

Natural Resource Conservation Plan 2014 Progress Report

Introduction

The Natural Resource Conservation Plan (NRCP) was produced by the Operations Committee of the PSSC in 2011 and accepted by the President in Oct, 2011 with the direction to incorporate the NRCP goals in the Campus Master Plan. The NRCP was amended in April 2012. The Progress Report provides an update on each of the goals.

The following is an excerpt from the 2012 NRCP introduction:

The plan establishes resource use objectives, strategies for accomplishing these objectives and a proposed funding model for sustain existing conservation programs and provide the additional resources necessary to move forward with an aggressive demand side natural resource reduction program. Implementing innovative approaches to building operations and integrating these with utility operations will allow the University to enhance reliability at the individual building level, reduce water and energy use and their associated costs as well improving the sustainability of our campus operations. The intent of the plan is to make significant improvements in these areas by August 31, 2020.

The University can reduce the demand for water and energy, and minimize our financial exposure to changes in the cost of essential resources such as natural gas and water as well as the potential for future carbon costs by reducing demand side resource consumption and improving operational efficiencies and accomplish these goals in an environmentally responsible manner.

The NRCP includes seven conservation goals and various strategies for achieving the goals by 2020. The PSSC will continue to monitor progress and make recommendations as needed.

Reliable and Efficient Energy System	ON GOAL
Demand Side Energy Efficiency	ON GOAL
Renewable Energy	REEVALUATE
Water Conservation	ON GOAL
Waste Management	KEEP WATCH
Campus Fleet and Mass Transit	ON GOAL
Purchasing	ON GOAL

The PSSC Operations Committee will continue to monitor progress on each of the NRCP goals and make recommendations for amendment, addition, and removal of overall goals and specific targets within each goal.

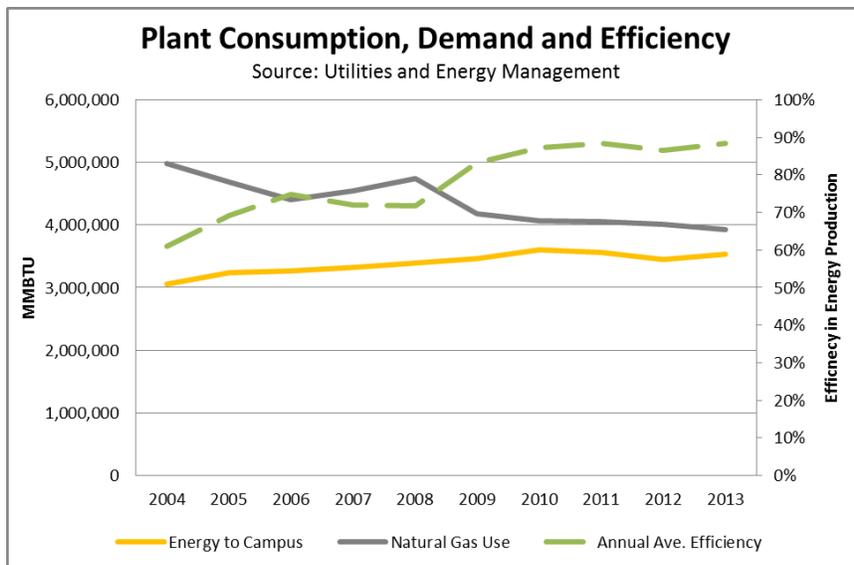
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Reliable and Efficient Energy System

ON GOAL

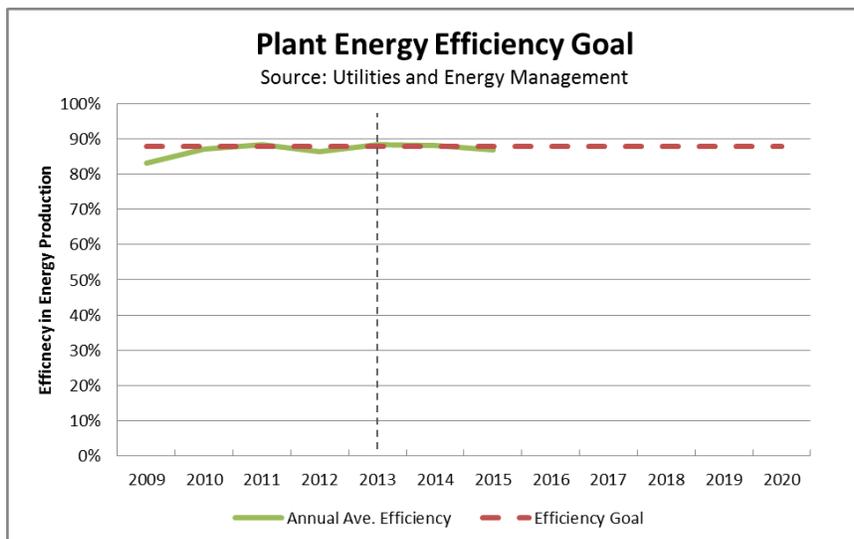
The NRCP goal states: *CPFM will maintain utility system performance at, or above, its current level of reliability and annual average plant efficiency of about 88%, average electrical generation performance of about 8,500 BTU/kWh and chilling station performance at approximately 0.70 kW/Ton. In addition, CPFM will continue to anticipate changes in campus demand and plan to meet these new requirements utilizing existing equipment and systems, avoiding additional major capital investment, if possible.*

The Utilities and Energy Management division within University Operations continues to pursue efficiency improvements through. UEM provides bimonthly updates on overall performance as well as ongoing and planned equipment repairs and additions.



Excerpted from the most recent UEM report:

Energy to campus has trended down to flat since peaking in FY2010 after six years of steady increases. Over the same time period, energy input to the Power Plant (in the form of natural gas) has decreased by nearly 20%, corresponding to significant and sustained efficiency gains as a result of replacing outdated equipment as well as a variety of efficiency improvement projects.



In the chart above, *Energy to Campus* is normalized to remove the effect of varying weather conditions from one year to the next.

Note future projections do not include consumption expected from new projects such as Dell Medical School, Rowling Hall (Graduate School of Business), and the Engineering Education and Research Center.

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Demand Side Energy Efficiency

ON GOAL

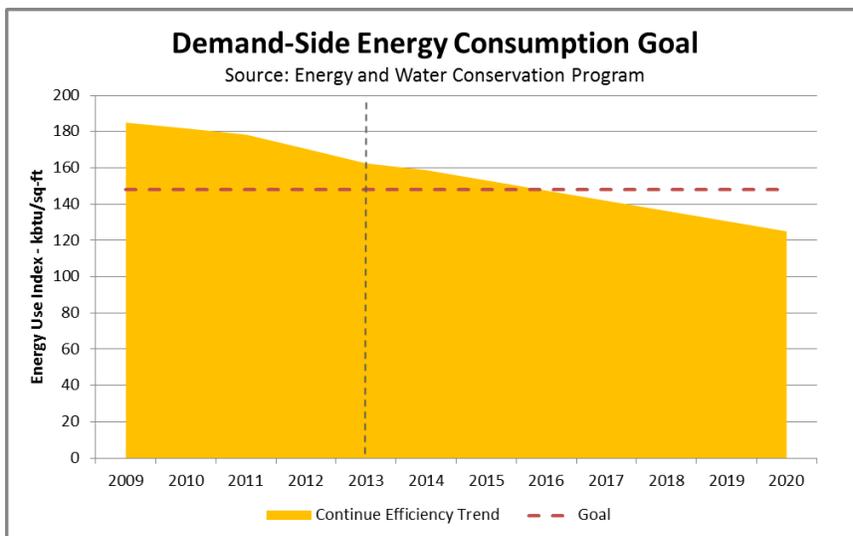
The NRCP goals states: *By August 31, 2020, the University of Texas at Austin will reduce energy consumption at the building level by an average of 20% per square foot per degree-day, using 2009 as the base year. Accomplishing this goal will require an investment in energy management staffing, centralized building energy control systems, conservation and efficiency projects and a specific resource reduction goal for each building.*

In 2012, the Energy and Water Conservation Program (EWCP) was created within Facilities Services within University Operations in response to this NRCP goal.

The most recent report from the EWCP states:

A 12.4 percent reduction of EUI (energy use index) for distributed educational and general (E&G) space has been established between FY 2009 and FY 2013. Our goal is to reach a 20 percent reduction by 2020.

In the last fiscal year and upon the formation of the Energy and Water Conservation program, a reduction of 4.5 percent was achieved compared to the year before, raising our year-over-year average from 2.6 percent a year to averaging 3.1 percent avoided demand side energy consumption per year. At current fully burdened rates, the reduction in consumption for last fiscal year alone equates to \$5.6 million in annual avoided costs, and \$13.8 million since 2009.



Note future projections do not include consumption expected from new projects such as Dell Medical School, Rowling Hall (Graduate School of Business), and the Engineering Education and Research Center.

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Renewable Energy**REEVALUATE**

The NRCP goals states: *By August 31, 2020, 5% of all energy consumed by UT Austin facilities will be produced by renewable sources. Renewable energy sources include solar, wind, waste management, biomass, wood burning, small hydro and other carbon neutral sources.*

UT Austin consumes approximately 350,000,000 kwh of energy annually. As of 2014, UT Austin had 546 kw of solar photovoltaic installed at the Main and PRC campuses, capable of generating approximately 850,000 kwh annually, representing 0.24% of our total current demand. There are no currently planned additional solar installations (or other alternative generation installations).

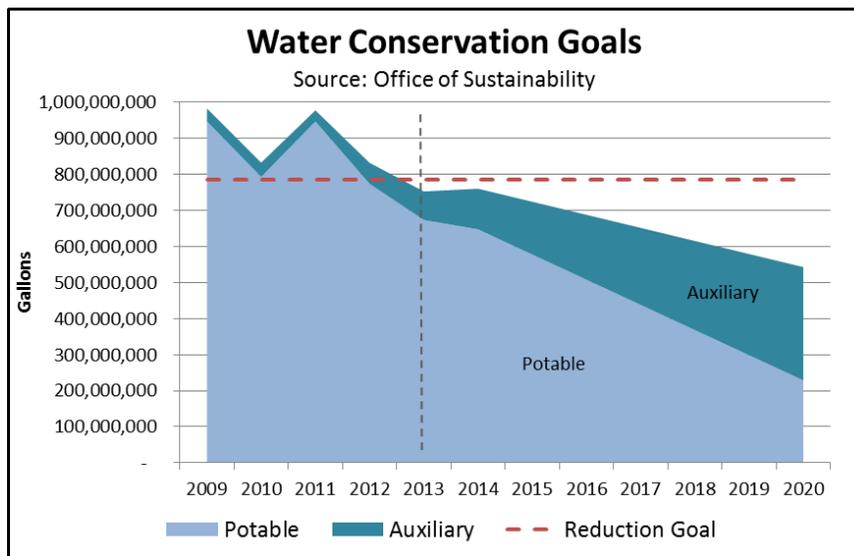
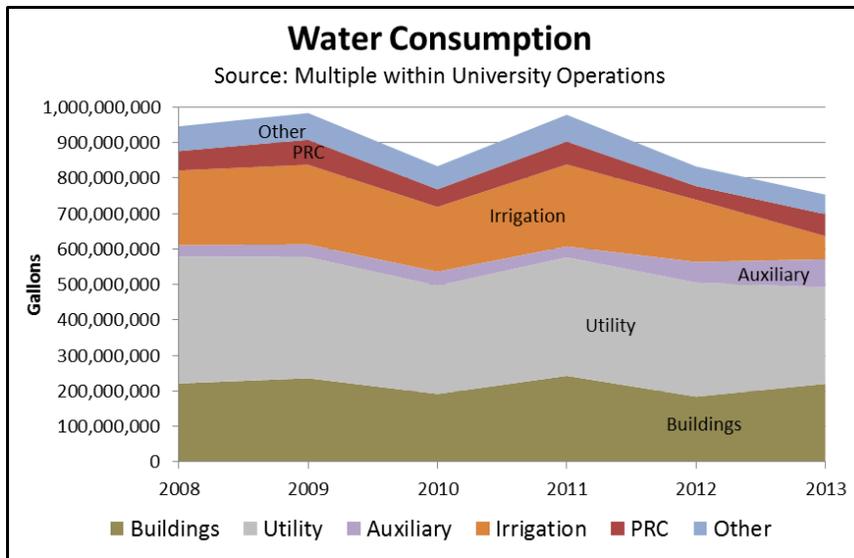
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Water Conservation

ON GOAL

The NRCP goals states: *By August 31, 2020, UT Austin will reduce water use by 20% with at least 40% of total water use coming from reuse/reclaimed sources.*

Water consumption on the main campus has been steadily decreasing in recent years primarily due to modernization of the campus irrigation system and ongoing improvements in the utility plant. Additionally, with the connection of reclaimed water from the City of Austin to Chilling Station 5, the university has begun accessing a new auxiliary source of water. The university is currently in positive dialogue with the Austin Water Utility on increasing the university's ability to increase the use of auxiliary water on campus, specifically reclaimed water from the Austin Water Utility and rainwater collected from university roofs.



Note future projections do not include consumption expected from new projects such as Dell Medical School, Rowling Hall (Graduate School of Business), and the Engineering Education and Research Center.

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Waste Management

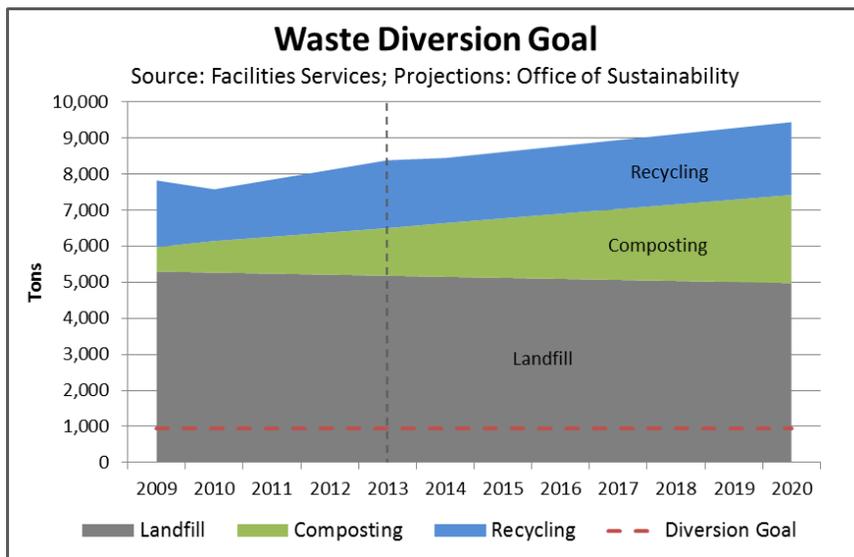
KEEP WATCH

The NRCP current goal states: *By August 31, 2020, UT Austin will divert 90% of the total waste stream from landfill using a variety of methods including reuse and recycling.*

In recent years diversion of material away from landfill and toward recycling and composting has gradually increased while the amount of waste going to landfill has remained flat. Significant improvement is still needed, and expected to result from recent investments, to meet the 2020 goal of 90% diversion from landfill, including study of our purchasing efficiencies – i.e., reducing the amount of material brought on to campus that could become waste.

Several recent investments are intended to drive progress on waste diversion:

- In 2013 the university hired a Zero Waste Coordinator, the first such position at a major public university in the country. The Coordinator is charged with working with academic, operational and auxiliary units to audit their current waste streams and identify unit appropriate diversion options.
- With the expiration of various waste and recycling contracts, the university is seeking a new vendor partnership to support the university’s recycling, composting and waste diversion goals.



In the chart at left, the projected proportions of recycling and composting are based on recent building level waste audits, but are purely illustrative.

Note future projections do not include consumption expected from new projects such as Dell Medical School, Rowling Hall (Graduate School of Business), and the Engineering Education and Research Center.

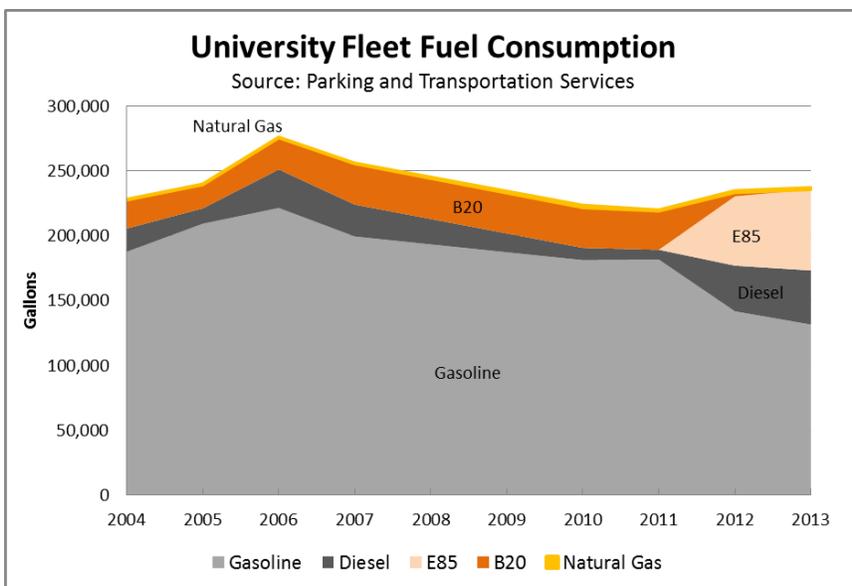
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Campus Fleet and Mass Transit

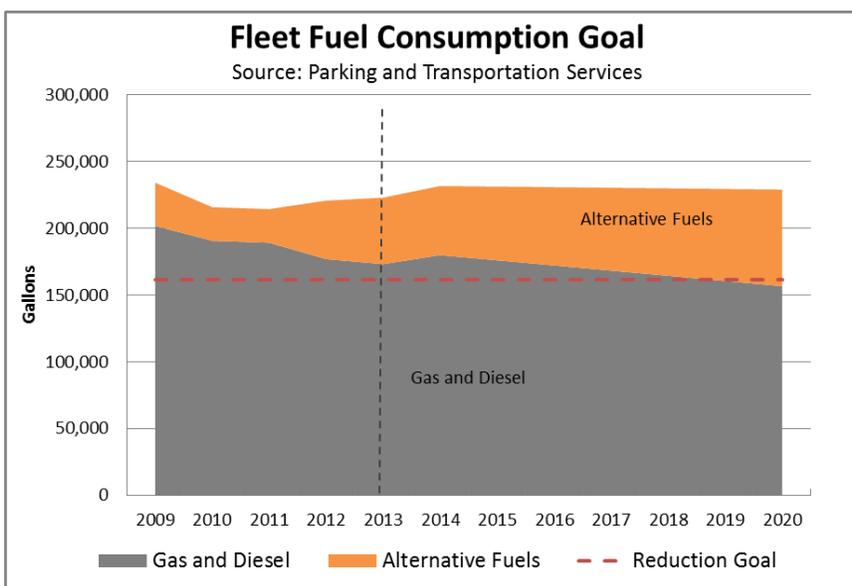
ON GOAL

The NRCP goals states: *August 31, 2020, UT Austin will reduce overall gasoline and diesel fuel consumption for the campus vehicle fleet by 20%, while shifting 50% of the campus vehicle fleet to 50% E85 gasoline and other alternative fuels. UT Austin will increase the number of car pool and mass transit users by 30% and utilize 100% natural gas fuel for the shuttle bus system.*

At UT Austin, vehicle ownership rests with individual academic, auxiliary, and operational units, instead of with a centralized institutional fleet or motor pool, which can make pursuing institutional goals difficult. Parking and Transportation Services (PTS) has been working with departments to reduce the consumption of gasoline and diesel fuel since 2006 through various strategies, including preventative maintenance, vehicle upgrades (replacing older vehicles), and shifting from a motor vehicle to a cart.



Two additional factors add difficulty. PTS manages vehicles owned by non-UT Austin units, such as UT System, which complicates adherence to a UT Austin goal. PTS manages many different types of vehicles, including scooters, riding mowers, boats, etc.

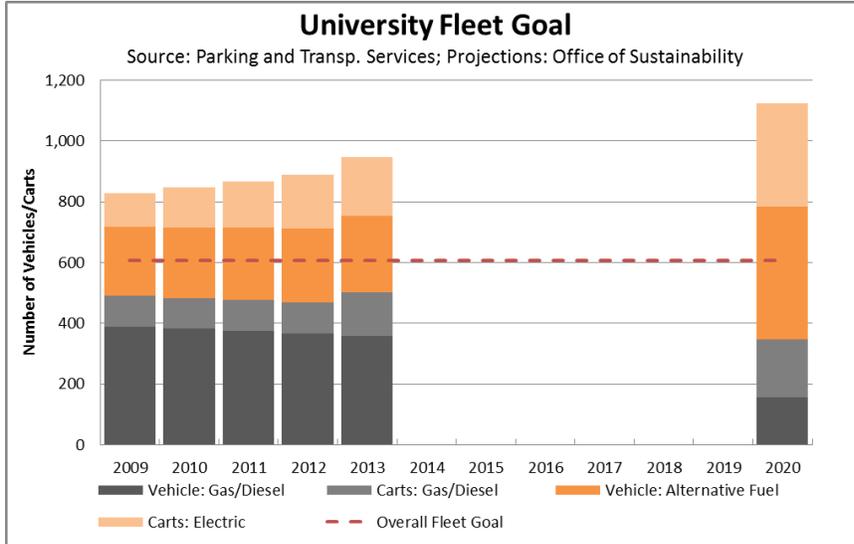


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Campus Fleet and Mass Transit, *cont.*

While the porportion of fuel consumption is shifting toward fuels other than gas and diesel, and including electric, the number of motor vehicles is not projected to change, whereas the number of carts

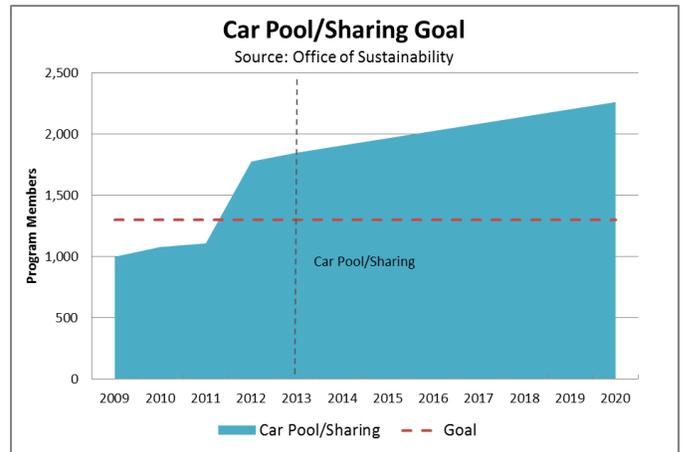
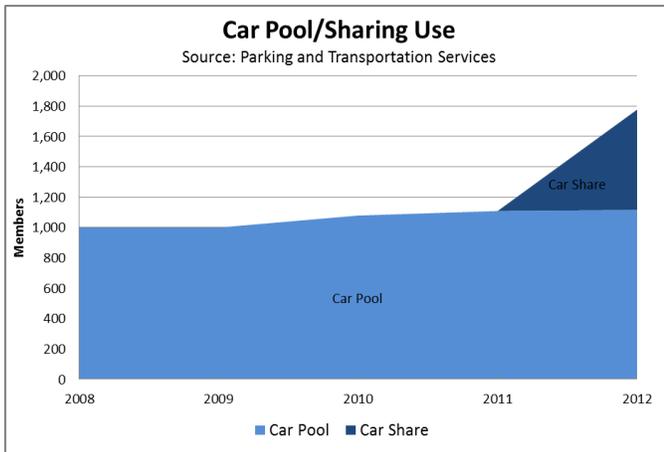
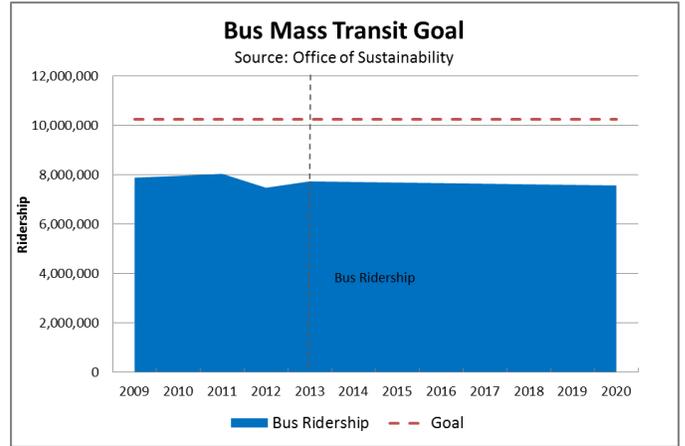
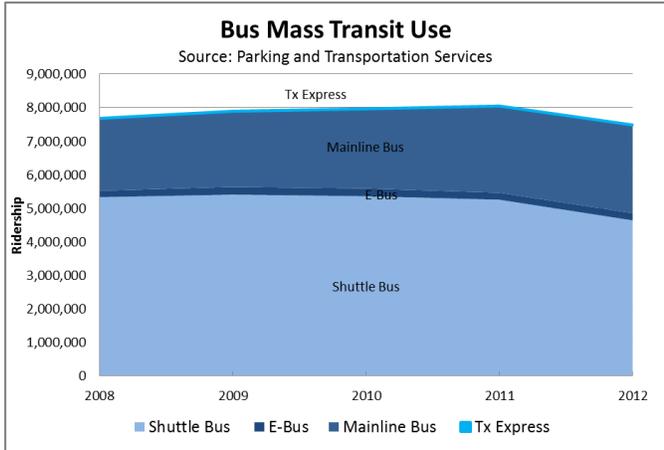
is projected to steadily increase.



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Campus Fleet and Mass Transit, *cont.*

The use of mass transit by the campus community is influenced by both campus policy (permit prices, garage availability, etc) and the policies of other entities in the region, such as Capital Metro and the rail partnership, Project Connect.



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Purchasing

ON GOAL

The NRCP goals states: *In collaboration with the AVP of Purchasing, the PSSC will build on the green purchasing policy included in the Handbook of Business Procedures (section 7.12) to establish baselines of current green purchasing and to consider recommendation of green purchasing targets to be achieved by August 31, 2020.*

The Sustainability Purchasing Policy was added to the Handbook of Business Procedures in August, 2013. The policy was distributed to departmental buyers and a presentation on the policy’s origins and provisions was offered in April, 2014.

The Purchasing Office and the Office of Sustainability are collaborating on defining metrics for specific commodities as well as for tracking how departments are utilizing the “guidelines for sustainability in purchasing” laid out in the policy.

Specific purchasing goals may be considered by the PSSC on the recommendation of the AVP of Purchasing.

