THE PLANNING CENTER DC&E

Los Gatos Sustainability Plan

October 15, 2012

Prepared For: The Town of Los Gatos

TOWN OF LOS GATOS
INCORPORATED 1887

THE PLANNING CENTER DC&E

Los Gatos Sustainability Plan

October 15, 2012

Prepared For: The Town of Los Gatos

TABLE OF CONTENTS

Appendices

Figures

Tables

1 INTRODUCTION

Los Gatos is a charming, vibrant community that has achieved enviable success in balancing its location in the bustling Silicon Valley with a friendly, small-town atmosphere. Through thoughtful planning over the 125 years since incorporation in 1887, Los Gatos has managed to grow and evolve while maintaining respect for its beautiful natural setting and preserving its historic character and a distinct sense of place. Throughout its history and as it moves into the 21st century, the residents and leaders of Los Gatos have recognized that a healthy and prosperous community must weigh economic, environmental, and social goals when planning for the future.

In 2010, under the leadership of the Town Council and with substantial input from an engaged and passionate community, the Town adopted an updated 2020 General Plan that focused on promoting sustainability. The 2020 General Plan defines *sustainability* as "using resources in the present in a manner that does not compromise the choices and quality of life of future generations." The 2020 General Plan recognizes that sustainability goals can be met several ways, including increasing alternative modes of transportation, maintaining a healthy local economy, and preserving open space.

This Sustainability Plan is a key tool in implementing the 2020 General Plan. It is a detailed, long-range strategy to achieve sustainability in transportation and land use, energy, water, solid waste, and open space. Collectively, addressing community development and conservation through these lenses will help Los Gatos remain attractive, prosperous, and adaptive to social, political, and environmental changes.

This Sustainability Plan addresses the major sources of greenhouse gas (GHG) emissions in Los Gatos and sets forth a detailed and long-term strategy that the Town and community can implement to achieve the GHG emissions reduction target. Implementation of this Sustainability Plan will guide Los Gatos' actions to reduce its contribution to global warming and will support ambitious emission reduction targets adopted by the State of California. The Sustainability Plan will also be utilized for tiering and streamlining of future development within Los Gatos pursuant to California Environmental Quali-

ty Act (CEQA) Guidelines 15152 and 15183.5. The Sustainability Plan serves as the CEQA threshold of significance within the town for the effects of GHGs, by which all applicable developments within the town will be reviewed.

This chapter provides background information about the effects of GHGs, existing sustainability efforts in Los Gatos, and public participation in the Town's sustainability planning processes.

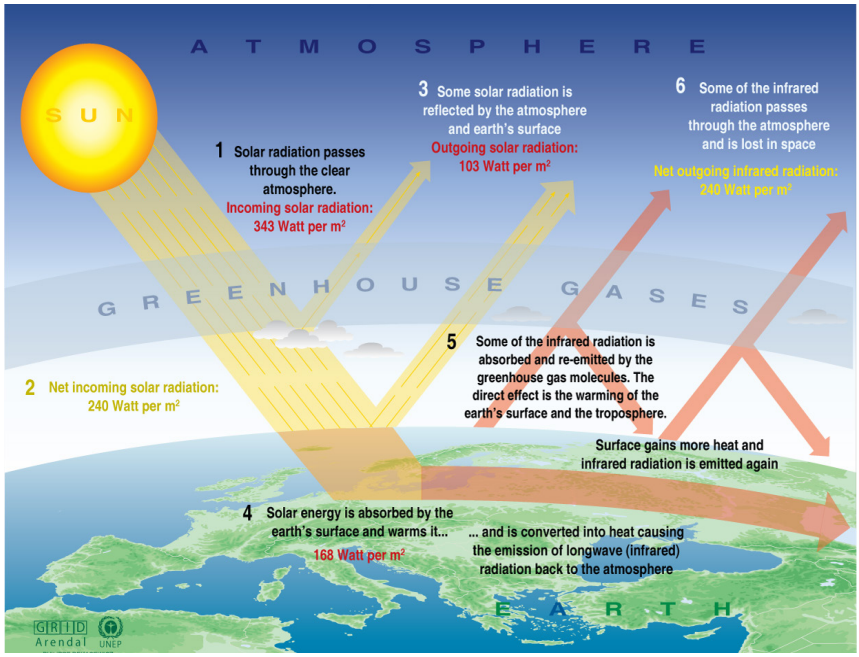
A. Effects of Greenhouse Gases

The earth's atmosphere is composed of naturally-occurring and anthropogenic (i.e. induced by human activity) GHGs that trap heat in the atmosphere and regulate the earth's temperature. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth. GHGs present in the earth's lower atmosphere play a critical role in maintaining the earth's temperature as they trap some of the longwave infrared radiation emitted from the earth's surface which otherwise would have escaped to space, as shown in Figure 1-1.

Water vapor and carbon dioxide are the most abundant GHGs in the atmosphere. The gases that are widely seen as the principal contributors to anthropogenic global warming are carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. While human activity results in the release of some GHGs that occur naturally, such as carbon dioxide and methane, other gases, like hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, are human-made.

The combustion of fossil fuels and deforestation release carbon, in the form of carbon dioxide, into the atmosphere that historically has been stored underground in sediments or in surface vegetation. With the accelerated increase of fossil fuel combustion and deforestation since the industrial revolution of the 19th century, concentrations of GHGs have increased exponentially in the atmosphere. Increases in the atmospheric concentrations of GHGs

FIGURE 1-1 **THE GREENHOUSE EFFECT**



Source: UNEP/GRID-Arendal, http://maps.grida.no/go/graphic/greenhouse_effect.

in excess of natural ambient concentrations contribute to the enhancement of the natural greenhouse effect.

This enhanced greenhouse effect has contributed to global warming, which is an increased rate of warming of the earth's surface temperature. Specifically, increases in GHGs lead to increased absorption of longwave infrared radiation by the earth's atmosphere and warm the lower atmosphere further, thereby increasing evaporation rates and temperatures near the surface. Warming of the earth's lower atmosphere induces large-scale changes in ocean circulation patterns, precipitation patterns, global ice cover, biological distributions, and other large-scale changes to the earth system.

The Intergovernmental Panel on Climate Change (IPCC) was established by the World Meteorological Organization and United Nations Environment

Programme to assess scientific, technical, and socioeconomic information relevant to the understanding of climate change, its potential impacts, and options for adaptation and mitigation. The IPCC estimates that the average global temperature rise between the years 2000 and 2100 could range from 1.1°C, with no increase in GHG emissions above year 2000 levels, to 6.4°C, with a substantial increase in GHG emissions.[1] Large increases in global temperatures could have massive deleterious impacts on the natural and human environments. The prevailing opinion among scientists is that most of the change in temperatures observed in the last 50 years is the result of human activities.[2]

Scientific studies, best represented by the IPCC's periodic reports, demonstrate that climate change is already occurring due to past GHG emissions. Forecasting of future growth and related GHG emissions under business as usual (BAU) conditions, which are discussed further in Chapter 3, indicates large increases in those GHG emissions accompanied by an increasing severity of changes in global climate. Thus, the best scientific evidence concludes that global emissions must be reduced below current levels.

B. Regulatory Action Related to Greenhouse Gases

As GHGs gain increasing attention, government agencies and organizations are working to develop and implement solutions to control GHG emissions

[1] IPCC, 2007, *Climate Change 2007: Synthesis Report, Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, Pachauri, R.K and Reisinger, A.(eds.)], IPCC, Geneva, Switzerland.

[2] Intergovernmental Panel on Climate Change, 2007, "Summary for Policymakers" in *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, 2007, Cambridge, United Kingdom and New York, NY, USAL: Cambridge University Press, page 10.

and slow their effects on natural ecosystems. The major efforts are described in this section.

1. Federal Laws and Regulations

The United States has relatively limited federal regulations and policies related to GHG emissions. However, in December 2009, the US Environmental Protection Agency (EPA) found that elevated concentrations of the six key GHGs in the atmosphere, which are discussed further in Section A, endanger the public health and welfare of current and future generations. These findings were consistent and in compliance with the 2007 US Supreme Court decision in Massachusetts vs. EPA, which found that the EPA can regulate GHG pollution under the Clean Air Act. While the EPA's endangerment finding does not automatically impose any requirements, it allowed EPA to finalize GHG emission standards for light-duty vehicles in May 2010 and heavy-duty vehicles in August 2011, which were developed in collaboration with the National Highway Traffic Safety Administration. Additionally, on January 2, 2011, the EPA announced that it would regulate GHG emissions from major stationary sources of GHGs, including oil refineries and fossil fuel burning power plants, through modifications to the existing Clean Air Act permitting programs.

2. State Laws and Regulations

California has been a leader among states in passing legislation to reduce GHG emissions. Major laws and regulations are described below.

a. Energy Efficiency Standards (1978)

Title 24, Part 6 of the California Code of Regulations, Energy Efficiency Standards for Residential and Nonresidential Buildings, was established in 1978 to address a legislative mandate to reduce the State's energy consumption. The standards are updated roughly every three years to incorporate new energy efficiency goals, methods, and technologies. The 2008 standards went into effect on January 1, 2010, and require buildings to be approximately 15 percent more energy-efficient compared to the 2005 standards. These standards are also discussed in Chapter 3.

b. Clean Car Regulations (Assembly Bill 1493, 2002)

Assembly Bill (AB) 1493, Clean Car Regulations (commonly known as the "Pavley law"), directed the California Air Resources Board (CARB) to adopt regulations to decrease GHG emissions from new passenger vehicles and light duty trucks beginning with the 2009 model year. Implementation of these fuel efficiency standards, known as the "Pavley standards," was uncertain for years due to EPA's denial of California's request for a waiver of Clean Air Act Section 209(a), which was necessary to implement the Pavley standards. However, in June 2009, the EPA granted California the authority to implement the standards. These standards are discussed further in Chapter 3.

c. Executive Order S-3-05 (2005)

In 2005, Governor Schwarzenegger signed Executive Order S-3-05, which established the goals of reducing emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. The Executive Order identified the California Environmental Protection Agency (Cal/EPA) as the lead coordinating State agency for establishing GHG emission reduction targets in California, and designated a "Climate Action Team," a multi-agency group of State agencies, to implement Executive Order S-3-05. GHG emission reduction strategies and measures to reduce global warming were identified by the California Climate Action Team in 2006.

d. Global Warming Solutions Act (AB 32, 2006)

In 2006, California Governor Schwarzenegger signed AB 32, the Global Warming Solutions Act, into law. The Act requires that California cap its GHG emissions at 1990 levels by 2020. AB 32 also requires that CARB identify discrete early actions to reduce emissions that could be implemented immediately and develop a statewide scoping plan to identify how to meet the emissions reduction targets.

CARB identified a list of nine early actions, including landfill methane gas capture, the Low Carbon Fuel Standard (LCFS) that is discussed further in Section B.2.e below, and a tire pressure program. CARB's Climate Change Scoping Plan, adopted in December 2008, outlines regulations, market mech-

anisms, and other actions to achieve the maximum technologically-feasible and cost-effective reductions in GHG emissions by 2020. The Scoping Plan recommends achieving a statewide energy mix with 33 percent from renewable energy sources, developing a California cap-and-trade program that will be part of a regional carbon market through the Western Climate Initiative, and expanding and strengthening existing energy efficiency programs and building and appliance standards.

e. Executive Order S-01-07 (2007)

Executive Order S-01-07, signed by Governor Schwarzenegger in 2007, establishes a LCFS for transportation fuels sold in California. This standard, which is also discussed in Chapter 3, will reduce the carbon content of passenger vehicle fuels in California by at least 10 percent by 2020.[3]

f. Regional Transportation and Land Use Planning Efforts (SB 375, 2008)

In 2008, California enacted Senate Bill (SB) 375 to augment AB 32 by promoting efficient land use patterns and curbing sprawl. SB 375 establishes emissions reduction goals for which regions can plan; encourages metropolitan planning organizations (MPOs) to integrate their housing, transportation, and regional land use plans with GHG reduction goals; and provides incentives for governments and developers to implement compact and efficient growth patterns. Under SB 375, the 18 MPOs in California must prepare a "sustainable communities strategy" to reduce the vehicle miles traveled (VMT) in their regions and demonstrate their ability to reach the CARB targets. SB 375 also includes incentives to create walkable and attractive communities and to revitalize existing communities. The legislation also allows developers to streamline environmental reviews under CEQA if they build projects consistent with the new sustainable communities' strategies. SB 375 enhances CARB's

[3] On December 29, 2011, the US District Court for the Eastern District of California issued several rulings in federal lawsuits challenging the LCFS. One of the court's rulings preliminarily enjoins CARB from enforcing the regulation during the pendency of the litigation. In January 2012, CARB appealed the decision and on April 23, 2012, the Ninth Circuit Court granted CARB's motion for a stay of the injunction while it continues to consider CARB's appeal of the lower court's decision.

ability to reach the AB 32 goals by directing the agency in developing regional GHG emission reduction targets to be achieved from the transportation sector for 2020 and 2035.

g. Heavy Duty Vehicle GHG Emissions Reduction Measure (2008)

In December 2008, CARB adopted the Heavy Duty Vehicle GHG Emission Reduction Measure, which requires long-haul truckers to retrofit their trailers with fuel efficient tires and aerodynamic devices. This requirement will improve the fuel economy of heavy duty vehicles, reducing GHG emissions.

h. Sulfur Hexafluoride Emissions Reductions Measures

In February 2010, CARB adopted regulations to reduce sulfur hexafluoride emissions from semiconductor applications, and in January 2011, CARB began implementation of measures to reduce emissions of sulfur hexafluoride from non-semiconductor applications. These measures include reporting and reduction requirements for semiconductor operations as well as new restrictions on the use and sale of sulfur hexafluoride.

3. Regional Policies and Measures

The Bay Area Air Quality Management District (BAAQMD) initiated the regional Climate Protection Program in 2005. The Program includes a variety of measures, including outreach, data collection, and technical assistance, among others, in an effort to move toward GHG reductions. In May of 2008, BAAQMD adopted a first of its kind program to charge large stationary sources for their GHG emissions. All pollution sources for which an air quality permit is required are now also required to estimate their GHG emissions and pay a fee of $0.042 per metric ton of carbon dioxide equivalent (MTCO2e).

Consistent with SB 375, the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) have undertaken efforts to link land use and transportation to GHG emission reduction goals through a sustainable communities strategy. MTC has committed the Bay

Area region, including Los Gatos, to a 15-percent reduction in GHGs by 2035.

4. Town Policies and Measures

In 2007, the Town formalized its commitment to take action to significantly reduce global warming pollution by signing the "US Mayors Climate Protection Agreement." This Agreement, passed unanimously by the US Conference of Mayors, calls for taking action to meet or beat the GHG emissions reduction target of 7 percent below 1990 levels by 2012.

In 2008, the Town passed a resolution adopting the Cities for Climate Protection Campaign (CCP) led by the International Council for Local Environmental Initiatives (ICLEI) Local Governments for Sustainability. The CCP helps local governments and communities to reduce GHG emissions and their associated environmental impacts. Jurisdictions that join the CCP commit to a five-step process:

1. Measure emissions of GHGs;
2. Commit to an emissions reduction target associated with a specific target year;
3. Adopt specific measures or take specific actions, described in a local plan, to reach the reduction target;
4. Implement the local plan; and
5. Monitor emissions reductions achieved by implementing the plan.[4]

This Sustainability Plan is Los Gatos' plan to accomplish the five steps above.

[4] ICLEI Mitigation Programs, as described at http://www.iclei.org/index.php?id=10828, accessed May 3, 2012.

C. Sustainability Challenges

The effect of GHGs is one of the most critical challenges facing society today. Overcoming these effects will require substantial efforts from government, organizations, and individuals. Meeting Los Gatos' reduction target will require both persistence and adaptability. The Town needs to prioritize actions; mobilize residents, business owners, and staff; and work with neighboring jurisdictions and regional agencies to create workable solutions.

Like other communities in California and around the world, the Town of Los Gatos faces a number of sustainability challenges, including the effects of GHGs. This section describes sustainability challenges related to the sectors covered in this Sustainability Plan.

1. Transportation and Land Use

During the second half of the 20th century, transportation and driving patterns in the US shifted dramatically, with per-capita VMT increasing by around 140 percent between and 1956 and 1998.[5] This growth in VMT is the result of increasing car trips and increasing average trip length. These increases have been driven by a variety of factors, including changes in demographics, land use, urban design, and public transportation systems.

As the proportion of two-income households grew and as jobs shifted to areas further from the traditional urban core, lengthy car commutes became increasingly common. This has been true of Los Gatos, as more residents work farther afield in Silicon Valley and San Francisco. Over this same time period, changes in land use and in building and streetscape design likewise contributed to increased car trips. Emphasis on the separation of uses and driver convenience often came at the disadvantage of pedestrians and other non-automotive users. As commercial areas became more disconnected from residential neighborhoods, it became less convenient to reach these destinations by means other than a car. Auto-oriented designs, which can be unpleasant,

[5] Puentes, Robert and Adie Tomer, 2008, *The Road...Less Traveled: An Analysis of Vehicle Miles Traveled Trends in the U.S.*, Brookings Institution, Washington D.C.

intimidating, or even dangerous for non-drivers, have made non-automotive transportation modes more difficult and less appealing to use. Additionally, public transit systems have seen their coverage decreased and their services cut, and in some cases they been removed completely.

Because of the impediments created by development and design, driving is often the only viable mode of transportation. Consequently, residents have fewer opportunities for physical activity, and those who cannot drive, including children, seniors, and disabled people, can have trouble accessing services.

2. Energy

Energy production is a major economic, security, and environmental challenge at the local, national, and global levels. Although Los Gatos receives its energy from Pacific Gas & Electric Company (PG&E), which provides an energy mix that is much cleaner than what many other US utilities provide, it still relies on fossil fuels – coal, oil, and natural gas – for about half of its energy.[6]

The US imports approximately 60 percent of its petroleum and 15 percent of its natural gas from foreign countries, a dependence that makes our economy and security vulnerable to political and resource instability in other parts of the world.

The combustion of fossil fuels to produce heat or electricity, or to power internal combustion engines, is a main contributor to GHG emissions and other environmental problems. Because fossil fuels are found deep in the ground, they must be extracted and transported to provide energy. Surface and groundwater pollution can occur during extraction, storage, and transportation. Land subsidence can result when oil and gas are removed from below ground with nothing left to support the land above. There is also the poten-

[6] Pacific Gas and Electric website, http://www.pge.com/myhome/environment/pge/cleanenergy/, accessed on May 1, 2012.

tial for storage tank leakage and oil spills during transportation, causing widespread pollution and requiring costly cleanup efforts.

There are numerous strategies to reduce fossil fuel dependence and decrease carbon emissions, which generally fall into three main categories:

- Energy Conservation. This is a quick and cost-effective strategy to reduce GHG emissions and decrease dependence on non-renewable sources of energy. Strategies include land use patterns that increase walking and bicycling, reducing electricity consumption, and efficient technologies such as ENERGY STAR products that use less electricity, natural gas, and water.
- Renewable and Alternative Energy Sources. These sources include solar, wind, geothermal, biomass, and alternative vehicle fuels. In recent years, increased research and development has been devoted to expanding the supply and increasing the deployment of these sources.
- Carbon Capture and Storage. Carbon capture and storage includes technological strategies to sequester carbon emissions from large pollution sources so that they don't enter the atmosphere.

3. Water

Though the 2010–2011 water year brought some relief to drought conditions in California, the winter of 2011-2012 marked the fourth year of dry conditions within the past five. The year 2009 featured the driest spring and summer on record, low water content in the Sierra snowpack, and a historic low in the State's reservoir levels. In 2008, the Sacramento and San Joaquin River systems that provide a large portion of the State's reservoir inflow were classified as Critically Dry. As of early 2009, the drought had damaged crops and prevented farmers from planting or replanting 100,000 acres of agricultural land, causing agricultural revenue losses of more than $300 million.[7] Such drought conditions also threaten aquatic ecosystems, increase the risk of wildfires, increase food prices, and harm livelihoods dependent on agriculture,

[7] Office of the Governor, State of California, February 27, 2009, Press Release, *Gov. Schwarzenegger Takes Action to Address California's Water Shortage.*

natural resources, and tourism. Responding to these wide-ranging impacts, Governor Arnold Schwarzenegger proclaimed a State of Emergency in February 2009, calling for an immediate 20 percent reduction in water use by urban water users and the use of efficient water management practices by agricultural users.[8]

4. Solid Waste

The production and transport of consumer products creates large amounts of GHGs. A large percentage of these products are disposed of after only one use, requiring more raw materials to be extracted to replace these products. Making new products or buildings from raw materials generally requires more energy, uses more water, and creates more air and water pollution than reusing materials or making the same product from recycled materials, thereby increasing GHG emissions.

Once in the landfill, solid waste continues to emit GHGs, most notably methane, which is approximately 21 times more potent than carbon dioxide in terms of its global warming impacts.[9] Landfills also release harmful contaminants such as vinyl chloride and benzene. In addition, the combination of rainwater and other liquids with layers of solid waste at landfills produces leachate, a harmful substance that contains contaminants such as benzene and volatile halocarbons.[10] Leachate causes soil, surface water, and groundwater contamination. Poor management of solid waste operations can increase disease vectors and creates nuisances related to odor, litter, and dust.

The GHG emissions and other environmental problems associated with solid waste can be reduced through increased diversion from landfills by reducing consumption, reusing, and recycling. The Town of Los Gatos has made sig-

[8] Office of the Governor, State of California, February 27, 2009, Press Release, *Gov. Schwarzenegger Takes Action to Address California's Water Shortage.*

[9] US Environmental Protection Agency website, http://www.epa.gov/outreach/scientific.html, accessed on May 1, 2012.

[10] US Environmental Protection Agency website, http://www.epa.gov/waste/nonhaz/municipal/landfill/bioreactors.htm, accessed on March 1, 2010.

nificant strides in the area of waste diversion by exceeding State standards and diverting 56 percent of its solid waste in its most recent certification by CalRecycle. The Town has achieved these high diversion levels through a variety of programs, such as recycling, including Downtown recycling receptacles; construction waste salvage and reuse; and e-waste collection efforts. By continuing these efforts and by implementing new programs, Los Gatos stands to continue to make significant reductions to waste disposal.

5. Open Space

Los Gatos has approximately 1,940 acres of woodland/forestland in the hillsides surrounding the Town, and 75 acres of agricultural land, including orchards. The largest proportion of farmland acreage in the town is in the North Forty area,[11] which contains orchard trees, including walnut (*Juglans* sp.) and fruit trees. These open space areas can store carbon in the trees and plants. Conversion of these open space lands to development can release GHGs into the atmosphere.[12] Development of forests or orchard land can result in the release of nitrous oxide emissions from soil oxidation and carbon dioxide emissions from removal of plant materials that store carbon.

D. Existing Sustainability Efforts in Los Gatos

The Town of Los Gatos has already initiated many plans and programs that will improve sustainability in the town; this section describes these efforts.

1. Los Gatos 2020 General Plan

The Los Gatos 2020 General Plan has a strong emphasis on sustainability. In particular, the Environment and Sustainability Element guides the Town in making decisions that will conserve resources, reduce waste, and protect and enhance natural resources and the environment by promoting the sustainabil-

[11] There is a Specific Plan application for the North Forty area that is currently being reviewed by the Town.

[12] International Panel on Climate Change (IPCC), 2006. *IPCC Guidelines for National Greenhouse Gas Inventories*; and IPCC, 2000, *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories.*

ity of resources and the Town's natural ecology for both current and future generations. This Element also contains goals, policies, and actions designed specifically to reduce GHG emissions, including Action ENV-13.1, which directs the Town to prepare this Sustainability Plan.

2. Local Programs

The Town of Los Gatos has implemented a wide variety of programs to increase sustainability. The Sustainability Plan would seek to create new programs as well as strengthen existing ones. The following is a partial list of Los Gatos's sustainability efforts, with an emphasis on some of the most impactful initiatives:

- International Council for Local Environmental Initiatives (ICLEI) Membership: In 2008, the Los Gatos Town Council voted to join ICLEI. By becoming an ICLEI member, the Town committed to efforts to quantify, monitor, and reduce its GHG emissions as part of the Cities for Climate Protection Campaign.
- City Solar Award: In 2007, the Town of Los Gatos was honored with the City Solar Award for its leadership and achievements in photovoltaic solar installations.
- Waste Reduction: As mentioned above, the Town has exceeded State standards by diverting 56 percent of its solid waste, per the Town's most recent review by CalRecycle.
- Green Building: In 2008, the Town of Los Gatos adopted LEED and GreenPoint rating systems as its green building standards and adopted a LEED Silver standard for municipal construction and renovations.
- Biodiesel: All of the Town's heavy-duty, diesel-fueled vehicles and equipment run on biodiesel.
- CaliforniaFIRST: Los Gatos participates in this statewide program that helps finance residential and commercial energy-efficiency improvements.
- Green Business Certification: Through the Town's formal efforts to conserve resources, prevent pollution, and minimize waste in its operations, Los Gatos is certified as a Green Business by Santa Clara County.

- PG&E's ClimateSmart Program: The Town's participation in this program allowed it to offset all of its identified GHG emissions from municipal facilities, through support of forest planting and preservation. However, as of publication of this Sustainability Plan, this program recently ended.
- Water Efficiency Landscape Ordinance: First adopted by the Town in 1992, and since updated to comply with the State's Model Water Efficient Landscape Ordinance, this ordinance promotes conservation and efficient use of water.
- Wood Burning Ordinance: This ordinance restricts the sale and use of fireplaces and other wood-burning appliances that do not meet federal EPA standards.

E. Climate Change Adaptation

The Town of Los Gatos is a participant in ABAG's Multijurisdictional Local Hazard Mitigation Plan for the San Francisco Bay Area. The Local Hazard Mitigation Plan describes mitigation actions that the Town will implement in order to "maintain and enhance a disaster-resistant region." The major hazards covered by this plan include weather-related hazards that are affected by climate change, including flooding, landslides, wildfires, and drought, as well as climate change itself. Therefore, this plan represents the strategies that the Town will implement to adapt to the environmental changes that are anticipated to result from climate change.

F. Public Outreach and Participation

The Town has adopted multiple strategies to incorporate public participation in various sustainability efforts, including the development of this Sustainability Plan as described in this section.

1. Los Gatos Growing Greener Together Campaign

The Los Gatos Growing Greener Together Campaign seeks to provide the public with news regarding the Town's sustainability efforts, information on how citizens can participate and contribute, and tips for making green choices in their own lives and activities. The campaign publishes a regular newsletter to publicize this information.

2. Sustainability Plan Community Workshop and Public Comment Period

The Town held a Community Workshop on January 30, 2012 to discuss draft sustainability targets and measures for this Sustainability Plan. The workshop included a formal presentation to acquaint participants with the principles of sustainability planning. Participants were given the opportunity to view and comment upon comprehensive lists of potential communitywide and municipal measures for GHG reduction, as well as to suggest other potential measures. These comments served to influence which measures were emphasized and included in the Sustainability Plan. Notes from the workshop are included as Appendix A.

Following this workshop, the Town initiated a three-week public comment period during which members of the public could comment on the preliminary measures and suggest other measures. Suggestions received during this comment period were incorporated into this Sustainability Plan.

2 EXISTING GREENHOUSE GAS EMISSIONS INVENTORY

This chapter summarizes existing greenhouse gas (GHG) emissions in the Town of Los Gatos resulting from the following sectors: transportation, residential and non-residential energy use, solid waste disposal, water and wastewater, and other sources.

Los Gatos' baseline GHG inventory was compiled as a three-year average (2006 to 2008) using the California Emissions Estimator Model (CalEEMod), pursuant to the recommendations of the Bay Area Air Quality Management District (BAAQMD).[1] Between 2006 and 2008, Los Gatos's average annual communitywide GHG emissions were 381,640 metric tons of carbon dioxide equivalent (MTCO2e). The results of the inventory are shown in Table 2-1. Appendix B provides the technical documentation for this inventory.

A. Transportation Emissions

Transportation sources of GHG emissions are a result of fuel combustion from the burning of fossil fuels, including gasoline and diesel, and from on-road mobile sources (e.g. passenger vehicles and trucks). Transportation emissions are based on trips generated by land uses within Los Gatos. Transportation emissions exclude "through trips" that have no origin or destination within the town because the Town cannot affect the choices of these drivers.

Vehicle mile traveled (VMT) was compiled by Fehr & Peers for the Town of Los Gatos for 2005. GHG emissions from the transportation sector are assumed to be similar for year 2005 through 2008. GHG emissions from VMT generated by land uses within the town were compiled using the California Air Resources Board's (CARB) Emissions Factors 2011 (EMFAC2011) program and are shown in Table 2-2.

[1] Because energy use and water use fluctuate, BAAQMD recommends obtaining a three-year average for these categories. This inventory reflects a three-year average for natural gas and purchased energy use, but three years of data was unavailable for water use. A three-year average was also compiled for waste disposal.

TABLE 2-1 **BASELINE COMMUNITYWIDE GREENHOUSE GAS EMISSIONS SUMMARY**

	GHG Emissions (MTCO2e/Year)	Percent of Total
Transportation[a]	248,150	65%
Residential[b]	69,170	18%
Non-Residential[b]	47,380	12%
Solid Waste Disposal[c]	10,060	3%
Water/Wastewater[d]	3,210	1%
Other Emissions[e]	3,670	1%
Total	381,640	100%

Notes: Emissions rounded to the nearest tens place.
[a] EMFAC2011 based on VMT provided by Fehr & Peers.
[b] Natural gas and purchased energy provided by PG&E.
[c] LGOP Landfill Gas Estimator Version 1.2 based on waste disposal obtained from CalRecycle.
[d] LGOP Version 1.1 based on water/wastewater use in the town.
[e] Estimate of stationary equipment use for agricultural, lawn and garden, light commercial, and construction equipment using OFFROAD2007.
Source: The Planning Center | DC&E, 2011.

TABLE 2-2 **BASELINE COMMUNITYWIDE GREENHOUSE GAS EMISSIONS FROM TRANSPORTATION SOURCES**

Vehicle Miles Traveled		
Daily	Annual	GHG Emissions MTCO2e /Year
1,766,310	519,080,770	248,150

Notes: Daily VMT is multiplied by 347 days/year to account for reduced traffic on weekends and holidays, consistent with the CARB methodology within the Climate Change Scoping Plan Measure Documentation Supplement. Emissions are rounded to the nearest tens place.
Source: EMFAC2011.

B. Residential Emissions

Residential land uses generate GHG emissions primarily from purchased electricity and natural gas used for heating and cooking.[2] Pacific Gas and Electric Company (PG&E) provided residential purchased energy use and natural gas use for years 2006 to 2008. This data is shown in Table 2-3.

C. Non-Residential Emissions

The non-residential category includes GHG emissions associated with commercial, office, and industrial land uses. Non-residential land uses generate GHG emissions primarily from purchased electricity and natural gas used for heating and cooking (e.g. restaurants). PG&E provided data on non-residential purchased energy use and natural gas use for years 2006 to 2008, as shown in Table 2-4.

D. Solid Waste Disposal Emissions

Treatment and disposal of solid waste produces a significant amount of methane. In addition, solid waste disposal sites produce biogenic carbon dioxide. However, biogenic sources of GHG emissions are not included as part of a communitywide GHG inventory pursuant to the methodology of BAAQMD. Waste reduction, recycling, and reuse are the primary means by which waste disposal can be reduced. Most operating landfills in California also implement a landfill gas recovery system as a common way to reduce methane emissions from solid waste disposal.

The California Department of Resources Recycling and Recovery (CalRecycle) maintains a disposal reporting system (DRS) to document waste disposal

[2] Burning wood is considered a biogenic source of carbon dioxide (a GHG) because the carbon is associated with recently living organic material. Biogenic sources of GHG emissions are not included as part of a communitywide GHG inventory pursuant to the methodology of BAAQMD.

TABLE 2-3 **BASELINE COMMUNITYWIDE GREENHOUSE GAS EMISSIONS FROM RESIDENTIAL LAND USES**

Source	Energy Usage	GHG Emissions MTCO2e/Year
Residential Building Purchased Energy	96,708,760 kWh	25,520
Residential Building Natural Gas	6,864,462 therms	43,650
Total		69,170

Notes: Based on the three-year average energy use from 2006 to 2008. Excludes properties owned by another governmental entity that are outside the land use authority of the Town of Los Gatos (e.g. County or State jurisdiction). Based on PG&E's third-party verified GHG emission factors. Emissions are rounded to the nearest tens place. "kWh" = kilowatt hours.
Source: PG&E, 2011, *GHG Inventory Report for the Town of Los Gatos.* Provided by John Joseph, Green Communities and Innovator Pilots Program.

TABLE 2-4 **BASELINE COMMUNITYWIDE GREENHOUSE GAS EMISSIONS FROM NON-RESIDENTIAL LAND USES**

Source	Energy Usage	GHG Emissions MTons CO_2e/Year
Non-Residential Building Purchased Energy	106,638,269 kWh	28,180
Non-Residential Building Natural Gas	3,018,720 therms	19,200
Total		47,380

Notes: Based on the three-year average energy use from 2006 to 2008. Excludes properties owned by another government entity that are outside the land use authority of the Town of Los Gatos (e.g. County or State jurisdiction). Based on PG&E's third-party verified GHG emission factors. Emissions are rounded to the nearest tens place. "kWh" = kilowatt hours.
Source: PG&E, 2011, *GHG Inventory Report for the Town of Los Gatos.* Provided by John Joseph, Green Communities and Innovator Pilots Program.

by jurisdiction and facility; this system was used to identify GHG emissions from solid waste generated in Los Gatos. The system tracks solid waste disposal and alternative daily cover (ADC) that is used as a temporary overlay

on an exposed landfill face to reduce insects and vermin. Typical ADC materials include green materials, sludge, ash and kiln residue, compost, construction and demolition debris, and special foams and fabric; these materials contribute to the total solid waste disposal documented for Los Gatos.

GHG emissions generated from solid waste disposal are estimated based on methodology described by the International Panel on Climate Change (IPCC). This method assumes that emissions of methane from waste deposited in a landfill are highest in the first few years after deposition, and then gradually decline as the degradable carbon in the waste is consumed by the bacteria responsible for the decay.[3]

The Local Government Operations Protocol (LGOP) Landfill Emissions Tool, Version 1.2 was used to calculate average annual GHG emissions from communitywide waste disposed in a given year. Pursuant to BAAQMD's methodology, a three-year average (2006 to 2008) was compiled. Between 2006 and 2008, Los Gatos disposed of an average of 22,666 tons of solid waste and 8,045 tons of ADC, for a total disposal of 31,711 tons of solid waste. The vast majority (approximately 75 percent) of solid waste generated by the town is disposed at the Guadalupe Landfill, which has an active landfill gas collection and closed flare system.[4] A landfill gas control efficiency of 75 percent was assumed based on the default value recommended by the LGOP. However, most large landfills, such as the Guadalupe Landfill, have clay or geomembrane covers, which have a gas collection efficiency of 85 to 90 percent, respectively.[5] Therefore, GHG emissions estimates for Los Gatos from waste disposal are conservative. Table 2-5 shows total GHG emissions from waste disposal for the town.

---

[3] International Panel on Climate Change (IPCC), 2006, *IPCC Guidelines for National Greenhouse Gas Inventories.*

[4] The Newby Island Landfill, which receives approximately 22 percent of the waste from Los Gatos, also has a landfill gas capture system. Other landfills receive less than 3 percent of the town's waste.

[5] BAAQMD, April 2008, *Greenhouse Gas Mitigation Landfill Gas and Industrial, Institutional, and Commercial Boilers, Steam Generators and Process Heaters.* Prepared by URS Corporation.

E. Water/Wastewater Emissions

Water demand and wastewater generation in Los Gatos result in indirect GHG emissions associated with the energy required to convey, treat, and distribute potable water and fugitive emissions of methane and nitrous oxide from wastewater treatment. Table 2-6 shows GHG emissions from the town's water use and wastewater generation.

Wastewater treatment processes produce fugitive GHG emissions. Under anaerobic conditions, microorganisms biodegrade soluble organic material in wastewater during both nitrification and denitrification and generate nitrous oxide emissions. These are shown in Table 2-6 as Fugitive Emissions.

The majority of households and businesses in Los Gatos are connected to the West Valley Sanitation District's sanitary sewer system. Wastewater connected to the sanitary sewer system in Los Gatos is treated at the San Jose/Santa Clara Water Pollution Control Plant (WPCP). The San Jose/Santa Clara WPCP is treated with an advanced tertiary system. Treated water is discharged as fresh water through the Artesian Slough and into the South San Francisco Bay. A smaller portion of households in the hillsides are on separate septic tank systems; emissions from septic tank systems are also included in Table 2-6.[6]

F. Other Emissions

Other sources of GHG emissions include the combustion of fossil fuels for stationary equipment (e.g. agricultural equipment and landscaping). This category represents GHG emissions from off-road equipment exhaust; the calculation of emissions from this category is based on guidance from BAAQMD. CARB's OFFROAD2007 model calculates these stationary sources of

[6] For the purpose of this inventory, the percentage of residents connected to septic tanks is assumed to represent no more than 10 percent of all housing units in the town.

TABLE 2-5 **BASELINE COMMUNITYWIDE GREENHOUSE GAS EMISSIONS FROM WASTE DISPOSAL**

Methane Generated (Metric Tons/Year)	Fugitive Methane Not Captured (Metric Tons/Year)[a]	GHG Emissions (MTCO2e/Year)
1,917	479	10,060

Notes: Biogenic carbon dioxide is not included. Highest emissions occur approximately three years after disposal. An aggregated three years of emissions was used to account for cumulative disposal (waste-in-place). Emissions are rounded to the nearest tens place.
[a] Assumes a landfill gas control efficiency of 75 percent based on the LGOP.
Source: CARB, 2010, Landfill Emissions Tool, Version 1.2.

TABLE 2-6 **BASELINE COMMUNITYWIDE GREENHOUSE GAS EMISSIONS FROM WATER USE AND WASTEWATER GENERATION**

Land Use	Energy (Megawatt Hours/ Year)[a]	Energy Emissions (MTCO2e/ Year)[b]	Fugitive Emissions (MTCO2e /Year)[c]	Total GHG Emissions (MTCO2e /Year)
Residential	7,222	1,890	860	2,760
Non-Residential	734	190	260	450
Total	7,957	2,090	1,130	3,210

Notes: Emissions are rounded to the nearest tens place; emissions do not always add up due to rounding.
[a] Energy associated with water conveyance, treatment, and distribution, and wastewater treatment.
[b] Based on GHG emission factors provided by PG&E.
[c] CARB, May 2010, LGOP, Version 1.1. Assumes 10 percent of the town is on septic (resulting in higher GHG emissions from anaerobic decomposition).
Source: Based on water demand and wastewater generation estimated in the Town of Los Gatos General Plan Update Environmental Impact Report (March 2010).

emissions on a countywide level. Pursuant to BAAQMD guidance, stationary emissions for the Town of Los Gatos are estimated based on the percentage of the Santa Clara County inventory that represents the Town's GHG emissions, as described below.

1. Agricultural Equipment

Agricultural activities generate emissions from fuel used in off-road equipment used in agricultural production, nitrogen added to managed soils, and emissions of carbon dioxide from lime and urea-containing fertilizers. GHG emissions from agricultural equipment use within the town were estimated based on the acres of existing agricultural land use identified in the Town of Los Gatos 2020 General Plan compared to the total amount of land under agricultural production in Santa Clara County. The General Plan indicates that there are currently about 75 acres of farmland in Los Gatos. Due to the small amount of area dedicated to agricultural production and the limited intensity of the agricultural operations, GHG emissions from nitrogen and carbon dioxide emissions from fertilizer application are nominal and are assumed to represent less than 0.1 percent of the town's communitywide GHG emissions inventory. Therefore, these GHG emissions are not included in the inventory. However, an estimate of GHG emissions from the use of stationary equipment for agricultural areas is provided.

GHG emissions from agricultural off-road equipment exhaust were estimated using CARB's OFFROAD2007 program. GHG emissions are based on the proportion of farmland acres in the town compared to farmland acres in Santa Clara County in 2008. Farmland acreage for Santa Clara County is based on the County Department of Agriculture's 2010 Santa Clara County Agricultural Report. Farmland acreage in Los Gatos is approximately 0.03 percent of the total acreage under agricultural production in Santa Clara County.[7]

2. Lawn and Garden Equipment

Landscaping equipment used within Los Gatos generates stationary sources of GHG emissions. GHG emissions from landscaping and garden off-road equipment exhaust are estimated using CARB's OFFROAD2007 program.

[7] County of Santa Clara, Department of Agricultural Resources, 2011. 2010 Santa Clara County Agricultural Crop Report.

GHG emissions are based on the proportion of residential units in Los Gatos compared to residential units in Santa Clara County in 2008.[8]

3. Light Commercial Equipment

Commercial land uses may generate GHG emissions from stationary equipment, including generators, pressure washers, welders, and pumps. GHG emissions from light commercial stationary equipment are estimated using CARB's OFFROAD2007 program. GHG emissions are based on the proportion of all employment in Los Gatos compared to all employment in Santa Clara County in 2008.[9]

4. Construction Equipment

Construction activities in Los Gatos generate GHG emissions from fuel used in off-road equipment. GHG emissions from construction equipment exhaust are estimated using CARB's OFFROAD2007 program. GHG emissions are based on the proportion of residential building permits issued in Los Gatos compared to residential permits issued in Santa Clara County in 2008.[10]

5. Summary

Other sources of GHG emissions in Los Gatos based on CARB's OFFROAD2007 program summarized above are shown in Table 2-7.

G. Sectors Not Included

1. Industrial GHG Emissions

Los Gatos does not have major industrial stationary point or area sources of GHG emissions. Pursuant to a phone conversation with BAAQMD, the

[8] Association of Bay Area Governments (ABAG), 2009. *San Francisco Bay Area Housing Data*. http://www.abag.ca.gov/pdfs/2009_Housing_Data.pdf.

[9] Caltrans, 2008. *Santa Clara County Economic Forecast*, http://www.dot.ca.gov/hq/tpp/offices/ote/socio_economic_files/2008/Santa_Clara.pdf.

[10] Association of Bay Area Governments (ABAG), 2009. *San Francisco Bay Area Housing Data*, http://www.abag.ca.gov/pdfs/2009_Housing_Data.pdf. Assumes non-residential building permits to be a similar percentage to residential permits.

TABLE 2-7 **BASELINE COMMUNITYWIDE GREENHOUSE GAS EMISSIONS FROM OTHER EMISSIONS**

Source	GHG Emissions (MTCO2e /Year)
Agricultural Equipment	10
Lawn & Garden Equipment	690
Light Commercial Equipment	400
Construction Equipment	2,560
Total	3,670

Notes: Emissions are rounded to the nearest tens place; emissions do not always add up due to rounding.
Source: CARB, Off-Road 2007. Based on the emissions inventory for the County of Santa Clara, Year 2008.

only stationary sources of emissions permitted by BAAQMD in the Town of Los Gatos include gas stations, which are typically accounted for in the GHG inventory's commercial (non-residential) sector.[11] Consequently, this sector is not included in the town's GHG emissions inventory.

2. Carbon Stock/Carbon Sequestration

The carbon stock/carbon sequestration sector is traditionally included as "other emissions." As described in Chapter 1, Los Gatos has approximately 1,940 acres of woodland/forestland and 75 acres of agricultural land, including orchards.

[11] Young, Abby, Principal Environmental Planner, Bay Area Air Quality Management District (BAAQMD), Planning and Research, Air Quality Planning. Phone conversation with Nicole Vermillion, The Planning Center | DC&E, September 8, 2011.

Perennial woody vegetation, such as forests and orchards, can store significant carbon in long-lived biomass.[12] Development of forests or orchard land can result in the release of nitrous oxide emissions from soil oxidation and carbon dioxide emissions from removal of plant materials that store carbon. If future projects result in the removal of a significant amount of biomass that is not planned for in the General Plan, then the net loss of such materials should be accounted for or described in the project's GHG emissions inventory. However, future projects that are consistent with the General Plan and Sustainability Plan would not be required to account for removal of biomass in the project's inventory; only projects that are not consistent with the General Plan (e.g. development in an area that the General Plan designates as open space) would be required to account for biomass removal. Moreover, the amount of biomass stored in forested and orchard areas of the town, including the North Forty area, does not constitute a substantial portion of the town's GHG emissions. Therefore, carbon stock from agricultural biomass is not included in this GHG emissions inventory.

Inventories typically quantify carbon sequestration from forestlands when identifying GHG emissions benefits that would result from protecting or managing those forests. In the Town of Los Gatos, this sector does not represent a source (generator) of GHG emissions and specific information necessary to calculate the GHG emissions benefits from the existing carbon stock, such as the number and age of trees in the forests, is not known. However, the vast majority of woodland/forestland in Los Gatos is in the hillsides and is not proposed for development, meaning that it would remain unchanged at buildout of the General Plan. Minor changes in vegetation from buildout of the General Plan would be nominal. This sector is not included in this baseline inventory, nor in the future GHG emissions forecast included in Chapter 3, because adequate data is not available and because there would be no change in carbon sequestration from forestlands in the foreseeable future.

[12] International Panel on Climate Change (IPCC), 2006. *IPCC Guidelines for National Greenhouse Gas Inventories*; and IPCC, 2000, *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories.*

3. Municipal Emissions

Emissions from Town government operations are a very small percentage of the overall emissions within the border of Los Gatos. Therefore, the focus of this Sustainability Plan is on the communitywide GHG emissions and on measures to reduce those communitywide emissions. While this Plan includes measures that the Town will implement in order to reduce the emissions from its municipal operations, such reductions will not significantly affect the overall amount of GHGs emitted in Los Gatos, and the GHG emissions reductions were not quantified. Because the reductions from municipal measures were not quantified, the baseline municipal GHG emissions were not quantified.

3 2020 BUSINESS AS USUAL AND ADJUSTED GREENHOUSE GAS EMISSIONS INVENTORY

This chapter summarizes forecasted greenhouse gas (GHG) emissions in the year 2020 in the Town of Los Gatos generated by the GHG sectors included in the baseline emissions inventory. This chapter discusses two forecast year scenarios: business as usual (BAU) conditions and conditions after adjusting for known State and federal regulations and standards that will be in effect by the year 2020.

In its Scoping Plan, the California Air Resources Board (CARB) defines BAU as emissions levels that would occur if California continued to grow and add new GHG emissions, but did not adopt any measures to reduce emissions. Projections for each emission-generating sector for the town were compiled and used to estimate emissions for 2020 based on 2008 emissions intensities. Under CARB's definition of BAU, new growth in the town is assumed to have the same carbon intensities as 2008. Los Gatos' projected population, housing, non-residential building square footage, and employment in 2020 were identified in the 2010 General Plan Environmental Impact Report (EIR), as shown in Table 3-1. Technical documentation for the BAU and adjusted forecasts is provided in Appendix B.

A. Business As Usual Forecast

Table 3-2 identifies the baseline communitywide GHG emissions inventory and 2020 BAU emissions projection for the town based on the assumptions for the individual GHG emissions sectors described in Section C.

B. Adjusted Forecast

State and federal regulations have been adopted that will require reductions in GHG emissions from a wide range of activities, including how energy is generated and how vehicle fuels are formulated. These GHG reductions will occur regardless of any measures that the Town of Los Gatos implements in its Sustainability Plan. Therefore, the BAU forecast can be adjusted to reflect these reductions, which helps to demonstrate the extent of additional GHG

TABLE 3-1 **EXISTING AND 2020 POPULATION, EMPLOYMENT, AND HOUSING PROJECTIONS**

	2008 Baseline	2020 Forecast	Change From Existing
Population	28,810	32,600	3,790
Housing	12,130	13,730	1,600
Non-Residential SF	4,081,350	5,024,560	943,210
Employment	18,820	21,480	2,660

Notes: SF = square feet.
Source: Town of Los Gatos, March, 2010, *General Plan Update Environmental Impact Report*, Table 3-4 Housing, Population, and Job Growth Under the Draft 2020 General Plan.

TABLE 3-2 **BASELINE AND FORECAST YEAR 2020 BUSINESS AS USUAL COMMUNITYWIDE GREENHOUSE GAS EMISSIONS SUMMARY**

	2008 Baseline GHG Emissions (MTCO2e/Year)	2020 BAU GHG Emissions (MTCO2e/Year)	Increase From Baseline (MTCO2e/Year)
Transportation[a]	248,150	290,180	42,030
Residential[b]	69,170	78,300	9,130
Non-Residential[b]	47,380	58,320	10,940
Solid Waste Disposal[c]	10,060	11,470	1,410
Water/Wastewater[d]	3,210	3,580	370
Other Emissions[e]	3,670	3,820	150
Total	381,640	445,670	64,030

[a] EMFAC2011 based on VMT provided by Fehr & Peers.
[b] Natural gas and purchased energy provided by PG&E.
[c] LGOP Landfill Gas Estimator Version 1.2 based on waste disposal obtained from CalRecycle.
[d] LGOP Version 1.1 based on water/wastewater use in the town.
[e] Estimate of stationary equipment use for agricultural, lawn and garden, light commercial, and construction equipment using OFFROAD2007.
Source: The Planning Center | DC&E, 2011.

emissions reductions required by Town actions to achieve the Town's target, as discussed further in Chapter 4.

Table 3-3 identifies the adjusted forecast year 2020 GHG emissions inventory based on State and federal GHG regulations and programs currently in place. This adjusted forecast accounts for GHG reductions from the State and federal regulations described below.

1. Pavley I – Clean Car Standards and Federal Corporate Average Fuel Economy Standards

CARB adopted amendments to the "Pavley" standards (Assembly Bill [AB] 1493) on September 24, 2009 to reduce GHG emissions from light duty vehicles and trucks. The Pavley amendments affect passenger vehicles from 2009 to 2016 and require manufactures to achieve higher fuel efficiency standards. The Pavley regulation is anticipated to reduce GHG emissions from new passenger vehicles by 31.4 percent for the 2016 model year.[1]

On April 1, 2010, the US Environmental Protection Agency (EPA), in line with the Pavley regulation, adopted federal Corporate Average Fuel Economy (CAFE) standards for model years 2012 through 2016. On January 24, 2011, the US EPA, the US Department of Transportation, and the State of California announced a single timeframe for proposing the fuel economy and GHG standards for model years 2017 to 2025 passenger vehicles. However, these additional reductions are not accounted for in the adjusted forecast because they are not yet adopted by CARB or EPA.

2. Low Carbon Fuel Standard

CARB identified the Low Carbon Fuel Standard (LCFS) as an early action item in its Climate Change Scoping Plan, and adopted the LCFS regulation on April 23, 2009; it became law on January 12, 2010. The LCFS requires a

[1] Based on a California fleet mix of 70 percent passenger cars and light duty trucks (LDT1) and 30 percent light duty trucks (LDT2) as stated in CARB's 2008 Comparison of Greenhouse Gas Reductions under CAFE Standards and CARB Regulations Adopted Pursuant to AB 1493.

TABLE 3-3 **BASELINE AND ADJUSTED FORECAST YEAR 2020 COMMUNITYWIDE GREENHOUSE GAS EMISSIONS SUMMARY**

	2008 Baseline GHG Emissions (MTCO2e/Year)	2020 Adjusted GHG Emissions (MTCO2e /Year)	Decrease from Baseline (MTCO2e /Year)
Transportation[a]	248,150	222,060	- 26,090
Residential[b]	69,170	57,890	- 11,280
Non-Residential[b]	47,380	36,090	- 11,290
Water/Wastewater[c]	3,210	2,440	- 770
Solid Waste Disposal[d]	10,060	6,700	- 3,360
Other Emissions[e]	3,670	3,440	- 230
Total	381,640	328,620	- 53,020

[a] EMFAC2011 based on VMT provided by Fehr & Peers.
[b] Natural gas and purchased energy provided by PG&E.
[c] LGOP Version 1.1 based on water/wastewater use in the town.
[d] LGOP Landfill Gas Estimator Version 1.2 based on waste disposal obtained from CalRecycle.
[e] Estimate of stationary equipment use for agricultural, lawn and garden, light commercial, and construction equipment using OFFROAD2007.
Source: The Planning Center | DC&E, 2011.

reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020.

3. Renewable Portfolio Standard

A major component of California's Renewable Energy Program is the renewable portfolio standard (RPS) established under Public Utilities Code Article 16, Chapter 2.3, Part 1, Division 1 (Senate Bills [SB] 1078) and Public Utilities Code Article 9, Chapter 3, Part 1, Division 1 (SB 107). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. CARB has now approved an even higher goal of 33

percent by 2020. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production will decrease indirect GHG emissions from development projects because electricity production from renewable sources is generally considered carbon neutral. According to CARB, Pacific Gas and Electric Company (PG&E) served 15.9 percent of their electricity sales with renewable power in 2010.

4. Smart Grid

The California Public Utilities Commission (CPUC) has initiated a rulemaking (R.08-12-009) to California investor-owned electric utilities to develop a smarter electric grid in the state. Pursuant to SB 17, the CPUC developed requirements for a Smart Grid deployment plan. In July 2011, California utilities, including PG&E filed ten-year Smart Grid deployment plans with the CPUC. New Smart Meters provide real-time electricity use information to consumers.

5. California Building Code

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission in June 1977 and most recently revised in 2008 (Title 24, Part 6 of the California Code of Regulations [CCR]). Title 24 requires that the design of building shells and building components conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. The 2008 Building and Energy Efficiency standards are approximately 15 percent more energy-efficient than the 2005 Building and Energy Efficiency standards, which were in place at the time of CARB's Scoping Plan. The California Energy Commission anticipates that future code cycles (2014 and beyond) may require a 30 percent increase in energy efficiency compared to the 2008 Building and Energy Efficiency Standards. However, these future cycles are not included in the adjusted forecast because they are not yet codified.

The 2006 Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608) were adopted by the California Energy Commission on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non-federally regulated appliances.

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code (Title 24, California Code of Regulations), known as CALGreen. The 2010 edition of the code established voluntary standards on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The mandatory provisions of the code became effective January 1, 2011. CALGreen includes references to the mandatory Building and Energy Efficiency Standards and includes voluntary Tier 1 and Tier 2 programs for cities and counties that wish to adopt more stringent energy efficiency requirements that are 15 percent and 30 percent more energy efficient than the 2008 standards, respectively. In addition, CALGreen includes mandatory increases in indoor and outdoor water efficiency for new building construction.

6. Waste Reduction

The adjusted forecast includes waste reductions from the Town's waste reduction and diversion programs that are required by Assembly Bill 939, the California Integrated Waste Management Act of 1989. The percent reduction from BAU is based on average annual historical reductions in waste disposal over the last five years.

C. Sector Emissions

This section describes the assumptions for the individual GHG emissions sectors.

1. Transportation Emissions

Vehicle miles traveled (VMT) was compiled by Fehr & Peers for the Town of Los Gatos for 2008 and 2020. GHG emissions from VMT generated by land uses within the town were compiled using CARB's EMFAC2011 program and are shown in Table 3-4. The adjusted scenario includes GHG emissions reductions from the Pavley fuel efficiency standards and the LCFS, which are fuel and vehicle efficiency standards required by the State.

2. Residential and Non-Residential Emissions

The anticipated increase in residential and non-residential natural gas and energy use within the town is proportional to the anticipated increase in residential units and non-residential square footage by 2020. In order to estimate the increase in GHG emissions in this sector, average energy per dwelling unit and square foot was calculated based on existing energy demand for purchased electricity and natural gas; this average energy per dwelling unit and square foot was applied to the additional units and square feet projected in 2020. Table 3-5 shows anticipated BAU and adjusted GHG emissions for residential and non-residential uses in 2020. The adjusted scenario includes GHG emissions reductions from the RPS, Smart Grid, and the Title 24 updates.

3. Water/Wastewater Emissions

The increase in water demand and wastewater generation within the town is based on projections of water demand and wastewater generation in 2020. Table 3-6 shows anticipated BAU and adjusted water demand and wastewater generation and associated GHG emissions in 2020. The adjusted scenario includes GHG emissions reductions from the RPS.

4. Solid Waste Disposal Emissions

The increase in solid waste disposal in the town is based on the projected increase in residential and non-residential development in 2020. The General Plan EIR forecasts a 13-percent increase in residential units and a 23-percent increase in non-residential square footage. Existing waste from residential and non-residential uses in the town is assumed to be proportional to the acreage

TABLE 3-4 **2020 COMMUNITYWIDE GREENHOUSE GAS EMISSIONS FROM TRANSPORTATION SOURCES**

Vehicle Miles Traveled		2020 BAU GHG Emissions	2020 Adjusted GHG Emissions
Daily	Annual	(MTCO2e/Year)	(MTCO2e/Year)
1,765,370	612,583,390	290,180	222,060

Notes: Daily VMT is multiplied by 347 days/year to account for reduced traffic on weekends and holidays, consistent with the CARB methodology within the Climate Change Scoping Plan Measure Documentation Supplement. Emissions are rounded to the nearest tens place.
Source: EMFAC2011.

TABLE 3-5 **2020 COMMUNITYWIDE GREENHOUSE GAS EMISSIONS FROM RESIDENTIAL AND NON-RESIDENTIAL LAND USES**

Source	2020 BAU GHG Emissions (MTCO2e/Year)	2020 Adjusted GHG Emissions (MTCO2e /Year)[a]
Residential Buildings	78,300	57,890
Non-Residential Buildings	58,320	36,090
Total	136,620	93,980

Notes: Excludes properties owned by another governmental entity that are outside the land use authority of the Town of Los Gatos (e.g. County or State jurisdiction). Based on PG&E's third-party verified GHG emission factors. Emissions are rounded to the nearest tens place.
[a] Based on PG&E's forecasted GHG emission rates in 2020.
Source: PG&E, 2011, *GHG Inventory Report for the Town of Los Gatos.* Provided by John Joseph, Green Communities and Innovator Pilots Program.

dedicated to residential and non-residential (i.e. commercial, office, and industrial) uses in the town. The BAU communitywide inventory does not take into account reductions in waste disposal from an increase in waste reduction and diversion programs implemented by the Town. However, the adjusted forecast includes a decrease in waste disposal in the Town based on historical trends documented by CalRecycle from the Town's reduce, reuse, and recycle

TABLE 3-6 **2020 COMMUNITYWIDE GREENHOUSE GAS EMISSIONS FROM WATER USE AND WASTEWATER GENERATION**

	2020 BAU			2020 Adjusted		
Land Use	Energy (MTCO2e/Year)[a]	Fugitive (MTCO2e/Year)[b]	Total GHG Emissions (MTCO2e /Year)	Energy (MTCO2e/Year)[a]	Fugitive (MTCO2e/Year)[b]	Total GHG Emissions (MTCO2e /Year)
Residential	2,070	980	3,050	1,050	980	2,030
Non-Residential	240	290	530	120	290	410
Total	2,310	1,270	3,580	1,170	1,270	2,440

Notes: Water and wastewater GHG emissions are generated from the energy associated with water conveyance, treatment, and distribution, and wastewater treatment. Emissions are rounded to the nearest tens place; emissions do not always add up due to rounding.

[a] Based on GHG emission factors provided by PG&E.

[b] CARB, May 2010, Local Government Operations Protocol (LGOP), Version 1.1. Assumes 10 percent of the town is on septic (resulting in higher GHG emissions from anaerobic decomposition).

Source: Based on water demand and wastewater generation estimated in the Town of Los Gatos General Plan Update Environmental Impact Report, March 2010.

programs. Table 3-7 shows anticipated BAU and adjusted waste disposal and associated GHG emissions in 2020.

5. Other Emissions

Projections for 2020 for other emission sources are based on the estimates of population and employment growth that are included in the General Plan.

- Agricultural Equipment. No increase in agricultural equipment use is assumed.
- Lawn and Garden Equipment. Landscaping equipment use is assumed to be proportional to population growth.
- Light Commercial Equipment. Stationary equipment from non-residential land uses, including generators, pressure washers, welders, and pumps, is assumed to be proportional to employment growth.
- Construction Equipment. The 2020 BAU forecast assumes similar use of construction equipment as baseline conditions.

The BAU and adjusted forecast for other emissions is summarized in Table 3-8. The adjusted forecast includes reductions from the LCFS.

TABLE 3-7 **2020 COMMUNITYWIDE GREENHOUSE GAS EMISSIONS FROM WASTE DISPOSAL**

Land Use	2020 BAU Waste Disposal (Tons)	2020 BAU GHG Emissions (MTCO2e/ Year)	2020 Adjusted Waste Disposal (Tons)	2020 Adjusted GHG Emissions (MTCO2e/ Year)[a]
Residential	31,597		17,311	
Non-Residential	3,443		1,886	
Total	35,040	11,470	19,197	6,700

Notes: Assumes a landfill gas control efficiency of 75 percent based on the International Panel on Climate Change's Local Government Operations Protocol. Biogenic carbon dioxide is not included. Emissions are rounded to the nearest tens place.

[a] Based on the trend in waste reduction from reduce, reuse, and recycle efforts in the Town of Los Gatos from 2007 through 2010.

Source: CARB, 2010, Landfill Emissions Tool, Version 1.2.

TABLE 3-8 **2020 COMMUNITYWIDE GREENHOUSE GAS EMISSIONS FROM OTHER EMISSIONS**

Source	2020 BAU GHG Emissions (MTCO2e/Year)	2020 Adjusted GHG Emissions (MTCO2e/Year)
Agricultural Equipment	10	10
Lawn and Garden Equipment	780	710
Light Commercial Equipment	460	410
Construction Equipment	2,560	2,310
Total	3,820	3,440

Note: Emissions are rounded to the nearest tens place; emissions do not always add up due to rounding.

Source: CARB, OFFRoad 2007. Based on the emissions inventory for the County of Santa Clara, Year 2008, proportioned for the Town of Los Gatos and projected based on the increase in employment and population growth.

4 GREENHOUSE GAS EMISSIONS REDUCTION TARGET

Pursuant to the greenhouse gas (GHG) reduction targets of Assembly Bill (AB) 32 and the Bay Area Air Quality Management District's (BAAQMD) recently adopted California Environmental Quality Act (CEQA) Guidelines, a GHG reduction strategy, such as this Sustainability Plan, must establish a communitywide GHG emissions target that meets one of the following options, which are based on AB 32's goals:

- Reduce GHG emissions to 1990 levels by 2020.
- Reduce GHG emissions by 15 percent below baseline (2008 or earlier) emissions by 2020.
- Meet the plan efficiency threshold of 6.6 metric tons of GHG emissions per service population per year.

A. Los Gatos Target

This Sustainability Plan uses the second option presented by the BAAQMD CEQA Guidelines: reduce GHG emissions by 15 percent below baseline (2008 or earlier) emissions by 2020. Because accurate data on emissions in 1990 is not available, the target option that references 1990 levels is not appropriate for this Plan. Although the third target option, which establishes a per capita threshold, would be an acceptable target for this Sustainability Plan, other documents and agencies lend support to the chosen option. The California Air Resources Board's (CARB) Scoping Plan cites the target to reduce GHG emissions by 15 percent from baseline conditions as a recommended target. In addition, the California Attorney General and other agencies and environmental groups have stated that a GHG reduction goal should be measured in absolute magnitude of reductions, rather than a per capita efficiency metric.

B. Target and Gap Analysis

This Sustainability Plan contains a range of measures in Chapter 5 that will enable the Town to close the "gap" identified between 2020 adjusted emis-

sions forecast described in Chapter 3 and the GHG emissions reduction target.

For communities utilizing the target to reduce emissions by 15 percent from baseline conditions, BAAQMD recommends that the baseline year be 2008 or earlier in order to coincide with the targets of AB 32. In Los Gatos, this target means that the Sustainability Plan should include measures that will reduce GHG emissions by 57,250 metric tons of carbon dioxide emissions (MTCO2e)[1] from baseline 2008 conditions by 2020, resulting in 324,390 MTCO2e[2] in total emissions in 2020.

As described in the adjusted forecast in Chapter 3, State and federal regulations will result in GHG emissions reductions, regardless of actions by the Town. The adjusted forecast includes reductions associated with the Pavley Clean Fuel Standards, Low Carbon Fuel Standard, Renewable Portfolio Standard, Smart Grid, California Building Code, and the Town's waste diversion and reduction programs. These existing GHG reduction programs and regulations reduce GHG emissions from business as usual (BAU).

As shown in Table 4-1, in order to achieve the GHG emissions reduction target, this Sustainability Plan must include measures that will reduce BAU emissions by 4,230 MTCO2e, in addition to what would be required by State and federal regulations.

[1] This number was calculated by multiplying the baseline emissions described in Chapter 2 (381,640 MTCO2e) by 0.15.

[2] This number was calculated by subtracting the emissions reduction needed (57,250 MTCO2e) from the baseline emissions (381,640 MTCO2e).

TABLE 4-1 *TARGET AND GAP ANALYSIS*

	2020 BAU GHG Emissions (MTCO2e/Year)	2020 Adjusted GHG Emissions (MTCO2e/Year)
Target (15% below baseline GHG emissions)	324,390	
Total GHG emissions	445,670	328,620
Gap	121,280	4,230

Source: The Planning Center | DC&E, 2012.

5 GREENHOUSE GAS EMISSIONS REDUCTION MEASURES

This chapter presents the greenhouse gas (GHG) emissions reduction measures that the Town of Los Gatos will implement in order to achieve the emissions reduction target for the year 2020. These measures were developed with community involvement, including a Community Workshop held on January 30, 2012 and a public comment period on the draft measures, during which members of the public provided ideas for additional measures to include in the Sustainability Plan. Each measure is based on careful consideration of the emissions reductions needed to achieve the reduction target, the distribution of emissions revealed in the emissions inventory, existing priorities and resources, and the potential costs and benefits of various potential emission reduction projects.

The measures are divided into communitywide and municipal sections, and then further divided into the following topics:

- Transportation and Land Use
- Green Building
- Renewable Energy and Low Carbon Fuels
- Energy Conservation
- Water and Wastewater
- Solid Waste
- Open Space
- Purchasing
- Community Action

The measures were modeled using several models, including the Emissions Factors 2011 Model (EMFAC2011), the Off-Road Emissions 2007 Model (OFFROAD2007), the California Air Resources Board's (CARB) Landfill Gas Emissions Tool (Version 1.2), and CARB's Local Government Operations Protocol (LGOP).

A. Communitywide Measures and Emissions Reductions Achieved

The sectors that are discussed below include measures that will reduce GHG emissions from communitywide activities. In total, implementation of the

communitywide measures will reduce GHG emissions by 7,450 metric tons of carbon dioxide equivalent (MTCO2e) from the 2020 business as usual (BAU) forecast. As discussed in Chapter 4, after adjusting for State and federal measures, the Town would need to reduce its total GHG emissions by 4,230 MTC02e by 2020 in order to meet the GHG reduction target. The communitywide measures together exceed the reduction target. A summary of the reductions by sector is provided in Table 5-1. The technical documentation for the modeling is provided in Appendices C and D. Appendix E provides a summary of the measures and the key information about the GHG emissions and VMT reductions presented in this chapter, along with the implementation information presented in Chapter 6.

In the sections below, many measures are reported to have no measureable reduction in GHG emissions beyond the other measures that were modeled. This is because:

- The measure is simply not quantifiable (e.g. Measure RE-7, Community Choice Aggregation, for which there are a number of unknown variables).
- The measure would result in no measureable benefit or the benefit is too small to be accurately calculated by modeling software.
- There is another measure that is already quantified that achieves a similar purpose. For example, Measure GB-1 requires that buildings be constructed to be 15 percent more energy-efficient than required by Title 24, and there is a quantified GHG reduction associated with that measure. Measure GB-3 provides incentives for LEED Silver certification, but this alone would not increase the GHG emissions reduction that would result from Measure GB-1, so no additional benefit is reported.

Throughout this chapter, the quantification for reductions is based on the maximum achievable benefit.

TABLE 5-1 **COMMUNITYWIDE GHG EMISSION REDUCTIONS BY SECTOR**

Sector	VMT Reduction	Total Reduction in 2020 (MTCO2e)	Percent of Total Reduction[a]
Transportation and Land Use[b]			
TR-1 Support for Pedestrians, Bicyclists, and Transit.	6,179		23%[c]
TR-2 North Forty Area Land Uses	10,592		39%[c]
TR-3 Fixed-Route Shuttle	929		3%[c]
TR-4 Bicycle Facilities and Programs	1,677		6%[c]
TR-5 School Pool Program	7,872		29%[c]
TR-6 Commute Trip Reduction Program			
TR-7 Student Transit Outreach			
TR-8 Vehicle Circulation, Parking, and Idling Reduction Programs			
Total	*27,249*	*3,430*	*46%*
Green Building			
GB-1 Green Building Ordinance		2,210	93%
GB-2 GreenPoint Rated Building Guidelines		170	7%
Total		*2,380*	*31%*
Renewable Energy and Low Carbon Fuels			
RE-1 Alternative Energy Development Plan		10	1%
RE-2 New Solar Homes Partnership		470	53%
RE-3 Renewable Energy Generation in Projects		330	37%
Total		*810*	*11%*

TABLE 5-1 **COMMUNITYWIDE GHG EMISSION REDUCTIONS BY SECTOR** (CONTINUED)

Sector	VMT Reduction	Total Reduction in 2020 (MTCO2e)	Percent of Total Reduction[a]
Energy Conservation			
EC-1 Energy-Efficient Appliances and Lighting		10	3%
EC-2 Promotion of Energy Conservation		30	9%
EC-3 Energy-Efficient Outdoor Lighting		280	88%
Total		*320*	*4%*
Water and Wastewater			
WW-1 Water Use and Efficiency Requirements		70	14%
WW-2 Water Efficiency Retrofits and Water Conservation Pricing		440	86%
Total		*510*	*7%*
Solid Waste		-	0%
Open Space		-	0%
Community Action		-	0%
All Sectors Total		7,450	MTCO2e
Target Reduction		4,230	MTCO2e
Measures Exceed Target by		3,320	MTCO2e

[a] For each measure, the percent of the total GHG emissions reductions for that sector is provided. For each sector, the percent of the total GHG emissions reductions for the all local measures in the Sustainability Plan is provided.
[b] Certain measures interact or are grouped with one another; therefore this reduction reflects the impacts from multiple measures; no reductions are double-counted for the total.
[c] CAPCOA caps VMT reductions for particular measures or groups of measures. Therefore, individual percent-reductions for Transportation/Land Use measures are only approximations.
Note: - indicates that there are no measurable reductions from the measures in this sector.
Source: Fehr & Peers and The Planning Center | DC&E, 2012.

1. Transportation and Land Use

As shown in Table 5-1, the transportation and land use measures would reduce GHG emissions in Los Gatos by a total of 3,430 MTCO2e.

Because the transportation and land use measures are interrelated and support one another, an independent GHG reduction value cannot be calculated for a single individual measure. Therefore, this analysis presents only the total GHG reduction value for all of the measures in the transportation and land use sector. However, the approximate contribution of a measure or a group of measures to the total VMT reduction value for this sector can be estimated based on model outputs. Therefore, each measure is followed by an estimated reduction in VMT, with a note indicating if that particular measure was considered in conjunction with others. VMT reductions were calculated using a VMT reduction estimation tool that utilizes data available in a 2010 report by the California Air Pollution Control Officers Association (CAPCOA) titled *Quantifying Greenhouse Gas Mitigation Measures: A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures*. CAPCOA also sets maximum VMT reductions from particular measures or groups of measures. Because many measures work together to reduce VMT, these VMT-reduction maximums serve to avoid double-counting GHG reductions and account for decreasing marginal reductions as additional, overlapping measures are implemented. For this reason, the percentage contributions of each measure to the sector total are approximations.

TR-1 Support for Pedestrians, Bicyclists, and Transit

Promote walking, bicycling, and transit through the following:

a. Require all new buildings, excluding single-family homes, to include a principal functional entry that faces a public space such as a street, square, park, paseo, or plaza, in addition to any entrance from a parking lot, to encourage pedestrian foot traffic.

b. Require new projects, excluding single-family homes, to include pedestrian or bicycle through-connections to existing sidewalks and existing or future bicycle facilities, unless prohibited by topographical conditions.

c. Seek grant funding to establish a Safe Routes to School (SR2S) Program to increase more student walking and biking trips. The program may include: conducting school walking audits, improving nearby pedestrian and bicycle facilities, implementing nearby traffic-calming measures, implementing school bus, vanpool, and carpools to school, implementing walking buses to schools, coordinating school schedules to not overlap with peak commute times, conducting traffic studies for specific schools for more efficient drop-off and pick-up activity at schools (e.g. staggered schedules, changing on-street parking to loading zones, and more), and increasing speed enforcement around schools.

d. Design and implement affordable traffic-calming measures on specific streets to dissuade Highway 17 cut-through traffic and attract pedestrian and bicycle traffic.

e. Implement transit access improvements through sidewalk/crosswalk safety enhancements and bus shelter improvements.

VMT Reduction: Approximately 6,179 miles per year
Approximate Percentage Contribution to VMT Reductions in this sector: 23 percent

TR-2 North Forty Area Land Uses

Require a variety of local-serving commercial uses and encourage mixed-use development in the North Forty area, reducing VMT.

VMT Reduction: Approximately 10,592 miles per year
Approximate Percentage Contribution to VMT Reductions in this sector: 39 percent

TR-3 Fixed-Route Shuttle

Provide a fixed-route shuttle system to the downtown area from key residential areas, employment and commercial centers, Vasona Light Rail, and Vasona Park.

VMT Reduction: Approximately 929 miles per year

Approximate Percentage Contribution to VMT Reductions in this sector: 4 percent

TR-4 Bicycle Facilities and Programs

Provide for new bicycle facilities and programs through the following:

a. Install new bicycle facilities throughout the existing Town street network to close bicycle network gaps, as identified in General Plan.

b. Require bicycle parking facilities and on-site showers in major non-residential development and redevelopment projects. Major development projects include buildings that would accommodate more than 50 employees, whether in a single business or multiple tenants; major redevelopment projects include projects that change 50 percent or more of the square footage or wall space.

c. Install high-quality bicycle-parking facilities Downtown in centralized, safe, and secure areas.

d. Encourage non-profit or volunteer organizations in creating a bicycle-sharing program.

VMT Reduction: Approximately 1,677 miles per year

Approximate Percentage Contribution to VMT Reductions in this sector: 6 percent

TR-5 School Pool Program

Implement a School Pool Program that helps match parents to carpool students to school.

VMT Reduction: Approximately 7,872 miles per year (in combination with TR-6, TR-7, and TR-8)

Approximate Percentage Contribution to VMT Reductions in this sector: 29 percent (in combination with TR-6, TR-7, and TR-8)

TR-6 Vehicle Circulation, Parking, and Idling Reduction Programs

Support trip reduction and the use of electric vehicles through the following:

a. Encourage a voluntary Employer Commute Trip Reduction Program for new and existing development. This would be a multi-strategy program that encompasses a combination of individual measures, such as ride-share programs, discounted transit programs, end-of-trip facilities (e.g. showers and lockers), encouraging telecommuting, and preferential parking permit programs. As part of this program, encourage employers to allow commuters to pay for transit with pre-tax dollars.

b. Encourage new non-residential development to include designated or preferred parking for vanpools, carpools, and electric vehicles.

c. Encourage non-profit or volunteer organizations in creating or providing a car-sharing program.

VMT Reduction: Approximately 7,872 miles per year (in combination with TR-5, TR-7, and TR-8)

Approximate Percentage Contribution to VMT Reductions in this sector: 42 percent (in combination with TR-5, TR-7, and TR-8)

TR-7 Student Transit Outreach

Coordinate with local school districts on marketing, promoting, and educating students about the benefits of using public transit as a mode of travel.

VMT Reduction: Approximately 7,872 miles per year (in combination with TR-5, TR-6, and TR-8)

Approximate Percentage Contribution to VMT Reductions in this sector: 29 percent (in combination with TR-5, TR-6, and TR-8)

TR-8 Vehicle Circulation, Parking, and Idling Reduction Programs

Reduce vehicle circulation associated with parking and reduce vehicle idling through the following:

d. Provide better wayfinding and smart parking strategies with attractive signage to reduce vehicle circulation searching for parking spaces in the C-2/Central Business District Zone.

e. Encourage non-profit and volunteer organizations in conducting outreach to reduce car idling around schools during pick-up and drop-off times.

VMT Reduction: Approximately 7,872 miles per year (in combination with TR-5, TR-6, and TR-7)

Approximate Percentage Contribution to VMT Reductions in this sector: 42 percent (in combination with TR-5, TR-6, and TR-7)

2. Green Building

As shown in Table 5-1, the green building measures would reduce GHG emissions in Los Gatos by 2,380 MTCO2e.

a. Quantified Measures

GB-1 Green Building Ordinance

Develop a Green Building Ordinance that requires energy-efficient design, in excess of Title 24 standards, for all new residential and non-residential buildings. When developing the Ordinance, consider development-level thresholds for when certain requirements are triggered.

- Require 30 percent above the 2008 Building and Energy Efficiency standards in Title 24 to coincide with the Voluntary Tier 2 standards of the California Green Building Code (CALGreen).
- Encourage the use of cement substitutes and recycled building materials for new construction.

GHG Emissions Reduction: 2,210 MTC02e per year

GB-2 GreenPoint Rated Building Guidelines

Require all new and significantly remodeled homes to follow the Town's adopted GreenPoint Rated Building Guidelines. Significantly remodeled homes include remodels of 50 percent or more of the square footage or wall area of the home, and additions of 50 percent or more of the square footage or wall area of the home.

GHG Emissions Reduction: 170 MTC02e per year

b. Non-Quantified Measures

The following measures (GB-3 through GB-6) would not result in a measureable reduction in GHG emissions in Los Gatos beyond the other measures modeled in this sector. However, they are important in helping to reach the Town's overall goal of improving sustainability in Los Gatos.

GB-3 Incentives for Green Building Certification

Allow greater development flexibility and other incentives (e.g. permitting-related) for LEED Silver certification or equivalent GreenPoint rating, for example, by giving green projects priority in plan review and processing.

GB-4 Solar Orientation

Require measures that reduce energy use through solar orientation by taking advantage of shade, prevailing winds, landscaping, and sun screens.

GB-5 Removal of Barriers to Green Building

Identify and remove regulatory or procedural barriers to implementing green building practices in the town, by updating codes, guidelines, and zoning.

GB-6 Regional Green Building Programs

Coordinate with other local governments, special districts, nonprofits, and other public organizations to share resources, achieve economies of scale, and develop green building policies and programs that are optimized on a regional scale.

3. Renewable Energy and Low Carbon Fuels

As shown in Table 5-1, the renewable energy and low carbon fuels measures would reduce GHG emissions in Los Gatos by 810 MTCO2e.

a. Quantified Measures

RE-1 Alternative Energy Development Plan

In partnership with Pacific Gas and Electric and local alternative energy companies, develop an Alternative Energy Development Plan that includes townwide measurable goals and identifies the allowable and appropriate alternative energy facility types within the town, such as solar photovoltaic

(PV) on urban residential and commercial roofs. Propose phasing and timing of alternative energy facility and infrastructure development. Provide the development review process list/worksheet to new alternative energy projects and conduct a review of Town policies and ordinances to address alternative energy production. Identify optimal locations and the best means to avoid noise, aesthetic, and other potential land use compatibility conflicts (e.g. installing tracking solar PV or angling fixed solar PV in a manner that reduces glare to surrounding land uses). Consider further reducing permitting fees for alternative energy development.

GHG Emissions Reduction: 10 MTC02e per year

RE-2 New Solar Homes Partnership

Require that residential projects of six units or more participate in the California Energy Commission's New Solar Homes Partnership, which provides rebates to developers of six units or more who offer solar power in 50 percent of new units and is a component of the California Solar Initiative, or a similar program with solar power requirements equal to or greater than those of the California Energy Commission's New Solar Homes Partnership.

GHG Emissions Reduction: 470 MTC02e per year

RE-3 Renewable Energy Generation in Projects

Require that new or major rehabilitations of commercial, office, or industrial development greater than or equal to 20,000 square feet in size incorporate solar or other renewable energy generation to provide 15 percent or more of the project's energy needs. Major rehabilitations are defined as remodeling/additions of 20,000 square feet of office/retail commercial or 100,000 square feet of industrial floor area. Remove regulatory barriers to incorporating renewable energy generation.

GHG Emissions Reduction: 330 MTC02e per year

b. Non-Quantified Measures

The following measures (RE-5 through RE-7) would not result in a measureable reduction in GHG emissions in Los Gatos beyond the other measures modeled in this sector. However, they are important in helping to reach the Town's overall goal of improving sustainability in Los Gatos.

RE-4 Leaf Blower Ordinance

Consider adopting an ordinance to ban the use of two-stroke engine leaf blowers. As part of this ordinance, establish planting and maintenance guidelines to reduce maintenance needs.

RE-5 Solar Ready Features

Where feasible, require that all new buildings be constructed to allow for the easy, cost-effective installation of future solar energy systems. "Solar ready" features should include: proper solar orientation (i.e. south facing roof area sloped at 20° to 55° from the horizontal); clear access on the south sloped roof (i.e. no chimneys, heating vents, or plumbing vents); electrical conduit installed for solar electric system wiring; plumbing installed for solar hot water system; and space provided for a solar hot water storage tank.

RE-6 Solar Energy Systems at Schools

Work with the local school districts to encourage the use of solar energy systems at school facilities.

RE-7 Community Choice Aggregation

Support and participate in regional efforts to study the feasibility and interest in establishing community choice aggregation in Los Gatos.

As noted above, this measure would not result in a measureable reduction in GHG emissions, mainly because there are a number of unknown variables that would affect the outcomes of this measure. If Los Gatos were to participate in a community choice aggregation program, depending on the portfolio of the energy provider, potential GHG emissions reductions could be significant.

4. Energy Conservation

As shown in Table 5-1, the energy conservation measures would reduce GHG emissions in Los Gatos by 320 MTCO2e.

a. Quantified Measures

EC-1 Energy-Efficient Appliances and Lighting

Require new development to use energy-efficient appliances that meet ENERGY STAR standards and energy-efficient lighting technologies that exceed Title 24 standards by 30 percent.

GHG Emissions Reduction: 10 MTC02e per year

EC-2 Promotion of Energy Conservation

Partner with Pacific Gas & Electric and other appropriate energy providers to promote energy conservation, including the following, which would be primarily funded by the energy providers:

- Promote the purchase of ENERGY STAR appliances.
- Distribute free compact fluorescent light (CFL) bulbs and/or fixtures to community members.
- Offer a halogen torchiere lamp exchange to community members.
- Promote energy efficiency audits of existing buildings to check, repair, and readjust heating, ventilation, air conditioning, lighting, water heating equipment, insulation, and weatherization.
- Partner with the Silicon Valley Association of Realtors to encourage energy audits to be performed when residential and commercial buildings are sold. Energy audits will include information regarding the opportunities for energy efficiency improvements, and will be presented to the buyer.
- Commercial buildings to be "benchmarked" using the U.S. Environmental Protection Agency's (EPA) ENERGY STAR *Portfolio Manager Tool*, consistent with Assembly Bill (AB) 1103, which requires disclosure of commercial buildings' energy efficiency rating.

- Promote individualized energy management planning and related services for large energy users.
- Fund and schedule energy efficiency retrofits or "tune-ups" of existing buildings.
- Pursue incentives and grants for energy conservation.

GHG Emissions Reduction: 30 MTC02e per year

EC-3 Energy-Efficient Outdoor Lighting

Require outdoor lighting fixtures to be energy-efficient. Require parking lot light fixtures and light fixtures on buildings to be on full cut-off fixtures, except emergency exit or safety lighting, and all permanently installed exterior lighting shall be controlled by either a photocell or an astronomical time switch. Prohibit continuous all night outdoor lighting in construction sites unless required for security reasons. Revise the Town Code to include these requirements.

GHG Emissions Reduction: 280 MTC02e per year

b. Non-Quantified Measures

The following measures (EC-4 through EC-12) would not result in a measureable reduction in GHG emissions in Los Gatos beyond the other measures modeled in this sector. However, they are important in helping to reach the Town's overall goal of improving sustainability in Los Gatos.

EC-4 Kill-A-Watt Electricity Usage Monitor Program

Continue the Kill-A-Watt Electricity Usage Monitor program, through which residents can check out a device from the library that can be plugged into household electronics to see how much electricity they require.

EC-5 Low-Income Weatherization

Seek funding to implement a low-income weatherization program.

EC-6 Quality Insulation Installation

Provide links to and/or contact information on the Town's website for education and outreach by outside organizations that promote quality insulation installation (QII), which eliminates gaps in buildings.

EC-7 Energy Audit Funding Sources

Compile a list of funding sources that local residents, businesses, or the Town could potentially access to fund energy audits to inform homeowners and businesses of opportunities to improve the energy efficiency of their homes and buildings.

EC-8 CaliforniaFIRST Program

Continue participation in the CaliforniaFIRST program, which provides innovative, low-interest financing for energy efficiency projects for existing and new development.

EC-9 Heat Island Mitigation Plan

Develop a "heat island" mitigation plan that requires cool roofs, cool pavements, and strategically placed shade trees. Amend the applicable Design Guidelines to integrate this requirement. Evaluate and balance tradeoffs between solar access and landscape tree shading in Design Guidelines.

EC-10 Heat Gain Reduction

Require all new development and major rehabilitation (i.e. additions or remodels of 20,000 square feet of office/retail commercial or 100,000 square feet of industrial floor area) projects to incorporate any combination of the following strategies to reduce heat gain for 50 percent of the non-roof impervious site landscape, which includes roads, sidewalks, courtyards, parking lots, and driveways: shaded within five years of occupancy; paving materials with a Solar Reflectance Index (SRI) of at least 29; open grid pavement system; and parking spaces underground, under deck, under roof, or under a building. Any roof used to shade or cover parking must have an SRI of at least 29.

EC-11 Programmable Thermostats

Encourage the installation of programmable thermostats in existing residential and commercial buildings.

EC-12 Energy Conservation through Design Outreach
Form a volunteer committee of local design professionals to create a brochure to educate citizens on how to save energy through design.

5. Water and Wastewater

As shown in Table 5-1, the water and wastewater measures would reduce GHG emissions in Los Gatos by 510 MTCO2e.

a. Quantified Measures

WW-1 Water Use and Efficiency Requirements
For new development, require all water use and efficiency measures identified as voluntary in the California Green Building Standards Code, and consider more stringent targets. California Green Building Standards Code requirements include: 1) reduce indoor potable water use by 20 percent after meeting the Energy Policy Act of 1992 fixture performance requirements, and 2) reduce outdoor potable water use by 50 percent from a calibrated mid-summer baseline case, for example, through irrigation efficiency, plant species, recycled wastewater, and captured rainwater. Establish Town requirements for discretionary projects regarding watering timing, water-efficient irrigation equipment, water-efficient fixtures, and offsetting demand so that there is no net increase in imported water use. Include clear parameters for integrating water conservation infrastructure and technologies, including low-flush toilets and low-flow showerheads. As appropriate, partner with local water conservation companies on the development and implementation of this measure.

GHG Emissions Reduction: 70 MTC02e per year

WW-2 Water Efficiency Retrofits and Water Conservation Pricing
Promote water efficiency and conservation through the following:

a. Adopt a water efficiency retrofit ordinance that requires upgrades as a condition of issuing permits for renovations or additions. Work with local water purveyors to achieve consistent standards and review and approval procedures for implementation.

b. Work with the San Jose Water Company (SJWC) and Santa Clara Valley Water District (SCVWD) to adopt water conservation pricing, such as tiered rate structures, to encourage efficient water use. As part of this measure, the water districts would conduct the following:

- Provide notices in each billing to accounts with water use budgets showing the relationship between the budget and actual consumption.
- Encourage wholesale water suppliers to provide financial incentives to their retail water agency customers that encourage water conservation efforts.
- Work with SJWC to meter with commodity rates for all new connections, and retrofit existing connections.
- Create accounts with dedicated irrigation meters, or develop and implement a strategy targeting and marketing large landscape water use surveys to commercial/industrial/institutional accounts with mixed-use meters to help monitor landscaping water use.

GHG Emissions Reduction: 440 MTC02e per year

b. Non-Quantified Measures

The following measures (WW-3 through WW-6) would not result in a measureable reduction in GHG emissions in Los Gatos beyond the other measures modeled in this sector. However, they are important in helping to reach the Town's overall goal of improving sustainability in Los Gatos.

WW-3 Bay Friendly Landscaping

Require new development to use native plants or other appropriate non-invasive plants that are drought-tolerant, as described in the Bay Friendly Landscaping Guidelines, available at StopWaste.org and BayFriendlyCoalition.org.

WW-4 Water Efficient Landscape Ordinance Update

Review and update the Town's Water Efficient Landscape Ordinance with improved conservation programs and incentives for non-residential customers that are consistent with the Tier 1 water conservation standards of Title 24.

WW-5 Water Audit Programs

In collaboration with efforts by the San Jose Water Company (SJWC) and the Santa Clara Valley Water District (SCVWD), promote water audit programs that offer free water audits to single-family, multi-family, large landscape accounts, and commercial customers. Collaborate with purveyors to enact conservation programs for commercial, industrial, and institutional (CII) accounts and create programs to install ultra-low-flush toilets in facilities.

WW-6 Rainwater Collection Policy

Encourage residential rainwater collection and consider updating the Zoning Code or other code amendments as needed to encourage and support permitting and regulation of residential rainwater systems.

6. Solid Waste

As described in Chapter 3, the adjusted 2020 forecast includes waste reductions from the Town's waste reduction and diversion programs that are required by AB 939, the California Integrated Waste Management Act of 1989. Through continued implementation of these programs and compliance with this legislation, GHG emissions from solid waste generated in Los Gatos are projected to decrease by 4,770 MTCO2e from 2020 BAU.

The solid waste measures included in this section will support these programs, but will not further reduce GHG emissions from solid waste generated in Los Gatos beyond what was estimated in the adjusted forecast.

SW-1 Construction Waste Diversion

Revise the existing construction and demolition ordinance to require at least 50 percent diversion (i.e. reuse or recycling) of non-hazardous construction waste from disposal.

SW-2 Recycling Areas in Multi-Family Developments

Require all new and significant redevelopments/remodels of existing multi-family developments to provide recycling areas for their residents within existing trash areas. Significant redevelopments and remodels include those that add or change 50 percent or more of the square footage or wall area.

SW-3 Salvaged, Recycled-Content, and Local Construction Materials

Encourage the use of salvaged and recycled-content materials and other materials that have low production energy costs for building materials, hard surfaces, and non-plant landscaping. Require sourcing of construction materials locally, as feasible.

SW-4 Food and Green Waste

Work with public and private waste disposal entities to keep food and green waste out of landfills.

SW-5 Recycling and Composting Incentives

Work with public and private waste disposal entities to incentivize recycling and composting.

SW-6 Downtown Recycling Containers

Continue to provide recycling containers in the Downtown area.

SW-7 Waste Reduction Outreach

Expand educational programs to inform residents about reuse, recycling, composting, waste to energy, and zero waste programs.

SW-8 Plastic Bag Ordinance

Adopt an ordinance to ban the use of plastic bags in Los Gatos.

SW-9 Purchasing of Recycled Materials

Develop policies, incentives, and design guidelines that encourage the public and private purchase and use of durable and nondurable items, including building materials, made from recycled materials or renewable resources.

SW-10 Additional Waste Diversion
Aim to achieve the 75 percent waste diversion goal established by AB 341.

7. Open Space

The open space measures would not result in measureable reductions in GHG emissions in Los Gatos. However, they are important in helping to reach the Town's overall goal of improving sustainability in Los Gatos.

OS-1 Community Garden and Urban Farm Sites Inventory
Identify and inventory potential community garden and urban farm sites on public easements, Pacific Gas & Electric Company (PG&E) easements, right-of-ways, and schoolyards, and develop a program to establish community gardens in appropriate locations.

OS-2 Garden Areas in New Development
Encourage significant new residential developments over 50 units to include space that can be used to grow food.

OS-3 Community Garden Process
Establish a process through which a neighborhood can propose and adopt a site as a community garden.

OS-4 Los Gatos Farmers' Market
Continue to support the Los Gatos Farmers' Market as a source for locally-grown food.

OS-5 Public Food Benefits at the Farmers' Market
Encourage the Los Gatos farmers' market to accept food stamps and other public food benefits.

OS-6 Wildland Fire Prevention
Continue to actively pursue wildland fire prevention in forested areas of Los Gatos to avoid loss of carbon sequestration.

8. Community Action

The community action measures would not result in measureable reductions in GHG emissions in Los Gatos. However, they are important in helping to reach the Town's overall goal of improving sustainability in Los Gatos.

CA-1 Local Business Participation

Develop and implement an outreach plan to engage local businesses in GHG emissions reduction programs.

CA-2 Sustainability Information Center

Establish and maintain a "sustainability information center" at the Town Hall or Library to inform the public and distribute available brochures, and provide information on sustainability on the Town's website. Emphasize online outreach materials to minimize paper consumption.

CA-3 Los Gatos: Growing Greener Together Campaign

Continue the Los Gatos: Growing Greener Together Campaign, which provides Town employees and community members with a newsletter featuring green tips and best practices for home and at work. Expand this program to provide best practice information at public venues, such as the farmers' market.

CA-4 Support for Local Businesses

Continue economic vitality programs aimed at supporting local business by encouraging residents to shop locally.

CA-5 Support for Voluntary Programs

Support voluntary programs to improve sustainability in Los Gatos.

B. Municipal Measures

The measures that are discussed below include measures that will reduce GHG emissions from Town operations. However, because the Town's operations represent such a small percentage of the total GHG emissions in Los

Gatos, as discussed in Chapter 2, the overall GHG emissions reductions would be minimal, and were therefore not quantified. Although these measures would have a minimal reduction in GHG emissions in Los Gatos overall, they demonstrate that the Town is committed to action on climate change. Los Gatos is proud of the emission reduction efforts implemented to date and is committed to building on those efforts by increasing fleet fuel efficiency, increasing energy efficiency and conservation in municipal buildings, and other actions described below.

1. Transportation and Land Use

TR-1 Reduced Emissions from Employee Commute

Implement programs and provide incentives to encourage reduced emissions from employee commute, including telecommuting, alternative work schedules, carpooling/vanpooling, and active transportation.

TR-2 Support for Bicycle Commuting

Provide bicycle lockers and showers at Town offices, as well as education about bicycle commuting.

TR-3 Bicycles for Use by Town Employees

Provide bicycles for short trips by Town employees.

TR-4 Incentives for Low-Emission Vehicles

Provide preferential parking for low-emissions vehicles at Town offices.

TR-5 Idling in Town Vehicles

Adopt a policy to limit idling in Town vehicles consistent with public safety standards.

TR-6 Efficiency in Town Fleet Vehicles

Regularly maintain Town fleet vehicles to maximize efficiency (e.g. tire pressure).

2. Green Building

GB-1 LEED Certification in Municipal Buildings

Encourage all new municipal buildings and facilities to meet at least LEED Gold certification standards.

GB-2 Rebates and Incentives for Energy Efficiency

Utilize all available rebates and incentives for energy efficiency and distributed generation installations, such as State public good programs (i.e. funding for energy efficiency from a "public good" fee on utility bills) and solar programs.

GB-3 Green Building Training

Train all plan review and building inspection staff in green building materials, techniques, and practices.

3. Renewable Energy and Low Carbon Fuels

RE-1 Solar Energy for Town Facilities

Conduct a solar feasibility study and install solar panels on appropriate Town facilities.

RE-2 Solar Water Heating at Town Facilities

Install tankless and/or solar water heating at appropriate Town facilities.

RE-3 Town Fleet Conversion

Where technologically feasible and consistent with public safety standards, convert the Town's vehicle fleet to hybrid, compressed natural gas, biodiesel, electric, hydrogen fuel cells, or ethanol.

RE-4 Fuel Conservation Program

Establish a fuel conservation program for the Town vehicle fleet and require Gas Cap driver training for all employees who use fleet vehicles.

4. Energy Conservation

EC-1 Energy Audit of Town Facilities

Conduct, with assistance from Pacific Gas & Electric Company, a thorough energy audit of all Town facilities to identify cost-effective opportunities for conservation.

EC-2 Reflective Roofing on Town Facilities

Install reflective roofing on Town facilities.

EC-3 Energy Efficiency Standards for Town Facilities

Establish energy efficiency standards for Town facilities and provide employees with guidelines, instructions, and requirements for efficient use of facilities.

EC-4 Peak Electricity Demand Reduction

Participate in peak electricity demand reduction programs and undertake peak demand reduction measures at Town facilities.

EC-5 Energy-Efficient Appliances and Office Equipment

As outdated electronic appliances and office equipment are phased out of Town facilities, replace them with energy-efficient models.

EC-6 Street and Traffic Light Retrofits

Continue to retrofit street lights and traffic lights to light-emitting diodes (LED).

5. Water and Wastewater

WW-1 Water-Conserving Fixtures in Town Facilities

Install water-conserving fixtures in all Town facilities.

WW-2 Landscaping at Town Facilities

Use drought-tolerant native landscaping at Town facilities.

WW-3 Irrigation for Town Landscaping

Use recycled water or graywater for Town landscaping, including parks and medians, where appropriate.

6. Solid Waste

SW-1 Recycling Coordinators

Train an existing staff member from each Town department to be a recycling coordinator for their department.

SW-2 Reuse and Recycled Content Materials

Require all Town departments and facilities to reuse office supplies, furniture, and computers before buying new materials. When buying new materials, require Town departments and facilities to purchase products that are made with high levels of post-consumer recycled content and have limited packaging.

7. Open Space

OS-1 Tree Planting on Municipal Property

Develop a Town program for maximizing carbon sequestration on municipal property through tree planting.

8. Purchasing

P-1 Local Hiring

Develop a Town program to require or encourage the Town to hire locally for its contracts and services.

P-2 Sustainability Criteria in Proposal Selection Process

When requesting proposals or applications for contracts, professional service agreements, or grants, request that proposals or applications include information about the sustainability practices of the organization, and use such information as a partial basis for proposal evaluations.

P-3 Life-Cycle Costing Approach in Purchasing

Incorporate a "life-cycle costing" approach into Town purchasing considerations that takes into account long-term cost savings from energy-efficient products.

9. Community Action

CA-1 Green Business Program

Continue to operate a townwide green business program.

CA-2 Sustainability Coordinator

Train an existing Town staff member to be a sustainability coordinator for the Town.

CA-3 Incentives for Sustainable Business Practices

Reward local businesses that hire local residents and allow telecommuting by, for example, recognition on the Town website or in Town newsletters, or preference in Town purchasing.

6 IMPLEMENTATION AND MONITORING

The previous chapters present and analyze reduction measures that will exceed the Town's target of reducing greenhouse gas (GHG) emissions in Los Gatos by 15 percent below baseline levels by 2020. These measures represent the hard work and initiative of the Town of Los Gatos to go above and beyond normal practice by proactively addressing the effects of GHGs. This chapter outlines how the measures will be implemented, as well as financing and monitoring mechanisms to implement the measures.

A. Measure Implementation

This section presents implementation information for each measure, including action items, responsible parties, cost effectiveness, and a schedule for implementation. In cases where an individual measure includes many different components, such as many of the transportation and land use measures, implementation information is provided for each component separately. The quantitative reduction effects, as reported in Chapter 5, serve as the standards by which performance towards achievement of the reduction target will be measured.

The implementation schedule separates reduction measures into two main time periods for implementation: 2012 to 2015 and 2015 to 2020. Phases indicate when implementation of the measure begins. A third time period from 2012 to 2020 is also applied for implementation to account for parts of measures that were feasible in 2012 to 2015 and those that were not feasible until 2015 to 2020. Overall maintenance of the program will extend well beyond the allotted phase. The implementation schedule prioritizes reduction measures based on their effectiveness at reducing GHG emissions, cost-effectiveness, and/or feasibility. Some reduction strategies are expected to be implemented on a later timeline due to obstacles of available data, technology, or finances.

Appendix E provides a summary of the measures and the key information about the GHG emissions and VMT reductions presented in Chapter 5, along with the implementation information presented in this chapter.

1. Communitywide Measures

a. Transportation and Land Use

TR-1a Emphasis on Pedestrian Entrances

Measure TR-1a requires all new buildings, excluding single-family homes, to include a principal functional entry that faces a public space such as a street, square, park, paseo, or plaza, in addition to any entrance from a parking lot, to encourage pedestrian foot traffic.

i. Action Items and Responsible Parties

To implement this measure, the Town will amend the Municipal Code and Design Guidelines to include this requirement. New residential and non-residential development, except for single-family homes, will be subject to this requirement, incorporating it either into the project design or as mitigation in the applicable environmental document pursuant to the California Environmental Quality Act (CEQA). In addition, the Community Development Department will review architectural plans for consistency with this measure.

ii. Cost Effectiveness: Moderate to High

Staff-time costs of measure TR-1a are expected to be moderate and would stem from the need to draft, adopt, and implement ordinances. Since measure TR-1a would apply only to new structures, pedestrian-serving entrances could be incorporated into buildings during their design phase. Incorporating such an entrance or otherwise orienting a building to meet this requirement would therefore impose little to no additional cost for most developments. In rare instances, additional entrances could cause reductions in usable floor or wall space, or generate greater security or climate-control demands; however, estimating these possible costs would be highly speculative. Cost savings from this measure could stem from reduced parking needs or from increased vitality in the Town's commercial districts, but these also are highly speculative. While it is not possible to reliably quantify direct GHG reductions from this individual measure, the measure greatly increases convenience for pedestrians and potentially cyclists, thus encouraging alternative forms of transportation and reducing vehicle miles traveled (VMT). Though its individual reductions

are not precisely quantifiable, the measure's benefits would likely be readily observable and, most notably, its costs are anticipated to be minimal. Therefore this measure is deemed to have a moderate to high degree of cost-effectiveness.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

TR-1b Pedestrian or Bicycle Connections

Measure TR-1b requires new projects, excluding single-family homes, to include pedestrian or bicycle through-connections to existing sidewalks and existing or future bicycle facilities, unless prohibited by topographical conditions.

i. Action Items and Responsible Parties

To implement this measure, the Town will amend the Municipal Code and Design Guidelines to include this requirement. New residential and non-residential development, except for single-family homes, will be subject to this requirement, incorporating it either into the project design or as mitigation in the applicable environmental document pursuant to CEQA. In addition, the Community Development Department will review development applications for consistency with this measure.

ii. Cost Effectiveness: Moderate to High

Staff-time costs of measure TR-1b are expected to be moderate and would stem from the need to draft, adopt, and implement ordinances. The costs of this measure will vary depending on the individual site characteristics and intended layout of new developments. Even for developments with low connectivity, the amount of land needed to provide such connections would rarely exceed 1 percent of the total development area, and could be considerably

lower.[1] If properly incorporated during the design phase, this requirement would result in negligible increases to development costs. While it is not possible to reliably quantify direct GHG reductions from this individual measure, the measure greatly increases convenience for pedestrians and cyclists, thus encouraging alternative forms of transportation. Though its individual reductions are not precisely quantifiable, the measure's benefits would likely be readily observable and, most notably, its costs are anticipated to be minimal. Therefore this measure is deemed to have a moderate to high cost-effectiveness.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

TR-1c Safe Routes to School

Measure TR-1c directs the Town to seek grant funding to establish a Safe Routes to School (SR2S) Program to increase student walking and biking trips.

i. Action Items and Responsible Parties

To implement this measure, the Town and school districts will apply for grant funding for a SR2S program, and if accepted, develop and implement the program by constructing pedestrian and bicycle improvements and installing signage and lighting.

ii. Cost Effectiveness: High

Direct costs for measure TR-1c are expected to be low and would stem from staff time devoted to the pursuit and administration of pertinent grant funding. See the discussion for Measure TR-4a for information about the costs associated with bicycle facilities. Costs associated with pedestrian facilities are

[1] This estimate is based on example from a low-density, suburban neighborhood in Austin, Texas, where a pedestrian/bicycle throughway provided access between two low-connectivity streets. At 20 feet across, the right-of-way was relatively wide. The total footprint of the throughway was 4,300 square feet, or about 0.7 percent of the total 600,000 square foot area of the blocks it directly served.

highly dependent upon the types and extent of new pedestrian infrastructure, so it is impossible to accurately predict the total costs of the improvements that would be included. However, plan costs from other Bay Area municipalities can be instructive. Santa Rosa estimated the cost of implementing its planned pedestrian improvements to be approximately $4.3 million total. It is presumed that all costs of any SR2S Program would be largely or fully covered by awarded grants, such as the following federal grant programs: Transportation Enhancement Program, Congestion Mitigation and Air Quality Improvement Program, and Highway Safety Improvement Program. Though the individual reductions from this measure are projected to be low, given its low anticipated costs, this measure is deemed to be moderately to highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

TR-1d Traffic-Calming Measures

Measure TR-1d directs the Town to design and implement affordable traffic-calming measures on specific streets to dissuade Highway 17 cut-through traffic and attract pedestrian and bicycle traffic.

i. Action Items and Responsible Parties

To implement this measure, the Town will design traffic calming measures and construct them as appropriate.

ii. Cost Effectiveness: Low

Measure TR-1d would result in relatively high staff-time costs for program development and administration, as well as considerable costs from construction and maintenance of infrastructure as part of measure implementation. In its 2012 Climate Action Plan, the City of Walnut Creek estimated the costs of traffic calming measures at approximately $83,000 per 10 miles of roadway, with costs split between the City and private developers.[2] Total costs for Los

[2] City of Walnut Creek, 2012. *City of Walnut Creek Climate Action Plan,* page A3-15.

Gatos will depend on the traffic calming methods used, the extent of their implementation, and the proportion of costs assigned to developers. Significant direct cost-savings for the Town are not anticipated; however, the Town could potentially experience indirect benefits or savings from reduced air pollution and increased pedestrian comfort and safety. Given the measure's high anticipated cost and relatively low projected VMT reduction, it is deemed to have low cost-effectiveness.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

TR-1e Transit Access Improvements

Measure TR-1e directs the Town to implement transit access improvements through sidewalk/crosswalk safety enhancements and bus shelter improvements.

i. Action Items and Responsible Parties

To implement this measure, the Town will construct pedestrian safety and other improvements to transit access.

ii. Cost Effectiveness: Low

Measure TR-1e would result in moderate staff-time costs for program development and administration, as well as considerable costs from construction and maintenance of infrastructure as part of measure implementation. Various estimates are available for potential measure costs. The 2011 Sustainability Action Plan for the City of Tracy estimated a cost of $5,000 to $8,000 per shelter for transit-stop upgrades and $6 per square foot of new sidewalk.[3] In its 2012 Draft Climate Action Plan, the City of Santa Rosa estimated a citywide program cost of between $200,000 and $500,000. San Ramon estimated citywide costs ranging between $15,000 and $75,000.[4] Implementation costs for Los Gatos will depend on the number and type of transit-stop upgrades performed. While the Town is not anticipated to experience direct

[3] City of Tracy, 2010. *City of Tracy Sustainability Action Plan.*

[4] City of San Ramon, 2011. *City of San Ramon Climate Action Plan.*

cost-savings as a result of measure implementation, indirect benefits and savings could potentially be realized through decreased congestion and air pollution, and increased rider safety. Given this measure's high anticipated cost and relatively low projected VMT reduction, it is deemed to have a low cost-effectiveness.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

TR-2 North Forty Area Land Uses

Measure TR-2 requires a variety of local-serving commercial uses and encourages mixed-use development in the North Forty area.

i. Action Items and Responsible Parties

To implement this measure, the Town will work with the North Forty development team to ensure that local-serving commercial uses are included, and to encourage mixed-use development. The North Forty development project will amend the land use plans, as appropriate, to comply with this measure.

ii. Cost Effectiveness: High

Staff-time costs of measure TR-2 are expected to be low and would stem from the need to coordinate with the North Forty development team to ensure consistency with this measure. Measure TR-2 is particular to Los Gatos and would not impose any direct additional implementation costs on the Town. Any costs associated increased provision of municipal infrastructure or services would likely be offset by increased property and sales tax receipts and/or covered by developers. Developers could be faced with higher total development costs given requirements for more intense land uses, but these are anticipated to be consistent with construction costs for other similar developments. Moreover, more intense development in this area could help to defray costs for both the Town and developers by providing for greater overall efficiency and economies of scale. Overall, the low costs of this measure would likely be more than offset by increases to revenue and by the public

benefit of additional housing, jobs, and services. Given its potential for both increased Town revenue and VMT reduction, this measure is deemed to be highly cost-effective.

iii. Implementation Schedule

Assuming that the North Forty Specific Plan process continues to move forward, the Town will begin implementing this measure during the 2012-2015 phase.

TR-3 Fixed-Route Shuttle

Measure TR-3 directs the Town to provide a fixed-route shuttle system to the downtown area from key residential areas, employment and commercial centers, Vasona Light Rail, and Vasona Park.

i. Action Items and Responsible Parties

To implement this measure, the Town will develop and implement a fixed-route shuttle system.

ii. Cost Effectiveness: Low

Costs stemming from measure TR-3 would largely depend on its specific implementation, with staff-time costs dependent upon how shuttle system design and roll-out are approached. With contracted or Santa Clara Valley Valley Transportation Authority (VTA)-run services, staff-time costs would be dramatically lower than in the unlikely event that the Town were to design and/or manage its own system. VTA provides contracted corporate shuttle services between light-rail stations and key employers at a cost of about $44,000 per year as of 2012.[5] These services, however, are dissimilar from typical, fully public shuttle-bus services serving transit stations and downtown areas. The City of Walnut Creek estimated in their 2012 Climate Action Plan that providing Bay Area Rapid Transit (BART) shuttles would carry a City cost of $6 million.[6] Shuttles in Los Gatos would likely be similar to

[5] Santa Clara Valley Transportation Authority, 2011. Adopted Biennial Budget: Fiscal Years 2012 and 2013.

[6] City of Walnut Creek, 2012. *City of Walnut Creek Climate Action Plan.*

those of Walnut Creek and carry costs of a comparable magnitude. Given that this measure carries a relatively high cost and that its VMT reduction, though measurable, is very small, it is deemed to have a low cost-effectiveness.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

TR-4a New Bicycle Facilities

Measure TR-4a directs the Town to install new bicycle facilities throughout the existing Town street network to close bicycle network gaps.

i. Action Items and Responsible Parties

To implement this measure, the Town will construct new bicycle facilities.

ii. Cost Effectiveness: Low

Planning and administration for the installation of new bicycle facilities under measure TR-4a could carry low to moderate staff-time costs. The total cost of new bike facilities would depend on the number and type of facilities installed. The cost discussion for TR-4b includes information on estimated cost ranges for different types of bicycle parking. For its Bicycle Master Plan, the City of Santa Rosa made cost estimates for various classes of bikeway. Class I bicycle routes consist of trails exclusively for bicycles and/or pedestrians; these carry estimated construction costs of $550,000 per mile, with annual maintenance costs of $10,000 per mile. Class II bicycle routes comprise dedicated bike lanes along existing roadways; these carry estimated construction costs of $30,000 per mile, with annual maintenance costs of $2,000 per mile. Class III bicycle routes are characterized by shared roadways with bicycle route signage and sometimes pavement stencils; these carry construction costs of $2,500 per mile, with annual maintenance costs of $1,000 per mile. These costs do not include additional infrastructure such as bike signals, crossings, and loop detectors, and vary considerably by specific location. The estimated total cost to implement the bicycle portion of the Bicycle and Pedestrian Mas-

ter Plan for the City of Santa Rosa was $38.9 million.[7,8] Alternatively, the City of Lafayette, which is of a similar size to Los Gatos, had higher average per-mile costs for the various types of bikeways it planned to construct. The total cost of implementing Lafayette's Bicycle Master Plan was estimated at $12.7 million (in 2006 dollars), with an additional ten-year maintenance costs of $832,659 annually (in 2016 dollars).[9]

The Town of Los Gatos would not likely see direct cost savings as a consequence of implementing this measure; however, indirect savings could be realized through decreased congestion and air population from resultant transportation mode trips. A precise quantification of such benefits, however, is not feasible. Given this measure's high anticipated costs and relatively low projected VMT reduction, it is deemed to have a low cost-effectiveness.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

TR-4b Bicycle Facilities in Development Projects

Measure TR-4b requires bicycle parking facilities and on-site showers in major non-residential development and redevelopment projects.

i. Action Items and Responsible Parties

To implement this measure, the Town will amend the Municipal Code to include this requirement. Significant new non-residential development and redevelopment will be subject to this requirement, incorporating it either into the project design or as mitigation in the applicable environmental document pursuant to CEQA. In addition, the Community Development Department will review development applications for consistency with this measure.

[7] City of Santa Rosa, 2010. *City of Santa Rosa Bike and Pedestrian Master Plan*.

[8] All costs from Santa Rosa Plan are in 2008 dollars.

[9] City of Lafayette, 2006. *Lafayette Bikeways Master Plan*.

ii. Cost Effectiveness: Low

Drafting and adopting requirements under TR-4b could carry low to moderate staff-time costs. The costs of bicycle parking and facilities vary greatly depending on the number and type of parking installations. In a relatively secure office or building, it may be possible to provide unsecured bicycle parking or racks at per-space costs ranging from $50 or less to greater than $200. Secure bicycle lockers are considerably more expensive, with per-space costs ranging from $950 to $2500.[10] The total cost of installing shower facilities for bicycle commuters is estimated to range from $13,000 to $30,000, depending on the configuration and number of shower stalls.[11] Cost savings from the installation of bicycle facilities are not readily quantifiable; however, possible reductions in the need for car parking and potential increases in worker health and productivity could yield indirect cost savings. If bicycle parking and facilities were used in lieu of or as a replacement for automobile parking, then savings would far exceed costs.[12] Given that the anticipated costs of this measure are high relative to its projected VMT reduction, it is deemed to have low cost-effectiveness as a GHG reduction strategy at present.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

TR-4c Bicycle Parking in Downtown

Measure TR-4c directs the Town to install high-quality bicycle-parking facilities Downtown in centralized, safe, and secure areas.

---

[10] Benjamin, Matthew T., 2003. *Bicycle Parking: A Plan for the Los Angeles County Metropolitan Transportation Authority.*

[11] *Commuter Connections: How to Support Biking to Work*, http://www.mwcog.org/commuter2/employer/employer_how_to_support_biking_to_work.htm, accessed on April 5, 2012.

[12] Victoria Transport Policy Institute, 2012. *Transportation Cost and Benefit Analysis II – Parking Costs.*

i. Action Items and Responsible Parties

To implement this measure, the Town will construct new bicycle-parking facilities in the Downtown.

ii. Cost Effectiveness: Low

Planning and administration for the installation of new bicycle parking facilities under measure TR-4a could carry low to moderate staff-time costs. The materials and installation costs for high-quality bike parking could range from $50–200 per space for bike racks, to $950–2,500 for secure bike lockers. Since it is not anticipated that such facilities would replace car parking, measure implementation would not offer any direct cost savings. Other indirect cost savings could be realized through reduced congestion or increased commercial activity generated by bicycle trips, but these are speculative and cannot readily be quantified. Given the relatively high anticipated cost and generally low projected VMT reduction from this measure, it is deemed to have a low cost-effectiveness.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

TR-4d Bicycle-Sharing Program

Measure TR-4d directs the Town to encourage non-profit or volunteer organizations in creating a bicycle-sharing program.

i. Action Items and Responsible Parties

To implement this measure, the Town will encourage efforts of non-profit and volunteer organizations to create bicycle-sharing programs, such as by providing information on the Town's website.

ii. Cost Effectiveness: High

Town costs from measure TR-4d are expected to be low and would stem from the materials and staff-time needed to support and coordinate with relevant organizations. No other costs are anticipated from this measure. Though this measure is not likely to result in direct cost savings, the Town or residents could potentially realize long-term benefits from bicycle sharing; these

include lower transportation costs, decreased congestion, and improved air quality. The magnitude or value of such benefits, however, will depend on program implementation and participation levels; any estimate of these benefits would be highly speculative. Though the projected VMT reduction from this measure would be modest, the measure is anticipated to carry low costs, present opportunities for cost savings, and would rely primarily upon work done by volunteer or non-profit organizations. Therefore this measure is deemed to be highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

TR-5 School Pool Program

Measure TR-5 directs the Town to implement a School Pool Program that helps match parents to carpool students to school.

i. Action Items and Responsible Parties

To implement this measure, the Town and school districts will develop the School Pool Program and conduct related outreach.

ii. Cost Effectiveness: High

Costs for measure TR-5 would stem mainly from the use of Town and school district staff time and technical resources for program implementation, and are expected to be low. Though the Town is not expected to experience direct cost savings from this measure, it could result in significant transportation-related savings for parents with school-aged children. Additionally, the Town could experience indirect savings through reduced traffic and congestion, and subsequently improved air quality. Given that this measure is likely to result in substantial cost savings and is projected to result in significant VMT reductions, it is deemed to be highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

TR-6a Employer Commute Trip Reduction Program

Measure TR-6a directs the Town to encourage a voluntary Employer Commute Trip Reduction Program.

i. Action Items and Responsible Parties

To implement this measure, the Town will develop the voluntary programs described above. New and existing non-residential development could both participate on a voluntary basis.

ii. Cost Effectiveness: High

The drafting and adoption of an Employer Commute Trip Reduction program under measure TR-6a could result in moderate to high staff-time costs. Programs costs would vary depending on the specific provisions of the adopted program. A 2001 study found that commuter trip reduction programs had an average gross cost of $156 per employee per year; however, the majority of businesses spent less, at a range of $33 to $89 per employee per year.[13,14] Adjusted for inflation, the average annual per-employee cost of a trip reduction program would be $202. Though this cost may seem high, commuter trip reduction programs have frequently resulted in substantial overall cost savings for both employers and workers.[15] Direct cost-savings come mainly from the reduced need for parking or parking subsidies. Additionally, telecommuting has enabled some companies to reduce their need for office space. Indirect savings have been realized through improved worker productivity, morale, and health. For employees, savings arise primarily from reduced needs for vehicle maintenance and fuel. Indirect municipal and community benefits are realized through decreased congestion, air pollution, and infrastructure costs. Since commuter trip reduction programs typically recoup their costs and have a substantial potential to reduce VMT when coupled with other strategies, measure TR-6a is deemed to be highly cost-effective.

---

[13] Pollution Probe, 2001. *North American Workplace-based Trip Reduction Programmes.*

[14] Costs in 2001 dollars.

[15] Pollution Probe, 2001. *North American Workplace-based Trip Reduction Programmes.*

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

TR-6b Preferential Parking

Measure TR-6b encourages designated or preferred parking for vanpools, carpools, and electric vehicles in non-residential development.

i. Action Items and Responsible Parties

New non-residential development will be encouraged to incorporate designated parking into the project design. To this end, the Community Development Department will discuss with project applicants the possibility of creating designated parking spots as part of proposed developments. The Town will also recommend this strategy to businesses as appropriate (e.g., when businesses seek to resurface or otherwise modify existing parking areas).

ii. Cost Effectiveness: High

As a voluntary measure, implementation of TR-6b would carry very low staff-time costs. Assuming that employers and businesses do not opt to create additional parking to replace such designated spaces, additional direct costs from implementation of this measure would be minimal, relating primarily to signage, pavement striping, and, potentially, enforcement. These costs would be incurred by businesses. If the provision of designated spaces leads to increased vehicle pooling, cost savings could be realized through overall decreases in parking needs; however, precise estimates of such cost savings would be speculative. Given that this measure carries a very low cost and would contribute to substantial projected VMT reductions, it is deemed to be highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

TR-6c Car-Sharing Program

Measure TR-6c directs the Town to encourage non-profit or volunteer organizations in creating or providing a car-sharing program.

i. Action Items and Responsible Parties

To implement this measure, the Town will encourage the efforts of non-profit and volunteer organizations to create car-sharing programs, such as by providing information on the Town's website.

ii. Cost Effectiveness: High

Town costs from measure TR-6c are expected to be low and would stem from the materials and staff-time needed to support and coordinate with relevant organizations. No other costs are anticipated from this measure. Though this measure is not likely to result in direct cost savings, the Town or residents could potentially realize long-term benefits from car sharing; these include lower transportation costs, decreased congestion, and improved air quality. The magnitude or value of such benefits, however, will depend on program implementation and participation levels; any estimate of these benefits would be highly speculative. Given that this measure is anticipated to carry low costs and is projected to contribute to substantial VMT reductions, it is deemed to be highly cost effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

TR-7 Student Transit Outreach

Measure TR-7 directs the Town to coordinate with local school districts on marketing, promoting, and educating students about the benefits of using public transit as a mode of travel.

i. Action Items and Responsible Parties

To implement this measure, the Town will coordinate with the school districts to market, promote, and educate students and their families about transit benefits.

ii. Cost Effectiveness: High

Costs of measure TR-7 would stem from additional staff time for coordination activities with the school district and are anticipated to be low. Additional costs would result from the development, production, and distribution

of outreach and educational materials. While no direct cost-savings are anticipated, the Town would likely experience indirect benefits from reduced traffic and congestion, and subsequently improved air quality. Given the low anticipated costs of this measure and its projected significant VMT reductions, it is deemed to be highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

TR-8a Vehicle Circulation for Parking

Measure TR-8a directs the Town to provide better wayfinding and smart parking strategies with attractive signage to reduce vehicle circulation related to searching for parking spaces in the C-2/Central Business District Zone.

i. Action Items and Responsible Parties

To implement this measure, the Town will design and install signage and other strategies to reduce vehicle circulation related to searching for parking in the Downtown.

ii. Cost Effectiveness: Low

Staff-time costs for measure TR-8a would depend upon whether improvements under the measure are carried out by the Town itself or through a private firm contracted to implement a comprehensive program. In 2010, working with a consultant, the city of Alexandria, Virginia (population 150,000) initiated a comprehensive wayfinding program in its Old Town district. Phase I of this program was projected to cost a total of approximately $250,000. It is anticipated that the total costs of such strategies in Los Gatos would be less, proportional to the town's lower population and smaller business district; however, actual costs would depend on program specifics. The Town is not expected to experience direct cost savings from the implementation of this measure, but indirect savings could be realized through decreased congestion and air pollution, and through potential increases in business patronage. Given the relatively high anticipated costs and low projected VMT

reductions resulting from this measure, it is deemed to have low cost-effectiveness.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

TR-8b Idling Reduction

Measure TR-8b directs the Town to encourage non-profit and volunteer organizations in conducting outreach to reduce car idling around schools during pick-up and drop-off times.

i. Action Items and Responsible Parties

To implement this measure, the Town will encourage efforts of non-profit and volunteer organizations to reduce car idling around schools, such as by providing information on the Town's website and other outreach.

ii. Cost Effectiveness: High

Town costs from measure TR-8b are expected to be low and would stem from the materials and staff-time needed to support and coordinate with relevant organizations. No other costs are anticipated from this measure. Though this measure is not likely to result in direct cost savings, the Town or residents could potentially realize long-term benefits from reduced car idling; these include lower fuel spending and improved air quality. The magnitude or value of such benefits, however, will depend on program implementation and publicity efforts; any estimate of these benefits would be highly speculative. Though the projected VMT reduction from this measure would be low, the measure is anticipated to carry low costs, present opportunities for cost savings, and would rely primarily upon work done by volunteer or non-profit organizations. Therefore this measure is deemed to be highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

b. Green Building

GB-1 Green Building Ordinance

Measure GB-1 directs the Town to develop a Green Building Ordinance that requires energy-efficient design, 30 percent in excess of Title 24 standards to coincide with the Voluntary Tier 2 standards of the California Green Building Code (CALGreen), for all new residential and non-residential buildings.

i. Action Items and Responsible Parties

To implement this measure, the Town will develop and adopt a Green Building Ordinance. New development will be subject to this ordinance and incorporate its requirements either into the project design or as mitigation in the applicable environmental document pursuant to the CEQA. In addition, the Community Development Department will review architectural plans for consistency with this measure.

ii. Cost Effectiveness: High

Measure GB-1 is anticipated to have high staff-time costs due to the need to draft and adopt a detailed ordinance for green building requirements. Development costs associated with this measure stem mainly from increased materials and construction costs. It should be noted that irrespective of costs or Town action, Title 24 standards are part of a State initiative that will establish increasingly stringent building energy efficiency standards.

While the Pacific Gas & Electric Company (PG&E) provides detailed cost and cost-effectiveness analyses for green building standards at 15 percent over Title 24, such calculations are not readily available for standards at 30 percent over Title 24. PG&E has provided such analyses for the City of San Mateo, which is located 26 miles to the northwest of Los Gatos and in the same state climate zone. Estimated additional building costs for compliance with standards 15 percent over Title 24 in San Mateo range from $0.50 to $1.91 per square foot for studied residential building types, and from $1.64 to $2.75 per square foot for studied non-residential building types. For all building types, simple payback times ranged from 9.4 to 27.9 years. PG&E's report subsequently concluded that standards at 15 percent over Title 24 were cost-

effective for all studied building types. While these results do not make it possible to extrapolate building costs for standards at 30 percent over Title 24, they can offer a ballpark figure. It can be presumed that long-term energy savings with standards at 30 percent over Title 24 would be even greater than with standards at 15 percent over Title 24, though increased development costs could lead to longer payback periods. As reported in Chapter 5, this measure is expected to result in significant emissions reductions. Given the anticipated long-run cost savings and significant emissions reductions, it is deemed to be highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

GB-2 GreenPoint Rated Building Guidelines

Measure GB-2 requires that all new and significantly remodeled homes follow the Town's adopted GreenPoint Rated Building Guidelines.

i. Action Items and Responsible Parties

To implement this measure, the Town will amend the Municipal Code to incorporate the GreenPoint requirements. New and significantly remodeled homes will be subject to these requirements, incorporating them either into the project design or as mitigation in the applicable environmental document pursuant to CEQA. In addition, the Community Development Department will review architectural plans for consistency with this measure.

ii. Cost Effectiveness: High

Measure GB-2 is anticipated to have moderate to high staff-time costs due to the need to draft and adopt implementing ordinances for GreenPoint requirements. Similar to measure GB-1 above and measure GB-1 in the municipal measures section, development costs associated with this measure will stem from increased materials and construction costs. However, as with the communitywide and municipal measures GB-1, measure GB-2 is likely to result in substantial long term cost-savings from reduced energy and water use, and potentially from improved human health. (See the cost analyses for

these measures for a quantification of similar green building costs and discussion of potential cost savings.) While formal cost analyses are not available for GreenPoint Rated Building Guidelines, it can be reasonably assumed that the costs and cost-effectiveness of these standards will be similar to those other green building requirements. As reported in Chapter 5, this measure is expected to result in modest emissions reductions. However, given the anticipated long-run cost-savings, it is deemed to be highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

GB-3 Incentives for Green Building Certification

Measure GB-3 provides incentives for LEED Silver certification or equivalent GreenPoint rating.

i. Action Items and Responsible Parties

To implement this measure, the Town will establish incentives for LEED Silver certification or equivalent GreenPoint rating. As noted in Chapter 5, this measure anticipates permitting-related incentives, such as priority in plan review and processing. The Community Development Department will review development project applications to consider whether projects meet the incentives' certification/rating requirements, and will then follow through with the incentives (e.g. by prioritizing the project above others that do not meet the incentive's requirements). In order to utilize the incentives, development project applications would demonstrate the LEED Silver certification or equivalent GreenPoint rating.

ii. Cost Effectiveness: High

Staff-time costs to draft and adopt incentives are anticipated to be low to moderate. Additional costs of measure GB-3 will depend on what incentives are developed and how they are implemented. Streamlined permitting or other ministerial incentives may impose staff-time or other administrative resource costs upon the Town. These costs, however, are expected to be low and may be offset through the eventual benefits of increased green building.

Alternatively, streamlined regulations or procedures could result in reduced staff costs over time. At present, precise estimates of the costs, benefits, and emissions impacts of this measure would be highly speculative. However, given the measure's anticipated low costs and likely financial returns, it is deemed to be a highly cost-effective GHG reduction strategy.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

GB-4 Solar Orientation

Measure GB-4 requires that development reduce energy use through solar orientation by taking advantage of shade, prevailing winds, landscaping, and sun screens.

i. Action Items and Responsible Parties

To implement this measure, the Town will amend the Municipal Code to incorporate this requirement. New development will be subject to this requirement, incorporating it either into the project design or as mitigation in the applicable environmental document pursuant to CEQA. In addition, the Community Development Department will review development project applications for consistency with this measure.

ii. Cost Effectiveness: Moderate

Measure GB-4 is anticipated to have moderate to high staff-time costs due to the need to draft and adopt implementing ordinances for solar orientation requirements. Other development costs from this measure would stem primarily from increased compliance costs during development design. Any additional construction or materials costs would likely be minimal. All of these costs, however, could be partially or entirely offset by resultant energy savings, though it is not feasible to determine the absolute amount or relative magnitude of such potential cost savings. Though there is evidence to suspect that this measure would pose little to no long-term costs, the savings potential and GHG benefits of this measure are highly uncertain. Therefore, this measure is deemed to have a moderate cost-effectiveness.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

GB-5 Removal of Barriers to Green Building

Measure GB-5 directs the Town to identify and remove regulatory or procedural barriers to implementing green building practices in the town by updating codes, guidelines, and zoning.

i. Action Items and Responsible Parties

To implement this measure, the Town will review existing codes, guidelines, and zoning to identify regulatory or procedural barriers to green building practices. Based on the results of this review, the Town will update any codes, guidelines, and zoning documents to remove such barriers.

ii. Cost Effectiveness: Moderate

Measure GB-5 is anticipated to have moderate to high staff-time costs for analysis and streamlining of regulations and procedures. If removal of barriers involves streamlined permitting, reduced fees, or other ministerial changes, this measure may impose additional staff-time or other administrative resource costs upon the Town. These costs, however, are expected to be low and may be offset through the eventual benefits of increased green building. Alternatively, streamlined regulations or procedures could result in reduced staff costs over time. At present, precise estimates of the costs, benefits, and emissions impacts of this measure would be highly speculative. Though there is evidence to suspect that this measure would pose little to no long-term costs, the savings potential and GHG benefits of this measure are highly uncertain. Therefore, this measure is deemed to have a moderate cost-effectiveness.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2020 phase.

GB-6 Regional Green Building Programs

Measure GB-6 directs the Town to coordinate with other local governments, special districts, nonprofits, and other public organizations to share resources,

achieve economies of scale, and develop green building policies and programs that are optimized on a regional scale.

i. Action Items and Responsible Parties

To implement this measure, the Town will coordinate, as applicable, with other agencies for regional green building initiatives.

ii. Cost Effectiveness: High

Costs of measure GB-6 would stem from additional staff-time for coordination activities and could range from high to low, depending on the approach taken. Successful achievement of regionally optimized policies and economies of scale could offer significant cost-savings to the Town and to regional businesses who must navigate multiple public processes. However, any estimate of cost savings or of GHG emissions reductions from this measure would be highly speculative, and it may not be feasible to precisely quantify measure impacts. Nevertheless, such coordination would typically be considered a planning best practice. Despite its inherent uncertainties, the potential for long-term efficiencies and GHG reductions make this measure a highly cost-effective strategy.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

c. Renewable Energy and Low Carbon Fuels

RE-1 Alternative Energy Development Plan

Measure RE-1 directs the Town to develop an Alternative Energy Development Plan in partnership with PG&E and local alternative energy companies.

i. Action Items and Responsible Parties

To implement this measure, the Town will coordinate with PG&E to develop the Alternative Energy Development Plan. As part of this process, the Town will identify which types of alternative energy facilities are appropriate in Los Gatos and where, identify means to address potential land use compatibility conflicts, and establish a development review process for new alternative energy projects. Town staff will also review and update existing Town

policies and ordinances to address alternative energy production and the findings of the Alternative Energy Development Plan.

ii. Cost Effectiveness: Low

Costs for measure RE-1 would stem mainly from staff-time and/or consultant assistance needed to carefully draft and implement the Alternative Energy Development Plan in cooperation with PG&E. Creation of such a plan would likely represent a large undertaking with a long project timeline, especially given the various directives listed within this measure. After the plan is adopted, on-going implementation and administration needs would create long-term measure costs. On the other hand, implementation of this measure is not anticipated to create significant costs for local residents or businesses, and could lower costs associated with the approval of alternative energy facilities. Since information regarding other similar types of plans is largely unavailable and since costs and savings from this measure would depend on its particular provisions, it is not possible to provide a quantified cost estimate of this measure. Given the measure's low GHG reduction potential reported in Chapter 5 and relatively high costs, it is deemed to have a low cost-effectiveness.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

RE-2 New Solar Homes Partnership

Measure RE-2 requires that residential projects of six units or more participate in the California Energy Commission's New Solar Homes Partnership, which provides rebates to developers of six units or more who offer solar power in 50 percent of new units and is a component of the California Solar Initiative, or a similar program with solar power requirements equal to or greater than those of the California Energy Commission's New Solar Homes Partnership.

i. Action Items and Responsible Parties

To implement this measure, the Town will amend the Municipal Code to incorporate this requirement. New residential projects that include six or more units will be subject to the requirement, and will therefore need to offer solar power in 50 percent of the new units. This could be incorporated either into the project design or as mitigation in the applicable environmental document pursuant to CEQA. In addition, the Community Development Department will review architectural plans for consistency with this measure.

ii. Cost Effectiveness: High

Since the enabling ordinance for the requirement in measure RE-2 would be relatively simple to draft and implement, staff-time costs are anticipated to be low. The most significant costs would be borne by developers and by PG&E, who would provide rebates for solar installations. (For a discussion of the cost of photovoltaic solar systems, see the discussion for measure RE-3, below.) Solar installation costs borne by developers could be passed on to residents through rents or home prices; however, it is anticipated that the energy cost savings of solar systems would offset such costs relatively quickly, as explained for measure RE-3. Though the projected GHG reductions from this measure are modest, as reported in Chapter 5, given its anticipated net cost savings, this measure is deemed to be highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

RE-3 Renewable Energy Generation in Projects

Measure RE-3 requires that new or major rehabilitations of commercial, office, or industrial development greater than or equal to 20,000 square feet in size incorporate solar or other renewable energy generation to provide 15 percent or more of the project's energy needs.

i. Action Items and Responsible Parties

To implement this measure, the Town will amend the Municipal Code to incorporate this requirement. New or major rehabilitations of commercial, office, or industrial development will be subject to the requirement, which

could be incorporated either into the project design or as mitigation in the applicable environmental document pursuant to CEQA. In addition, the Community Development Department will review architectural plans for consistency with this measure.

ii. Cost Effectiveness: High

Since the enabling ordinance for the requirement in measure RE-3 would be relatively simple to draft and implement, staff-time costs are anticipated to be low. The cost of photovoltaic solar installation in the Los Gatos area is estimated to be approximately $5.75 per watt of system capacity.[16] Total materials and labor costs would vary by site, and by system characteristics and size. It is also estimated that energy savings from photovoltaic systems in Los Gatos allow system cost recovery after approximately five to six years of operation.[17] Anticipated system lifetimes of 20 years or more and low maintenance costs enhance the long-term savings from photovoltaic systems.[18] Though the projected GHG reductions from this measure are modest, as reported in Chapter 5, given the potential long-term cost savings of photovoltaic installations, this measure is deemed highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

RE-4 Leaf Blower Ordinance

Measure RE-4 directs the Town to consider adopting an ordinance to ban the use of two-stroke engine leaf blowers.

---

[16] The National Renewable Energy Laboratory, The Open PV Project, http://openpv.nrel.gov/, accessed on Apr 10, 2012.

[17] FindSolar Solar Calculator, http://www.findsolar.com/index.php?page=rightforme, accessed on April 10, 2012.

[18] Barbose, Galen, et al., 2011. Report: *Tracking the Sun IV: An Historical Summary of the Installed Cost of Photovoltaics in the United States from 1998 to 2010*, Lawrence Berkeley National Laboratory.

i. Action Items and Responsible Parties

To implement this measure, the Town will develop and adopt an ordinance to ban the use of two-stroke engine leaf blowers in place of electric and other non-electric devices. Residents and businesses in Los Gatos will be subject to this new ordinance.

ii. Cost Effectiveness: Unknown

Staff-time costs of measure RE-4 would stem from the need to draft, adopt, and implement the enabling ordinance and guidelines, and are expected to be moderate. Additional measure costs would include those associated with the replacement of disallowed equipment and from potential home upgrades to include exterior or garage electrical outlets. Electric leaf blowers currently cost $30–$60 per unit; the costs of potential outlet installation would vary from home to home and it is uncertain how many homes might require such retrofits. Given this uncertainty and a lack of information on the prevalence of electric or gasoline leaf blowers, it is not feasible to determine a precise per-household or overall cost estimate. Given this lack of information and general uncertainty, the cost-effectiveness of this measure cannot reasonably be determined.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015phase.

RE-5 Solar Ready Features

Measure RE-5 requires that all new buildings be constructed to allow for the easy, cost-effective installation of future solar energy systems, where feasible.

i. Action Items and Responsible Parties

To implement this measure, the Town will amend the Municipal Code to incorporate this requirement. New development will be subject to the requirement, which could be incorporated either into the project design or as mitigation in the applicable environmental document pursuant to CEQA. In addition, the Community Development Department will review architectural plans for consistency with this measure.

ii. Cost Effectiveness: High

Measure RE-5 is anticipated to have moderate to high staff-time costs due to the need to draft and adopt implementing ordinances for "solar ready" requirements. Since retrofits for existing structures would not be required, costs from this measure would stem primarily from increased compliance costs during development design and from increased construction costs. Varying estimates are available for per-home costs of solar-readiness, ranging from $280–$380 to $500–$1,000. These costs, however, would serve to defray future costs if a household elects to install solar energy systems. This measure would not in and of itself result in measurable GHG reductions, but rather would serve to enhance the implementation and cost effectiveness of other measures. Since this measure would serve to decrease costs and enhance the effectiveness of other measures, it is deemed to be highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

RE-6 Solar Energy Systems at Schools

Measure RE-6 directs the Town to work with the local school districts to encourage the use of solar energy systems at school facilities.

i. Action Items and Responsible Parties

To implement this measure, the Town will coordinate, as applicable, with local school districts to encourage solar energy at school facilities.

ii. Cost Effectiveness: High

Costs of measure RE-6 would stem from staff-time costs for school district coordination activities and are anticipated to be very low. Any estimate of GHG emissions reductions from this measure would be highly speculative and it is not feasible to precisely quantify measure impacts. Nevertheless, given that this measure has very low anticipated cost, could result in cost savings to the school district (see the cost analysis for measure RE-3), and offers potential GHG reductions, it is deemed to be highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

RE-7 Community Choice Aggregation

Measure RE-7 directs the Town to support and participate in regional efforts to study the feasibility and interest in establishing community choice aggregation in Los Gatos.

i. Action Items and Responsible Parties

To implement this measure, the Town will participate, as applicable, in regional efforts to study the feasibility of establishing community choice aggregation.

ii. Cost Effectiveness: Unknown

Staff-time costs of measure RE-7 are expected to be low to moderate and would stem from the need for staff to conduct research, and provide administrative and material support for efforts related to community choice aggregation. Since any sort of participation would be voluntary, this measure would impose no direct costs on businesses or community members. This measure is not anticipated to result in direct cost savings. In the event that Los Gatos took part in the implementation of a community choice aggregation program, the Town, residents, and businesses could experience either savings or additional costs, depending on subsequent changes to electricity rates. Predicting such rate changes, however, would be speculative. It is likewise infeasible to precisely project GHG emissions reductions that would result from this measure. Such reductions would depend on what, if any, alterations are made to the energy generation portfolio of Las Gatos's electric provider. Since it is not practical to precisely quantify the costs, savings, or GHG reductions resulting directly from this measure, its specific cost-effectiveness cannot reasonably be determined.

iii. Implementation Schedule

This measure is somewhat dependent on the actions of other agencies in the region. However, to the extent that regional efforts are underway, the Town will begin implementing this measure during the 2012-2015 phase.

d. Energy Conservation

EC-1 Energy-Efficient Appliances and Lighting

Measure EC-1 requires new development to use energy-efficient appliances that meet ENERGY STAR standards and energy-efficient lighting technologies that exceed Title 24 standards by 30 percent.

i. Action Items and Responsible Parties

To implement this measure, the Town will amend the Municipal Code to incorporate this requirement. New development will be subject to the requirement, which could be incorporated either into the project design or as a mitigation in the applicable environmental document pursuant to CEQA. In addition, the Community Development Department will review development applications for consistency with this measure.

ii. Cost Effectiveness: High

Staff-time costs of measure EC-1 are expected to be moderate and would stem from the need to draft, adopt, and implement ordinances. Requirements for ENERGY STAR appliances and fixtures are expected to potentially add an estimated $1,280 to the base cost of outfitting a typical home with conventional appliances and fixtures.[19] However, over the lifetime of these items, the total value of energy savings would be expected to more than repay additional purchase costs.[20] Though the measurable projected GHG reductions are minimal, as reported in Chapter 5, given its low costs to the Town and overall net savings, this measure is deemed to be highly cost-effective.

[19] Each house is assumed to have the following appliances, with the attendant extra costs from ENERGY STAR compliance: AC unit, $556; washer/dryer, $258; refrigerator, $30; dishwasher, $12; ten indoor light fixtures, $32 each; two outdoor light fixtures, $17 each; and 25 total lightbulbs, $2.80 apiece. This results in a total added cost of $1280 per house. All of these estimates are based on appliance cost estimates provided by the ENERGY STAR program (see following footnote).

[20] EnergyStar Potential Savings Calculation Spreadsheets, 2009–2011, http://www.energystar.gov/index.cfm?c=bulk_purchasing.bus_purchasing, accessed April 10 2012.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

EC-2 Promotion of Energy Conservation

Measure EC-2 directs the Town to partner with PG&E and other appropriate energy providers to promote energy conservation.

i. Action Items and Responsible Parties

To implement this measure, the Town will coordinate with PG&E to promote various existing PG&E programs that conserve energy, as well as to develop new PG&E programs. In addition, the Town will partner with the Silicon Valley Association of Realtors to encourage energy audits at the time of residential and commercial building sales.

ii. Cost Effectiveness: Unknown

Town costs from measure EC-2 are expected to be low and would stem primarily from material and staff-time costs to create promotional materials and conduct public outreach. Other costs from this measure could include materials costs for light-bulb giveaways or torchiere exchange programs, which is anticipated to be funded through PG&E's incentive programs. Estimating such costs at present, however, would be speculative. The promotion of ENERGY STAR appliances for existing residential units, however, does have quantifiable costs and benefits (see footnote for measure EC-1). Given ENERGY STAR's anticipated energy cost savings and projected GHG reductions, this particular provision of measure EC-2 would be highly cost-effective. Nevertheless, for most of the provisions under this measure, it is not readily possible to quantify costs or GHG reductions. Therefore the measure's overall cost-effectiveness cannot reasonably be determined.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

EC-3 Energy-Efficient Outdoor Lighting

Measure EC-3 requires that outdoor lighting fixtures be energy-efficient.

i. Action Items and Responsible Parties

To implement this measure, the Town will amend the Municipal Code to incorporate the lighting efficiency requirements. New development will be subject to the requirements, which could be incorporated either into the project design or as mitigation in the applicable environmental document pursuant to CEQA. In addition, the Community Development and Parks and Public Works Departments will review lighting plans for consistency with this measure.

ii. Cost Effectiveness: High

Staff-time costs of measure EC-3 are expected to be moderate and would stem from the need to draft, adopt, and implement ordinances. Energy-efficient lighting often uses light-emitting diode (LED) technology, and costs for LED technology continue to fall precipitously; LED streetlights are now available at $200 per unit and life-cycle costs are now less than those of conventional lighting technology.[21,22] Despite offering low projected GHG reductions, as reported in Chapter 5, given its anticipated net cost savings, this measure is deemed to be highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

EC-4 Kill-A-Watt Electricity Usage Monitor Program

Measure EC-4 directs the Town to continue the Kill-A-Watt Electricity Usage Monitor program, through which residents can check out a device from the library that can be plugged into household electronics to see how much electricity they require.

---

[21] Science Daily, March 8 2010, *LED Streetlights Best Buy for Cities, Researchers Report*, http://www.sciencedaily.com/releases/2010/03/100308132136.htm, accessed April 19, 2012.

[22] Linbaugh, Kate, April 9 2012, *LED Streetlight's Price Cut in Half*, Wall Street Journal.

i. Action Items and Responsible Parties

To implement this measure, the Town will ensure long-term continuation of the existing Kill-A-Watt electricity Usage Monitor program.

ii. Cost Effectiveness: Unknown

Town costs from measure EC-4 are expected to be low and would stem from the cost of new or replacement meters, and from staff-time costs to administer the on-going program. It is anticipated that there would be no other costs from this measure. While this measure has very low costs, it is not possible to quantify resulting GHG emissions reduction. Therefore this measure's cost-effectiveness cannot reasonably be determined.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

EC-5 Low-Income Weatherization

Measure EC-5 directs the Town to seek funding to implement a low-income weatherization program.

i. Action Items and Responsible Parties

To implement this measure, the Town will investigate funding opportunities for weatherization of properties owned by low-income residents.

ii. Cost Effectiveness: High

Town costs from measure EC-5 are expected to be low and would stem from staff-time costs to seek relevant funding. Assuming the Town identifies and obtains full weatherization program funding, it is anticipated that staff-time would be the only source of net costs for the Town from this measure. While this measure has very low anticipated costs, it is not possible to quantify resulting GHG emissions reduction. Therefore the measure's cost effectiveness cannot reasonably be determined. It should be noted, however, that federally administered weatherization programs typically apply treatments which pro-

vide savings commensurate with their costs.[23] If any local weatherization program pursuant to this measure were to follow similar guidelines, such a program could in itself be highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

EC-6 Quality Insulation Installation

Measure EC-6 directs the Town to provide links to and/or contact information on the Town's website for education and outreach by outside organizations that promote quality insulation installation (QII), which eliminates gaps in buildings.

i. Action Items and Responsible Parties

To implement this measure, the Town will provide links and/or contact information on the Town's website as directed above.

ii. Cost Effectiveness: Unknown

Town costs from measure EC-6 are expected to be very low and would stem from staff-time costs to update the website. It is anticipated that there would be no other costs from this measure. While this measure has very low anticipated costs, it is not possible to quantify the resulting GHG emissions reduction, in part because the measure contains no requirements or regulations. Therefore, the measure's cost effectiveness cannot reasonably be determined. It should be noted, however, that energy savings from improved insulation could render such installations highly cost-effective in and of themselves.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

[23] Oak Ridge National Laboratory, National Retrospective Evaluation of the Weatherization Assistance Program (WAP), http://weatherization.ornl.gov/evaluation_nr.shtml, accessed on Apr 25, 2012.

EC-7 Energy Audit Funding Sources

Measure EC-7 directs the Town to compile a list of funding sources that local residents, businesses, or the Town could potentially access to fund energy audits to inform homeowners and businesses of opportunities to improve the energy efficiency of their homes and buildings.

i. Action Items and Responsible Parties

To implement this measure, the Town will research and compile a list of potential funding sources for energy audits and energy efficiency upgrades for homes and businesses. The Town will also conduct outreach to make this information available to homes and businesses.

ii. Cost Effectiveness: Unknown

Town costs from measure EC-7 are expected to be low and would stem from staff-time costs to compile relevant information and distribute it to homeowners and businesses. It is anticipated that there would be no other costs from this measure. While this measure has very low anticipated costs, it is not possible to quantify resulting GHG emissions reductions. Therefore the measure's cost effectiveness cannot reasonably be determined.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

EC-8 CaliforniaFIRST Program

Measure EC-8 directs the Town to continue participation in the CaliforniaFIRST program, which provides innovative, low-interest financing for energy efficiency projects for existing and new development.

i. Action Items and Responsible Parties

To implement this measure, the Town will continue to participate in the CaliforniaFIRST program.

ii. Cost Effectiveness: Unknown

Town costs from measure EC-8 are expected to be low and would stem from staff-time costs to administer the on-going program. It is anticipated that

there would be no other costs from this measure. While this measure has very low anticipated costs, the GHG emissions reductions are unknown. Therefore the measure's cost effectiveness cannot reasonably be determined. It should be noted, however, that other jurisdictions have deemed participation in CaliforniaFirst to be a locally cost-effective means of promoting energy savings.[24]

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

EC-9 Heat Island Mitigation Plan

Measure EC-9 directs the Town to develop a "heat island" mitigation plan that requires cool roofs, cool pavements, and strategically placed shade trees.

i. Action Items and Responsible Parties

To implement this measure, the Town will develop the heat island mitigation plan, and amend the Municipal Code and Design Guidelines to integrate the heat island mitigation requirements. New development will be subject to the heat island requirements, which could be incorporated either into the project design or as mitigation in the applicable environmental document pursuant to CEQA. In addition, the Community Development Department will review development applications for consistency with this measure.

ii. Cost Effectiveness: High

Measure EC-9 would be expected result in high staff-time costs for the development and adoption of the heat island mitigation plan as well as enabling ordinances for plan requirements. Costs for residents and businesses would stem from the materials, installation, and maintenance costs for cool roofs and pavements, as well as trees. The Environmental Energy Technologies Division at the Lawrence Berkeley National Laboratory has estimated that cool roofing cost premiums range from no additional cost to an additional $0.20 per square foot, depending on the slope and size of the roof area, as well

[24] County of San Diego, December 8 2009, Board of Supervisors Agenda Item 30.

as the type of cool roof installed. However, this group has also estimated that cost savings from cool roofs range from $0.16 to $0.77 per square foot and that cool roofs would be cost effective in the vast majority of California's climate zones, including that of Los Gatos.[25] Cool roofing offers these cost savings through reductions in both building heat gain and urban heat island effects, thereby decreasing energy use; additional cost savings can be realized through longer roof lifetimes due to reduced heat-stress on materials.

In its cool pavement documentation, the US Environmental Protection Agency (EPA) notes that it is difficult to make cost comparisons between conventional and cool pavement options, but does provide estimated cost ranges. Inexpensive cool pavement options such as asphalt using light-colored aggregates can cost as little as $0.10 to $1.50 per square foot, while more durable or aesthetically pleasing options such as vegetated or un-vegetated paving blocks may cost anywhere from $1.50 to $10.00 per square foot. Other surfacing options such as microsurfacing or ultra-thin white-topping can cost anywhere between $0.35 and $6.50 per square foot. Despite these variations in its cost estimates, the EPA stresses that benefits of such pavement systems include lowered heat gain, decreased stormwater runoff and pollution, and in some cases longer pavement lifetimes; the long-term savings from these benefits can often outweigh the added costs of nonconventional paving systems.[26] Additionally, recent studies have indicated that higher-reflectivity pavements could significantly offset global warming.[27]

---

[25] Levinson, Ronnen, et al., December 2002, *Inclusion of Cool Roofs in Nonresidential Title 24 Prescriptive Requirements*, Heat Island Group - Environmental Energy Technologies Division, Lawrence Berkeley National Laboratory, Berkeley, CA.

[26] US EPA, *Reducing Urban Heat Islands: Compendium of Strategies Cool Pavements.*

[27] Akbari, Hashem, et al., 2012, *The Long-Term Effect of Increasing the Albedo of Urban Areas*, Environmental Research Letters.

In regard to trees, studies have found that every dollar invested in urban trees can result in returns of $1.37 to $3.09.[28] Additionally, urban tree planting has been found to reduce GHG emissions through cooling and shading effects.[29]

While this measure is not predicted to reduce GHG emissions beyond the reductions anticipated by Title 24 standards, its benefits could potentially be substantial. Although the local costs and savings of a comprehensive heat-island mitigation plan cannot be precisely estimated, the available evidence strongly indicates substantive long-term cost savings from these programs. Therefore, given its strong potential for cost savings and other benefits, this measure is deemed to be highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

EC-10 Heat Gain Reduction

Measure EC-10 requires all new development and major rehabilitation projects to incorporate strategies to reduce heat gain for 50 percent of the non-roof impervious site landscape.

i. Action Items and Responsible Parties

To implement this measure, the Town will amend the Municipal Code to incorporate this requirement. New development and major rehabilitation projects will be subject to the requirement, which could be incorporated either into the project design or as mitigation in the applicable environmental document pursuant to CEQA. In addition, the Community Development Department will review development applications for consistency with this measure.

[28] McPherson, Greg, et al., 2005. *Municipal Forest Benefits and Costs.*

[29] McPherson, Greg, 2007. *Urban Tree Planting and Greenhouse Gas Reductions*, Arborist News.

ii. Cost Effectiveness: Unknown

The requirements of measure EC-10 would already be met through compliance with Title 24; therefore, measure EC-10 would itself impose no additional costs. The GHG reductions resulting from measure EC-10 are accounted for in estimated reductions from State Title 24 standards. Since neither its costs nor GHG reductions are individually estimated, this measure's individual cost effectiveness cannot reasonably be determined.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

EC-11 Programmable Thermostats

Measure EC-11 directs the Town to encourage the installation of programmable thermostats in existing residential and commercial buildings.

i. Action Items and Responsible Parties

To implement this measure, the Town will conduct outreach to encourage the installation of programmable thermostats in existing buildings. In addition, to comply with Title 24 requirements, the Town will require replacement of thermostats when approving permits requiring heating/cooling system renovation.

ii. Cost Effectiveness: High

Staff-time costs for measure EC-11 are expected to be low and would stem from promotional materials, public education efforts, or Town guidelines to promote installation of programmable thermostats. Since installation would be voluntary, no additional costs would be imposed. Programmable thermostats cost approximately $100 with installation costs generally between $50 and $100. Residents who choose to install programmable thermostats could, however, experience energy savings of about 10 percent per year.[30] Tools available from the federal ENERGY STAR program estimate that for areas of

[30] U.S. Department of Energy, Energy Savers webpage, http://www.energysavers.gov/your_home/space_heating_cooling/index.cfm/mytopic=12720, accessed on April 26 2012.

central California, yearly savings could total $55.[31] Since this measure is voluntary, it is not feasible to precisely quantify resultant GHG emissions reductions. Though individual emissions reductions for the measure cannot be quantified, this measure has the potential to result in net cost savings. Therefore, this measure is therefore deemed to be highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

EC-12 Energy Conservation through Design Outreach

Measure EC-12 directs the Town to form a volunteer committee of local design professionals to create a brochure to educate citizens on how to save energy through design.

i. Action Items and Responsible Parties

To implement this measure, the Town will spearhead the creation of a volunteer committee to create the brochure.

ii. Cost Effectiveness: Unknown

Town costs from measure EC-12 are expected to be low and would stem from staff-time costs to convene and facilitate the resultant committee, as well as printing costs for the brochure. It is anticipated that there would be no other costs from this measure. The measure has very low costs, but it is not possible to quantify resulting GHG emissions reductions. Therefore the measure's cost effectiveness cannot reasonably be determined.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

[31] ENERGY STAR Potential Savings Calculation Spreadsheets, 2009–2011, http://www.energystar.gov/index.cfm?c=bulk_purchasing.bus_purchasing, accessed April 10 2012.

e. Water and Wastewater

WW-1 Water Use and Efficiency Requirements

Measure WW-1 requires all water use and efficiency measures identified as voluntary in the California Green Building Standards Code for all new development.

i. Action Items and Responsible Parties

To implement this measure, the Town will amend the Municipal Code to incorporate these requirements. New development will be subject to these requirements, incorporating them either into the project design or as mitigation in the applicable environmental document pursuant to CEQA. In addition, the Community Development Department will review development project applications for consistency with this measure.

ii. Cost Effectiveness: Unknown

Staff-time costs of measure WW-1 are expected to be moderate to high and would stem from the need to draft, adopt, and implement enabling ordinances. Costs to developers or homeowners will vary depending on what steps are taken to meet these requirements. These requirements also overlap considerably with the provisions of statewide water conservation initiatives, complicating any quantification of direct measure costs. As reported in Chapter 5, the GHG reductions from measure WW-1 are measurable, but quite modest; its direct costs cannot be precisely quantified; and its provisions overlap considerably with State requirements. Given these uncertainties, the cost-effectiveness of measure WW-1 cannot reasonably be determined. It should be noted however, that the content of this measure may be viewed as an important component of a broader strategy for water-use reduction.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2020 phase.

WW-2a Water Efficiency Retrofits Ordinance

Measure WW-2a directs the Town to adopt a water efficiency retrofit ordinance that requires upgrades as a condition of issuing permits for renovations

or additions, and to work with local water purveyors to achieve consistent standards and review and approval procedures for implementation.

i. Action Items and Responsible Parties

To implement this measure, the Town will develop and adopt a water efficiency retrofit ordinance. Applicants for permits for renovations or additions will be subject to this ordinance and incorporate its requirements either into the project design or as mitigation in the applicable environmental document pursuant to CEQA. In addition, the Community Development Department will review permit applications for consistency with this measure.

ii. Cost Effectiveness: Unknown

Staff-time costs of measure WW-2a are expected to be moderate to high and would stem from the need to coordinate with water purveyors, and draft, adopt, and implement enabling ordinances. Costs and savings for homeowners and businesses will vary depending on what requirements are established and what steps are taken to meet them. These requirements also overlap considerably with the provisions of statewide water conservation initiatives, complicating any quantification of direct measure costs or benefits. Although this measure contributes to modest GHG reductions, as reported in Chapter 5, its direct costs cannot be precisely quantified. Given these uncertainties, the cost-effectiveness of measure WW-2a cannot reasonably be determined. It should be noted, however, that the content of this measure may be viewed as an important component of a broader strategy for water-use reduction.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

WW-2b Water Conservation Pricing

Measure WW-2b directs the Town to work with the San Jose Water Company (SJWC) and Santa Clara Valley Water District (SCVWD) to adopt water conservation pricing.

i. Action Items and Responsible Parties

To implement this measure, the Town will coordinate with SJWC and SCVWD to encourage them to adopt water pricing that promotes conservation.

ii. Cost Effectiveness: Unknown

Staff-time costs of measure WW-2b are expected to be moderate and would stem from the need to coordinate with water purveyors to achieve conservation pricing goals. Costs and savings for homeowners will vary depending on what rate structures or other conservation methods are adopted, and what actions individual homeowners take. The effects of this measure also overlap considerably with those of statewide water conservation initiatives, complicating the quantification of direct costs or benefits. Although this measure contributes to modest GHG reductions, as reported in Chapter 5, its direct costs cannot be precisely quantified. Given these uncertainties, the cost-effectiveness of measure WW-2b cannot reasonably be determined. It should be noted, however, that the content of this measure may be viewed as an important component of a broader strategy for water-use reduction.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

WW-3 Bay Friendly Landscaping

Measure WW-3 requires new development to use native plants or other appropriate non-invasive plants that are drought-tolerant.

i. Action Items and Responsible Parties

To implement this measure, the Town will amend the Municipal Code to incorporate this requirement. New development will be subject to the requirement, which could be incorporated either into the project design or as mitigation in the applicable environmental document pursuant to CEQA. In addition, the Community Development Department will review landscape plans for consistency with this measure.

ii. Cost Effectiveness: High

Staff-time costs of measure WW-3 are expected to be moderate and would stem from the need to draft, adopt, and implement ordinances. Other costs from this measure would stem from the additional expense of selecting and planting appropriate plants. Costs for water-efficient landscaping vary, with multiple estimates, including $3.50 to $10 per square foot, $1.37 to $1.93 per square foot, and $1,500 to $15,000 for an entire project.[32,33,34] Installation costs could be lower, however, for yards which substitute in native plants, but are otherwise conventional. Maintenance costs of xeriscaping vary and may be either higher or lower than those of conventional lawns. Studies of xeriscaping have indicated that simple payback times for conversion projects range from two to six years.[35] Since this measure would only apply to new developments, costs would be lower than for retrofits, potentially improving payback times. However, since overall water savings from implementation of this measure cannot be reliably predicted, GHG emissions reductions from this measure cannot be precisely quantified. Nevertheless, since installation of low-water and drought-tolerant landscaping would lead to net cost savings, this measure is deemed to be highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

WW-4 Water Efficient Landscape Ordinance Update

Measure WW-4 directs the Town to review and update the Town's Water Efficient Landscape Ordinance with improved conservation programs and

[32] Wardell, Sean, February 6 2012. *Xeriscape business blooming,* Killeen Daily Herald.

[33] Caldwell, Elizabeth, July 17 2007. *With Xeriscaping, Grass Needn't Always Be Greener,* USAToday.

[34] Southern Nevada Water Authority, 2005. *Xeriscape Conversion Study Final Report.*

[35] Southern Nevada Water Authority, 2005. *Xeriscape Conversion Study Final Report.*

incentives for non-residential customers that are consistent with the Tier 1 water conservation standards of Title 24.

i. Action Items and Responsible Parties

To implement this measure, the Town will periodically review the existing Water Efficient Landscape Ordinance, and update it to include improved conservation programs and incentives to maintain consistency with State mandates. New development will be subject to the updated landscape requirements and incentives.

ii. Cost Effectiveness: Unknown

Staff-time costs of measure WW-4 are expected to be low to moderate and would stem from the need to draft, adopt, and implement ordinance updates. Other costs from this measure will depend on what programs and incentives are developed and how they are implemented. (See cost analysis of WW-3 for discussion of costs and savings of water efficient landscapes.) While overall costs of this measure are anticipated to be low, it would not reduce GHG emissions beyond State requirements. Given the uncertainty regarding both measure costs and resulting GHG reductions, the cost effectiveness of this measure cannot reasonably be determined. It should be noted however, that the content of this measure may be viewed as a potentially necessary individual component of a broader strategy for water-use reduction.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

WW-5 Water Audit Programs

Measure WW-5 directs the Town customers to promote water audit programs that offer free water audits to single-family, multi-family, large landscape accounts, and commercial customers, in collaboration with efforts by SJWC and SCVWD. It also directs the Town to collaborate with purveyors to enact conservation programs and create programs to install ultra-low-flush toilets in facilities.

i. Action Items and Responsible Parties

To implement this measure, the Town will conduct outreach to promote water audit and other programs of SJWC and SCVWD. The Town will also collaborate with these agencies to create new water conservation programs.

ii. Cost Effectiveness: Unknown

Staff-time costs of measure WW-5 are expected to be low to moderate and would stem from material and staff-time costs to promote water audit programs and work with water purveyors. Costs and savings for homeowners and businesses will vary depending on the results of individual audits and what actions are subsequently taken. The effects of this measure also overlap considerably with those of statewide water conservation initiatives, complicating any quantification of direct costs or benefits. GHG emissions reductions from this measure have already been accounted for by measure WW-2. Since it is not practical to quantify the costs, benefits, or GHG reductions resulting directly from this measure, its specific cost-effectiveness cannot reasonably be determined. It should be noted, however, that the content of this measure may be viewed as an important component of a broader strategy for water-use reduction.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

WW-6 Rainwater Collection Policy

Measure WW-6 directs the Town to encourage residential rainwater collection and consider updating the Zoning Code or other code amendments as needed to encourage and support permitting and regulation of residential rainwater systems.

i. Action Items and Responsible Parties

To implement this measure, the Town will develop the rainwater collection policy and consider amending the Municipal Code to incorporate it. If adopted, existing and new residential development may develop a rainwater collection system through this new permit procedure.

ii. Cost Effectiveness: Unknown

Staff-time costs of measure WW-6 are expected to be moderate and would stem from the need to draft, adopt, and implement enabling ordinances and zoning code updates. Costs and savings for home and business owners would depend on program participation and Town requirements. Any effects of this measure would overlap considerably with those of statewide water conservation initiatives, complicating any quantification of direct costs or benefits. Since it is not practical to quantify the costs, benefits, or GHG reductions resulting directly from this measure, its specific cost-effectiveness cannot reasonably be determined. It should be noted, however, that the content of this measure may be viewed as an important component of a broader strategy for water-use reduction.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

f. Solid Waste

As reported in Chapter 5, the solid waste measures included in this section will support the Town's waste reduction and diversion programs that are required by State law, but will not further reduce GHG emissions from solid waste generated in Los Gatos beyond what was estimated in the adjusted forecast. Since these measures will not reduce GHG emissions beyond what is already required by State law, it is generally not practical to provide estimates of cost-effectiveness for those measures. Some solid waste measures, however, present clear-cut cost saving opportunities, and it is possible to automatically classify such measures as highly cost-effective, irrespective of resulting GHG reductions. All solid waste measures with cost savings potential and therefore high cost-effectiveness are analyzed below. For all other solid waste measures, the cost-effectiveness cannot reasonably be determined; however, the content of these measures may be viewed as an important component of a broader strategy for waste reduction.

SW-1 Construction Waste Diversion

Measure SW-1 directs the Town to revise the existing construction and demolition ordinance to require at least 50 percent diversion of non-hazardous construction waste from disposal.

i. Action Items and Responsible Parties

To implement this measure, the Town will revise the existing construction and demolition ordinance to include this requirement. Construction and demolition activities in Los Gatos will be subject to this requirement, and Town staff will review construction and demolition permit applications to ensure compliance with this measure.

ii. Cost Effectiveness: High

Staff-time costs of measure SW-1 are expected to be moderate and would stem from the need to draft, adopt, and implement enabling ordinances for the measure's requirements. Construction costs or savings from this measure would depend, in large part, upon the specific circumstances and characteristics of any particular project. Despite this variability, CalRecycle offers generalized estimates for the cost of recycling various construction materials. Additionally, Build It Green estimates that recycling or reuse of demolition and construction wastes can save between $0.10 and $1.00 per square foot.[36] Because measure SW-1 is anticipated to result in net savings in itself, it is deemed to be highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

SW-2 Recycling Areas in Multi-Family Developments

Measure SW-2 requires all new and significant redevelopments and remodels of existing multi-family developments to provide recycling areas for their residents within existing trash areas.

---

[36] Built It Green, 2006. *Construction & Demolition Waste Diversion,* http://www.builditgreen.org/attachments/wysiwyg/3/CD-Waste-Diversion.pdf, accessed Apr 12, 2012.

i. Action Items and Responsible Parties

To implement this measure, the Town will amend the Municipal Code to incorporate this requirement. New and significant redevelopments will be subject to the requirement, which could be incorporated either into the project design or as mitigation in the applicable environmental document pursuant to CEQA. In addition, the Community Development Department will review development applications for consistency with this measure.

ii. Cost Effectiveness: High

Staff-time costs of measure SW-2 are expected to be moderate and would stem from the need to draft, adopt, and implement enabling ordinances for the measure's requirements. Other costs for this measure could arise from the need for increased space, management, or number of receptacles to accommodate recycling. These costs, however, are anticipated to be very low relative to overall construction or remodeling costs. Because this measure is anticipated to result in very low costs and would support the Town's waste diversion goals, it is deemed to be highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

SW-3 Salvaged, Recycled-Content, and Local Construction Materials

Measure SW-3 encourages the use of salvaged and recycled-content materials and other materials that have low production energy costs for building materials, hard surfaces, and non-plant landscaping, and requires sourcing of construction materials locally, as feasible.

i. Action Items and Responsible Parties

To implement this measure, the Town will develop informational materials and outreach to encourage the use of salvaged and recycled materials, and will amend the Municipal Code to require the sourcing of construction materials locally as feasible. Construction projects will be subject to the requirement, which could be incorporated either into the project design or as mitigation in the applicable environmental document pursuant to CEQA. In addition, the

Community Development Department will review development applications for consistency with this measure.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

SW-4 Food and Green Waste

Measure SW-4 directs the Town to work with public and private waste disposal entities to keep food and green waste out of landfills.

i. Action Items and Responsible Parties

To implement this measure, the Town will coordinate with its waste disposal company to encourage acceptance of food and green waste for curbside pick-up.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

SW-5 Recycling and Composting Incentives

Measure SW-5 directs the Town to work with public and private waste disposal entities to incentivize recycling and composting.

i. Action Items and Responsible Parties

To implement this measure, the Town will coordinate with its waste disposal company to develop incentive programs for recycling and composting.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

SW-6 Downtown Recycling Containers

Measure SW-6 directs the Town to continue to provide recycling containers in the Downtown area.

i. Action Items and Responsible Parties

To implement this measure, the Town will replace recycling containers in the Downtown, as needed, and install new containers as appropriate.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

SW-7 Waste Reduction Outreach

Measure SW-7 directs the Town to expand educational programs to inform residents about reuse, recycling, composting, waste to energy, and zero waste programs.

i. Action Items and Responsible Parties

To implement this measure, the Town will expand educational and outreach programs about waste reduction.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

SW-8 Plastic Bag Ordinance

Measure SW-8 directs the Town to adopt an ordinance to ban the use of plastic bags in Los Gatos.

i. Action Items and Responsible Parties

To implement this measure, the Town will develop and adopt an ordinance to ban the use of plastic bags in Los Gatos. Retail stores will be subject to this ordinance, and the Community Development Department will review use permit applications to ensure compliance with this measure.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

SW-9 Purchasing of Recycled Materials

Measure SW-9 directs the Town to develop policies, incentives, and design guidelines that encourage the public and private purchase and use of durable

and nondurable items, including building materials, made from recycled materials or renewable resources.

i. Action Items and Responsible Parties

To implement this measure, the Town will develop policies, incentives, and guidelines to encourage the purchase of items made from recycled or renewable resources.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

SW-10 Additional Waste Diversion

Measure SW-10 directs the Town to aim to achieve the 75 percent waste diversion goal established by AB 341.

i. Action Items and Responsible Parties

To implement this measure, the Town will develop policies and incentives to encourage the additional waste diversion.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

g. Open Space

As noted in Chapter 5, the open space measures would not result in measureable reductions in GHG emissions in Los Gatos. Since projected GHG emissions reductions from individual open space measures are not available, it is generally not practical to provide estimates of cost-effectiveness for those measures. Some open space measures, however, present clear-cut cost saving opportunities, and it is possible to automatically classify such measures as highly cost-effective, irrespective of resulting GHG reductions. All open space measures with cost savings potential and therefore high cost-effectiveness are analyzed below. For all other open space measures, the cost-effectiveness cannot reasonably be determined.

OS-1 Community Garden and Urban Farm Sites Inventory

Measure OS-1 directs the Town to identify and inventory potential community garden and urban farm sites, and develop a program to establish community gardens in appropriate locations.

i. Action Items and Responsible Parties

To implement this measure, the Town will conduct an inventory of potential community garden sites and develop the associated community garden programs.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

OS-2 Garden Areas in New Development

Measure OS-2 encourages significant new residential developments over 50 units to include space that can be used to grow food.

i. Action Items and Responsible Parties

To implement this measure, the Town will develop informational materials and conduct outreach during the project review process to encourage development applicants to include garden areas in large residential projects.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

OS-3 Community Garden Process

Measure OS-3 directs the Town to establish a process through which a neighborhood can propose and adopt a site as a community garden.

i. Action Items and Responsible Parties

To implement this measure, the Town will develop a process for the establishment of new community garden sites. Neighborhoods could take advantage of this new program to create new community garden sites, if interested.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

OS-4 Los Gatos Farmers' Market

Measure OS-4 directs the Town to continue to support the Los Gatos Farmers' Market as a source for locally-grown food.

i. Action Items and Responsible Parties

To implement this measure, the Town will continue to support the Farmers' Market through outreach and institutional support.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

OS-5 Public Food Benefits at the Farmers' Market

Measure OS-5 encourages the Los Gatos farmers' market to accept food stamps and other public food benefits.

i. Action Items and Responsible Parties

To implement this measure, the Town will coordinate with the organizers of the Los Gatos' Farmers Market to encourage acceptance of public food benefits.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

OS-6 Wildland Fire Prevention

Measure OS-6 directs the Town to continue to actively pursue wildland fire prevention in forested areas of Los Gatos to avoid loss of carbon sequestration.

i. Action Items and Responsible Parties

To implement this measure, the Town will continue its wildland fire prevention efforts in forested areas, including outreach to residents of these areas about wildland fire prevention.

ii. Cost Effectiveness: High

Costs to the Town from measure OS-6 are expected to be low to moderate and would stem from materials and staff-time to conduct public outreach and education regarding wildfire prevention strategies. Sources of additional direct and indirect costs to residents could include, but are not limited to, fire-resistant building materials, defensive landscaping, and burn restrictions. Such costs would vary depending on what preventive actions are required or voluntarily taken, and cannot be precisely predicted. However, the Town and residents alike could potentially realize substantial savings through averted loss of life and property and reduced fire-fighting costs. While it is not possible to precisely project such savings, fire prevention education efforts alone have been shown to provide marginal benefits at anywhere from 10 to 95 times their cost.[37] While wildfires make significant contributions to GHG emissions,[38] it is infeasible to precisely model impacts to GHG emissions from this measure. GHG emissions from wildfires vary widely, and it is unrealistic to speculate how many wildfires in the Los Gatos area may be prevented or made less severe by implementation of this measure. Though it is not practical to precisely quantify the costs, savings, or GHG reductions resulting directly from this measure, wildfire prevention has been shown to be in itself highly cost-effective. Therefore, this measure is deemed to be a highly cost-effective GHG reduction strategy.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

h. Community Action

As noted in Chapter 5, the community action measures would not result in measureable reductions in GHG emissions in Los Gatos. Since projected GHG emissions reductions from individual community action measures are

[37] Prestemon, Jeff P., et al., 2010. *Net Benefits of Wildfire Prevention Education Efforts*, Forest Science 56(2).

[38] Bonnicksen, T., Ph.D., 2008. *Greenhouse Gas Emissions From Four California Wildfires: Opportunities To Prevent and Reverse Environmental And Climate Impacts,* Forest Carbon and Emissions Model.

not available, it is not practical to provide estimates of cost-effectiveness for those measures.

CA-1 Local Business Participation

Measure CA-1 directs the Town to develop and implement an outreach plan to engage local businesses in GHG emissions reduction programs.

i. Action Items and Responsible Parties

To implement this measure, the Town will develop and implement an outreach plan for local businesses. Local businesses could engage in GHG emission reductions programs on a volunteer basis.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

CA-2 Sustainability Information Center

Measure CA-2 directs the Town to establish and maintain a "sustainability information center" at the Town Hall or Library to inform the public and distribute available brochures, and provide information on sustainability on the Town's website.

i. Action Items and Responsible Parties

To implement this measure, the Town will develop outreach materials, establish and maintain the sustainability information center, and regularly update the Town's website with sustainability information.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

CA-3 Los Gatos: Growing Greener Together Campaign

Measure CA-3 directs the Town to continue and expand the Los Gatos: Growing Greener Together Campaign.

i. Action Items and Responsible Parties

To implement this measure, the Town will continue this existing program, and expand it to provide information at public venues, such as the farmers' market.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

CA-4 Support for Local Businesses

Measure CA-4 directs the Town to continue economic vitality programs aimed at supporting local business by encouraging residents to shop locally.

i. Action Items and Responsible Parties

To implement this measure, the Town will continue existing economic vitality programs, such as the "Second Saturday" campaign.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

CA-5 Support for Voluntary Programs

Measure CA-5 directs the Town to support voluntary programs to improve sustainability in Los Gatos.

i. Action Items and Responsible Parties

To implement this measure, the Town will offer support, such as providing information on the Town's website and conducting other outreach, to voluntary programs that improve sustainability.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

2. Municipal Measures

As noted in Chapters 2 and 5, municipal operations represent a very small fraction of total GHG emissions in Los Gatos. In part for this reason, the GHG reduction measures for Town operations have not been individually

modeled. Some municipal GHG reduction measures will, however, serve to reduce emissions from Town operations. Since projected GHG emissions reductions from individual municipal operations measures are not available, it is generally not practical to provide estimates of cost-effectiveness for those measures. Some municipal operations measures, however, present clear-cut cost saving opportunities for the Town. It is possible to automatically classify such measures as highly cost-effective, irrespective of resulting GHG reductions. All municipal measures with cost savings "potential" and therefore high cost effectiveness include "cost effectiveness analysis below." For all other municipal operations measures without an analysis, the cost-effectiveness could not reasonably be determined.

a. Transportation and Land Use

TR-1 Reduced Emissions from Employee Commute

Measure TR-1 directs the Town to implement programs and provide incentives to encourage reduced emissions from employee commutes, including telecommuting, alternative work schedules, carpooling/vanpooling, and active transportation.

i. Action Items and Responsible Parties

To implement this measure, the Town will develop programs and incentives to reduce commutes from Town employees.

ii. Cost Effectiveness: High

The Town could realize savings through reduced employee parking and transportation costs. A 2001 study found that commuter trip reduction programs had an average gross cost of $156 per employee per year; however, the majority of businesses spent less, at a range of $33 to $89 per employee per year. [39,40] Adjusted for inflation, the average annual per-employee cost of a trip reduction program would be $202. Though this cost may seem high, commuter trip reduction programs have frequently resulted in substantial

[39] Pollution Probe, 2001. *North American Workplace-based Trip Reduction Programmes.*

[40] Costs in 2001 dollars.

overall cost savings for both employers and workers.[41] Direct cost-savings come mainly from the reduced need for parking or parking subsidies. Additionally, telecommuting has enabled some companies to reduce their need for office space. Indirect savings have been realized through improved worker productivity, morale, and health. For employees, savings arise primarily from reduced needs for vehicle maintenance and fuel. Indirect municipal and community benefits are realized through decreased congestion, air pollution, and infrastructure costs. Commuter trip reduction programs typically recoup their costs and have a substantial potential to reduce VMT when coupled with other strategies. Additional staff costs to implement this measure for the Town are anticipated to be very low. Given low costs and substantial potential savings for the Town, this measure is deemed highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

TR-2 Support for Bicycle Commuting

Measure TR-2 directs the Town to provide bicycle lockers and showers at Town offices, as well as offer education about bicycle commuting.

i. Action Items and Responsible Parties

To implement this measure, the Town will purchase and place bicycle lockers and construct shower facilities for bicycle commuters at Town offices. The Town will also conduct education and outreach to Town employees about bicycle commuting.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

TR-3 Bicycles for Use by Town Employees

Measure TR-3 directs the Town to provide bicycles for short trips by Town employees.

[41] Pollution Probe, 2001. *North American Workplace-based Trip Reduction Programmes.*

i. Action Items and Responsible Parties

To implement this measure, the Town will purchase and maintain bicycles for use by Town employees, and establish a program and policies for bicycle use.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

TR-4 Incentives for Low-Emission Vehicles

Measure TR-4 directs the Town to provide preferential parking for low-emissions vehicles at Town offices.

i. Action Items and Responsible Parties

To implement this measure, the Town will restripe and provide signage for parking lots at Town offices to provide preferential parking for low-emissions vehicles.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

TR-5 Idling in Town Vehicles

Measure TR-5 directs the Town to adopt a policy to limit idling in Town vehicles consistent with public safety standards.

i. Action Items and Responsible Parties

To implement this measure, the Town will develop and adopt a policy to limit idling in Town vehicles. Town employees will be subject to this new policy.

ii. Cost Effectiveness: High

Staff-time costs for this measure are anticipated to be very low and would stem from the need to draft and implement the appropriate operating policies. Since the Town could experience substantial cost savings through reduced fuel use, this measure is deemed highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

TR-6 Efficiency in Town Fleet Vehicles

Measure TR-6 directs the Town to regularly maintain Town fleet vehicles to maximize efficiency (e.g. tire pressure).

i. Action Items and Responsible Parties

To implement this measure, the Town will establish policies as needed to ensure maximum vehicle efficiency through proper maintenance.

ii. Cost Effectiveness: High

Staff-time costs for this measure are anticipated to be very low and would stem from the need to draft and implement the appropriate operating policies. Similar to measure TR-5, measure TR-6 could result in lower fuel costs for the Town, as well as lower life-time maintenance costs for Town vehicles. Given these potential substantial cost savings, this measure is deemed highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

b. Green Building

GB-1 LEED Certification in Municipal Buildings

Measure GB-1 encourages all new municipal buildings and facilities to meet at least LEED Gold certification standards.

i. Action Items and Responsible Parties

To implement this measure, the Town will consider the feasibility of pursuing LEED Gold certification when planning new municipal buildings and facilities, and pursue this certification as appropriate.

ii. Cost Effectiveness: High

Staff-time costs to potentially draft and adopt implementing language for this measure would be very low. Building to LEED standards has generally been

shown to add $3 to $5 per square foot to building costs. For LEED Gold certification specifically, overall building costs are on average 1.96 percent higher than for a similar, conventional building. It has been found, however, that these costs are far outweighed by quantifiable financial benefits accrued over the lifetime of a LEED-certified building. For energy use alone, the average 20-year net present value of a LEED building is $5.79 per square foot, which is greater than the increase in per-square-foot cost.[42] Even greater cost savings would likely accumulate over the anticipated lifetime of a LEED building, which extends well beyond 20 years. In addition to the more precisely estimable savings from reductions in waste, energy needs, and water use, worker productivity and health gains add to the cost savings associated with LEED buildings. Given its overall net cost savings this measure is deemed highly cost-effective.[43]

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

GB-2 Rebates and Incentives for Energy Efficiency

Measure GB-2 directs the Town to utilize all available rebates and incentives for energy efficiency and distributed generation installations

i. Action Items and Responsible Parties

To implement this measure, the Town will research and pursue rebate and incentive programs, such as State public good programs.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

Energy-related 20-year net present value (NPV) refers to the overall value of energy savings over 20 years of building life, accounting for inflation and interest rates. Positive NPVs indicate investments that have positive returns and are thus worth making.

[43] Kats, Greg, 2003. Report: *The Costs and Financial Benefits of Green Buildings.*

GB-3 Green Building Training

Measure GB-3 directs the Town to train all plan review and building inspection staff in green building materials, techniques, and practices.

i. Action Items and Responsible Parties

To implement this measure, the Town will either provide training for its plan review and building inspection staff or send such staff to training programs held by outside agencies.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

c. Renewable Energy and Low Carbon Fuels

RE-1 Solar Energy for Town Facilities

Measure RE-1 directs the Town to conduct a solar feasibility study and install solar panels on appropriate Town facilities.

i. Action Items and Responsible Parties

To implement this measure, the Town will conduct the solar feasibility study, and based on the results of that study, install solar panels on appropriate Town facilities.

ii. Cost Effectiveness: High

Staff-time costs for this measure are anticipated to be moderate and would stem from the need to either undertake or commission a solar feasibility study. Should the Town opt to have such a study performed by a third party, this could represent an additional cost. However, by identifying optimal locations, a feasibility study would serve to improve the cost effectiveness of solar installations. This would ensure that those solar panels which are installed offer the greatest return on investment, thus offering long-run cost savings to the Town. Therefore, this measure is deemed highly cost-effective. (For a discussion of the cost-effectiveness of solar installations, see the cost analysis for communitywide measure RE-3.)

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

RE-2 Solar Water Heating at Town Facilities

Measure RE-2 directs the Town to install tankless and/or solar water heating at appropriate Town facilities.

i. Action Items and Responsible Parties

To implement this measure, the Town will install tankless and/or solar water heating at appropriate facilities.

ii. Cost Effectiveness: High

Staff-time costs for this measure are anticipated to be low and would stem from the need to initiate the installation of tankless or solar water heating systems. According to evaluations conducted by consumer reports, tankless water heaters usually do not represent a cost-effective alternative to storage water heaters.[44] However, solar water heaters offer greater potential for cost-effectiveness.[45] Costs for solar water heating systems in an institutional setting vary greatly depending upon the size of the building served and anticipated demands on the system. For reference, the National Renewable Energy Laboratory estimates that costs for domestic solar water heating systems range between approximately $2,200 and $5,850. Despite the high initial cost, solar water heaters in institutional settings have been demonstrated to result in long-term cost savings.[46] Given potential long-run cost savings to the Town, this measure is deemed highly cost-effective.

---

[44] Consumer Reports, 2008. *Tankless water heaters: They're efficient but not necessarily economical,* http://www.consumerreports.org/cro/appliances/heating-cooling-and-air/water-heaters/tankless-water-heaters/overview/tankless-water-heaters-ov.htm, accessed on April 18 2012.

[45] EnergyStar, *Save Money and More with ENERGY STAR Qualified Solar Water Heaters*, http://www.energystar.gov/index.cfm?c=solar_wheat.pr_savings_benefits, accessed on May 1 2012.

[46] Federal Energy Management Program, 2004. *Heating Water with Solar Energy Costs Less at the Phoenix Federal Correctional Institution.*

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

RE-3 Town Fleet Conversion

Measure RE-3 directs the Town to convert the Town's vehicle fleet to hybrid, compressed natural gas, biodiesel, electric, hydrogen fuel cells, or ethanol, where technologically feasible and consistent with public safety standards.

i. Action Items and Responsible Parties

To implement this measure, the Town will establish a policy directing all departments to replace vehicles in the Town fleet with vehicles that use these fuel types as appropriate.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

RE-4 Fuel Conservation Program

Measure RE-4 directs the Town to establish a fuel conservation program for the Town vehicle fleet and require Gas Cap driver training for all employees who use fleet vehicles.

i. Action Items and Responsible Parties

To implement this measure, the Town will develop the fuel conservation program. In addition, to promote fuel efficiency, the Town will develop a training program for all employees who use fleet vehicles.

ii. Cost Effectiveness: High

Staff-time costs for this measure are anticipated to be low and would stem from the need to draft and implement the appropriate operating policies, as well as train Town employees. Similar to transportation measures TR-5 and TR-6, measure RE-4 could result in lower fuel costs for the Town. Given these potential substantial cost savings, this measure is deemed highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

d. Energy Conservation

Since the energy conservation measures would all serve to reduce energy use related to municipal operations, they all have the potential to be highly cost effective. However, without precise estimates of measure costs or, more importantly, energy savings, it is not feasible to conclusively establish the cost-effectiveness of these measures. Nevertheless, given the level of cost effectiveness generally demonstrated by most energy conservation measures, it is predicted that implementation of all of the energy conservation measures would be highly cost effective.

EC-1 Energy Audit of Town Facilities

Measure EC-1 directs the Town to conduct, with assistance from PG&E, a thorough energy audit of all Town facilities to identify cost-effective opportunities for conservation.

i. Action Items and Responsible Parties

To implement this measure, the Town will coordinate with PG&E to conduct energy audits of Town facilities.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

EC-2 Reflective Roofing on Town Facilities

Measure EC-2 directs the Town to install reflective roofing on Town facilities.

i. Action Items and Responsible Parties

To implement this measure, the Town will install reflective roofing on Town facilities.

ii. Implementation Schedule

The Town will begin implementing this measure during the 201-2020 phase.

EC-3 Energy Efficiency Standards for Town Facilities

Measure EC-3 directs the Town to establish energy efficiency standards for Town facilities and provide employees with guidelines, instructions, and requirements for efficient use of facilities.

i. Action Items and Responsible Parties

To implement this measure, the Town will develop and adopt energy efficiency standards for Town facilities and educate Town staff on efficient use of facilities.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

EC-4 Peak Electricity Demand Reduction

Measure EC-4 directs the Town to participate in peak electricity demand reduction programs and undertake peak demand reduction measures at Town facilities.

i. Action Items and Responsible Parties

To implement this measure, the Town will reduce electricity demands in peak periods and participate in peak electricity demand reduction programs.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

EC-5 Energy-Efficient Appliances and Office Equipment

Measure EC-5 directs the Town to replace outdated electronic appliances and office equipment with energy-efficient models.

i. Action Items and Responsible Parties

To implement this measure, the Town will establish a policy to replace appliances and equipment with energy-efficient models when existing equipment becomes outdated and requires replacement.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

EC-6 Street and Traffic Light Retrofits

Measure EC-6 directs the Town to continue to retrofit street lights and traffic lights to light-emitting diodes (LED).

i. Action Items and Responsible Parties

To implement this measure, the Town will continue to retrofit street and traffic lights.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

e. Water and Wastewater

WW-1 Water-Conserving Fixtures in Town Facilities

Measure WW-1 directs the Town to install water-conserving fixtures in all Town facilities.

i. Action Items and Responsible Parties

To implement this measure, the Town will install water-conserving fixtures in Town facilities.

ii. Cost Effectiveness: High

Staff-time costs for this measure are anticipated to be low and would stem from the need to initiate and manage the installation of water-efficient fixtures. In other institutional settings, water-conserving fixtures have been shown to result in substantial cost savings which can offer simple payback times of as little as 2.12 years—as in the case of the Portland, Oregon Veterans' Affairs Medical Center. While overall Town operations in Los Gatos can generally be expected to have lower water use than a typical medical facility, the success of the Portland conservation program nonetheless indicates a strong potential for long-term savings for the Town. Therefore, this measure is deemed highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

WW-2 Landscaping at Town Facilities

Measure WW-2 directs the Town to use drought-tolerant native landscaping at Town facilities.

i. Action Items and Responsible Parties

To implement this measure, the Town will establish a policy to use drought-tolerant native landscaping at Town facilities.

ii. Cost Effectiveness: High

As with communitywide standards for drought tolerant landscaping or xeriscaping, the Town could potentially experience significant savings from landscaping that is less water intense. Given that such landscaping has strong potential to result in long-term cost savings for the Town, this measure is deemed highly cost-effective.

iii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

WW-3 Irrigation for Town Landscaping

Measure WW-3 directs the Town to use recycled water or graywater for Town landscaping, including parks and medians, where appropriate.

i. Action Items and Responsible Parties

To implement this measure, the Town will install necessary infrastructure and use recycled water or graywater for Town landscaping where appropriate.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

f. Solid Waste

SW-1 Recycling Coordinators

Measure SW-1 directs the Town to train an existing staff member from each Town department to be a recycling coordinator for their department.

i. Action Items and Responsible Parties

To implement this measure, the Town will train a staff member from each department to be a recycling coordinator.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

SW-2 Reuse and Recycled Content Materials

Measure SW-2 requires all Town departments and facilities to reuse office supplies, furniture, and computers before buying new materials. When buying new materials, products must be made with high levels of post-consumer recycled content and have limited packaging.

i. Action Items and Responsible Parties

To implement this measure, the Town will establish a reuse and purchasing policy regarding recycled content and packaging.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

g. Open Space

OS-1 Tree Planting on Municipal Property

Measure OS-1 directs the Town to develop program for maximizing carbon sequestration on municipal property through tree planting.

i. Action Items and Responsible Parties

To implement this measure, the Town will develop a tree planting program.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

h. Purchasing

P-1 Local Hiring

Measure P-1 directs the Town to develop program to require or encourage the Town to hire locally for its contracts and services.

i. Action Items and Responsible Parties

To implement this measure, the Town will develop a local hiring program for contracts and services.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

P-2 Sustainability Criteria in Proposal Selection Process

Measure P-2 directs the Town to request that proposals or applications include information about the sustainability practices of the organization, and use such information as a partial basis for proposal evaluations.

i. Action Items and Responsible Parties

To implement this measure, the Town will develop a proposal and application requirement to include information about the sustainability practices of the organization, and will incorporate such information into the evaluation criteria.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

P-3 Life-Cycle Costing Approach in Purchasing

Measure P-3 directs the Town to incorporate a "life-cycle costing" approach into Town purchasing considerations that takes into account long-term cost savings from energy-efficient products.

i. Action Items and Responsible Parties

To implement this measure, the Town will incorporate a life-cycle costing approach into purchasing policies.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

i. Community Action

CA-1 Green Business Program

Measure CA-1 directs the Town to continue to operate a townwide green business program.

i. Action Items and Responsible Parties

To implement this measure, the Town will continue to operate the green business program.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2012-2015 phase.

CA-2 Sustainability Coordinator

Measure CA-2 directs the Town to train an existing staff member to be a sustainability coordinator for the Town.

i. Action Items and Responsible Parties

To implement this measure, the Town will identify and train the staff member to be a sustainability coordinator.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

CA-3 Incentives for Sustainable Business Practices

Measure CA-3 directs the Town to reward local businesses that hire local residents and allow telecommuting by, for example, recognition on the Town website or in Town newsletters, or preference in Town purchasing.

i. Action Items and Responsible Parties

To implement this measure, the Town will identify local businesses that meet the measure's criteria, and develop a reward system.

ii. Implementation Schedule

The Town will begin implementing this measure during the 2015-2020 phase.

B. Implementation Funding

One of the main barriers to seeing through an implementation plan is lack of available funds. There are multiple grant and loan programs through State, federal, and regional sources to combat the effects of GHGs. With the establishment of this Sustainability Plan, Los Gatos is in a position to apply for funding to implement the supporting measures in a timely fashion. Funding sources may include the Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG), as a well as State and federal agencies with similar programs.

One federal funding source is the American Recovery and Reinvestment Act of 2009 (ARRA). As part of this program the Department of Energy administered Energy Efficiency Conservation Block Grants, and in September 2010, Los Gatos received a $162,712 allocation for a project to install energy-efficient lighting in municipal parking lots and parks. In January 2012, the Town Council authorized an application for Phase 2 funding from this program, which would enable the Town to recapture unused program funds for street light conversion projects. While another federal stimulus package is not anticipated in the near future, the Department of Energy or another federal department may continue to occasionally offer funding or grants for similar projects. Other federal funding may be available through the EPA, which offers a wide selection of grants at varying time intervals. Some grants which Los Gatos could potentially seek during their respective application periods include:

- Non-Construction Market-based Approaches to Reducing GHG Emissions through Energy Efficiency in Homes & Buildings grants.
- Community Action for a Renewed Environment (CARE) grants.

- Solid Waste Assistance grants.
- Source Reduction Assistance grants.

California State departments, such as CalRecycle and the California Energy Commission, have at times offered grants or other funding for climate or sustainability programs. Pursuant to Senate Bill (SB) 1754, the California Alternative Energy and Advanced Transportation Financing Authority offers programs that, among other things, support distributed generation of renewable energy, as well as energy or water efficiency improvements. Additionally, California's implementation of GHG Cap and Trade programs could offer new sources of funding. While it remains uncertain how program revenues would be allocated, some proposals, such as that to create a GHG Reduction Account, could lead to funding availability for local governments. Also at the State level, Assembly Bill (AB) 2466 mandates that local governments be paid for the excess renewable energy they generate, offering another potential revenue stream.

Beyond the grants and programs offered by the State, there are also a variety of local or regional agencies and programs that have the potential to offer additional funding or support. As part of its regional planning efforts, MTC provides multiple grant opportunities under its Climate Initiatives Program. There may also be opportunities to pursue funding through private charitable organizations, such as the Hewlett Foundation, which offers grants through its Bay Area Communities and Energy & Climate programs.

With the funding from federal programs, current State legislation and programs, and grant opportunities like those above, Los Gatos is likely to receive assistance in seeing through its climate action goals and measures.

C. Plan Adaptation, Re-Inventory, and Monitoring

This Sustainability Plan represents Los Gatos' communitywide response to the effects of GHGs as of the time of this documents preparation. The field

of climate action planning is rapidly evolving. Over the next decade, new information about the effects and risks of GHGs is likely to emerge, new GHG reduction strategies and technologies will be developed, and State and federal legislation are likely to advance. Therefore, in order to remain relevant and to be as effective as possible, the Sustainability Plan must evolve over time.

The Town will be responsible for continually monitoring the Town's progress towards meeting the GHG emissions reduction target. The Sustainability Plan, as a whole, will be reviewed and modified every three years to evaluate implementation and achievement of measure reductions and to identify potential plan update needs.

As part of the monitoring evaluation, the Town will re-inventory their GHG emissions. The process of conducting a re-inventory will allow the Town to monitor progress and report results toward local emissions reduction targets and identify opportunities to integrate new or improved measures into the emissions reduction plan. If forecast target reductions are not being met, the Department will determine which measures are not achieving the target and which measures are exceeding the target. As new technology comes online each year, the Department will consider improvements to climate science, explore new opportunities for GHG reduction and climate adaptation, and determine what innovations can be implemented to help reduce emissions to reach reduction targets.