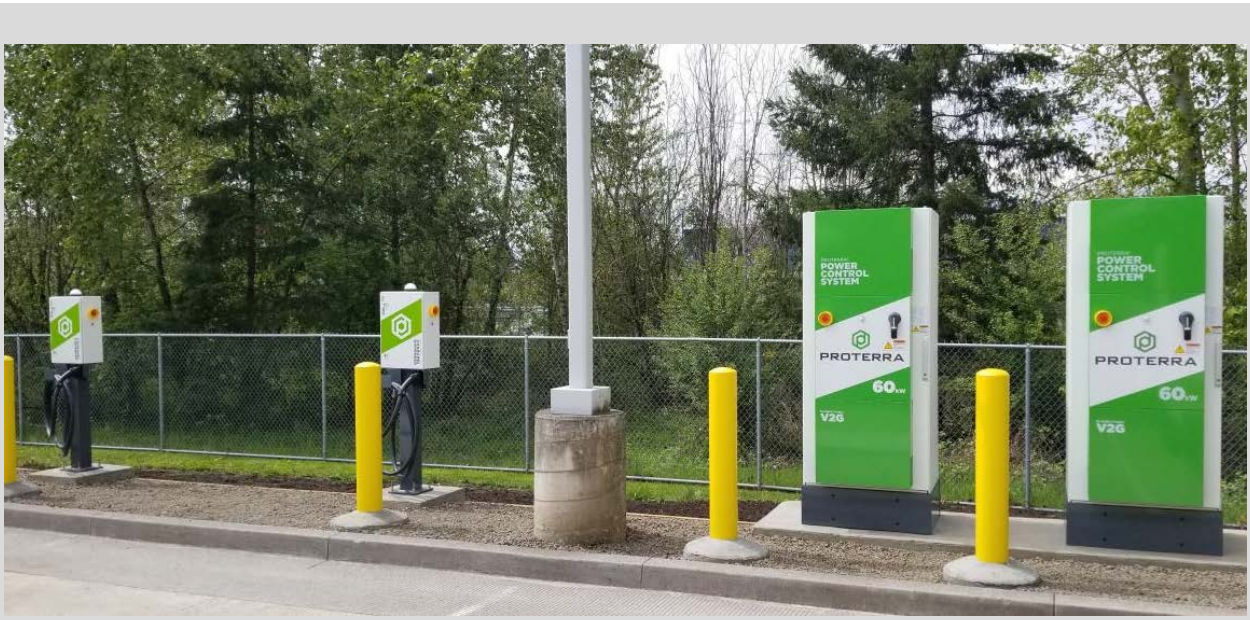


South Metro Area Regional Transit (SMART) Climate Action Plan

Wilsonville, Oregon



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Executive Summary

Owned and operated by the City of Wilsonville, SMART maintains a fleet of over 30 vehicles ranging from 40 foot buses to minivans and a trolley-bus. SMART also operates Dial-a-Ride, which provides door-to-door service within Wilsonville and medical transport services to Portland and other nearby cities for the elderly and disabled. SMART services are fare free, with the exception of express service to Salem. Funding for SMART is provided primarily by a payroll tax on local businesses and grants.

Environmental interests have long been a major consideration in SMART's planning and decision making. SMART began transitioning its vehicle fleet to alternatively fueled vehicles in 2011, with a CNG (Compressed Natural Gas) pilot project consisting of two shuttle buses. With the ongoing support of the Wilsonville City Council, the move to eliminate diesel and gasoline buses from SMART's fleet has continued at a steady pace, with the goal of being 100% alternatively fueled by 2028 well within reach. As of 2021, alternatively fueled vehicles make up 44% of SMART's fleet.

In 2018, SMART procured its final gasoline or diesel powered bus. Over the past four years, the following projects have been completed in support of GHG reductions:

- Successful launch of a battery electric bus project in 2019, including two 35' buses, and charging infrastructure.
- Addition of a third battery electric bus in 2021, and a corresponding expansion of charging capability
- Procurement of eight CNG shuttle buses.
- Construction of a CNG fueling station, capable of producing roughly 500 GGE (gasoline Gallon Equivalents) of fuel daily.

Building on these project implementations, plans for the immediate future include:

- Making the switch to Renewable Natural Gas (RNG) for fueling of our CNG fleet.
- Deployment of battery electric shuttle buses
- Expand intercity connectivity to Clackamas Town Center
- Track reduction in SOV trips through the use of Vanpools in the Portland Metropolitan region
- Operate Bus on Shoulder through high congestion areas

I. Introduction

The purpose of this plan is to memorialize SMART’s commitment to responsible energy use, the reduction of Greenhouse gas emissions, and the availability of alternatives to single occupancy vehicle trips. This plan is intended to be used as a guide for those tasked with implementing these strategies, including agency staff, elected officials, and members of the public who may participate through public outreach efforts, or who may serve on boards, commissions, or transit oriented focus groups. Final authority for implementation of these strategies ultimately lies with the Wilsonville City Council. This plan is not intended to set policy, rather to inform those decision makers, and to equip them with data to assist in the decision making process.

The development of this plan relies heavily on past projects and initiatives, considering both successes and challenges. Lessons learned from these past project implementations are used to help establish meaningful goals, and set attainable timelines for implementation.

This plan will be used in concert with SMART’s Vehicle Replacement Plans, Transit Master Plan, and STIF (Statewide Transportation Improvement Plan) project plan to ensure that future capital projects and potential service expansion decisions align with the agency’s climate goals.

2. Agency Overview

Situated on Interstate-5 between Portland and Salem, Wilsonville serves as a transportation hub and has established itself as an important employment center in the Portland metropolitan area. With employment figures almost equal to the City's population, large numbers of employees commute to jobs in Wilsonville from Portland, Salem, Sherwood, Gresham, Vancouver, and many other locations.

To aid in the movement of Wilsonville's employees, residents and visitors South Metro Area Regional Transit (SMART), a department of the City of Wilsonville, provides fixed-route service within the City and connecting service to Canby, Tualatin, Salem, and Portland.

SMART also provides an extensive demand-response system (Dial-a-Ride) with priority to ADA-qualified riders, transporting elderly and disabled riders to out-of-town medical appointments.

In addition to fixed-route service, SMART provides businesses, residents and visitors of Wilsonville with the resources to participate in various transportation options such as vanpooling, carpooling, bicycling, walking, and telework through the SMART Options Program. This program promotes a robust set of travel options to provide the freedom and choice for people to travel while reducing the amount of single-occupancy vehicles on the road.

In order to ensure equitable access, coordinated transit services and enhance regional mobility of transit programs and projects, SMART works cooperatively with state and regional partners, including Oregon Department of Transportation (ODOT), TriMet, Cherriots, Canby Area Transit (CAT), Multnomah, Clackamas and Washington Counties, and Portland Metro. The value of SMART's services is greatly increased by being well connected with other transportation networks which include neighboring transit systems and bicycle and pedestrian networks. These connections increase the level of choice and overall mobility for people in and around Wilsonville, whether they are traveling to jobs, school, shopping, parks, or recreational events.

3. Emissions Inventory

A baseline number for pounds of CO2 emitted was established for the period of FY 16/17, and is tracked annually. The metric of Vehicle Revenue Miles (VRM) is used to measure performance against the baseline.

SMART Bus Fleet GHG emissions	Pounds of CO2	Vehicle revenue miles (VRM)	Emissions per VRM	Change from Baseline
FY 16/17 (baseline)	2954943.653	530233	5.573	Baseline
FY 17/18	2892698.662	597013	4.845	87%
FY 18/19	3015600.122	620227	4.862	87%
FY 19/20	3019524.101	575575	5.246	94%
FY 20/21	2431235.687	594111	4.092	73%

Energy usage within the SMART Administration facility is reported annually, by fiscal year. It is important to note, this reporting does not include energy usage for electric bus charging activities. Energy consumed for charging appears in Appendix A, Fuel Usage by Type.

SMART Administration Facility Energy Use	kWh	Change from Baseline
FY 18/19 Total	260,600	Baseline
FY 19/20 Total	264,200	101%
FY 20/21 Total	241,400	93%
FY 21/22 Trend (Incomplete)	240,300	91%

4. Past and Current Initiatives

2011- SMART launched its first alternatively fueled bus project, consisting of two CNG shuttle buses and a corresponding fueling station. *7% alternative fuels*

2012- Construction of SMART's new administrative and maintenance facility. This facility was designed to accommodate servicing and storage of CNG fueled buses. The design included many energy efficient design features, being built to LEED Silver standards.

2014- Two 40' diesel-electric hybrid buses were placed in service on SMART's 1X Salem route. *14% alternative fuels*

2015- Two additional CNG shuttle buses were added to the fleet, displacing two aging diesel buses. The existing CNG fueling station was expanded to accommodate fueling needs for up to seven CNG buses. *20% alternative fuels*

2019- SMART placed two 35' battery electric buses in service, and installed electric bus charging equipment to support the buses. The charging installation provided room to accommodate charging equipment for up to four battery electric buses. *25% alternative fuels*

2020- Five additional CNG shuttle buses were acquired, bringing the total CNG vehicles in the fleet to nine. *41% alternative fuels*

2022- A third 35' battery electric bus was added to the fleet. This allowed SMART to operate the first fully electric bus route in Oregon. *44% alternative fuels*

2022- Three additional CNG shuttle buses on order, and a new, expanded CNG fueling station. *53% alternative fuels**

**will reach 53% upon delivery of the three buses in late 2022 or early 2023*

5. Emission Reduction Goals and Targets

- **Decrease total GHG emissions from transit fleet by 25 percent by 2030**
This goal can be accomplished through the continued implementation of battery-electric buses, as well as a planned conversion to Renewable Natural Gas (RNG) for the portion of our fleet fueled with natural gas.
- **Use 100 percent renewable electricity for facility operations by 2030**
The City of Wilsonville participates in the green energy purchase programs offered by our electric utility, Portland General Electric.
- **Plan all new maintenance facilities to accommodate zero-emission technologies**
SMART has a planned expansion of the existing Administration/Maintenance facility in the planning phase. A key component of this project will be the expansion of the site's ability to handle an increased number of 480 volt chargers for future battery-electric bus purchases.
- **Decrease total energy use by 10 percent for all facilities by 2030**
The City of Wilsonville will continue to look for opportunities to lower energy consumption through maintenance updates in its facilities, from transitioning to high efficiency lighting to considering ways to reduce water consumption.

6. Strategies and Actions

Goal #1: Replace all buses with alternative fueled vehicles by 2028

Strategy	Actions	Metric to track progress	Timeframe	Responsible Office
Convert to 100% alternative fueled buses by 2028	Develop bus replacement schedule	Plan developed	Ongoing	Fleet
	Ensure adequate funding for replacement of Diesel/gasoline buses		Ongoing	Grants
	Consider vehicle range as an element to route planning	% of routes meeting range abilities of alternatively fueled vehicles	Quarterly	Operations
	Eliminate Diesel/gasoline from bus fleet	% of fleet made up of alternative fuel buses	Annually	Fleet

Goal #2: Expand transit service, increase ridership

Strategy	Actions	Metric to track progress	Timeframe	Responsible Office
Expand transit service, increase ridership	Launch Vanpool program with local employers	Membership participation	Annually	Programs
	Expand transit service through STIF planning	Revenue hours	Annually	Operations
	Surveys and community outreach	Total number of surveys conducted	Annually	Operations/Programs

7. Implementation and Monitoring

Implementation of the strategies contained within this plan is well underway. Section 4 details the projects and initiatives SMART has undertaken over the past decade, while Sections 5 and 6 describe plans for the future.

Monitoring of the performance metrics outlined in Section 3 occurs as a part of three other events.

1. During our required annual reporting to the National Transit Database (NTD), data for GHG emissions and Vehicle Revenue Miles (VRM) is collected.
2. Plans for route expansion and increased service are reviewed and proposed during project planning for Oregon's STIF (Statewide Transportation Improvement Plan).
3. Nearly every aspect of the initiatives covered within this plan are reported and discussed as a part of our annual budget preparation process, and the public budget hearings which conclude that process.

Continued dialogue with our governing board (Wilsonville's City Council), communicating the importance of these initiatives, is an important aspect of plan implementation. This is done through monthly departmental reports, as well as Council meeting agenda items concerning service changes, capitol purchases, and other noteworthy activities.

Appendix A: Bus and fuels data

SMART has not procured a Diesel or gasoline bus since 2018. The chart below details plans to replace eligible remaining buses with alternatively fueled vehicles.

Remaining diesel/gasoline buses for future replacement

Bus#	Year	Earliest replacement	Current fuel	Replacement fuel	2022	2023	2024	2025	2026	2027	2028
6318	2018	2025	Gasoline	CNG				CNG	CNG	CNG	CNG
6217	2017	2024	Gasoline	CNG				CNG	CNG	CNG	CNG
3516	2016	2028	Diesel	Electric							Electric
3616	2016	2028	Diesel	Electric							Electric
6116	2016	2023	Gasoline	CNG		CNG	CNG	CNG	CNG	CNG	CNG
4113	2013	2025	Diesel	Electric				Electric	Electric	Electric	Electric
5813	2013	2020	Gasoline	CNG		CNG	CNG	CNG	CNG	CNG	CNG
5913	2013	2020	Gasoline	CNG	CNG	CNG	CNG	CNG	CNG	CNG	CNG
6013	2013	2020	Gasoline	CNG		Electric	Electric	Electric	Electric	Electric	Electric
4212	2012	2024	Diesel	Electric				Electric	Electric	Electric	Electric
Gasoline/Diesel buses remaining (excluding spares/contingency)					9	6	6	2	2	2	0

Total fuel usage by fuel type. Note that the baseline year, 2017, does not include electricity, as the first electric buses were not in service at that time. Therefore, FY 2020 is considered the baseline year for electricity.

Energy Type	FY 2017 Baseline	FY 2018		FY 2019		FY 2020		FY 2021	
	Units Consumed	Units Consumed	% Change	Units Consumed	% Change	Units Consumed	% Change	Units Consumed	% Change (1)
Battery Charge (Kilowatt Hours)						96,360		128,520	33.37%
Compressed Natural Gas (Gallon)	8,511	9,018	5.96%	9,412	10.59%	10,592	24.45%	10,833	27.28%
Diesel Fuel (Gallon)	51,458	45,230	-12.10%	44,937	-12.67%	41,392	-19.56%	29,982	-41.74%
Gasoline (Gallon)	39,327	40,246	2.34%	44,379	12.85%	41,326	5.08%	22,907	-41.75%