



Regional partner

Working together to help meet Oregon's target for reducing greenhouse gas emissions from cars and trucks



SPRING 2013

CLIMATE SMART COMMUNITIES SCENARIOS PROJECT



Climate benefits

Vehicle technologies and fuels	★★★★★
Fleet mix	★★★★☆
Traffic management	★★★★☆

These greenhouse gas emissions reduction strategies are an important part of what the City of Hillsboro is already doing to realize its vision for the future, and provide a strong foundation for meeting state climate goals for 2035. The climate benefits shown represent the relative effectiveness of each strategy.

For more information on greenhouse gas emissions reduction strategies, refer to the Climate Smart Communities Scenarios Project website at www.oregonmetro.gov/climatescenarios.



Keys to success

Demonstrate innovation Test the barriers and opportunities of cutting edge technologies to influence similar investment by other public entities, the private sector, and residents.

Promote public education Help make cutting edge technologies more accessible to the public through education about their locations, operations and efficiencies.

Form partnerships Public-private partnerships encourage widespread use of cutting edge technologies.

Build community champions Base goals and policies on community visions that make it more politically feasible to create financing mechanisms for investments and facilitate community action.

About Metro

Metro crosses city limits and county lines to build a resilient economy, keep nature close by and respond to a changing climate. Representing a diverse population of 1.5 million people in 25 cities and three counties, Metro's directly elected council gives voters a voice in decisions about how the region grows and communities prosper. Metro works with communities, businesses and residents to make the Portland metropolitan area a great place to live, work and shape the future.

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COMMUNITY CASE STUDY SERIES

This case study showcases actions that communities in the Portland metropolitan region are already taking to help reduce greenhouse gas emissions from cars and small trucks.

This is one of eight in a series developed for the Climate Smart Communities Scenarios Project.

- Beaverton
- Clackamas County
- Gateway (Portland)
- Hillsboro
- Rockwood (Gresham)
- Wilsonville
- Employer-based commuter programs
- Neighborhood-based travel options



Strategies

- Vehicle technologies and fuels
- Fleet mix
- Traffic management

Hillsboro

Community case study

Addressing greenhouse gas emissions with 21st century technology

Home to more than 90,000 residents, host to dozens of high tech firms, and an employment area supporting 55,000 jobs, Hillsboro attracts more than 40,000 commuters to the city every weekday. To create a healthy, livable community where residents, visitors and employees have access to everyday needs, area attractions, and employers, the City of Hillsboro has invested in new technologies to accomplish these goals and reduce greenhouse gas emissions.

Building on a strong history of community, collaboration and leadership, Hillsboro has installed electric vehicle charging stations around the city, incorporated alternative fuel vehicles in its fleet mix, and invested in traffic signal coordination and other traffic management systems. The City of Hillsboro is using these and other new technology strategies to meet its aggressive, long-term (2030) operational sustainability goals, including an 80 percent reduction in GHG emissions and 100 percent fossil fuel-free city fleet vehicles (except for those vehicles with no fossil fuel alternative).

This case study highlights accomplishments and challenges to be addressed as new technologies, such as charging station networks, continue to grow in Hillsboro and throughout the region.

Key challenges

- The cost of new technology such as traffic signal coordination and system management is high.
- The expense of electric vehicle infrastructure relative to the number of electric vehicles in use is difficult to justify.
- There's insufficient funding for widespread electric vehicle infrastructure such as charging stations.
- There's a hesitancy to assume the risks that come with early adoption of new electric vehicle technology.

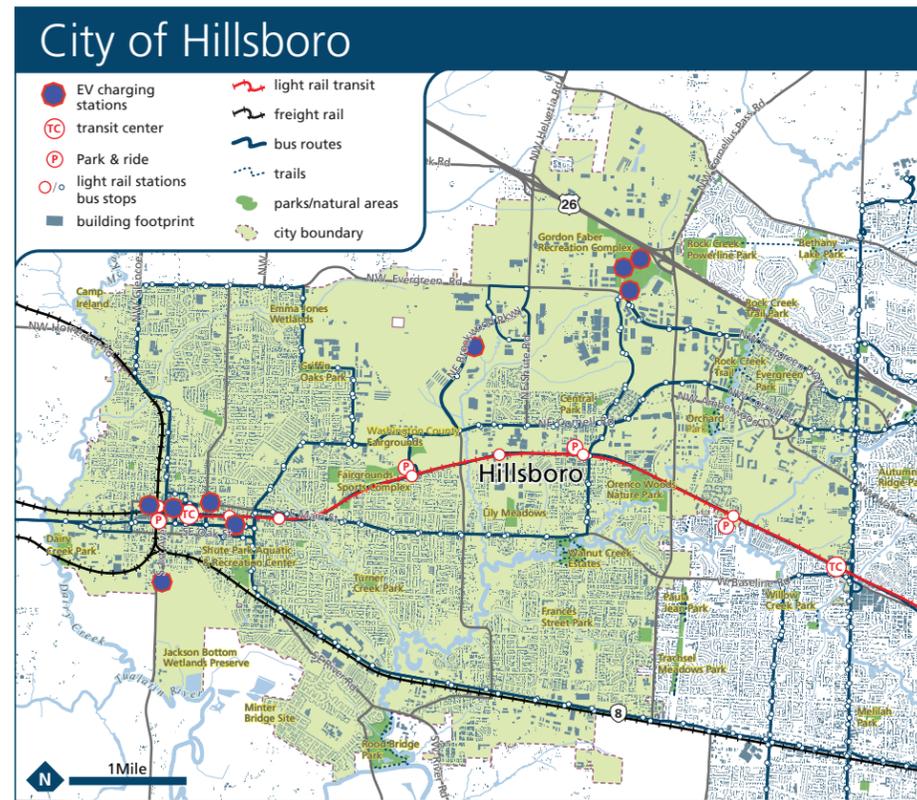


The Oregon Legislature has required the Portland metropolitan region to reduce per capita greenhouse gas emissions from cars and small trucks by 2035.

Leading the way through installation of new technologies

The City of Hillsboro has made sustainability a high priority, demonstrated by the Hillsboro 2020 Vision and Action Plan, the city's sustainability plan and a five-year organizational strategic plan that supports these initiatives.

Since 2000, the Hillsboro 2020 Vision and Action Plan has engaged the broader community in developing and implementing projects that strengthen the community, create economic opportunity and protect the environment. In 2010, a 10-year review of this plan resulted in two new strategies and ten new actions for protecting the environment. This same year, the city completed its first comprehensive greenhouse gas inventory, which provided a critical baseline to measure how effective the city is in reducing greenhouse gas emissions over time. Below are three examples that help support the city's sustainability policies.



1 Installing electric vehicle charging stations

Electric vehicle (EV) charging stations are necessary to support what is expected to be a growing fleet of EVs throughout Oregon. But their popularity will only increase to the degree that there are charging stations available for owners to re-charge their cars. The charging stations must be conveniently located to ensure that EV owners have the confidence to travel around the region without the fear of being stranded with no power. Hillsboro's commitment to achieving the goals set out in its guiding documents can be seen in its EV charging infrastructure, the largest in the state.

In 2009, Hillsboro installed the first of its 35 electric vehicle charging stations in the downtown area to support existing EV users, encourage the widespread use of EVs, and spur economic development. Since then, the city has installed many more units, including the first Level III Fast Charger in Washington County which can charge an electric vehicle to 80 percent battery capacity within 30 minutes. Located near major employers and civic destinations, most of the stations are available to the public. Recently, Washington County, Clean Water Services, and several businesses have installed EV charging stations at their sites, with over 50 available in Hillsboro.

In 2012, Hillsboro's Electric Vehicle Program was one of 27 programs nationwide recognized for their innovative practices at the National League of Cities conference in Boston.

2 Diversifying fleet mix

Over a ten year period beginning in 2000, Hillsboro maintained a substantial fleet of natural gas powered vehicles. One of the city's sustainability goals is to achieve a fleet of 100 percent fossil fuel-free vehicles by 2030. With EV charging stations installed at the Civic Center, two electric vehicles were purchased for the city fleet in 2011 and 2012. Hillsboro will continue to work toward this sustainability goal by adding EVs and other alternative fuel vehicles to its fleet.

3 Installing traffic signal coordination/system management

Hillsboro has made a strong commitment to improving the efficiency of traffic flow within the city by installing street signal timing technology. These improvements benefit operations and have a positive impact on reducing traffic delay, idling, fuel consumption and greenhouse gas emissions.

Funded in part with U.S. Department of Energy grant funds, in 2011 the

city completed several traffic signal upgrades including the first use of the InSync adaptive signal system on the West Coast. The InSync system consists of coordinated traffic signals and video detection to optimize real time traffic flow through nine intersections on a major arterial. Also completed was the retiming of all 28 city intersection signals and a comprehensive re-work of the 185th Avenue and Baseline Road intersection. The results of these measures include an annual savings of 26,400 gallons of fuel, a reduction of carbon dioxide by 232 metric tons per year, a 10 percent reduction in traffic delays and a significant cost savings.

Next Steps

In 2012, the City of Hillsboro hosted a New Energy Cities Community Partners workshop with Climate Solutions to map the flow of energy and emissions in the community and identifying action areas for reducing fuel consumption and greenhouse gas emissions. The outcome included a community energy map and Climate Action Plan Opportunities Framework. These tools will be used in conjunction with an energy sector analysis to identify opportunities for implementation. In 2013, a Hillsboro Sustainability Task Force will be convened to take this work forward.



Timeline

2009	2010	2011	2012	2013
Hillsboro installed the first of 35 electric vehicle charging stations in the downtown area next to the Civic Center	Hillsboro's award-winning intermodal transit facility opened with 13 electric vehicle charging stations and solar panel energy production	Major traffic signal timing upgrades are completed throughout the city Additional Level II electric vehicle chargers installed Hillsboro purchased its first electric vehicle complementing the city's existing fleet of alternative fuel vehicles	The first Level III Fast Charger in Washington County is installed at the Hillsboro Civic Center	As a finalist for the national Bloomberg Philanthropies Mayors Challenge, Hillsboro proposed a GoPoint Mobility Hub concept at light rail stations which included installation of EV charging stations to better connect neighborhoods and employment centers with more travel choices