the future. Furthermore, a behavioral change will need to occur amongst local residents in order to achieve a significant change in the existing preference for automobile travel. The *Envision San José 2040 General Plan* promotes such a behavioral change through planned land uses and policies, but outside factors will likely have an equal or greater impact upon future behavior. At the same time, the evaluation of this Strategy relies upon traffic modeling techniques which embody conservative assumptions about the ability of land use and policy decisions to affect future commuter behavior. It is anticipated that future analysis of the effectiveness of specific policies and design measures will require supplemental “real world” sampling and evaluation to fully understand.

The interplay between land use policy decisions and projected commuter activity is also complex and difficult to predict. For example, as part of the evaluation of future land use scenarios for the *Envision San José 2040 General Plan* update process, the City evaluated two very similar scenarios, differentiated primarily by the movement of planned job capacity from an area of the City with a low degree of access to transit to areas in direct proximity to existing light rail stations. The traffic model forecast for this change indicated a counter-intuitive reduction in the transportation mode share for transit use. This shift is partially accounted for by the change in job type from a lower-density more industrial type to a more intensive commercial type necessitated by the higher densities required to concentrate the jobs in proximity to transit. As another example, a traditional planning best practice of locating jobs in closer proximity to residences in the southeast portion of San José in order to foster a “reverse commute” pattern and better use existing transportation infrastructure, also promotes a higher citywide VMT as reduced traffic congestion encourages increased commute distances.

As noted above, to the extent practical, the *Envision San José 2040 General Plan* Land Use / Transportation Diagram was designed to maximize the future share of transit, pedestrian and bicycle use as transportation modes, focusing almost all new employment and residential growth in areas with a high degree of transit access, proximity to services and designed in a way to foster those transportation modes. While new growth is focused in transit-oriented areas, a majority of the City’s existing residential population and a significant amount of its existing employment activity will remain in areas with lesser transit accessibility. The City was also constrained in its ability to focus new growth around existing or planned transit facilities by the limited land supply in those areas and other land use concerns. For example, the General Plan supports an ambitious amount of growth within San José’s Downtown, that will be challenging to achieve given aviation height constraints related to the City’s airport and surrounding historic neighborhoods which limit the Downtown’s ability to expand horizontally.

The City’s established land use patterns also are a factor in terms of energy use related to building form and construction. Most existing buildings within the City of San José will continue to be used through the 2035 time horizon, many with little modification, modernization, or rehabilitation. It is difficult at this time to quantify energy savings from new buildings; however, new buildings should continue to become more energy-efficient over time given changes to the building code at the State level (Calgreen). It is also difficult to quantify the probable turnover or renovation of the building stock, given the current glut of residential, commercial and industrial buildings on the market.

While the City can directly control the efficiency of its own vehicle fleet, this represents a very tiny fraction of the automobiles in use citywide and will have a limited impact upon the overall reduction of vehicle related emissions. Other government agencies which have greater jurisdictional authority over automobiles can have a substantially greater impact upon this factor.

GHG Emission reductions attributed to the Land Use / Transportation Diagram

The City has quantified the results of improved GHG emissions efficiencies resulting from project-by-project implementation of the strategic location of land uses on the Envision General Plan Land Use / Transportation Diagram, more mixing of uses within development sites, and increases in planned dwelling unit densities and floor area ratios, including required “floors” to ensure appropriate intensification as the Plan is built out with new development. These measures are shown as Strategy numbers LUT-1, LUT-2, and LUT-3 at the end of Attachment A, which is found at the end of this section of the Strategy. This combination of increased density, mixed uses, and location efficiency in plotting land uses will result in reductions on the order of 0.5 million metric tons CO<sub>2</sub> per year. The total reduction quantified between the categories of specific actions and project-by-project measures is on the order of a 1.2 MMT CO<sub>2</sub>e / year reduction by 2035, based on current technologies and programs for which estimates were made.

**Evaluating Greenhouse Gas Impacts**

In order to use the plan efficiency threshold as allowed in the BAAQMD CEQA Guidelines, the City must determine the total of greenhouse gas emissions generated by all of the residents and workers (the service population) in the City of San José, and then express that amount in terms of ratio to service population. This GHG-efficiency metric (e.g., emissions per unit) enables comparison of a proposed General Plan to potential alternatives and also allows the City to determine if the proposed General Plan meets statewide emission reduction goals. The “service population” (SP) approach considers efficiency in terms of the total level of GHG emissions compared to the total sum of the number of workers and the number of residents at a specified point in time. The SP metric also allows comparison of the GHG efficiency of General Plan alternatives that vary in the amount of proposed residential and non-residential development. The existing (base year 2008) and projected 2020 and 2035 service populations are shown in Table 4.

<b>Table 4 Projected Service Population (Residents + Jobs) in the City of San José</b>			
	<b>2008</b>	<b>2020</b>	<b>2035</b>
Existing	1,355,000	--	--
<i>Envision San José 2040 General Plan</i>	--	1,650,000	2,150,000

Sources: State of California, Department of Finance. *E-4 Population Estimates for Cities, Counties and the State, 2001-2010, with 2000 Benchmark*. Sacramento, California, May 2010 (for 2008 population) and City of San José.

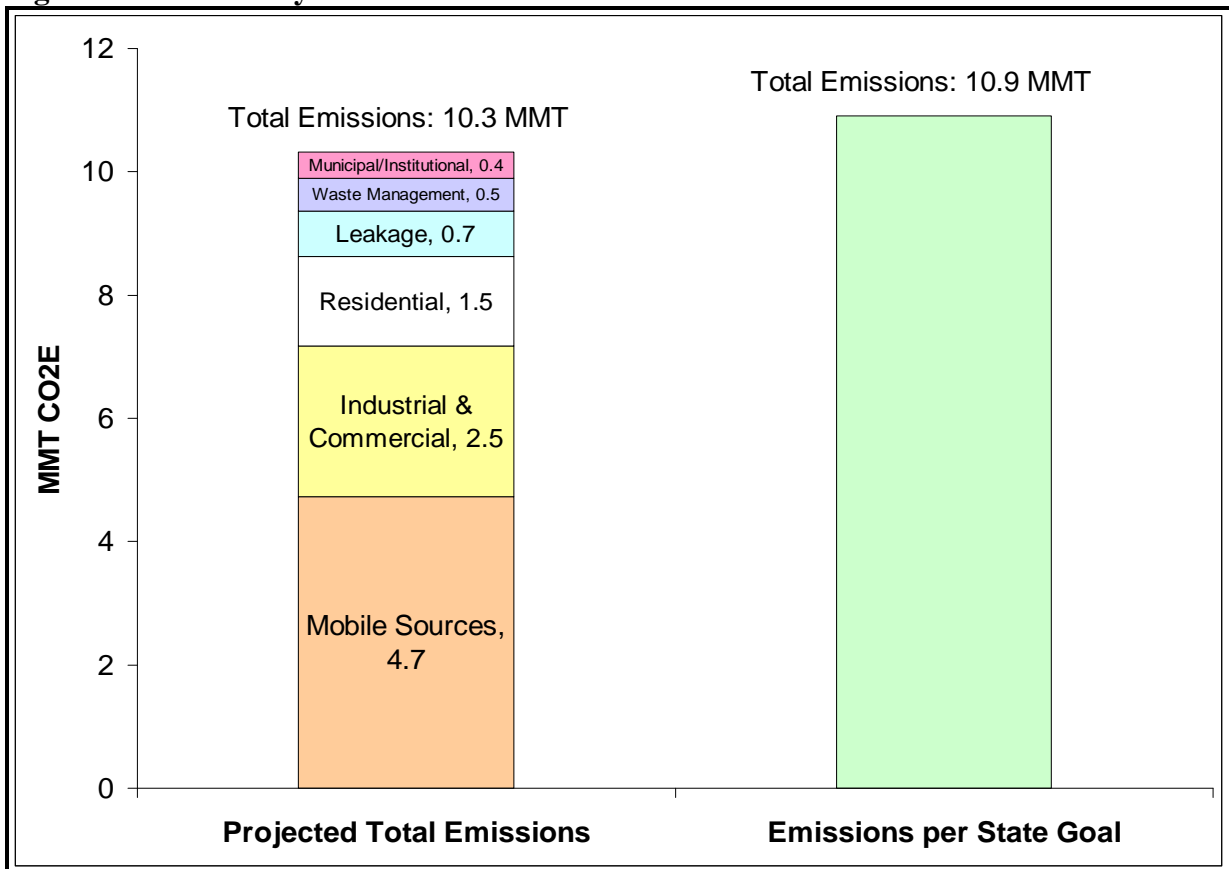
As part of the preparation of the *Envision San José 2040 General Plan*, several alternative scenarios were considered and analyzed in terms of various potential environmental impacts, as well as their consistency with other City goals, including economic, social and fiscal considerations. The amounts and locations of future job and housing growth varied within each scenario. Environmental analysis for each scenario included per capita SP projections for VMT, VHT,

transit ridership, bicycle use and pedestrian activity. The resulting projections suggest a complicated relationship between each of these factors, such that while one scenario might minimize one type of potential environmental impact, a different scenario might better minimize other impacts. The preferred alternative for the Envision General Plan was selected to maximize projected transit use and to significantly minimize VMT, VHT and other activities that contribute to GHG emissions to a degree consistent with other General Plan goals and objectives.

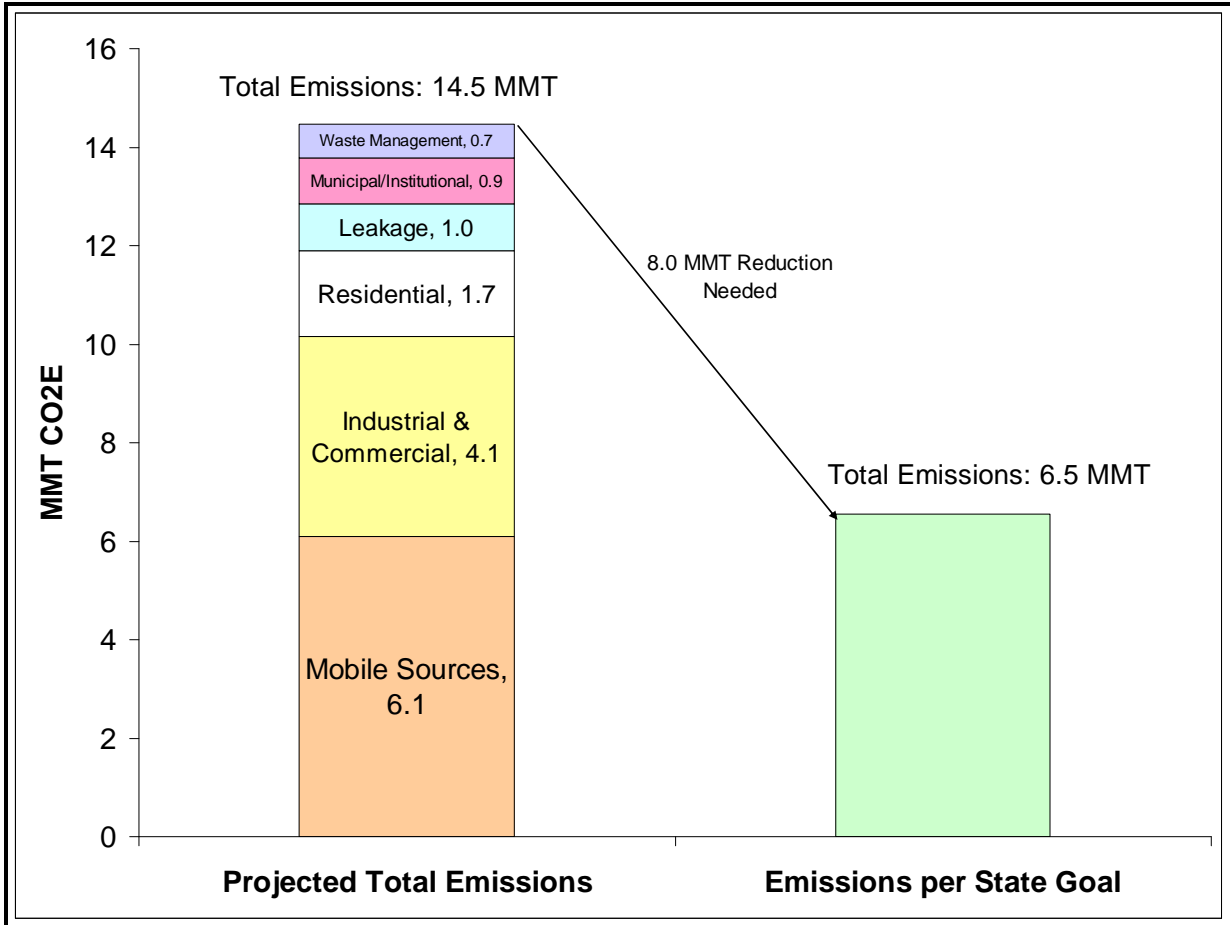
### Evaluating 2020 GHG Emissions

The following summarizes the projected greenhouse gas emission for the City in 2020, based on projected conditions that correspond to implementation of the *Envision San José 2040 General Plan* through that time period. San José’s current service population is approximately 1.35 million. Incremental use of the planned capacity of the *Envision San José 2040 General Plan* is projected to support growth in service population by 296,000 (jobs and residents) to a total of service population of 1.65 million, consisting of 1,093,492 residents and 557,450 jobs, by 2020 (refer to Table 4).

**Figure 4: Communitywide Emissions in 2020.**



**Figure 5: Communitywide GHG Emissions in 2035 Compared to Initial Goal.**



Identification of greenhouse gas emission sources

Modeling based on proposed General Plan growth for 2020 suggests the City will emit approximately 10.31 MMT, or about 590,000 metric tons of CO<sub>2</sub>e annually, below the AB 32 emission level target, based on service population. The largest contributing category is mobile sources, which are primarily on-road vehicles. Mobile sources also include off-road vehicles and equipment such as trains and construction and lawn/garden equipment. The second largest category that generates GHG emissions includes a diverse range of electricity use, combustion and other processes used throughout the City by industrial and commercial facilities. This varied set of sources, as defined in the BAAQMD inventory for Santa Clara County, includes: commercial cooking (e.g., restaurants, cafes), ozone depleting substance substitutes (e.g., hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), natural gas distribution, reciprocating engines (e.g., emergency generator engines), combustion gas turbines (i.e., not used for electric energy generation to the grid), major and minor natural gas combustion sources, and combustion by other fuels (i.e., again, not for electric energy generation to the grid). The third largest source of GHG emissions is residential energy use, including both indirect emissions from the generation of electric energy used in residences and direct emissions from natural gas consumption.

**Table 5  
California 2020 GHG Emissions, Population Projections and  
2020 GHG Efficiency Threshold All Inventory Sectors**

Category or Measure	Statewide Greenhouse Gas Emissions Target in 2020 and Estimated Population and Employment
CO <sub>2</sub> e Target for All Inventory Sectors	426,500,000 metric tons
Population	44,100,000
Employment	20,200,000
California Service Population (Population + Employment)	64,300,000
AB 32 Efficiency Goal for GHG Emissions in 2020 (metric tons CO <sub>2</sub> e/SP)	<b>6.6</b>
Source: BAAQMD. <i>California Environmental Quality Act Air Quality Guidelines</i> . June 2010. Page D-23. Available at: <a href="http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines_June%202010.ashx">http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines_June%202010.ashx</a>	

Achievement of BAAQMD standards for 2020

The service population GHG efficiency metric methodology, developed by BAAQMD as part of their recent BAAQMD CEQA Guidelines update, is outlined below. This efficiency metric was derived from statewide emissions estimates and formulated to accommodate statewide projected population and employment growth while also allowing for consistency with AB 32 goals which mandate achieving a reduction to 1990 GHG emissions levels by the year 2020 .

Dividing the total emissions by the City’s 2020 service population yields an average carbon-efficiency of 6.2 MT CO<sub>2</sub>e /SP, or roughly six percent below the efficiency standard of 6.6 MT CO<sub>2</sub>e /SP necessary to achieve statewide AB 32 goals, per the BAAQMD CEQA Guidelines. Following the BAAQMD CEQA Guidelines, if a General Plan supports development with a projected level of 2020 GHG emissions meeting the GHG efficiency level identified by BAAQMD (6.6 metric tons CO<sub>2</sub>e / service population from all emission sectors), then the amount of GHG emissions resulting from the General Plan would be considered less than significant, regardless of the Plan’s size (and magnitude of GHG emissions). In other words, if implementation of the General Plan is projected to achieve the BAAQMD efficiency level, the General Plan is deemed to accommodate growth in a “carbon-efficient” manner that would not hinder the State’s ability to achieve AB 32 goals by 2020, and thus, would be considered to have a *less than significant impact* on the environment for GHG emissions and their contribution to climate change.

It is important to note that this is a very simple and conservative methodology, using estimates of the City’s future GHG emissions that largely reflect past and current performance and which may represent emission rates that are in fact worse than what is likely to occur. Per the City’s General Plan policies, an updated, more refined estimate of the future inventory of 2020 emissions will be developed every four years, anticipated starting in 2015 as part of implementation of a scheduled Major Review of the General Plan (Policy IP-2.4, Found in Chapter 7, Implementation of the

General Plan). Also per General Plan policy, monitoring of greenhouse gas reduction strategy measures, including greenhouse gas emission reductions compared to baseline and/or business-as-usual emissions rates will be completed annually (Policy IP-3.2). That process will also reflect updated information and improved calculation techniques.

Figure 4 (above) depicts the relative contribution of the City's various emissions sectors as forecast in 2020, and the 2020 state target as translated for San José's projected 2020 service population.

#### Achievement of AB32 goals for 2020

Based on projected growth through 2020, 82 percent of the City's future 2020 service population already live and work in San José and new growth will comprise only 18 percent of the planned 2020 service population. While it is reasonable to anticipate that new development will be designed, constructed, and operated according to the most efficient standards and practices of the time, the majority of the forecast 2020 GHG emissions will be derived from sources already present in the City today that will continue to emit GHG emissions into the future.

New development will be needed to house approximately 18 percent of the future service population and it is reasonable to expect that some additional percentage of the existing service population will be housed in redeveloped or renovated structures. Additional efficiencies to meet overall Citywide AB32 goals can be obtained from closely regulating new development (residential, commercial, industrial and institutional) occurring in the City between 2010 and 2020 to incorporate best design, construction and operation practices. Additional emission reductions to meet the 2020 target may also accrue from the City's ongoing efforts to influence the behavior of the service population to be more "carbon-efficient" and through efforts to retrofit existing homes and businesses in order to make the built environment more carbon-efficient. Further reductions may also result from other factors that have not been included in these calculations, such as increased telecommuting, outside influence on driving behavior (e.g., gasoline prices), and changing building practices.

For the projected 2020 service population, the City's gross aggregate total GHG emissions should not exceed 10.9 MMT CO<sub>2</sub>e/yr, determined by multiplying the service population by the efficiency standard, to meet AB 32 goals. The projected communitywide emissions in 2020, (10.31 MMT CO<sub>2</sub>e/yr) would be below this standard as calculated using a conservative methodology.

### ***Evaluating 2035 GHG Emissions***

The following summarizes the projected greenhouse gas emission for the City in 2035, based on projected conditions that correspond to implementation of the *Envision San José 2040 General Plan* over the full Plan term. At full implementation of the General Plan, San José's service population for 2035 is projected to be approximately 2,150,000, consisting of 1,310,000 residents and 840,000 jobs.

In evaluating the future GHG emissions from implementation of the proposed *Envision San José 2040 General Plan*, it is important to note that the City's planning horizon evaluated in the Envision EIR extends to 2035, surpassing the 2020 timeframe for implementation of AB 32. The goal of achieving 1990 GHG emissions levels by 2020 was established to be an aggressive, but achievable, mid-term target. However, the substantially more aggressive goal of achieving

reductions of GHG emissions to levels 80 percent below 1990 emissions levels by 2050 as identified in Executive Order S-3-05, represents the level scientists believe is necessary to reduce greenhouse gases in the atmosphere to reach GHG concentrations that will limit global warming and stabilize global climate change.

According to BAAQMD, the year 2020 should be viewed as a milestone year of achievement. The Envision San José 2040 General Plan and implementation of its goals and policies through 2035 should not preclude the community from continuing on a trajectory toward the long-term 2050 goal. The 2020 timeframe is recommended by BAAQMD as the relevant mid-term threshold. BAAQMD encourages lead agencies to prepare similar projections for 2050 and use the projected emissions profile of the 2035 build-out of the General Plan as a benchmark to ensure that adoption of the Plan would not preclude attainment of 2050 goals.

#### Calculation of GHG emissions for 2035

Modeling based on proposed General Plan growth for 2035 suggests the City will emit approximately 14.5 MMT CO<sub>2</sub>e in that year. Figure 5 shows the relative contribution of the City's various emissions sectors, and the emission reduction necessary (see following discussion) to maintain a trajectory to meet the 2050 state target, as translated for San José's projected 2035 service population. As was projected for 2020, the largest contributing category in 2035 is mobile sources, followed by industrial and commercial facilities and residential energy use.

#### Calculation of GHG emission standards for 2035

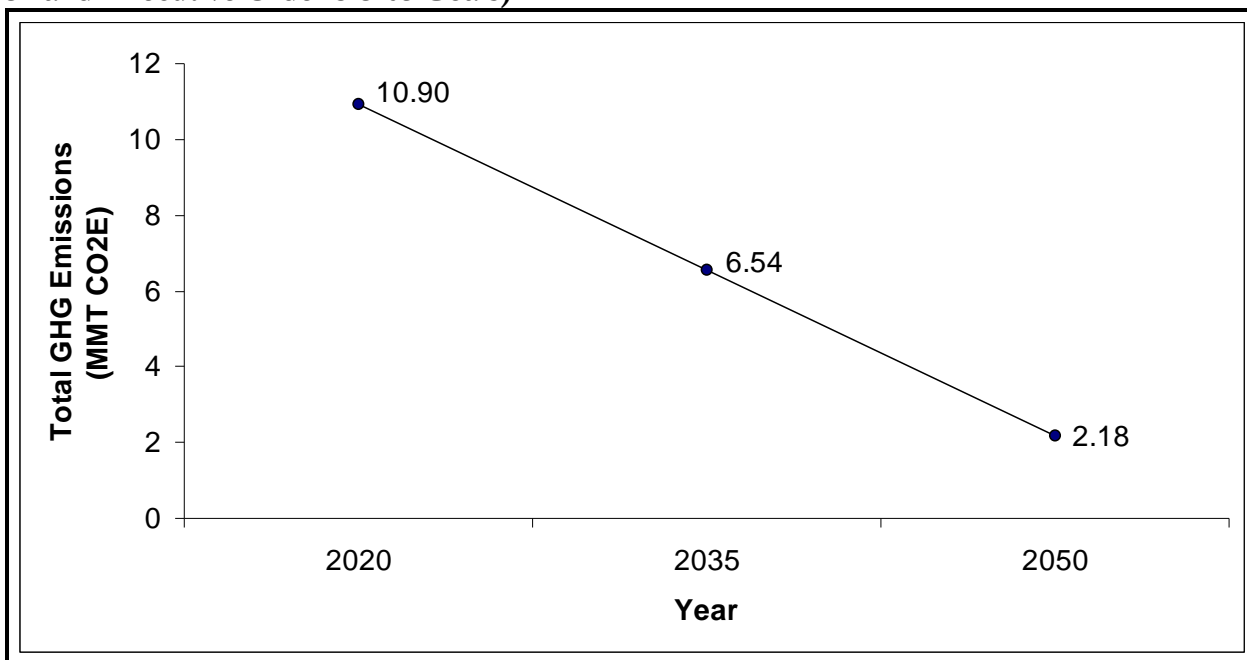
The statewide target for total emissions in 2050 can be calculated from the identified 2020 CO<sub>2</sub>e target (equal to the 1990 GHG emissions levels) for all inventory sectors (426,500,000 metric tons) shown in Table 5 above. To meet the 2050 target of achieving GHG emissions reductions to a level 80 percent below the 1990 emission levels statewide, statewide GHG emissions will need to be reduced to approximately 85,300,000 metric tons per year. While the target for total GHG emissions in 2050 is known, agencies such as CARB and BAAQMD have not yet established or identified population and jobs projections for 2035 or 2050 that could be used to develop a statewide efficiency goal for evaluating projected greenhouse gas emissions in 2035. One approach in the interim is to use local projections of GHG emissions, population and jobs to establish a preliminary target for 2035. This target will then be used as a benchmark to periodically evaluate the effects of implementation of the Envision 2040 General Plan.

Using this interim approach, citywide total GHG emissions targets to achieve 2020 and 2050 emissions reductions goals were calculated.<sup>10</sup> A derived citywide total GHG emissions target for 2035 is the midpoint between these two values and represents a straight-line projection of the reduced GHG emissions level necessary in the year 2035 with the implementation of the Envision General Plan in order to maintain the trajectory to meet the long-term 2050 goal. These estimates are shown on Figure 6.

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<sup>10</sup> The 2020 total emissions target of 10.90 MMT CO<sub>2</sub>e is the product of the 6.6 MMT CO<sub>2</sub>e /Service Population efficiency ratio and the City's estimated service population of 1,650,942 in 2020. The 2050 total emission target is a 80 percent reduction from the 2020 total emissions target (which is assumed to be equivalent to 1990 emissions).

**Figure 6: Total Greenhouse Gas Emission Targets for San José (2020-2050) (Meeting AB 32 and Executive Order S-3-05 Goals)**



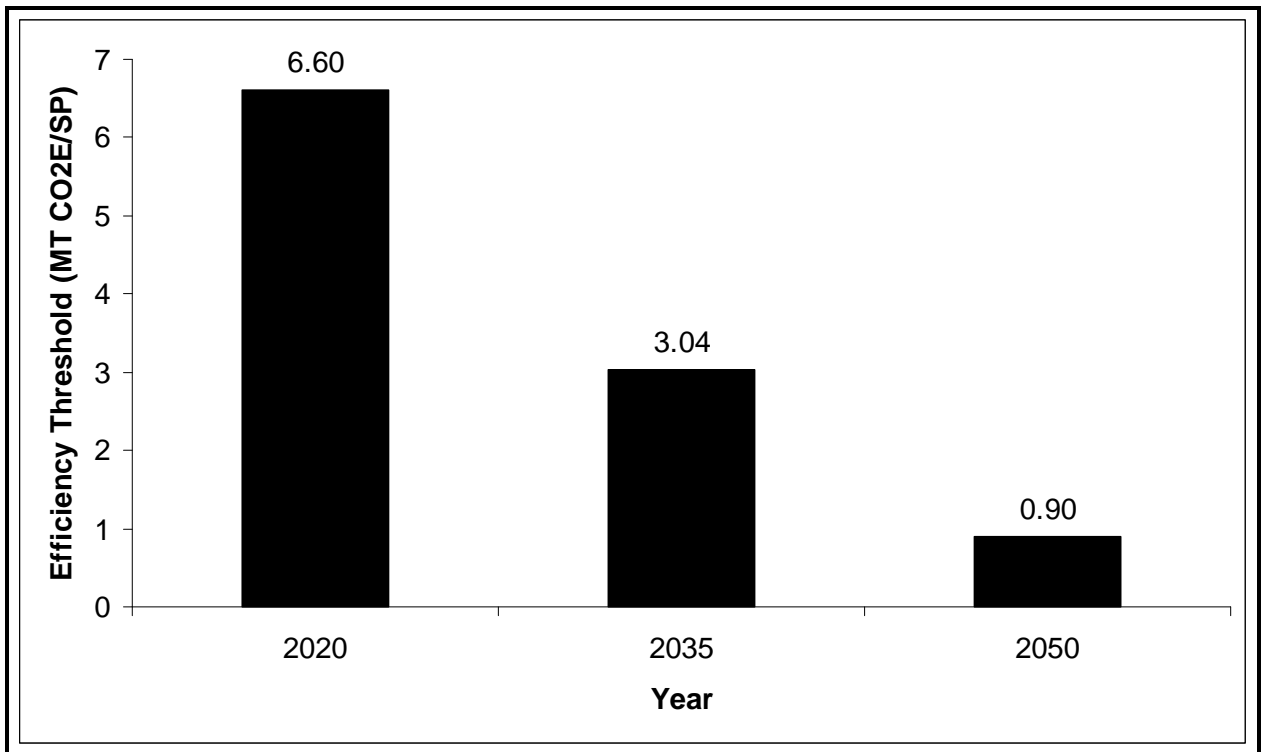
The next step in estimating the efficiency threshold is to determine the local service population. Based on the Envision 2040 General Plan, San José's service population in 2035 is projected to be 2,150,000 and the service population in 2050 can be forecast based on long-term regional growth projections as approximately 2,430,000.<sup>11</sup> Using these long-term growth projections, an estimate can be made of the projected GHG efficiency levels for the City of San José in the year 2035 and 2050, respectively. Figure 7 shows a comparison of the 2020 efficiency threshold and estimated efficiency thresholds for 2035 and 2050.

The comparison of future City growth and future GHG reduction goals indicates that once the City has achieved AB32 goals in 2020, total citywide GHG emissions must continue to decrease over the following 30 years (to 2050) by *a factor of four* (80 percent), and the carbon efficiency per resident and job must increase *by a factor of more than six* (86 percent), to reach the goals in Executive Order S-3-05 designed to stabilize GHG levels, reduce global warming, and stabilize the global climate.

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<sup>11</sup> Based upon estimates for the City of San José through 2060 in the Santa Clara Valley HCP/NCCP. *2nd Administrative Draft Valley HCP -Appendix F (Nitrogen Deposition Contribution)*. Accessed July 14, 2010. <[http://www.scv-habitatplan.org/www/site/alias\\_default/documents\\_draft\\_hcp\\_chapters/292/draft\\_hcp\\_chapters.aspx](http://www.scv-habitatplan.org/www/site/alias_default/documents_draft_hcp_chapters/292/draft_hcp_chapters.aspx)>

**Figure 7: Greenhouse Gas Efficiency Threshold Targets for San José (2020-2050) per AB 32 and Executive Order S-3-05 Goals.**



Consistency with Executive Order EO S-3-05

As explained above, Executive Order EO S-3-05 established a statewide goal to reduce GHG emissions to 80 percent below 1990 levels by 2050. The year 2035 is the mid point between the targets established for 2020 and 2050. Using a linear progression, at the halfway point (2035) toward that goal, the standard for evaluation would be to achieve a level of greenhouse gas emissions 40 percent below 1990 levels. As stated above, however, the 2050 goal is not based upon reductions likely to be possible or foreseeable using currently available technologies and techniques, but is rather an aspirational target related to desirable environmental objectives and the BAAQMD required standard states that the General Plan should not preclude achievement of the 2050 goal but does not establish a specific numeric target for 2035.

Calculated using the linear progression method, the needed trajectory to meet mandated 2050 levels for 2035 is 6.54 MMT, representing a 40 percent reduction from the 2020 target of 10.9 MMT (refer to Figure 6). The projected emissions of 14.5 MMT CO<sub>2</sub>e is 8.0 MMT more in greenhouse gas emissions than the desired amount to maintain a linear trajectory toward the 2050 state goals. Similarly, dividing the total emissions by the City's 2035 service population yields an average carbon-efficiency of 6.7 MT/SP, roughly 2.2 times greater than the calculated 2035 statewide efficiency standard of 3.04 MT CO<sub>2</sub>e /SP necessary to maintain a trajectory to achieve the state's 2050 goals.

While this calculation is based upon the best available data at present, it in many cases relies upon conservative assumptions about future behavior, not taking into account likely increases in telecommuting or other trends that can be readily observed today, but which can not be quantified using existing methodologies. Furthermore, it is expected that adjustments in the

General Plan and other policies will take place prior to 2035 that could further improve the City's performance in terms of GHG emission reduction. As environmental leadership is one of the over-arching themes of the General Plan, numerous goals, objectives and policies within the Plan support continued evaluation, adaptation and improvement of the Plan, through an established annual and major (4-year) review cycle, which will enable the Plan to better accomplish the ambitious goals for 2035. Additionally, as the General Plan is expected to undergo a comprehensive update prior to 2050, it is reasonable to expect that steps needed for achievement of the 2050 goals will both be better understood and more fully incorporated into the generation of the General Plan at that time. Technology to support greater efficiency, alternative energy sources, waste reduction and a lower carbon footprint is still developing.

Finally, as the data suggests progress toward achievement of the 2050 goals through the life of the General Plan, it is reasonable to conclude, per BAAQMD guidelines, that the General Plan will not preclude achievement of the 2050 goals.

#### Senate Bill 375 (SB375)

SB375 establishes a 2035 target for a fifteen percent (15%) reduction in emissions per capita from passenger vehicles when compared to emissions in 2005. CARB has provided additional guidance on how to evaluate the potential effectiveness of local land use policy decisions toward achievement of this target. Attachment C of this Strategy categorizes applicable General Plan policies using the guidelines provided by CARB.

#### Additional GHG emission reduction measures

The State's Greenhouse Gas reduction goals, as indicated in the AB 32 Scoping Plan, are aggressive. As mentioned in the General Plan Update EIR, the City can only exert direct influence on one of the three strategies relating to a reduction of Vehicle Miles Traveled (VMT) or Vehicle Hours Travelled (VHT), which is the arrangement of land use. Other agencies more directly control the development and operation of transit facilities, implementation of regional strategies, such as congestion management pricing, which can discourage automobile use, or automobile and gasoline standards which have a direct impact on greenhouse gas emissions. Accordingly, the City has developed a Land Use / Transportation Diagram and General Plan policies that will help to lessen driving and shorten trips to support the local jurisdiction component of the state's reduction targets.

By 2020, the City will have undertaken two major reviews of the General Plan, which will include quantitatively analyzing the efficacy of the greenhouse gas reduction strategy. The City will add additional feasible mandatory and voluntary measures to the Strategy in order to meet the Strategy's greenhouse gas reduction targets. Therefore, although the City finds that there will be a significant unavoidable impact from not being able to meet (or at least demonstrate the ability to meet) the 2035 Greenhouse Gas threshold, the City feels that the combination of a land use plan that maximizes compact development and minimizes driving, along with a program for monitoring and revising the Strategy and related policies and actions in the Envision 2040 General Plan are the two most important and effective mitigation measures available to the City.

## ***Implementation***

Implementation of measures throughout the community is critical to the success of the Greenhouse Gas Reduction Strategy. The policies in the General Plan and Greenhouse Gas Reduction Strategies outlined in this document will need to be translated into tangible and substantial change. The following discussion describes how City staff will implement Greenhouse Gas Reduction measures “on the ground” and monitor progress.

### Strategy Implementation

Achievement indicators and performance (goals/targets) that will enable City staff, the City Council and the public to track implementation of policies and strategies are identified in Attachment D. They provide interim and 2035 achievement indicators where possible and are related to the City’s progressive Green Vision goals. Interim indicators are important as they provide a check to evaluate if City-identified measures are moving on the right track to achieve its overall efficiency targets for 2020 and 2035. These indicators may be adjusted as better tracking tools become available and/or as new measures are identified. Updates to the Strategy and implementation tools are anticipated to be made during major General Plan reviews, or more frequently if new, demonstrated opportunities for GHG reduction arise. New mandatory or recommended measures that apply to individual development projects may be identified in City Council policy or as new City ordinances.

Upon adoption of the Greenhouse Gas Reduction Strategy, identified City departments will be responsible for implementing various measures and strategies (refer to Attachment C). In order to assess the status of City efforts, annual reporting by departments will be completed as described below.

### Annual Reporting, Monitoring and Updating of the Plan

The annual reporting of the Green Vision and the every-four-years major General Plan review are the basis of the monitoring and reporting program. The City is committed to reporting on the plan's progress, modifying the plan to improve the eventual results, and to keep working toward the reduction target for 2035. The first two Green Vision annual reports are an indicator of the City's approach. The Green Vision annual report provides a detailed snapshot of yearly activities to meet the City’s Green Vision Goals. The annual reporting will be extended to express Green Vision activities in terms of the amount of CO<sub>2</sub> emissions reduced or avoided. The major reviews will update the City’s GHG inventory and provide a chance for input from the General Plan Task Force to re-focus the Strategy, and to improve its efficacy and consistency with the General Plan. Additional feasible mandatory and voluntary measures will be added to the Strategy as a part of the major review process in order to meet the Strategy’s greenhouse gas reduction targets.

### Council Implementation Policy

The *Council Policy for the Implementation of the Greenhouse Gas Reduction Strategy* will provide additional guidance for finding consistency with this Strategy on a project-by-project basis and further reinforce the strategies embedded within the General Plan that reduce greenhouse gas emissions. Consistency with the Strategy and General Plan must be reflected in CEQA documents. The Policy succinctly identifies key General Plan policies and a methodology for evaluation of specific projects as part of the City’s land use entitlement review process.

### Consistency with the General Plan

As noted above, one of the primary responsibilities of local jurisdictions is to develop a land use and transportation plan that minimizes future greenhouse gas emissions. San José has accordingly developed a Land Use / Transportation Diagram and supporting land use and other General Plan policies that promote transportation alternatives to automobile use. The primary test for consistency with the Greenhouse Gas Reduction Strategy is conformance to the General Plan Land Use / Transportation Diagram and supporting policies. CEQA clearance for all development proposals will address the consistency of individual projects with the goals and policies in General Plan designed to reduce greenhouse gas emissions (Attachment B). Similarly, the best implementation tool for the City to minimize future greenhouse gas emissions is implementation of its General Plan. As San José further focuses growth within its Downtown, intensifies employment and housing development around transit stations and creates new, pedestrian-friendly Urban Villages, the City will be doing its part to reduce future greenhouse gas emissions and support a more environmentally sustainable future.

**Attachment A**  
**Greenhouse Gas Reduction Strategy Measures**  
**with Estimated Reductions to Assist Meeting 2035 Emission Goal**

City of San José Strategy Number	Title	Description	Equivalent CAPCOA Strategy <sup>1</sup>	MT CO <sub>2</sub> e Reduction <sup>2</sup>
<b>BUILT ENVIRONMENT AND ENERGY (BEE)</b>				
BEE-1	Install Energy Efficient Appliances	Over the 25 year life of the General Plan, nearly all refrigerators in the City of San José will be replaced ( average service life = 17 years). Assuming 50% of shoppers buy energy star refrigerators, Residential Energy usage could go down by 1%. (2% efficiency improvement over 50% of houses)	BE-4	8,000 MT
<b>Project by project reductions from Development Review</b>				
BEE-2	Green Building Ordinance	The City has adopted Green Building Ordinances for public and private development. Reductions over the next 25 years not quantified at this time.	EE-1.1	--
<b>Specific Actions undertaken by the City of San José to reduce Greenhouse Gases</b>				
BEE-3	Green Building Incentives	Over the 25 year life of the plan, the City will continue to develop new and expand existing programs to educate San José's business and residential communities on the economic and environmental benefits of green building practices and provide green building technical assistance and referral service for business and residential communities (Actions MS-1.9, MS-1.10). Under Action MS-1.8, green building new construction and retrofits per the Green Vision Goal of 50 million square feet of green buildings in San José by 2022 and 100 million square feet by 2040 will be tracked. Reductions over the next 25 years not quantified at this time.	EE-1.4	--

<b>Attachment A Greenhouse Gas Reduction Strategy Measures with Estimated Reductions to Assist Meeting 2035 Emission Goal</b>				
<b>City of San José Strategy Number</b>	<b>Title</b>	<b>Description</b>	<b>Equivalent CAPCOA Strategy<sup>1</sup></b>	<b>MT CO<sub>2</sub> e Reduction<sup>2</sup></b>
BEE-4	Community Energy Programs	Over the 25 year life of the plan, the City will provide green building technical assistance and referral service to available resources (Action MS-1.11) and promote participation in Green Business and other energy efficiency programs. Reductions over the next 25 years not quantified at this time.	EE-4.3	--
BEE-5	Establish on-site renewable energy systems—solar	Over the 25 year life of the plan, given current successes of Green Vision Strategy #3, City expects approx 100MW of citywide power to be generated by solar (100 MW of solar cells installed by 2035 – 10 MW installed in 2008) = 90 MW change between 2007 and 2035: 90 MW = 90,000 kW * 5 hr/day (estimate of daily sunlight from <a href="http://www.solar-estimate.org">www.solar-estimate.org</a> ) * 365 days/year = 173,375,000 kWh * 6.9 x 10 <sup>-4</sup> MT CO <sub>2</sub> e / kWh (from <a href="http://www.epa.gov/greenpower">www.epa.gov/greenpower</a> ) = 113,000 MT CO <sub>2</sub> e /year	AE-2	113,000 MT (energy savings =100 MW)
BEE-6	Install Higher Efficacy Public Street and Area Lighting	Green Vision Goal #9; Implementation: Streetlight Master Plan	LE-1	8,500 MT
BEE-7	Replace traffic lights with LED traffic lights	See above	LE-3	See above
<b>LAND USE AND TRANSPORTATION (LUT)</b>				
<b>Project by project reductions resulting from the General Plan Land Use Diagram</b>				
LUT-1	Increase Density of development	Implementation: Envision 2040 Existing 2008 development=310,000 DU 2040 scenario= 120,000 additional DU	LUT-1	159,000 MT

**Attachment A  
Greenhouse Gas Reduction Strategy Measures  
with Estimated Reductions to Assist Meeting 2035 Emission Goal**

City of San José Strategy Number	Title	Description	Equivalent CAPCOA Strategy <sup>1</sup>	MT CO <sub>2</sub> e Reduction <sup>2</sup>
		38% increase in density * 0.07 (elasticity of VMT decrease) = 3% decrease in VMT		
LUT-2	Increase location efficiency	Compact infill = 10% reduction in VMT (CAPCOA guidance); Implementation: Envision 2040	LUT-2	530,000 MT
LUT-3	Mixed Use Developments	(associated w/ LUT-2)	LUT-3	
LUT-4	Provide Bike Parking in Non-Residential Projects	Reductions not quantified	SDT-6	--
LUT-5	Provide Bike Parking in Multi-Unit Residential Projects	Reductions not quantified	SDT-7	--
<b>Specific Actions undertaken by the City of San José to reduce Greenhouse Gases</b>				
LUT-6	Provide 100 miles of interconnected trails	Green Vision Goal #10; Implementation: Bicycle Master Plan	GV-10	140 MT
LUT-7	Ensure that 100% of fleet vehicles run on alternative fuels	Green Vision Goal #8 Data source: ESD	GV-8	5,000 MT
<b>RECYCLING AND WASTE REDUCTION(RWR)</b>				
<b>Project by project reductions and Specific Actions undertaken by the City of San José</b>				
RWR-1	Use reclaimed water	Green Vision Goal #6, Beneficially re-use 100% of our wastewater (100 MGD); Implementation: Plant Master Plan. Assuming 40 MGD of water gets re-used and a 2008 baseline of 11 MGD being conserved, and using SCVWD info on the amount of energy saved through conservation (1000 kWh / acre foot), then: (40 MGD water not imported / day -11 MGD not imported (2008 baseline))*1 acre-foot / 326,000 gallons = 89 acre-feet	WSW-1	22,000 MT

<b>Attachment A Greenhouse Gas Reduction Strategy Measures with Estimated Reductions to Assist Meeting 2035 Emission Goal</b>				
<b>City of San José Strategy Number</b>	<b>Title</b>	<b>Description</b>	<b>Equivalent CAPCOA Strategy<sup>1</sup></b>	<b>MT CO<sub>2</sub> e Reduction<sup>2</sup></b>
		/ day $89 \text{ acre-feet / day} * 365 \text{ days / year} = 32,500 \text{ acre-feet / year}$ $32,500 \text{ acre-feet / year} * 1,000 \text{ kWh / acre-foot} = 32.5$ $\text{million kWh / year}$ $32.5 \text{ million kWh / year} * 6.9 \times 10^{-4} \text{ MT CO}_2\text{e / kWh (from}$ <a href="http://www.epa.gov/greenpower">www.epa.gov/greenpower</a> $) =$ $22,000 \text{ MT CO}_2\text{e / year}$		
<b>Specific Actions undertaken by the City of San José to reduce Greenhouse Gases</b>				
RWR-Q	Extend recycling services	Green Vision Goal #5; Implementation: Zero Waste Strategic Plan. As an estimate, divert an additional 75% of waste beyond the baseline year (2006) by 2035. CO <sub>2</sub> e from landfilled waste (2006) = 260,000 MT; 75% = 200,000 MT	SW-1	200,000 MT
<b>OTHER GHG REDUCTION MEASURES (OM)</b>				
OM-1	Urban Tree Planting	Reductions not quantified	GP-2	--
OM-2	Establish a farmer's market	Reductions not quantified	GP-3	--
OM-3	Establish Community Gardens	Reductions not quantified	GP-5	--
<b>Total Potential Yearly Reductions through 2035</b>				<b>1.05 MMT CO<sub>2</sub>e</b>
<i>Summary</i>				

**Attachment A  
Greenhouse Gas Reduction Strategy Measures  
with Estimated Reductions to Assist Meeting 2035 Emission Goal**

<b>City of San José Strategy Number</b>	<b>Title</b>	<b>Description</b>	<b>Equivalent CAPCOA Strategy<sup>1</sup></b>	<b>MT CO<sub>2</sub> e Reduction<sup>2</sup></b>
<p>Total GHG emissions in 2035, business as usual = 14.5 MMT CO<sub>2</sub> e            Total GHG emissions in 2035, with mitigation measures = 13.45 MMT CO<sub>2</sub>e            GHG Emissions Efficiency, 2035, with mitigation = 13.45 MMT CO<sub>2</sub>e / yr ÷ 2.15 million Service Population (SP) = <b>6.3 MT CO<sub>2</sub>e / SP / year</b></p>				
<p><sup>1</sup> CAPCOA Strategies listed above are from the following reference: California Air Pollution Officers Association (CAPCOA). <i>Quantifying Greenhouse Gas Mitigation Measures A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures</i>. August 2010.  <sup>2</sup>Estimates provided by the City of San José Department of Building, Planning, and Code Enforcement and the Environmental Services Department (ESD).</p>				

**Attachment B**  
**Greenhouse Gas Reduction Policies To Be Implemented As Part of Development Review**  
**For Residential, Commercial, Industrial, Institutional, and Municipal Projects**

Measure Type(s)	Envision San José 2040 General Plan Policy	Relevant For
<b>BUILT ENVIRONMENT</b>		
<b>Energy Efficiency and Green Building Practices</b>	<b>MS-1.1:</b> Continue to demonstrate leadership in the development and implementation of green building policies and practices. Ensure that all projects are consistent with and/or exceed the City's Green Building Ordinance and City Council Policies as well as State or regional policies which require that projects incorporate various green building principles into their design and construction.	Residential (R), Commercial (C), Industrial (I), Institutional (Inst) Municipal (Muni)
	<b>MS-1.2:</b> Continually increase the number and proportion of buildings within San José that make use of green building practices by incorporating those practices into both new construction and retrofit of existing structures.	R,C, I, Inst, Muni
	<b>MS-2.3:</b> Encourage consideration of solar orientation, including building placement, landscaping, design and construction techniques for new construction to minimize energy consumption.	R,C, I, Inst, Muni
	<b>MS-2.7:</b> Encourage the installation of solar panels or other clean energy power generation sources over parking areas.	R,C, I, Inst,Muni
	<b>MS-2.8:</b> Develop policies which promote energy reduction for energy-intensive industries. For facilities such as data centers, which have high energy demand and indirect greenhouse gas emissions, require evaluation of operational energy efficiency and inclusion of operational design measures as part of development review consistent with benchmarks such as those in EPA's EnergyStar Program for new data centers.	I
	<b>MS-2.11:</b> Require new development to incorporate green building practices, including those required by the Green Building Ordinance. Specifically, target reduced energy use through construction techniques (e.g., design of building envelopes and systems to maximize energy performance), through architectural design (e.g. design to maximize cross ventilation and interior daylight) and through site design techniques (e.g. orienting buildings on sites to maximize the effectiveness of passive solar design).	R,C, I, Inst, Muni
	<b>MS-14.3:</b> Consistent with the California Public Utilities Commission's California Long Term Energy Efficiency Strategic Plan, as revised, and when technological advances make it feasible, require all new residential and commercial construction to be designed for zero net energy use.	R, C
	<b>MS-14.4:</b> Implement the City's Green Building Policies (see Green Building Section) so that new construction and rehabilitation of existing buildings fully implements industry best practices, including the use of optimized energy systems, selection of materials and resources, water efficiency, sustainable site selection, passive solar building design, and planting of trees and other landscape materials to reduce energy consumption.	R,C, I,Muni

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**For Residential, Commercial, Industrial, Institutional, and Municipal Projects**

Measure Type(s)	Envision San José 2040 General Plan Policy	Relevant For
	<b>MS-14.5:</b> Consistent with State and Federal policies and best practices, require energy efficiency audits and retrofits prior to or at the same time as consideration of solar electric improvements.	R,C, I, Inst, Muni
<b>Water Use</b>	<b>MS-17.2:</b> Ensure that development within San José is planned and built in a manner consistent with sustainable use of current and future water supplies by encouraging sustainable development practices, including low-impact development, water-efficient development and green building techniques. Support the location of new development within the vicinity of the recycled water system and promote expansion of the SBWR system to areas planned for new development. Residential development outside of the Urban Service Area will only be approved at minimal levels and only allowed to use non-recycled water at urban intensities. For residential development outside of the Urban Service Area, restrict water usage to well water, rainwater collection or other similar sustainable practice. Non-residential development may use the same sources and potentially make use of recycled water, provided that its use will not result in conflicts with other General Plan policies, including geologic or habitat impacts. To maximize the efficient and environmentally beneficial use of water, outside of the Urban Service Area, limit water consumption for new development so that it does not diminish the water supply available for projected development within San José ’s urbanized areas.	R,C, I, Inst, Muni
	<b>MS-18.4:</b> Retrofit existing development to improve water conservation.	R,C, I, Inst, Muni
	<b>MS-19.4:</b> Require the use of recycled water wherever feasible and cost-effective to serve existing and new development.	R,C, I, Inst, Muni
	<b>MS-21.3:</b> Ensure that San José’s Community Forest is comprised of species that have low water requirements and are well adapted to its Mediterranean climate. Select and plant diverse species to prevent monocultures that are vulnerable to pest invasions. Furthermore, consider the appropriate placement of tree species and their lifespan to ensure the perpetuation of the Community Forest.	R,C, I, Inst, Muni
<b>Renewable Energy</b>	<b>MS-15.3:</b> Facilitate the installation of at least 100,000 solar roofs in San José by 2022 and at least 200,000 solar roofs by 2040.	R,C, I, Inst, Muni
	<b>MS-16.2:</b> Promote neighborhood-based distributed clean/renewable energy generation to improve local energy security and to reduce the amount of energy wasted in transmitting electricity over long distances.	R,C, I, Inst, Muni
<b>RECYCLING AND WASTE</b>		
<b>Recycling and Waste</b>	<b>MS-6.5:</b> Reduce the amount of waste disposed in landfills through waste prevention, reuse, and recycling of materials at venues, facilities, and special events.	C, Inst, Muni, and Special Events

<b>Attachment B</b>		
<b>Greenhouse Gas Reduction Policies To Be Implemented As Part of Development Review For Residential, Commercial, Industrial, Institutional, and Municipal Projects</b>		
<b>Measure Type(s)</b>	<b>Envision San José 2040 General Plan Policy</b>	<b>Relevant For</b>
	<b>LU-7.3:</b> Encourage the use of industrially-planned land to provide locations for various forms of recycling services (e.g., collection, handling, transfer, processing, etc.), for the support facilities required by these services (e.g., service yards, truck storage and service) and for companies that manufacture new products out of recycled materials in order to support the City's Solid Waste Program.	I
	<b>LU-16.4:</b> Development approvals that include demolition of a structure eligible for or listed on the Historic Resources Inventory shall require the salvage of the resource's building materials and architectural elements as to allow re-use those elements and materials and avoid the energy costs of producing new and disposing of old building materials.	R,C, I, Inst, Muni
<b>TRANSPORTATION (and LAND USE)</b>		
<b>Bicycle and Pedestrian Facilities</b>  <b>Facilitating Transit</b>  <b>Compact Development</b>	<b>CD-2.1:</b> Promote the Circulation Goals and Policies in this Plan. Create streets that promote pedestrian and bicycle transportation by following applicable goals and policies in the Circulation section of this Plan.  a) Design the street network for its safe shared use by pedestrians, bicyclists, and vehicles. Include elements that increase driver awareness.  b) Create a comfortable and safe pedestrian environment by implementing wider sidewalks, shade structures, attractive street furniture, street trees, reduced traffic speeds, pedestrian-oriented lighting, mid-block pedestrian crossings, pedestrian-activated crossing lights, bulb-outs and curb extensions at intersections, and on-street parking that buffers pedestrians from vehicles.  c) Consider support for reduced parking requirements, alternative parking arrangements, and Transportation Demand Management strategies to reduce area dedicated to parking and increase area dedicated to employment, housing, parks, public art, or other amenities. Encourage de-coupled parking to ensure that the value and cost of parking are considered in real estate and business transactions.	R,C, I, Inst, Muni

**Attachment B**  
**Greenhouse Gas Reduction Policies To Be Implemented As Part of Development Review**  
**For Residential, Commercial, Industrial, Institutional, and Municipal Projects**

Measure Type(s)	Envision San José 2040 General Plan Policy	Relevant For
	<p><b>CD-2.3:</b> Enhance pedestrian activity by incorporating appropriate design techniques and regulating uses in private developments, particularly in Downtown, Villages, Corridors, Main Streets, and other locations where appropriate.</p> <p>a) Include attractive and interesting pedestrian-oriented streetscape features such as street furniture, pedestrian scale lighting, pedestrian oriented way-finding signage, clocks, fountains, landscaping, and street trees that provide shade, with improvements to sidewalks and other pedestrian ways.</p> <p>b) Strongly discourage drive-up services and other commercial uses oriented to occupants of vehicles in pedestrian-oriented areas. Uses that serve the vehicle, such as car washes and service stations, may be considered appropriate in these areas when they do not disrupt pedestrian flow, are not concentrated in one area, do not break up the building mass of the streetscape, are consistent with other policies in this Plan, and are compatible with the planned uses of the area.</p> <p>c) Provide pedestrian connections as outlined in the Community Design Connections Goal and Policies.</p> <p>d) Locate retail and other active uses at the street level.</p> <p>e) Create easily identifiable and accessible building entrances located on street frontages or paseos.</p> <p>f) Accommodate the physical needs of elderly populations and persons with disabilities.</p> <p>g) Integrate existing or proposed transit stops into project designs.</p>	R,C, I, Inst, Muni Urban Villages, Downtown
	<p><b>CD-2.5:</b> Integrate Green Building Goals and Policies of this Plan into site design to create healthful environments. Consider factors such as shaded parking areas, pedestrian connections, minimization of impervious surfaces, incorporation of stormwater treatment measures, appropriate building orientations, etc.</p>	R,C, I, Inst, Muni
	<p><b>CD-2.10:</b> Recognize that finite land area exists for development and that density supports retail vitality and transit ridership. Use land regulations to require compact, low-impact development that efficiently uses land planned for growth, particularly for residential development which tends to have a long life-span. Strongly discourage small-lot and single-family detached residential product types in growth areas.</p>	R,C, I
<b>Bicycle and Pedestrian Facilities</b>	<p><b>CD-3.2:</b> Prioritize pedestrian and bicycle connections to transit, community facilities (including schools), commercial areas, and other areas serving daily needs. Ensure that the design of new facilities can accommodate significant anticipated future increases in bicycle and pedestrian activity.</p>	R,C, I, Inst, Muni
<b>Facilitating Transit</b> <b>Compact Development (cont.)</b>	<p><b>CD-3.3:</b> Within new development, create a pedestrian friendly environment by connecting the internal components with safe, convenient, accessible, and pleasant pedestrian facilities and by requiring pedestrian connections between building entrances and other site features and adjacent public streets.</p>	R,C, I, Inst, Muni

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Measure Type(s)	Envision San José 2040 General Plan Policy	Relevant For
	<b>CD-3.4:</b> Encourage pedestrian cross-access connections between adjacent properties and require pedestrian and bicycle connections to streets and other public spaces, with particular attention and priority given to providing convenient access to transit facilities. Provide pedestrian and vehicular connections with cross-access easements within and between new and existing developments to encourage walking and minimize interruptions by parking areas and curb cuts.	R,C, I, Inst, Muni
	<b>CD-3.6:</b> Encourage a street grid with lengths of 600 feet or less to facilitate walking and biking. Use design techniques such as multiple building entrances and pedestrian paseos to improve pedestrian and bicycle connections.	R,C, I, Muni
	<b>CD-3.8:</b> Provide direct access from developments to adjacent parks or open spaces, and encourage residential development to provide common open space contiguous to such areas.	R,C, I, Muni
	<b>CD-3.10:</b> New development should increase neighborhood connectivity by providing access across natural barriers (e.g., rivers) and man-made barriers (e.g., freeways).	R,C, I, Inst, Muni
	<b>CD-5.1:</b> Design areas to promote pedestrian and bicycle movements and to facilitate interaction between community members and to strengthen the sense of community.	R,C, I, Inst, Muni
	<b>CD-5.2:</b> Foster a culture of walking by designing walkable urban spaces; strategically locating jobs, residences and commercial amenities; providing incentives for alternative commute modes; and partnering with community groups and health services organizations to promote healthy life-styles for San José residents.	R,C, I, Inst, Muni
	<b>CD-7.6:</b> Incorporate a full range of uses in each Village Plan to address daily needs of residents, businesses, and visitors in the area. Consider retail, parks, school, libraries, day care, entertainment, plazas, public gathering space, private community gathering facilities, and other neighborhood-serving uses as part of the Village planning process. Encourage multi-use spaces wherever possible to increase flexibility and responsiveness to community needs over time.	Urban Villages
	<b>PR-8.5</b> Encourage all developers to install and maintain trails when new development occurs adjacent to a designated trail location. Use the City’s Parkland Dedication Ordinance and Park Impact Ordinance to have residential developers build trails when new residential development occurs adjacent to a designated trail location, consistent with other parkland priorities. Encourage developers or property owners to enter into formal agreements with the City to maintain trails adjacent to their properties.	R,C, I, Inst, Muni
	<b>LU-2.1:</b> Provide significant job and housing growth capacity within strategically identified “Growth Areas” in order to maximize use of existing or planned infrastructure (including fixed transit facilities), minimize the environmental impacts of new development, provide for more efficient delivery of City services, and foster the development of more vibrant, walkable urban settings.	R,C, I, Inst, Muni

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Measure Type(s)	Envision San José 2040 General Plan Policy	Relevant For
<b>Bicycle and Pedestrian Facilities</b>  <b>Facilitating Transit</b>  <b>Compact Development (cont.)</b>	<b>LU-2.2:</b> Include within the General Plan Land Use / Transportation Diagram significant job and housing growth capacity within the following identified Growth Areas: <i>(near transit-summarized)</i> <ul style="list-style-type: none"> <li>▪ Downtown</li> <li>▪ Specific Plan Areas</li> <li>▪ North San José</li> <li>▪ Employment Lands</li> <li>▪ Urban Villages: BART/Caltrain Station Areas</li> <li>▪ Urban Villages: Transit / Commercial Corridors</li> <li>▪ Urban Villages: Commercial Centers</li> <li>▪ Urban Villages: Neighborhood Villages</li> </ul>	R,C, I, Inst, Muni
	<b>LU-2.3:</b> To support the intensification of identified Growth Areas, and to achieve the various goals related to their development throughout the City, restrict new development on properties in non-Growth Areas.	R,C, I, Inst, Muni
	<b>LU-2.4:</b> To accomplish the planned intensification of employment and residential uses at the Berryessa BART station, modify existing entitlements to expand the area planned for employment uses and to increase the density of employment and residential areas within the BART Station Village area.	Berryessa BART Station Village Area
	<b>LU-3.6:</b> Prohibit uses that serve occupants of vehicles (such as drive-through windows) and discourage uses that serve the vehicle (such as car washes and service stations), except where they do not disrupt pedestrian flow, are not concentrated, do not break up the building mass of the streetscape, and are compatible with the planned uses of the area.	C
	<b>LU-5.2:</b> To facilitate pedestrian access to a variety of commercial establishments and services that meet the daily needs of residents and employees, locate neighborhood-serving commercial uses throughout the city, including identified growth areas and areas where there is existing or future demand for such uses.	C
	<b>LU-5.3:</b> Encourage new and intensification of existing commercial development in vertical mixed-use projects and, in some instances, integrated horizontal mixed-use projects, consistent with the Land Use / Transportation Diagram.	C, R, I-office
	<b>LU-5.4:</b> Require new commercial development to facilitate pedestrian and bicycle access through techniques such as minimizing building separation from public sidewalks; providing safe, accessible, convenient, and pleasant pedestrian connections; and including secure and convenient bike storage.	C

<b>Attachment B</b>		
<b>Greenhouse Gas Reduction Policies To Be Implemented As Part of Development Review For Residential, Commercial, Industrial, Institutional, and Municipal Projects</b>		
<b>Measure Type(s)</b>	<b>Envision San José 2040 General Plan Policy</b>	<b>Relevant For</b>
	<b>LU-5.5:</b> Provide pedestrian and vehicular connections between adjacent commercial properties with reciprocal-access easements to encourage safe, convenient, and direct pedestrian access and “one-stop” shopping. Encourage and facilitate shared parking arrangements through parking easements and cross-access between commercial properties to minimize parking areas and curb-cuts.	C
	<b>LU-6.4:</b> Encourage the development of new industrial areas and the redevelopment of existing older or marginal industrial areas with new industrial uses, particularly in locations which facilitate efficient commute patterns. Use available public financing to provide necessary infrastructure improvements as one means of encouraging this economic development and revitalization.	I
<b>Bicycle and Pedestrian Facilities</b>	<b>LU-9.1:</b> Create a pedestrian-friendly environment by connecting new residential development with safe, convenient, accessible, and pleasant pedestrian facilities. Provide such connections between new development, its adjoining neighborhood, transit access points, schools, parks, and nearby commercial areas. Consistent with Transportation Policy TR-2.11, prohibit the development of new cul-de-sacs or gated communities that do not provide through- and publicly-accessible bicycle and pedestrian connections.	R, Inst, Muni
<b>Facilitating Transit</b>	<b>LU-9.2:</b> Facilitate the development of complete neighborhoods by allowing appropriate commercial uses within or adjacent to residential and mixed-use neighborhoods.	R,C, I-office
<b>Compact Development (cont.)</b>	<b>LU-10.1:</b> Develop land use plans and implementation tools that result in the construction of mixed-use development in appropriate places throughout the City as a means to establish walkable, complete communities.	Urban Villages, Specific Plan areas (R,C, I, Inst, Muni)
	<b>LU-10.3:</b> Develop residentially- and mixed-use-designated lands adjacent to major transit facilities at high densities to reduce motor vehicle travel by encouraging the use of public transit.	R,C, I
	<b>LU-10.4:</b> Within identified growth areas, develop residential projects at densities sufficient to support neighborhood retail in walkable, main street type development.	R
	<b>LU-10.5:</b> Facilitate the development of housing close to jobs to provide residents with the opportunity to live and work in the same community.	R, C, I
	<b>LU-10.6:</b> In identified growth areas, do not approve decreases in residential density through zoning change or development entitlement applications or through General Plan amendments.	R
	<b>LU-10.8:</b> Encourage the location of schools, private community gathering facilities, and other public/quasi public uses within or adjacent to Villages, Corridors and other growth areas and encourage these uses to be developed in an urban form and in a mixed-use configuration.	Inst

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	<b>LU-10.9:</b> Model the federal Interagency Partnership for Sustainable Communities (HUD-DOT-EPA) at the local level between Housing and other City Departments to facilitate the creation of smart growth communities.	R,C, I
	<b>LU-16.1:</b> Integrate historic preservation practices into development decisions based upon fiscal, economic, and environmental sustainability.	R,C, I, Inst, Muni
	<b>LU-16.2:</b> Evaluate the materials and energy resource consumption implications of new construction to encourage preservation of historic resources.	R,C, I, Inst, Muni
	<b>TR-1.1:</b> Accommodate and encourage use of non-automobile transportation modes to achieve San José's mobility goals and reduce vehicle trip generation and vehicle miles traveled (VMT).	R,C, I, Inst, Muni
	<b>TR-1.4:</b> Through the entitlement process for new development fund needed transportation improvements for all transportation modes, giving first consideration to improvement of bicycling, walking and transit facilities. Encourage investments that reduce vehicle travel demand.	R,C, I, Inst, Muni
	<b>TR-1.13:</b> Reduce vehicle capacity on streets with projected excess capacity by reducing either the number of travel lanes or the roadway width, and use remaining public right-of-way to provide wider sidewalks, bicycle lanes, transit amenities and/or landscaping. Establish criteria to identify roadways for capacity reduction (i.e., road diets) and conduct engineering studies and environmental review to determine implementation feasibility and develop implementation strategies.	R,C, I, Inst, Muni
<b>Bicycle and Pedestrian Facilities</b>	<b>TR-2.2:</b> Provide a continuous pedestrian and bicycle system to enhance connectivity throughout the City by completing missing segments. Eliminate or minimize physical obstacles and barriers on City streets that impede pedestrian and bicycle movement, including consideration of grade-separated crossings at railroad tracks and freeways. Provide safe bicycle and pedestrian connections to all facilities regularly accessed by the public, including the San José International Airport.	R,C, I, Inst, Muni
<b>Facilitating Transit</b>	<b>TN-2.7:</b> Encourage all developers to install and maintain trails when new development occurs adjacent to a designated trail location, in accordance with Policy PR-8.5.	
<b>Compact Development (cont.)</b>	<b>TR-2.8:</b> Require new development to provide on-site facilities such as bicycle storage and showers, provide connections to existing and planned facilities, dedicate land to expand existing facilities or provide new facilities such as sidewalks and/or bicycle lanes/paths, or share in the cost of improvements.	R,C, I, Inst, Muni
	<b>TR-2.18:</b> Provide bicycle storage facilities as identified in the Bicycle Master Plan.	R,C, I, Inst, Muni
	<b>TR-3.3:</b> As part of the development review process, require that new development along existing and planned transit facilities consist of land use and development types and intensities that contribute toward transit ridership. In addition, require that new development is designed to accommodate and to provide direct access to transit facilities.	R,C, I, Inst, Muni

<b>Attachment B</b>		
<b>Greenhouse Gas Reduction Policies To Be Implemented As Part of Development Review For Residential, Commercial, Industrial, Institutional, and Municipal Projects</b>		
<b>Measure Type(s)</b>	<b>Envision San José 2040 General Plan Policy</b>	<b>Relevant For</b>
	<b>TR-3.9:</b> Ensure that all street improvements allow for easier and more efficient bus operations and improved passenger access and safety, while maintaining overall pedestrian and bicycle safety and convenience.	R,C, I, Inst, Muni
	<p><b>TR-5.3:</b> The minimum overall roadway performance during peak travel periods should be level of service "D" except for designated areas. <i>An exception to the level of service "D" standard that reinforces multimodal improvements and transportation alternatives is listed below.</i></p> <ul style="list-style-type: none"> <li>• <b>Protected Intersections.</b> In recognition that roadway capacity-enhancing improvement measures can impede the City's ability to encourage infill, preserve community livability, and promote transportation alternatives that do not solely rely on automobile travel, specially designated Protected Intersections are exempt from traffic mitigation measures. Protected Intersections are located in Special Planning Areas where proposed developments causing a significant LOS impact at a Protected Intersection are required to construct multimodal (non-automotive) transportation improvements in one of the City's designated Community Improvement Zones. These multimodal improvements are referred to as off-setting improvements and include improvements to transit, bicycle, and/or pedestrian facilities.</li> </ul>	R,C, I, Inst, Muni
	<b>TR-7.1:</b> Require large employers to develop TDM programs to reduce the vehicle trips generated by their employees.	C,I, Inst, Muni
	<b>TR-8.1:</b> Promote transit-oriented development with reduced parking requirements and promote amenities around appropriate transit hubs and stations to facilitate the use of available transit services.	R,C, I, Inst., Muni
	<b>TR-8.5:</b> Promote participation in car share programs to minimize the need for parking spaces in new and existing development.	R,C, I, Inst., Muni
	<b>TR-9.1:</b> Enhance, expand and maintain facilities for walking and bicycling, particularly to connect with and ensure access to transit and to provide a safe and complete alternative transportation network that facilitates non-automobile trips.	R,C, I, Inst., Muni
	<b>TN-2.2:</b> Provide direct, safe and convenient bicycle and pedestrian connections between the trail system and adjacent neighborhoods, schools, employment areas and shopping areas.	R,C, I, Inst., Muni
<b>Bicycle and Pedestrian Facilities Facilitating Transit Compact Development (cont.)</b>	<b>TN-2.7:</b> Encourage all developers to install and maintain trails when new development occurs adjacent to a designated trail location, in accordance with Policy PR-8.5.	R,C, I, Inst., Muni

**Attachment B**  
**Greenhouse Gas Reduction Policies To Be Implemented As Part of Development Review**  
**For Residential, Commercial, Industrial, Institutional, and Municipal Projects**

Measure Type(s)	Envision San José 2040 General Plan Policy	Relevant For
<b>Parking</b>	<b>CD-2.11:</b> Within the Downtown and Urban Village Overlay areas, consistent with the minimum density requirements of the pertaining Land Use/Transportation Diagram designation, avoid the construction of surface parking lots except as an interim use, so that long-term development of the site will result in a cohesive urban form. In these areas, whenever possible, use structured parking, rather than surface parking, to fulfill parking requirements. Encourage the incorporation of alternative uses, such as parks, above parking structures.	Downtown and Urban Villages
	<b>LU-3.5:</b> Balance the need for parking to support a thriving Downtown with the need to minimize the impacts of parking upon a vibrant pedestrian and transit oriented urban environment. Provide for the needs of bicyclists and pedestrians, including adequate bicycle parking areas and design measures to promote bicyclist and pedestrian safety.	Downtown
	<b>TR-8.2:</b> Balance business viability and land resources by maintaining an adequate supply of parking to serve demand while avoiding excessive parking supply that encourages automobile use.	R,C, I, Inst., Muni
	<b>TR-8.3:</b> Support using parking supply limitations and pricing as strategies to encourage use of non-automobile modes.	R,C, I, Inst., Muni
	<b>TR-8.4:</b> Discourage, as part of the entitlement process, the provision of parking spaces significantly above the number of spaces required by code for a given use.	R,C, I, Inst., Muni
<b>Parking</b>	<b>TR-8.6:</b> Allow reduced parking requirements for mixed-use developments and for developments providing shared parking or a comprehensive TDM program, or developments located near major transit hubs or within Villages and Corridors and other growth areas.	R,C, I, Inst., Muni
	<b>TR-8.8:</b> Promote use of unbundled private off-street parking associated with existing or new development, so that the sale or rent of a parking space is separated from the rent or sale price for a residential unit or for non-residential building square footage.	R,C, I, Inst., Muni
	<b>TR-8.9:</b> Consider adjacent on-street and City-owned off-street parking spaces in assessing need for additional parking required for a given land use or new development.	R,C, I, Inst., Muni
	<b>TR-8.12:</b> As part of the entitlement process, consider opportunities to reduce the number of parking spaces through shared parking, TDM actions, parking pricing or other measures which can reduce parking demand. Consider the use of reserve landscaped open space or recreational areas that can be used on a short-term basis to provide parking or converted to formal parking in the future if necessary.	R,C, I, Inst., Muni
<b>Goods Movement</b>	<b>TR-6.1</b> Minimize potential conflicts between trucks and pedestrian, bicycle, transit, and vehicle access and circulation on streets with truck travel.	C, I

<b>Attachment B</b>		
<b>Greenhouse Gas Reduction Policies To Be Implemented As Part of Development Review For Residential, Commercial, Industrial, Institutional, and Municipal Projects</b>		
<b>Measure Type(s)</b>	<b>Envision San José 2040 General Plan Policy</b>	<b>Relevant For</b>
	<b>TR-6.7</b> As part of the project development review process, ensure that adequate off-street loading areas in new large commercial, industrial, and residential developments are provided, and that they do not conflict with pedestrian, bicycle, or transit access and circulation.	R,C, I
<b>Development Projects that include General Plan Amendments</b>		
<b>Review of General Plan Amendments</b>	<b>LU-10.6:</b> In identified growth areas, do not approve decreases in residential density through zoning change or development entitlement applications or through General Plan amendments.	All General Plan Amendments in Growth Areas
	<b>LU-17.1:</b> Maintain the Greenline/Urban Growth Boundary to delineate the extent of existing and future urban activity and to reinforce fundamental policies concerning the appropriate location of urban development.	All General Plan Amendments

**Attachment C**  
**Greenhouse Gas Reduction Policies – City Implementation Measures**

Measure Type(s)	Envision San José 2040 General Plan Policy	Department(s)
<b>BUILT ENVIRONMENT AND ENERGY</b>		
<b>Renewable Energy and Energy Efficiency</b>	<b>MS-15.3</b> Facilitate the installation of at least 100,000 solar roofs in San José by 2022 and at least 200,000 solar roofs by 2040.	Environmental Services Department (ESD) and Planning, Building and Code Enforcement (PBCE)
	<b>MS-16.5:</b> Establish minimum requirements for energy efficiency measures and onsite renewable energy generation capacity on all new housing developments.	PBCE, ESD
	<b>LU-16.3:</b> Encourage sustainable energy, water, and material choices that are historically compatible as part of the preservation, conservation, rehabilitation, and/or reuse of historical resources.	PBCE
	<b>TR-12.4:</b> Provide enhanced management of new, efficient streetlights for energy savings, sustainability, and safety along corridors and at intersections.	Public Works (PW), San José Department of Transportation (DOT)
	<b>MS-14.6:</b> Replace 100% of the City’s traffic signals and streetlights with smart, zero emission lighting by 2022.	PW, DOT
	<b>MS-21.1:</b> Manage the Community Forest to achieve San José’s environmental goals for water and energy conservation, wildlife habitat preservation, stormwater retention, heat reduction in urban areas, energy conservation, and the removal of carbon dioxide from the atmosphere.	DOT, Parks, Recreation and Neighborhood Services Department (PRNS), PBCE.
<b>Education and Training</b>	<b>MS-15.6:</b> Utilize municipal facilities to showcase the application of outstanding, innovative, and locally developed energy efficiency and renewable energy technologies and practices, to demonstrate the effectiveness of these technologies and to highlight the City’s energy leadership.	ESD
	<b>MS-15.9:</b> Train City code enforcement and development review staff in state-of-the-art renewable energy installations, Heating, Ventilation, and Air Conditioning (HVAC) and insulation industry standards, best practices, and resources to ensure buildings are constructed in compliance with those industry standards and best practices.	PBCE
	<b>MS-18.17:</b> Encourage the development of new water efficiency, conservation and reuse technologies by providing opportunities for pilot testing and evaluation and incentives for early adoption of such technologies within the community.	ESD
<b>Monitoring and Adaptation</b>	<b>MS-14.7:</b> Measure annually the shares of the City’s total Carbon Footprint resulting from energy use in the built environment, transportation, and waste management.	ESD

<b>Attachment C</b>		
<b>Greenhouse Gas Reduction Policies – City Implementation Measures</b>		
<b>Measure Type(s)</b>	<b>Envision San José 2040 General Plan Policy</b>	<b>Department(s)</b>
	<p><b>IP 3.7:</b> Monitor, evaluate and annually report on the success of the programs and actions contained within the Greenhouse Gas Reduction City Council Policy to demonstrate progress toward achieving required State of California Greenhouse Gas reduction targets (at or below 1990-equivalent levels) by 2020, 2035 and 2050. Refine existing programs and/or identify new programs and actions to ensure compliance and update the Council Policy as necessary.</p>	ESD, PBCE
	<p><b>IP-3.8:</b> Consistent with the City’s Green Vision, evaluate achievement of the following goals for environmental sustainability as part of each General Plan annual review process:</p> <ul style="list-style-type: none"> <li>• Reduce per capita energy consumption by at least 50% compared to 2008 levels by 2022 and maintain or reduce net aggregate energy consumption levels equivalent to the 2022 (Green Vision) level through 2040. (Reduce Consumption and Increase Efficiency Goal MS-14)</li> <li>• Replace 100% of the City’s traffic signals and streetlights with smart, zero emission lighting by 2022. (Reduce Consumption and Increase Efficiency Action MS-14.6)</li> <li>• Measure annually the shares of the City’s total Carbon Footprint resulting from energy use in the built environment, transportation, and waste management. (Reduce Consumption and Increase Efficiency Action MS-14.7)</li> <li>• Receive 100% of electrical power from clean renewable sources (e.g., solar, wind, hydrogen) by 2022 and to the greatest degree feasible increase generation of clean, renewable energy within the City to meet its energy consumption needs. (Renewable Energy Goal MS-15)</li> <li>• Facilitate the installation of at least 100,000 solar roofs in San José by 2022 and at least 200,000 solar roofs by 2040. (Renewable Energy Policy MS-15.3)</li> <li>• Document green building new construction and retrofits as a means to show progress towards the Green Vision Goal of 50 million square feet of green buildings in San José by 2022 and 100 million square feet by 2040. (Green Building Policy Leadership Action MS-1.8)</li> <li>• Divert 100% of waste from landfills by 2022 and maintain 100% diversion through 2040. (Waste Diversion Goal MS-5)</li> <li>• Work with stakeholders to establish additional landfill gas-to-energy systems and waste heat recovery by 2012 and prepare an ordinance requiring such action by 2022 for Council consideration. (Environmental Leadership and Innovation Action MS-7.12)</li> </ul>	ESD, PBCE, DOT, PRNS

**Attachment C  
Greenhouse Gas Reduction Policies – City Implementation Measures**

Measure Type(s)	Envision San José 2040 General Plan Policy	Department(s)
	<ul style="list-style-type: none"> <li>• Develop a schedule to discontinue the use of disposable, toxic or nonrenewable products as outlined in the United Nations Urban Environmental Accords. City use of at least one such item shall be discontinued each year throughout the planning period. In the near-term, staff will monitor the regulation of single-use carryout bags to ensure that their use in the City is reduced by at least 50%, or shall propose enhanced regulation or an alternate product. Staff will evaluate all such products for regulation or for use in energy recovery processes and shall recommend such regulations as are necessary to eliminate landfilling such products in the long-term (2022-2040). (Environmental Leadership and Innovation Action MS-7.13)</li> <li>• Prepare an ordinance for Council consideration by 2012 that would enact regional landfill bans during the near- and mid-terms for organic material such as food waste and yard trimmings that contribute to methane generation in landfills. (Environmental Stewardship Action MS-8.8)</li> <li>• Continue to increase the City’s alternative fuel vehicle fleet with the co-benefit of reducing local air emissions and continue to implement the City’s environmentally Preferable Procurement Policy (Council Policy 4-6) and Pollution Prevention Policy (Council Policy 4-5) in a manner that reduces air emissions from municipal operations. Continue to support policies that reduce vehicle use by City employees. (Air Pollutant Emission Reduction Action MS-10.12)</li> <li>• Quantitatively track the City’s education program on the public use of water. Adjust the program as needed to meet General Plan goals. (Responsible Management of Water Supply MS-17.6)</li> <li>• Continuously improve water conservation efforts in order to achieve best in class performance. Double the City’s annual water conservation savings by 2040 and achieve half of the Water District’s goal for Santa Clara County on an annual basis.(Water Conservation Goal MS-18)</li> <li>• Reduce residential per capita water consumption by 25% by 2040. (Water Conservation Policy MS-18.4)</li> <li>• Achieve by 2040, 50 Million gallons per day of water conservation savings in San José, by reducing water use and increasing water efficiency. (Water Conservation Policy MS-18.5) Use the 2008 Water Conservation Plan as the data source to determine the City’s baseline water conservation savings level. (Water Conservation Policy MS-18.6)</li> <li>• Recycle or beneficially reuse 100% of the City’s wastewater supply, including the indirect use of recycled water as part of the potable water supply. (Water Recycling Goal MS-19)</li> </ul>	

<b>Attachment C Greenhouse Gas Reduction Policies – City Implementation Measures</b>		
<b>Measure Type(s)</b>	<b>Envision San José 2040 General Plan Policy</b>	<b>Department(s)</b>
	<ul style="list-style-type: none"> <li>• Develop performance measures for tree planting and canopy coverage which measure the City’s success in achieving the Community Forest goals. These performance measures should inform tree planting goals for the years between 2022 (the horizon year for the Green Vision) and 2040. (Community Forest Action MS-21.16)</li> <li>• Track progress towards achieving at least 25,000 new Clean Technology jobs by 2022. Track progress towards achieving at least 70,000 new clean tech jobs by the year 2040 or achieving 10% of the City’s total jobs in Clean Technology by the year 2040. (Clean Technology Action IE-7.9)</li> <li>• Develop a trail network that extends a minimum of 100 miles. (Trail Network Measure TN-2.12)</li> <li>• Provide all residents with access to trails within 3 miles of their homes. (Trail Network Measure TN-2.13)</li> </ul>	
	<p><b>IP-17.2:</b> Develop and maintain a Greenhouse Gas Reduction Strategy or equivalent policy document as a road map for the reduction of greenhouse gas emissions within San José , including those with a direct relationship to land use and transportation. The Greenhouse Gas Reduction Strategy identifies the specific items within this General Plan that contribute to the reduction of greenhouse gas emissions and considers the degree to which they will achieve its goals. The General Plan and Land Use / Transportation Diagram contain multiple goals and policies which will contribute to the City’s reduction of greenhouse gas emissions, including a significant reliance upon new growth taking place in a more compact urban form that facilitates walking, mass transit, or bicycling.</p>	PBCE, ESD
<b>TRANSPORTATION (and LAND USE)</b>		
<b>Density</b>	<p><b>LU-2.3:</b> To support the intensification of identified Growth Areas, and to achieve the various goals related to their development throughout the City, restrict new development on properties in non-Growth Areas.</p>	PBCE
	<p><b>LU-2.4:</b> To accomplish the planned intensification of employment and residential uses at the Berryessa BART station, modify existing entitlements to expand the area planned for employment uses and to increase the density of employment and residential areas within the BART Station Village area.</p>	PBCE
<b>A Diversity of Uses</b>	<p><b>LU-10.1:</b> Develop land use plans and implementation tools that result in the construction of mixed-use development in appropriate places throughout the City as a means to establish walkable, complete communities.</p>	PBCE

**Attachment C  
Greenhouse Gas Reduction Policies – City Implementation Measures**

Measure Type(s)	Envision San José 2040 General Plan Policy	Department(s)
	<b>LU-10.5:</b> Facilitate the development of housing close to jobs to provide residents with the opportunity to live and work in the same community.	PBCE
	<b>CD-7.6:</b> Incorporate a full range of uses in each Village Plan to address daily needs of residents, businesses, and visitors in the area. Consider retail, parks, school, libraries, day care, entertainment, plazas, public gathering space, private community gathering facilities, and other neighborhood-serving uses as part of the Village planning process. Encourage multi-use spaces wherever possible to increase flexibility and responsiveness to community needs over time.	PBCE
<b>Location of Development</b>	<b>CD-2.10:</b> Recognize that finite land area exists for development and that density supports retail vitality and transit ridership. Use land regulations to require compact, low-impact development that efficiently uses land planned for growth, particularly for residential development which tends to have a long life-span. Strongly discourage small-lot and single-family detached residential product types in growth areas.	PBCE
	<b>LU-10.6:</b> In identified growth areas, do not approve decreases in residential density through zoning change or development entitlement applications or through General Plan amendments.	PBCE
	<b>LU-6.4:</b> Encourage the development of new industrial areas and the redevelopment of existing older or marginal industrial areas with new industrial uses, particularly in locations which facilitate efficient commute patterns. Use available public financing to provide necessary infrastructure improvements as one means of encouraging this economic development and revitalization.	PBCE, DOT
	<b>LU-17.1:</b> Maintain the Greenline/Urban Growth Boundary to delineate the extent of existing and future urban activity and to reinforce fundamental policies concerning the appropriate location of urban development.	PBCE
<b>Bike and Pedestrian Infrastructure</b>	<b>TR-1.5:</b> Design, construct, operate, and maintain public streets to enable safe, comfortable, and attractive access and travel for motorists and for pedestrians, bicyclists, and transit users of all ages, abilities, and preferences.	DOT, PW
	<b>TR-1.8:</b> Actively coordinate with regional transportation, land use planning, and transit agencies to develop a transportation network with complementary land uses that encourage travel by bicycling, walking and transit, and ensure that regional greenhouse gas emission standards are met.	DOT, PBCE
	<b>TR-1.12:</b> Update the City’s engineering standards for public and private streets based on the new street typologies that incorporate the concept of “complete streets.”	DOT, PW

<b>Attachment C</b>		
<b>Greenhouse Gas Reduction Policies – City Implementation Measures</b>		
<b>Measure Type(s)</b>	<b>Envision San José 2040 General Plan Policy</b>	<b>Department(s)</b>
	<b>TR-1.13:</b> Reduce vehicle capacity on streets with projected excess capacity by reducing either the number of travel lanes or the roadway width, and use remaining public right-of-way to provide wider sidewalks, bicycle lanes, transit amenities and/or landscaping. Establish criteria to identify roadways for capacity reduction (i.e., road diets) and conduct engineering studies and environmental review to determine implementation feasibility and develop implementation strategies.	DOT, PW
	<b>TR-2.4:</b> Encourage walking and bicycling and increase pedestrian and bicycle safety through education programs.	DOT
	<b>TR-2.10:</b> Coordinate and collaborate with local School Districts to provide enhanced, safer bicycle and pedestrian connections to school facilities throughout San José .	DOT
	<b>TR-2.7:</b> Give priority to pedestrian improvement projects that: improve pedestrian safety; improve pedestrian access to and within the Urban Villages and other growth areas; and that improve access to parks, schools, and transit facilities.	PBCE, DOT
	<b>TR-2.8:</b> Require new development to provide on-site facilities such as bicycle storage and showers, provide connections to existing and planned facilities, dedicate land to expand existing facilities or provide new facilities such as sidewalks and/or bicycle lanes/paths, or share in the cost of improvements.	PBCE, DOT
	<b>TR-2.17:</b> Establish a pilot public bike program that allows free or low-cost rental of bikes at key locations (e.g., transit stations, San José Diridon Station, San José State University) to encourage cycling as a primary mode and facilitate use of transit without having to transport a bicycle.	DOT
	<b>TR-2.20:</b> Continue to participate in and support the recommendations of the Safe Routes to School program. As part of the on-going Safe Routes to School program, work with School Districts to increase the proportion of students who walk or bike to school by improving the safety of routes to school, by educating students and parents about the health and environmental benefits of walking and bicycling, and by creating incentives to encourage students to walk and bike.	DOT
	<b>TR-9.1:</b> Enhance, expand and maintain facilities for walking and bicycling, particularly to connect with and ensure access to transit and to provide a safe and complete alternative transportation network that facilitates non-automobile trips.	DOT
	<b>TR-12.8:</b> Implement technology on select roadways to support bicycling as the preferred mode of transportation, such as advanced detection, signal priority timing, and public information kiosks.	DOT
	<b>TN-2.3:</b> Add and maintain necessary infrastructure to facilitate the use of trails as transportation.	DOT, PRNS

**Attachment C  
Greenhouse Gas Reduction Policies – City Implementation Measures**

Measure Type(s)	Envision San José 2040 General Plan Policy	Department(s)
	<b>TN-2.6:</b> Integrate and connect trail and pathway networks with a larger network of countywide and regional trails such as the Bay Area Ridge, San Francisco Bay, and Juan Bautista De Anza Trails to allow for a broad base of opportunities and linkage with the greater Bay Area.	DOT, PRNS
	<b>TN-2.8:</b> Coordinate and connect the trail system with the on-street bikeway system, and consider policies from the Circulation and the Parks, Trails, Open Space, and Recreation Amenities/Programs sections of this Plan to create a complete BikeWeb to serve the needs of San José’s diverse community.	DOT, PRNS
	<b>TN-2.10:</b> Work with the Santa Clara Valley Water District and the utilities, including PG& E, to explore opportunities to develop trails, joint-use facilities, and/or other recreational amenities along their rights-of-way.	DOT, PRNS
	<b>TN-2.11:</b> Work with local school districts to identify trails as Safe Routes to School.	DOT
	<b>TR-12.2:</b> Enhance the safety and effectiveness of transit service, bicycle, and pedestrian travel as alternative modes using advanced ITS systems.	DOT, PW
<b>Transit Facilities and Service</b>	<b>TR-3.3:</b> As part of the development review process, require that new development along existing and planned transit facilities consist of land use and development types and intensities that contribute toward transit ridership. In addition, require that new development is designed to accommodate and to provide direct access to transit facilities.	PBCE, DOT, PW
	<b>TR-3.5:</b> Work with the Valley Transportation Authority (VTA) and other public transit providers to increase transit frequency and service along major corridors and to major destinations like Downtown and North San José.	DOT, PBCE
	<b>TR-3.6:</b> Collaborate with Caltrans and Santa Clara Valley Transportation Authority to prioritize transit mobility along the Grand Boulevards identified in Figure _____. Improvements could include installing transit signal priority, queue jump lanes at congested intersections, and/or exclusive bus lanes.	DOT, PBCE
	<b>TR-3.7:</b> Regularly collaborate with BART to coordinate planning efforts for the proposed BART extension to San José/Santa Clara with appropriate land use designations and transportation connections.	DOT, PBCE
	<b>TR-3.9:</b> Ensure that all street improvements allow for easier and more efficient bus operations and improved passenger access and safety, while maintaining overall pedestrian and bicycle safety and convenience.	DOT, PW

<b>Attachment C</b>		
<b>Greenhouse Gas Reduction Policies – City Implementation Measures</b>		
<b>Measure Type(s)</b>	<b>Envision San José 2040 General Plan Policy</b>	<b>Department(s)</b>
	<b>TR-2.9:</b> Coordinate and collaborate with the Santa Clara Valley Transportation Authority, Peninsula Corridor Joint Powers Board, Amtrak, ACE, and local shuttle operators to permit bicyclists to transport bicycles and provide appropriate amenities on-board all commuter trains, buses, and shuttles. Coordinate with local transit operators to provide secure bicycle parking facilities at all park-and-ride lots, train stations, and major bus stops.	DOT, PW
	<b>TR-3.1:</b> Pursue development of BRT, bus, shuttle, and fixed guideway (i.e., rail) services on designated streets and connections to major destinations.	DOT
	<b>TR-3.2:</b> Ensure that roadways designated as Grand Boulevards adequately accommodate transit vehicle circulation and transit stops. Prioritize bus mobility along Stevens Creek Boulevard, The Alameda, and other heavily traveled transit corridors.	DOT
	<b>See TR-12.2</b> (Transit and Advanced ITS systems) above	DOT
<b>Interconnectivity Among Alternative Modes</b>	<b>TR-2.2:</b> Provide a continuous pedestrian and bicycle system to enhance connectivity throughout the City by completing missing segments. Eliminate or minimize physical obstacles and barriers on City streets that impede pedestrian and bicycle movement, including consideration of grade-separated crossings at railroad tracks and freeways. Provide safe bicycle and pedestrian connections to all facilities regularly accessed by the public, including the San José International Airport.	DOT, PW, PRNS
<b>Roadway Management</b>	See TR-1.12 (Complete Streets) and TR-1.13 (Roadway “Diet”) above	
	<b>TR-5.3:</b> The minimum overall roadway performance during peak travel periods should be level of service "D" except for designated areas. An exception to the level of service “D” standard that reinforces multimodal improvements and transportation alternatives is listed below. Protected Intersections. In recognition that roadway capacity-enhancing improvement measures can impede the City’s ability to encourage infill, preserve community livability, and promote transportation alternatives that do not solely rely on automobile travel, specially designated Protected Intersections are exempt from traffic mitigation measures. Protected Intersections are located in Special Planning Areas where proposed developments causing a significant LOS impact at a Protected Intersection are required to construct multimodal (non-automotive) transportation improvements in one of the City’s designated Community Improvement Zones. These multimodal improvements are referred to as off-setting improvements and include improvements to transit, bicycle, and/or pedestrian facilities.	DOT, PW, PBCE
	<b>TR-12.1:</b> Develop a citywide ITS system that sustainably manages and integrates all modes of travel including bicycles, automobiles, trucks, transit, and emergency vehicles.	DOT, PW

**Attachment C  
Greenhouse Gas Reduction Policies – City Implementation Measures**

Measure Type(s)	Envision San José 2040 General Plan Policy	Department(s)
	<b>TR-12.5:</b> Develop a system to provide real-time travel information along all arterial streets. This will enable all users to make informed travel decisions, enhance safety, increase use of non-auto travel modes, minimize emergency response times and reduce greenhouse gas emissions.	DOT
<b>Parking Management</b>	<b>TR-8.1:</b> Promote transit-oriented development with reduced parking requirements and promote amenities around appropriate transit hubs and stations to facilitate the use of available transit services.	PBCE, DOT
	<b>TR-8.3:</b> Support using parking supply limitations and pricing as strategies to encourage use of non-automobile modes.	PBCE, DOT
	<b>TR-8.5:</b> Promote participation in car share programs to minimize the need for parking spaces in new and existing development.	DOT
	<b>TR-8.6:</b> Allow reduced parking requirements for mixed-use developments and for developments providing shared parking or a comprehensive TDM program, or developments located near major transit hubs or within Villages and Corridors and other growth areas.	PBCE, DOT, PW
	<b>TR-8.10:</b> Update existing parking standards to reduce parking requirements for transit-oriented developments, mixed-use projects, and projects within the Urban Villages and Corridors to take advantage of shared parking opportunities generated by mixed-use development. Update existing parking standards to address TDM actions and to require amenities and programs that support reduced parking requirements.	PBCE, DOT, PW
	<b>TR-10.1:</b> Explore development of a program for implementation as part of Tier II, to require that parking spaces within new development in areas adjacent to transit and in all mixed-use projects, be unbundled from rent or sale of the dwelling unit or building square footage.	PBCE, DOT
	<b>TR-10.2:</b> In Tier II, reduce the minimum parking requirements Citywide.	PBCE, DOT, PW
	<b>TR-10.3:</b> Encourage participation in car share programs for new development in identified growth areas.	PBCE, DOT
<b>TR-10.4:</b> In Tier II, require that a portion of adjacent on-street and City owned off-street parking spaces be counted toward meeting the zoning code's parking space requirements.	PBCE, DOT, PW	
<b>Transportation - High Speed Rail</b>	<b>TR-4.2:</b> Work collaboratively with the California High-Speed Rail Authority to bring high speed rail to San José in a timely manner.	DOT, PBCE
	<b>TR-4.3:</b> Support the development of amenities and land use and development types and intensities that contribute to increased ridership on the potential high-speed rail system, and also provide positive benefits to the community.	DOT, PBCE

<b>Attachment C</b>		
<b>Greenhouse Gas Reduction Policies – City Implementation Measures</b>		
<b>Measure Type(s)</b>	<b>Envision San José 2040 General Plan Policy</b>	<b>Department(s)</b>
	<b>TR-4.4:</b> Work cooperatively with the California High-Speed Rail Authority to ensure that rail corridors within the City are planned and constructed in a manner that enhances the character of the surrounding neighborhoods.	DOT, PBCE
<b>Municipal Operations / Alternative Fuels</b>	<b>MS-10.12:</b> Increase the City’s alternative fuel vehicle fleet with the co-benefit of reducing local air emissions. Implement the City’s Environmentally Preferable Procurement Policy (Council Policy 4-6) and Pollution Prevention Policy (Council Policy 4-5) in a manner that reduces air emissions from municipal operations. Support policies that reduce vehicle use by City employees.	All departments
	<b>TR-1.16:</b> Develop a strategy to construct a network of public and private alternative fuel vehicle charging / fueling stations city wide.	DOT
	<b>TR-7.2:</b> Update and enhance the existing TDM program for City of San José employees. This program may include the expansion of transit pass subsidies, free shuttle service, preferential carpool parking, ridesharing, flexible work schedules, parking pricing, car-sharing, and other measures.	DOT, PW, PBCE
	<b>TR-9.2:</b> Serve as a model for VMT reduction by implementing programs and policies that reduce VMT for City of San José employees.	All departments
	<b>TR-10.1:</b> Explore development of a program for implementation as part of Tier II, to require that parking spaces within new development in areas adjacent to transit and in all mixed-use projects, be unbundled from rent or sale of the dwelling unit or building square footage.	DOT, PBCE
<b>Support Other Strategies</b>	<b>TR-11.1:</b> Support, at the state level, the establishment of vehicle taxes targeted to fund congestion pricing strategies and public transportation, bicycle and pedestrian infrastructure.	DOT
	<b>TR-11.3:</b> Support and collaborate on the development of toll lanes on all major freeways and expressways in Santa Clara County.	DOT
<b>Monitoring and Adaptation</b>	See <b>IP 3.7, IP 3.8, IP-17.2, and MS-14.7</b> above.	PBCE, ESD, DOT
	<b>TR-1.15:</b> Pursue multimodal commute share goals and annually monitor progress toward achieving them for both residents and employees, and report every five years using data from the Census Bureau’s annual American Community Survey (ACS).	DOT
	<b>TR-2.14:</b> Conduct a citywide survey to identify pedestrian barriers on key pedestrian routes or access points and then identify how and when these barriers will be removed. Include top priority pedestrian projects in the annual CIP update. To conduct such a survey consider partnering with SJSU or the community to build relationships with SJSU and/or the community and to facilitate the completion of the survey with limited City resources, and to reduce the cost of staff time required for such a survey.	DOT

**Attachment C  
Greenhouse Gas Reduction Policies – City Implementation Measures**

Measure Type(s)	Envision San José 2040 General Plan Policy	Department(s)
	<b>TR-7.3:</b> Work together with large employers to develop a system for tracking Transportation Demand Management (TDM) programs implemented by employers to allow ongoing assessment of results.	DOT, PBCE
	<b>TR-10.5:</b> Work with employers in Tier II to monitor employer achievement of TDM program measures and explore incentives for successes and/or consider penalties for non-compliance.	DOT, PBCE
	<b>TR-10.6:</b> Working with members of the development and financial communities, and neighborhood residents, establish, in Tier II, Citywide parking standards in the Zoning Code which establish maximum parking rates, or “parking caps” for new development.	DOT, PBCE
	<b>IP-2.4:</b> Conduct a Major Review of this General Plan by the City Council every four years to evaluate the City’s achievement of key economic development, fiscal and infrastructure/service goals, greenhouse gas emission reduction goals and targets, availability and affordability of housing supply, Healthful Community goals, and review changes and trends in land use and development. Based on this review, determine the City’s readiness to begin the next General Plan Horizon or to modify the number of “pool” residential units available for non-specific Urban Village areas within the current Plan Horizon. Amend the Land Use / Transportation Diagram and/or General Plan policies and actions to achieve key General Plan goals.	PBCE
	<b>IP-3.2:</b> As part of the General Plan Annual Review, carefully monitor the jobs-to-employed resident ratio and consider the following current development trends: <ul style="list-style-type: none"> <li>• Vacant land absorption,</li> <li>• Amount of residential and economic development,</li> <li>• Amount and value of non-residential construction,</li> <li>• Number and types of housing units authorized by building permit, and development activity level in zonings, development permits, annexations and building permits,</li> <li>• Status and current capacity of major infrastructure systems which are addressed in General Plan Level of Service policies (transportation, sanitary sewers, and sewage treatment),</li> <li>• Transit-ridership statistics and other measures of peak-hour diversion from single occupant vehicles,</li> <li>• Status and implementation of Green Vision, General Plan policies, and other greenhouse gas reduction strategy measures, including greenhouse gas emission reductions compared to baseline and/or business-as-usual, and</li> <li>• Levels of police, fire, parks and library services being provided by the City.</li> </ul>	PBCE

<b>Attachment C</b>		
<b>Greenhouse Gas Reduction Policies – City Implementation Measures</b>		
<b>Measure Type(s)</b>	<b>Envision San José 2040 General Plan Policy</b>	<b>Department(s)</b>
	<b>IP-17.3:</b> Actively participate in the development of a Sustainable Community Strategy and/or other regional environmental policies that are consistent with San José’s goals for Environmental Leadership as well as the other goals and policies contained within this General Plan.	
<b>RECYCLING AND WASTE</b>		
<b>Wastewater Treatment</b>	<b>IN-4.6:</b> Continue to encourage water conservation and other programs which result in reduced demand for wastewater treatment capacity.	ESD
	<b>MS-15.2:</b> Lead globally in adopting technologies that transform solid waste and biosolids (i.e., the solids that remain after wastewater treatment) into useable energy.	ESD
	<b>MS-19.1:</b> Require new development to contribute to the cost-effective expansion of the recycled water system in proportion to the extent that it receives benefit from the development of a sustainable local water supply.	PBCE, ESD
<b>Monitoring and Adaptation</b>	<b>See MS-14.7 (Carbon footprint monitoring, above)</b>	ESD

Attachment D identifies numeric goals for the first major General Plan review to insure progress toward the 2020 and 2035 efficiency targets in each of these categories for both private and municipal development and municipal operations.

<b>Attachment D Greenhouse Gas Reduction Strategy Implementation Tracking</b>					
<b>City of San José Strategy Number</b>	<b>Title</b>	<b>Description</b>	<b>Progress Indicators</b>	<b>Applicability</b>	<b>Voluntary or Mandatory Measure</b>
<b>BUILT ENVIRONMENT AND ENERGY (BEE)</b>					
BEE-1	Install Energy Efficient Appliances	Over the 25 year life of the General Plan, nearly all refrigerators in the City of San José will be replaced ( average service life = 17 years). Assuming 50% of shoppers buy energy star refrigerators, Residential Energy usage could go down by 1%. (2% efficiency improvement over 50% of houses)		Existing Development	Voluntary
<b>Project by project reductions from Development Review</b>					
BEE-2	Green Building Ordinance	The City has adopted Green Building Ordinances for public and private development. Reductions over the next 25 years not quantified at this time.	100% of new development	New Development or Existing Development (remodeling)	Mandatory

**Attachment D**  
**Greenhouse Gas Reduction Strategy Implementation Tracking**

City of San José Strategy Number	Title	Description	Progress Indicators	Applicability	Voluntary or Mandatory Measure
<b>Specific Actions undertaken by the City of San José to reduce Greenhouse Gases</b>					
BEE-3	Green Building Incentives	Over the 25 year life of the plan, the City will continue to develop new and expand existing programs to educate San José's business and residential communities on the economic and environmental benefits of green building practices and provide green building technical assistance and referral service for business and residential communities (Actions MS-1.9, MS-1.10). Under Action MS-1.8, green building new construction and retrofits per the Green Vision Goal of 50 million square feet of green buildings in San José by 2022 and 100 million square feet by 2040 will be tracked. Reductions over the next 25 years not quantified at this time.	17 million square feet (msf) of green building by 2015 (first major GP review) (approx. 4 msf per year)  42 msf of green building by 2020  83 msf of green building by 2035	New Development or Existing Development (remodeling)	Mandatory (New Construction and Remodeling)  Voluntary (Retrofits)
BEE-4	Community Energy Programs	Over the 25 year life of the plan, the City will provide green building technical assistance and referral service to available resources (Action MS-1.11) and promote participation in Green Business and other energy efficiency programs. Reductions over the next 25 years not quantified at this time.	Number of people assisted / GHG reductions not quantified	Commercial, Industrial, Municipal	Voluntary

**Attachment D  
Greenhouse Gas Reduction Strategy Implementation Tracking**

<b>City of San José Strategy Number</b>	<b>Title</b>	<b>Description</b>	<b>Progress Indicators</b>	<b>Applicability</b>	<b>Voluntary or Mandatory Measure</b>
BEE-5	Establish on-site renewable energy systems—solar	Over the 25 year life of the plan, given current successes of Green Vision Strategy #3, City expects approx 100MW of citywide power to be generated by solar  GP Policy IP-3.8	16 MW by 2015 (first major GP review)  40 MW by 2020  100 MW by 2035	Residential, Commercial, Industrial, Institutional, Municipal	Voluntary
BEE-6	Install Higher Efficacy Public Street and Area Lighting	Green Vision Goal #9; Implementation: Streetlight Master Plan GP Policy IP-3.8	100% of streetlights by 2022	Municipal	Mandatory
BEE-7	Replace traffic lights with LED traffic lights	See above GP Policy IP-3.8	100% of traffic signals by 2022	Municipal	Mandatory

**LAND USE AND TRANSPORTATION (LUT)**

**Project by project reductions resulting from the General Plan Land Use Diagram**

LUT-1	Increase Density of development	As a result of the General Plan 2040 land use/transportation diagram, development densities and location efficiencies will increase as a result of development within growth areas	Percentage of total development in Growth Areas (Growth Area dev/SJ total development)	New Development	Mandatory
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**Attachment D  
Greenhouse Gas Reduction Strategy Implementation Tracking**

<b>City of San José Strategy Number</b>	<b>Title</b>	<b>Description</b>	<b>Progress Indicators</b>	<b>Applicability</b>	<b>Voluntary or Mandatory Measure</b>
LUT-2	Increase location efficiency	See above	Percentage of total new development in Growth Areas (Growth Areas dev / SJ total dev) (associated w/LUT-1)	New Development	Mandatory
LUT-3	Mixed Use Developments	See above (associated w/ LUT-1, LUT-2)	Percentage of total new development in Growth Areas (Growth Areas dev/SJ total dev) (associated w/ LUT-1,-2)	New Development (associated w/ LUT-1 & 2)	See above (associated w/ LUT-1, LUT-2)
LUT-4	Provide Bike Parking in Non-Residential Projects	Reductions not quantified	100% of development per Zoning Ordinance requirements	New Development	Mandatory

**Attachment D  
Greenhouse Gas Reduction Strategy Implementation Tracking**

City of San José Strategy Number	Title	Description	Progress Indicators	Applicability	Voluntary or Mandatory Measure
LUT-5	Provide Bike Parking in Multi-Unit Residential Projects	Reductions not quantified	100% of development per Zoning Ordinance requirements	New Residential Development	Mandatory
<b>Specific Actions undertaken by the City of San José to reduce Greenhouse Gases</b>					
LUT-6	Provide 100 miles of interconnected trails	Green Vision Goal #10; Implementation: Bicycle Master Plan GP Policy IP-3.8	100 miles of trails by 2022	Municipal, Other Agencies	Voluntary
LUT-7	Ensure that 100% of fleet vehicles run on alternative fuels	Green Vision Goal #8 Data source: ESD GP Policy IP-3.8	100% of fleet vehicles by 2022	Municipal	Mandatory
<b>RECYCLING AND WASTE REDUCTION(RWR)</b>					
<b>Project by project reductions and Specific Actions undertaken by the City of San José</b>					
RWR-1	Use reclaimed water	Green Vision Goal #6, Beneficially re-use 100% of our wastewater (100 MGD)  GP Policy IP-3.8	10 MGD reuse by first major GP review (2015)  25 MGD reuse by 2020  100MGD reuse by 2035	New and Existing Development	Voluntary (except as required for cooling towers and other uses)

**Attachment D  
Greenhouse Gas Reduction Strategy Implementation Tracking**

City of San José Strategy Number	Title	Description	Progress Indicators	Applicability	Voluntary or Mandatory Measure
<b>Specific Actions undertaken by the City of San José to reduce Greenhouse Gases</b>					
RWR-Q	Extend recycling services	Green Vision Goal #5; Implementation: Zero Waste Strategic Plan. As an estimate, divert an additional 75% of waste beyond the baseline year (2006) by 2035. CO <sub>2</sub> e from landfilled waste (2006) = 260,000 MT; 75% =200,000 MT  GP Policy IP-3.8	75% of waste diverted by 2020	New and Existing Development	Voluntary
<b>OTHER GHG REDUCTION MEASURES (OM)</b>					
OM-1	Urban Tree Planting	Green Vision Goal #9  GP Policy IP-3.8	100,000 additional trees by 2022	New and Existing Development	Mandatory for New Development; Voluntary for Neighborhood Programs
OM-2	Establish a farmer's market	GP Policies VN-3.5, VN-3.10, and LU-12.1	Reductions not quantified	Existing Development/ Commercial or Institutional Sites	Voluntary
OM-3	Establish Community Gardens	GP Policies LU-12.1, LU-12.2, LU-12.8- LU 12.11, PR-2.1, PR-2.5, PR-2.8 and PR-2.9	Reductions not quantified	Municipal, Institutional	Voluntary

**Attachment D**  
**Greenhouse Gas Reduction Strategy Implementation Tracking**

***Summary***

Total GHG emissions in 2035, business as usual = 14.5 MMT CO<sub>2</sub> e

Total GHG emissions in 2035, with mitigation measures = 13.3 MMT CO<sub>2</sub>e

GHG Emissions Efficiency, 2035, with mitigation = 13.5 MMT CO<sub>2</sub>e / yr ÷ 2.15 million Service Population (SP) = **6.3 MT CO<sub>2</sub>e / SP / year**

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