What You Can Do to Help

Taking public transportation instead of your car is one of the most effective actions an individual can take to reduce their carbon footprint and energy consumption without reducing mobility.

The benefits of switching to public transportation greatly exceed those from other household energy saving measures, such as switching to energy efficient light bulbs, replacing inefficient appliances, or adjusting thermostats. A solo driver, commuting by car 20 miles round-trip daily that switches to public transportation, can reduce his/her annual CO2 emissions by 2.4 tons per year. This is equivalent to a 10% reduction in all greenhouse gases produced by a typical two-adult, two-car family.

What You Can Do to Help

VTA is committed to proactively reducing the consumption of natural resources, minimizing the creation of greenhouse gases to help protect the environment for future generations, and reducing the generation of pollution in delivering transportation solutions that meet the evolving mobility needs of Santa Clara County. Strategies implemented to achieve these goals include:

- Promoting the environmental benefits of public transit as the most cost effective solution for protecting the environment.
- Promoting urban-friendly and TOD that targets new growth in existing transit corridors and station areas through the Community Design and Transportation Program.
- Promoting the network of bicycle and pedestrian facilities throughout the county and improving infrastructure, such as adding bike lockers and racks to Park & Ride lots and transit centers, to enable more people to accomplish daily activities by foot, bike or transit in equal comfort to doing so by car.
- Replacing gasoline and diesel-fuel vehicles with hybrids.
- Replacing old refrigerators.
- Replacing old refrigerators.
- Encouraging VTA employees to conserve resources, turn off the lights, and recycle at work.
- Conducting inventory reports and summarizing actions to reduce greenhouse gas emissions as a voluntary signatory to the American Public Transportation Association’s Sustainability Commitment and partner with Sustainable Silicon Valley.
- Participating in Joint Venture Silicon Valley’s Public Sector Climate Task Force to develop strategies for reducing greenhouse gas emissions in our region.
- Installing solar panels and investigating the feasibility of renewable and clean energy alternatives to reduce operating costs and greenhouse gas emissions. A combined 2.1 megawatts of solar panels are installed at three bus operating and maintenance facilities. The clean electricity generated by these solar panels will offset more than 2,000 tons of carbon dioxide emissions each year, which is equivalent to removing over 450 cars from the road each year.
- Converting carpool lanes to express lanes allows congestion pricing to increase efficiency of existing roadways through the encouragement of transit and carpools, and allowing solo drivers to pay a fee to access the lanes. Express lanes provide a fast, reliable travel option in the toll-lane, and reinvest revenue in the corridor including potential transit improvements.
- Promoting the network of bicycle and pedestrian facilities throughout the county and improving infrastructure, such as adding bike lockers and racks to Park & Ride lots and transit centers, to enable more people to accomplish daily activities by foot, bike or transit in equal comfort to doing so by car.

Climate change is the result of human activities that emit greenhouse gas emissions such as carbon dioxide (CO2). The concentrations of greenhouse gases are currently higher than any other time in the past 650,000 years. These greenhouse gases stay in the atmosphere and act like a warm blanket by holding in heat on the Earth’s surface — hence the term “global warming.” Climate change is a serious threat to our health, our environment, and our economy. The dangers of climate change include, but are not limited to, rising sea levels and shrinking snowpack, extreme drought and increased wildfires, extreme temperatures, catastrophic weather, species loss, increased disease, reduced growing seasons, threatened cultures, changing forests and loss of biodiversity.

From 1990 to 2009, greenhouse gas emissions in the United States have grown by about 0.04% per year. Of U.S. greenhouse gas emissions, 87% are related to energy consumption. The U.S. accounts for about 20% of the world’s total energy-related CO2 emissions.
Climate Change Legislation

In the U.S., several legislative efforts aimed at reducing greenhouse gas emissions have recently been enacted or are being considered at the federal, state or local levels. In addition, the State of California and local communities in Santa Clara County have also been implementing environmental best practices to combat climate change.

Federal Efforts

In an effort to combat climate change, the federal government has enacted fuel-efficiency standards for new vehicles built in 2012 through 2018. Cars and light-duty trucks received new standards first, for model years 2012 through 2016 and big rigs, heavy-duty pick-up trucks and vans, as well as vocational vehicles, such as transit buses, garbage trucks and delivery trucks have since also received the standards, for model years 2014 through 2018.

For heavy-duty pick-up trucks and vans, there are separate standards for gasoline-powered and diesel vehicles. They would be required to achieve up to a 15% reduction in fuel consumption and greenhouse gas emissions by model year 2018. Vocational vehicles would need to achieve a reduction of about 10% by model year 2018, and big rigs would need to cut greenhouse gas emissions and fuel consumption by 20% by model year 2018.

State Efforts

Approximately 25% of California’s greenhouse gas emissions are attributable to electricity generation while 38% are attributed to the transportation sector. California leads the nation in electricity generation from renewable energy sources like geothermal power, wind power, land-fill gas, and solar power. California’s climate programs include the following primary initiatives:

- The California Global Warming Solutions Act of 2006 (AB32) establishes an economy-wide cap on California greenhouse gas emissions at 1990 levels by no later than 2020. This is an aggressive goal that represents approximately an 11% reduction from current emissions levels and nearly a 30% reduction from projected business-as-usual levels in 2020.
- The Sustainable Communities and Climate Protection Act of 2008 (SB 375) enhances California’s ability to reach its AB 32 goals by promoting good planning with the goal of more sustainable communities. SB 375 requires California Air Resources Board (ARB) to develop regional greenhouse gas emission reduction targets for passenger vehicles. ARB is also responsible for establishing targets for 2020 and 2035 for each region covered by one of the state’s 18 metropolitan planning organizations.
- The California Global Warming Solutions Act of 2006 (AB32) establishes an economy-wide cap on California greenhouse gas emissions at 1990 levels by no later than 2020. This is an aggressive goal that represents approximately an 11% reduction from current emissions levels and nearly a 30% reduction from projected business-as-usual levels in 2020.
- The Sustainable Communities and Climate Protection Act of 2008 (SB 375) enhances California’s ability to reach its AB 32 goals by promoting good planning with the goal of more sustainable communities. SB 375 requires California Air Resources Board (ARB) to develop regional greenhouse gas emission reduction targets for passenger vehicles. ARB is also responsible for establishing targets for 2020 and 2035 for each region covered by one of the state’s 18 metropolitan planning organizations.
- Setting targets for greenhouse gas emissions by model year 2018.
- The next phase of the program will cover cars and light trucks for model years up to 2025, requiring performance equivalent to 54.5 mpg. Taken together, these standards will save families money, reduce greenhouse gas emissions, and protect public health.
- Addressing the impacts of the transportation sector on climate change. Assembly Bill 118 created the Energy Commissioner’s Alternative and Renewable Fuel and Vehicle Technology Program. The program is intended to increase the use of alternative and renewable fuels and innovative technologies to help attain the state’s climate change policies.

Local Efforts

Local governments within Santa Clara County are doing their part as well by conducting inventories of emissions from publicly owned buildings, vehicles, waste treatment plants and other facilities and setting goals and targets for reducing emissions. Some examples of local measures to reduce greenhouse gas emissions include:

- Incorporating Transit-Oriented Design (TOD) into land-use decisions by requiring higher densities for development projects located near existing or planned transit systems.
- Encouraging residents to bring their own bag and establishing city wide ordinances banning plastic carry out bags.
- Certifying a number of new and existing facilities under the nationally recognized U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED) Rating System.
- Replacing gasoline-fueled vehicles with hybrid or alternative fueled vehicles, such as Clean Natural Gas (CNG), biodiesel or plug-in electric.
- Implementing Intelligent Transportation System (ITS) features including but not limited to: ramp metering, traffic signal coordination, and transit signal priority to help reduce congestion and vehicle emissions. ITS also provides valuable data that assists in planning for congestion management improvements, both freeway and arterial.
- Encouraging installation of solar panels by providing clean energy technology tours and other resources, such as the Silicon Valley Energy Map and Clean Energy Showcase.
- Providing audits and rebate programs for residents and businesses to retrofit appliances like lighting fixtures, toilets, showers, and washing machines.
- Replacing existing streetlights with “smart” LEDS equipped with dimmable and monitoring control systems.
- Promoting tree planting to provide shade, reduce energy costs, and capture greenhouse gases.
- Collaborating with local industry to reduce imported water, expand recycled water infrastructure, and utilize local water supplies.
- Procuring environmental preferable products and services that reduce waste and maximize recycled content.
- Recognizing local businesses who meet regional standards to conserve resources, prevent pollution, and minimize waste through Green Business Program certification.

By 2025, the new federal fuel standards will save an estimated 12 billion barrels of oil and reduce carbon dioxide pollution by over 6 billion metric tons. By eliminating one car and taking public transportation for all trips instead of driving, a savings of up to 30% of CO2 emissions can be realized. It is estimated that this alone could save up to $5,251 every year even more as the price of fuel rises-by using public transportation instead of one of their automobiles.

The private vehicle is the largest contributor to a household’s carbon footprint—using public transportation reduces household carbon emissions.