

# 2015 Sustainability Progress Report

Building a better tomorrow



# SUSTAINABILITY

## Improving regional quality of life

Sound Transit's mission to build, operate and expand the regional transit system is essential to central Puget Sound's sustainable future. The Sound Transit 2 (ST2) system under development and the proposed Sound Transit 3 (ST3) expansion plan enable more people to travel affordably and reliably on environmentally-friendly buses and trains throughout the region's growing communities.

## What does sustainability mean to Sound Transit?

Sustainability is about making long-term investments and choices that keep the region's environment, communities and economy healthy. For Sound Transit, sustainability is about fulfilling the agency's mission as a transit provider, as well as how that mission is accomplished. Sound Transit organizes its sustainability efforts around the following principles:

1. Help **people** move freely and affordably by providing regional transit.
2. Promote stewardship to conserve the **planet's** natural environment.
3. Support local economic **prosperity** by enabling residents and businesses to save time and money.

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**Sound Transit implements sustainability through a robust Environmental and Sustainability Management System (ESMS). This system holds the agency accountable for controlling potential environmental impacts, achieving annual ESMS targets and demonstrating continual improvement in performance. Since 2007, Sound Transit has been among a select number of transit agencies nationwide to achieve international ISO 14001 certification of its ESMS.**



## Key accomplishments

In 2015, Sound Transit achieved a number of important sustainability accomplishments that leverage social, environmental and financial benefits for the region's future. The agency:

- ✓ Helped improve the region's environment by increasing transit ridership and efficiency. Sound Transit provided nearly 35 million rides and used less energy to move each passenger. Sounder commuter rail and ST Express bus services also significantly reduced air pollution emissions.
- ✓ Maintained its clean environmental record – no permit violations across the agency's construction projects – for a fourth straight year.
- ✓ Made a financial commitment to sustainability by executing 1 billion dollars in environmentally-friendly 'green' bonds – the largest sale of municipal green bonds worldwide.
- ✓ Received Platinum level recognition for sustainability leadership from the American Public Transportation Association.

# TRANSIT IS SUSTAINABILITY

## Population growth can challenge regional sustainability

The region expects to gain one million + new residents by 2040.

To grow sustainably, development decisions will need to consider how to retain a high quality of life while also protecting the environment, our communities and economy.



## Growth can impact the region's quality of life

More people living and working in the region means more congestion and traffic.

More cars on the road means an increase in air and water pollution.



## Sound Transit is part of the solution

Sound Transit promotes sustainability by developing the regional transit system and fostering smart growth.

### Riding transit

SAVES TIME



SAVES FUEL



SAVES MONEY



REDUCES TRAFFIC



# PEOPLE

HELP PEOPLE MOVE FREELY AND AFFORDABLY BY PROVIDING REGIONAL TRANSIT

**↑ 49%** Ridership growth since 2010

**↑ 6%** Ridership growth since 2014

## Significantly growing ridership

More people than ever in central Puget Sound are choosing transit to get to where they need to go. Sound Transit again achieved all time rates of ridership in 2015 for its trains and buses, with a total of 34.9 million boardings for the year - a six percent increase over 2014. As Sound Transit Board Chair Dow Constantine said: "We continue to set new records for ridership by providing fast, reliable alternatives to driving."

Trip length

**11 MILES**

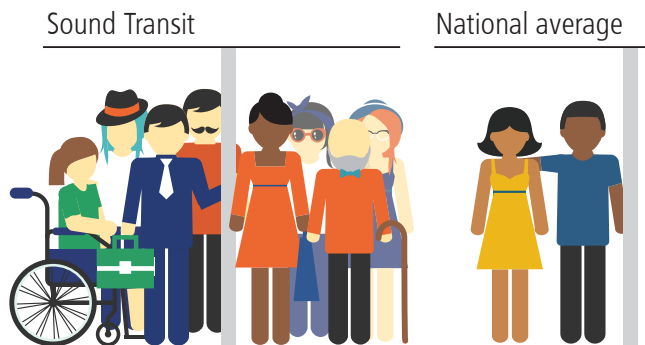
Average Sound Transit trip

**4 MILES**

Average U.S. transit trip

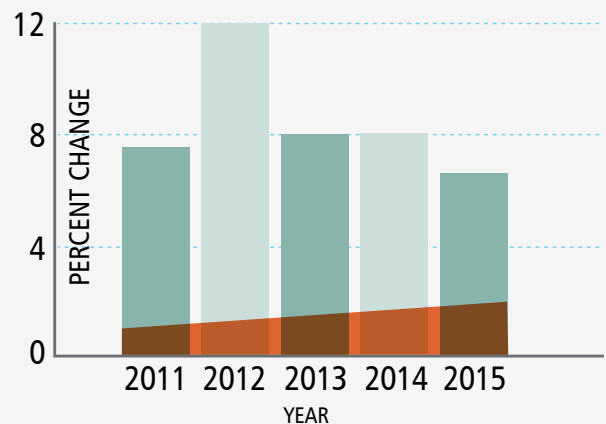
**22,000 passengers used ORCA Lift in 2015** – a reduced fare program that better serves the region by providing transit discounts to income-qualified riders

**Growing 4X** the national average for boardings



## Ridership increasing faster than regional population growth 2010 – 2015

Sound Transit ridership (teal)  
Regional population growth (orange)





## Improving access to transit

The agency is partnering on Regional Mobility Grant projects with King County Metro to reduce traffic by encouraging people to use alternative modes of transportation instead of driving alone. The Puget Sound Regional Council is also supporting this work by developing transportation models to better identify and prioritize improvement projects that promote pedestrian and bicycle use and increase transit ridership.



Transit-Oriented Development (TOD) integrates land use and transit to create vibrant communities that grow ridership and leverage investment to support community benefits. In 2015, Sound Transit:



## Moving more people efficiently

In 2015, Sounder commuter rail and ST Express buses carried more passengers while using less fuel. ST Express buses became more efficient by increasing the number of higher-capacity coaches and adding more hybrid electric models to the fleet. Sounder commuter rail reduced idling time due to warmer winter weather and saw efficiency gains from fully implementing wayside electric units to power the trains at Everett and Lakewood stations.



# PLANET

PROMOTE STEWARDSHIP TO CONSERVE THE PLANET'S NATURAL ENVIRONMENT

GREENHOUSE GAS

Emissions

62 Agency operations

Emissions avoided

Regional environmental benefits

139

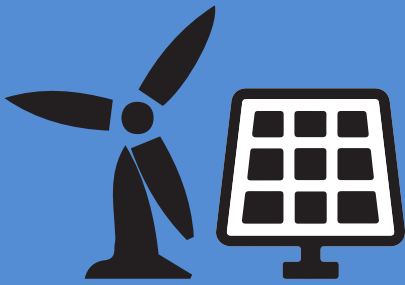
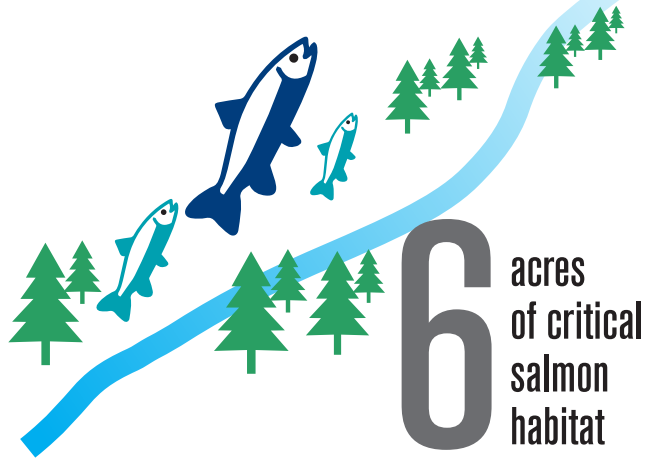
Thousand tonnes of GHG emissions equivalent

## Increasing environmental benefits

Sound Transit and partner services provide tangible environmental benefits for the region's growing communities. When people choose transit instead of driving alone, they reduce air pollutant emissions, among other benefits.

## Maximizing wetland mitigation potential

Sound Transit is committed to reducing impacts to natural resources. In 2015, the agency participated in the King County In-Lieu Fee (ILF) Mitigation Program to moderate wetland and stream impacts caused by Sounder projects. The ILF Program is an innovative approach that allows partners to purchase mitigation credits to contribute to a larger regional project, rather than develop a smaller individual project. As its contribution to the ILF program, Sound Transit purchased a six-acre parcel on the lower Duwamish River that will be restored to shallow, off-channel habitat where juvenile salmon can shelter and feed.



84% of Sound Transit's electricity comes from renewable sources

## Reducing regional greenhouse gas emissions

Passengers taking Sound Transit instead of driving save nearly 139,000 tons of greenhouse gas emissions annually. This is equal to saving:



gallons of gasoline  
OR







# Zero

stormwater or wastewater violations  
on 13 construction projects

### Maintaining exemplary environmental compliance

Sound Transit completed another year with an excellent environmental compliance record for its construction projects. The agency had no violations on 13 construction projects with 11 stormwater permits and six wastewater permits. In 2015, the King County Industrial Waste Program presented the Capitol Hill Station project with a Silver Award for the agency's compliance and pollution prevention efforts. The agency has earned recognition from King County every year since 2011.



energy use  
savings

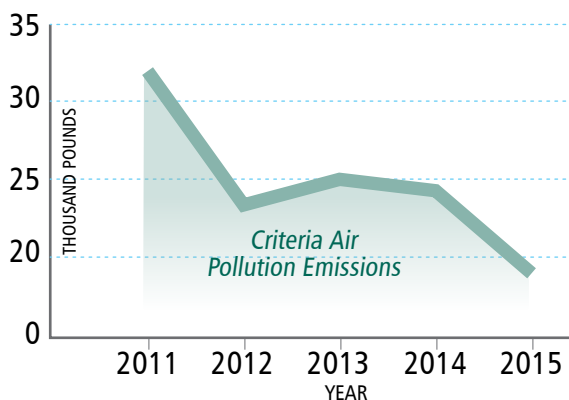
# 45%

reduction  
at select facilities

### Making facilities more energy efficient

The agency has successfully increased energy efficiency across a number of key facilities. In 2013, three different energy efficiency upgrades were completed: lighting upgrades at the Federal Way Transit Center, Kent Station, and Auburn Station. In 2015, these upgrades cut energy use by 45 percent at Federal way, and 25 percent at both Kent and Auburn compared to 2012 data. This equates to over \$150,000 in savings since the upgrades were installed. In 2015, Sound Transit identified three additional opportunities for energy efficiency upgrades at its stations and facilities.

### ST Express and Sounder air pollution reduction

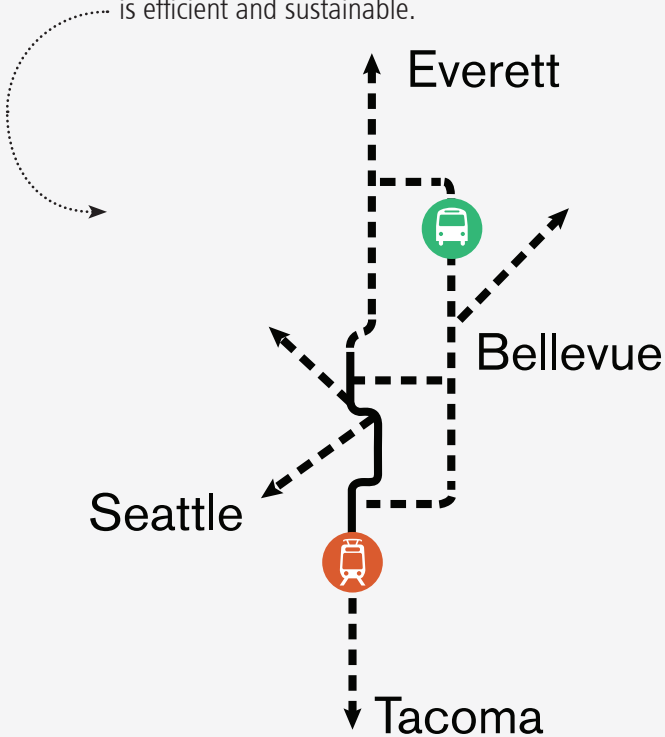


# PROSPERITY

SUPPORT LOCAL ECONOMIC PROSPERITY  
BY ENABLING RESIDENTS AND  
BUSINESSES TO SAVE TIME AND MONEY

## Building a sustainable future

Sustainability is part and parcel of how Sound Transit thinks about expanding its services. The ST3 System Plan under development works to increase access to transit for all populations and improve connections to the places central Puget Sound residents live, work and learn. ST3 planning efforts have also focused on looking at ways to facilitate transit-oriented development, increase pedestrian, bicycle and transit connections and ensure that the system's construction is efficient and sustainable.



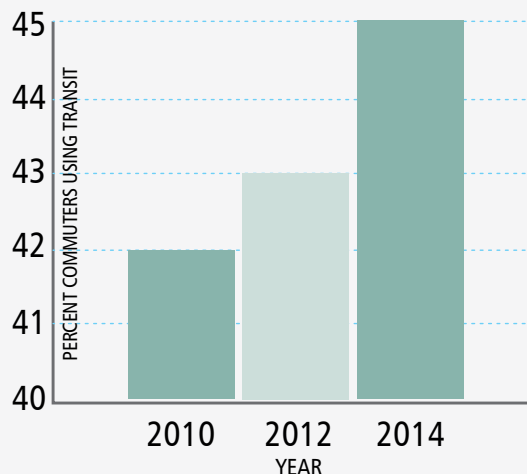
# \$1 billion

Green bonds to help fund regional transit projects

## Selling record numbers of green bonds

Sound Transit sold nearly \$1 billion of green bonds to help fund its regional ST2 transit projects. This transaction represents the world's largest municipal sale of green bonds, which are a rising trend in the financial industry to establish investments that advance environmental sustainability. Sound Transit's credibility as a green bond issuer comes from its construction and operation of transit services that are more sustainable than other transportation options. Sound Transit also has a formal program to integrate sustainability into its day-to-day business, from designing energy-efficient buildings to reducing fleet emissions and increasing recycling and composting.

## 45% of downtown Seattle commuters ride transit







## Receiving national recognition

Sound Transit received the American Public Transportation Association's (APTA's) highest environmental stewardship ranking. Sound Transit is the second transit agency in the country to receive Platinum level recognition from APTA. The award acknowledges core requirements such as making sustainability a part of the organization's strategic objectives and identifying a sustainability champion within the agency. In addition, Sound Transit improved its performance on a number of key sustainability indicators and accomplished more than 40 significant sustainability actions including strengthening design criteria to address sustainability, implementing facility energy and water efficiency projects and developing an assessment to ensure the system remains resilient to climate change.



**ST2** will support over 100K direct and indirect jobs

## Incorporating sustainability into construction practices

As Sound Transit increases its construction activities throughout the region, the agency is looking to continue to reduce environmental impacts. In 2015, Sound Transit began negotiations for three Sustainable Practice Plans – agreements between the agency and contractor on how to lower the environmental footprint of construction activities. The plans will include items like reducing air pollution through vehicle use and anti-idling practices, and maximizing construction waste recycling.

**70** Engaged more than 70 agency staff in implementing the Environmental and Sustainability Management System



# KEY PERFORMANCE INDICATORS

Sound Transit's Sustainability Division coordinates across the agency to set sustainability goals and annually monitor, measure and report on progress. The division also works with agency leaders to prioritize staff efforts and financial investments that integrate sustainability into everyday business.

In 2015, Sound Transit worked on establishing baseline data for the Key Performance Indicators from the 2015 Sustainability Plan:

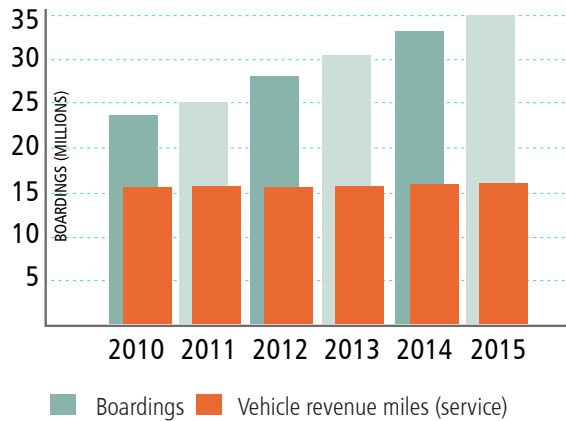
## Sustainability Priority

*Key Performance Indicator*

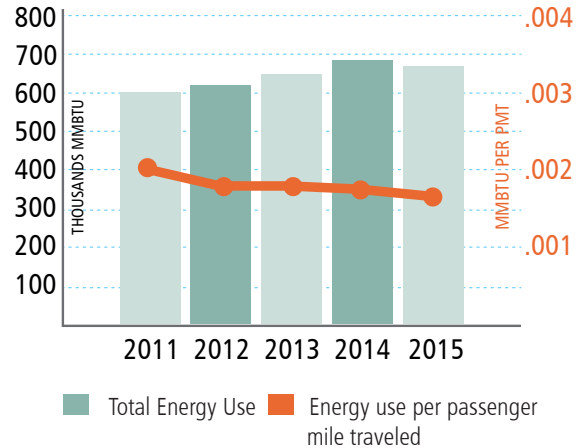
- Increase revenue fleet fuel efficiency and reduce vehicle pollution.**
  - 3 percent reduction in total fleet energy use since 2014*
  - 1 percent reduction in total greenhouse gas emissions since 2014*
  - 3 - 21 percent reduction in criteria air pollutants since 2014, depending on pollutant*
  - 138,609 tonnes of CO<sub>2</sub>e of regional greenhouse gas emissions savings from Sound Transit ridership*
- Optimize facility energy efficiency and clean energy generation.**
  - 84 percent of electricity or energy consumption from renewable sources*
  - 5 percent increase in facility energy use*
- Reduce construction pollution.**
  - 3 General Contractor/Construction Manager and Design Build contracts that include Sustainable Practice Plans*
  - 0 fineable actions or other compliance violations related to stormwater treatment*
  - 80 percent or higher recycling rate for construction and demolition materials*
- Make informed decisions that consider environmental and social impacts.**
  - 4 formal total cost of ownership analyses performed*
  - N/A - number of major project and procurement reports that include sustainability topics. Data collection for these metrics will begin in January 2016*
- Advance sustainability in early planning and design.**
  - 9 design processes that include budgets for sustainable design, green infrastructure, access and TOD readiness*
  - 25+ external partnerships to enhance sustainable planning (not including partner agencies and jurisdictions)*
  - N/A – percent increase of required sustainable design and green infrastructure features in design criteria.*
  - Design criteria not updated in 2015*
- Increase system resilience to climate change and extreme weather.**
  - N/A – number of Climate Adaptation Strategy actions completed. Strategy began implementation in January 2016*
- Procure and use green products and services.**
  - N/A - percent of agency procurements assessed for green methods and features. Data collection for these metrics will begin in January 2016*
  - N/A - percent of new procurements that include green methods and features. Data collection for these metrics will begin in January 2016*

# TRENDS

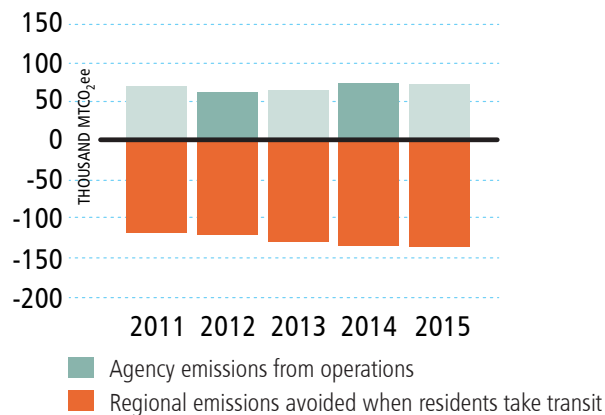
## Boardings and Service



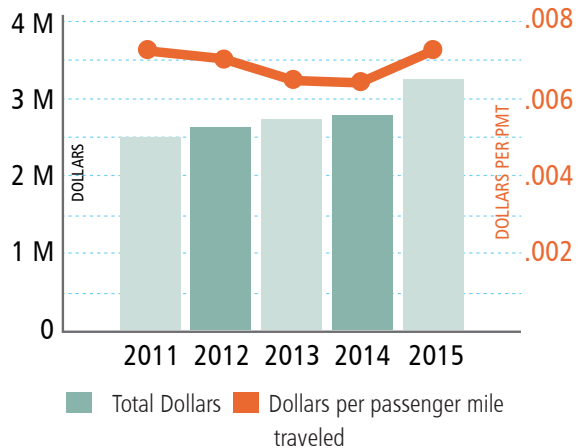
## Revenue Fleet Energy Use



## Greenhouse Gas Emissions and Benefits



## Utility Costs



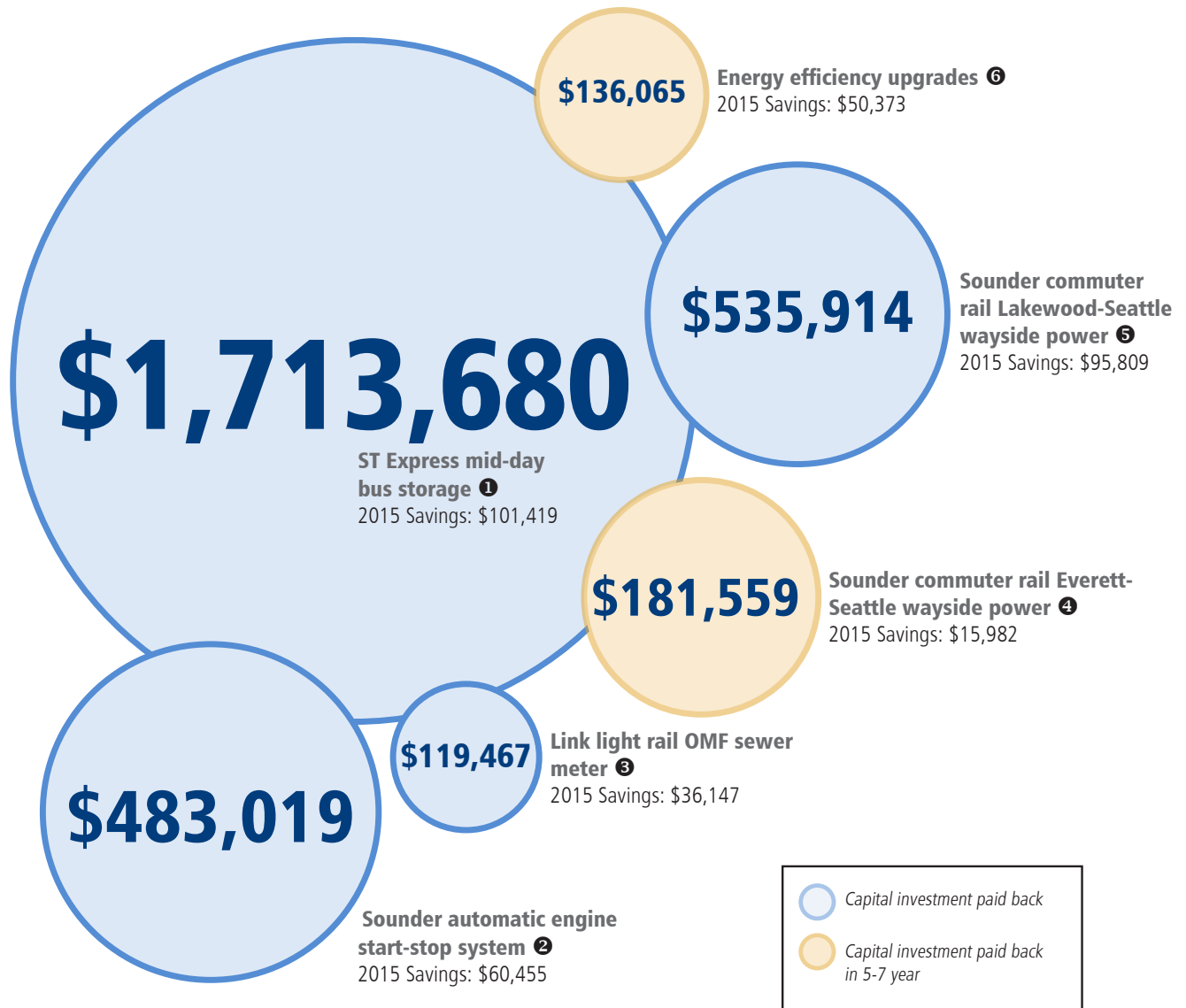
## Continual Improvement

Although the agency's sustainability performance has improved year over year, more can always be done to build on existing accomplishments. In the next year, the agency will focus on the following:

- Renewing attention on conserving resources in the existing transit system. Targeted water, energy and fuel efficiency projects have resulted in significant savings. However, improving efficiency across the board will require a deepening of conservation efforts.
- Approaching designs to ensure that rapid advances in technology can be incorporated into projects. Can the lag time between designing, procuring and constructing solar power or LED lighting projects be shortened to ensure that the latest innovations are applied?
- Implementing strategies to lighten the environmental footprint of construction. Extensive research has been performed on a range of best practices from greening concrete to reducing pollution from construction equipment. As construction continues on Northgate Link and East Link light rail projects, and pilot projects provide lessons learned, agency staff will need to determine how to prioritize and institutionalize actions to improve environmental performance.

# SUSTAINABILITY SAVINGS

These figures show the lifetime savings from select sustainability targets as of 2015. Although some significant program savings are captured here, many projects integrate sustainability in ways that make it difficult to represent direct costs and benefits.



① Since 2008, ST Express mid-day bus storage has allowed Pierce County buses to remain in Seattle until the afternoon commute to avoid driving back and forth empty.

② The Sounder automatic engine start-stop system has worked since 2009 to shut down Sounder engines when not in use to reduce engine idling time by about 34 percent, reducing air pollution.

③ Installing a deduct sewer meter at the Central Link Operations and Maintenance Facility (OMF) in 2012, reduced sewer bills by accounting for the irrigation water that does not enter the wastewater stream.

④ ⑤ Electric wayside power units were installed in 2010/2013 (Lakewood-Seattle) and 2011 (Everett-Seattle) to allow the locomotive's diesel Head Engine Power units to use electricity to heat and power coach cars during layover, reducing diesel and air pollutants.

⑥ Energy efficiency retrofits were implemented at three facilities, saving 10-26 percent of energy in just six months. Upgrades were made to Federal Way Transit Center and Kent and Auburn stations.

# 2015 SUSTAINABILITY TARGETS

## Make informed decisions that consider environmental and social impacts

- ✓ Integrate sustainability into project and procurement reporting
- ✓ Develop and propose a decision path to include optional sustainable strategies into capital projects

## Advance sustainability in early planning and design

- ✓ Ensure that system plan project cost estimates address sustainable design and green infrastructure, system access and TOD readiness
- ✓ Evaluate optional sustainability approaches for inclusion in final design
- ✓ Prioritize pedestrian, bicycle and transit access in draft System Plan language
- ✓ Customize sustainability design criteria for preliminary engineering

## Increase system resilience to climate change and extreme weather

- ✓ Finalize and adopt an agency Climate Adaptation Strategy
- ✓ Integrate climate adaptation approaches into project development
- ✓ Evaluate design criteria to address projected climate change impacts

## Reduce construction pollution

- ✓ Survey small contractors, disadvantaged business enterprises and rental companies about sustainability best management practices
- ✓ Implement three pilot projects to test sustainability best management practices for construction

## Increase revenue fleet fuel efficiency and reduce vehicle pollution

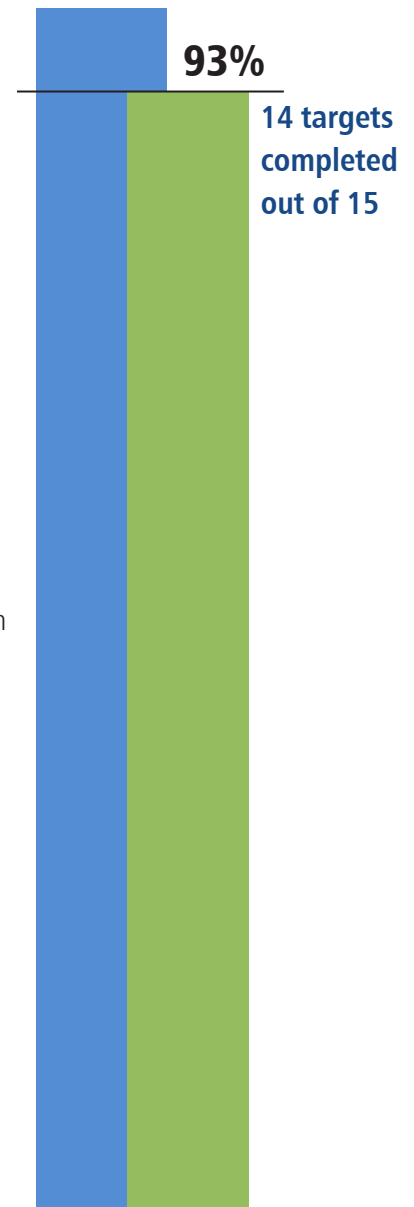
- ✓ Initiate ST Express Fuel Efficiency Strategy Update

## Procure and use green products and services

- ✓ Finalize Green Procurement and Utilization procedures and provide agency training
- Revise guide specifications to reflect greener concrete mixes where possible\*

## Foster a staff culture of sustainability

- ✓ Develop staff outreach to improve recycling and composting rates



\* Outstanding target will be completed in 2016.

# 2016 SUSTAINABILITY TARGETS

## People

- Achieve Bicycle Friendly Business<sup>SM</sup> program certification
- Develop a sustainability-focused peer recognition program
- Evaluate electric vehicle charging services at customer facilities
- Integrate sustainability into recruitment and other staffing activities and materials

## Planet

- Implement energy efficiency projects at three major facilities
- Work with partner agencies to reduce air pollution from construction
- Monitor three sustainable practice plans for construction projects
- Start data baseline for green concrete use
- Propose approaches and practices to achieve renewable energy and carbon neutrality goals
- Develop dashboard for sustainability reporting
- Formalize spill response activities into emergency response protocols
- Increase waste diversion activities
- Update ST Express and Sounder Fuel Efficiency Strategy

## Prosperity

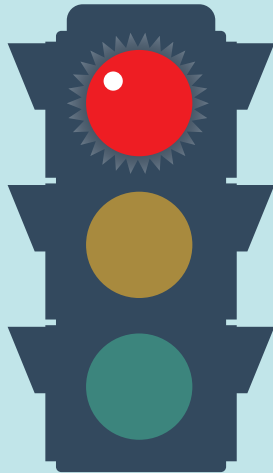
- Educate staff on green procurement procedures and related guidelines
- Conduct sustainability analysis for ST3
- Conduct staff outreach to disseminate Total Cost of Ownership policy and procedures
- Implement Climate Adaptation Strategy initiatives
- Participate in the Puget Sound Regional Council's Regional Climate Adaptation Collaborative



# TRANSIT BENEFITS THE COMMUNITY

## Saves time

The average Seattle driver **wastes 48 hours a year in traffic**



SOURCE: Texas Transportation Institute (2012)

## Saves money

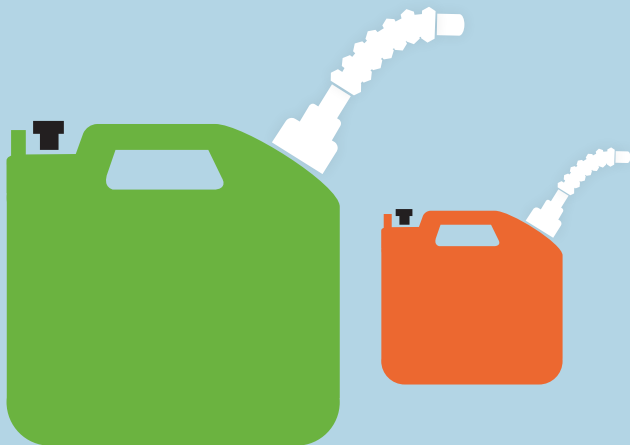
A Seattle area driver can **save nearly \$13,000 a year** by switching from driving to transit



SOURCE: American Public Transportation Association (2015)

## Saves fuel

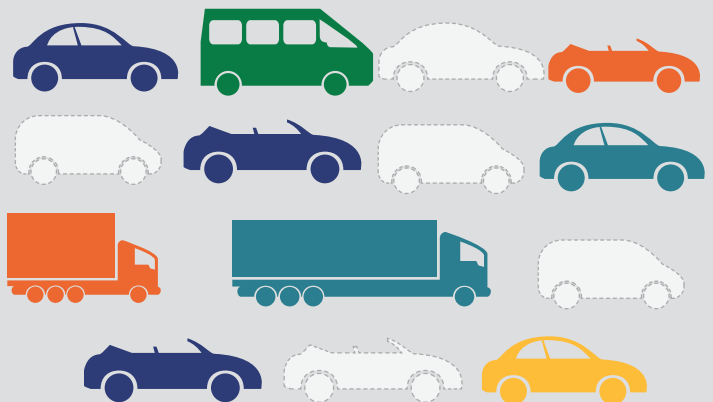
Sound Transit riders **save 15.6 million gallons of gas** a year



SOURCE: Sound Transit (2014 - 2015) and EPA GHG Equivalencies Calculator

## Reduces traffic

Sound Transit reduces fuel use equal to **taking 29,000 cars off the road** a year



SOURCE: Sound Transit (2014 - 2015) and EPA GHG Equivalencies Calculator



For more information contact [esms@soundtransit.org](mailto:esms@soundtransit.org)  
or visit [soundtransit.org/environmental](http://soundtransit.org/environmental)

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