

Sustainable Transit Leadership

The Environmental Protection Agency's Office of Solid Waste and Emergency Response initiated a series of innovative pilot projects to test ideas and strategies for improved environmental and public health results. This series of fact sheets highlights the innovative approaches, results, and environmental and economic benefits from the pilot projects that may be replicated across various sectors, industries, communities, and regions.



PROJECT DESCRIPTION/INNOVATION

In 2002, Bay Area Rapid Transit (BART), in partnership with U.S. EPA Region 9, researched and demonstrated specific green practices under the Sustainable Transit Leadership Project that transit authorities could implement and develop, including transit-specific green building design and operation. Although green highway and building initiatives were well underway in California, little had been done toward green transit practices beyond establishing standard recycling programs in 2002. The success of this initial collaboration with BART led to a scale-up contract in 2006 supporting an expanded partnership with North American transit agencies and the American Public Transportation Association (APTA) to develop Sustainability Guidelines for Multi-Modal Transit. This project also supports the HUD-DOT-EPA Sustainable Communities Partnership. New funding in 2008 provided the needed resources for the partners to finish guidelines toward green transit. These guidelines have been submitted for review to APTA.

BACKGROUND

Public transportation is a \$48.4 billion industry that employs more than 380,000 people. In 2009, Americans took 10.2 billion trips on public transportation. From 1995 through 2009, public transportation ridership increased by 31 percent—a growth rate higher than the 15 percent increase in U.S. population over the same period.

BART is one of the largest light rail transit agencies in the United States, transporting almost 340,000 passengers (on average) each weekday in 2007. Consisting of 104 miles of track on seven lines and serving four counties in Northern California, BART owns and operates 43 stations and a variety of other facilities. Each year, BART spends roughly \$1 billion on new construction, renovations, and maintenance.

Project Highlights

- Piloted parking garage energy lighting power reduction system to cut energy use by 25% (955,190 kWh/yr)
- Created 530 bicycle parking spaces
- About 6,450 tons of waste was diverted from landfills and avoided \$645,000 in disposal costs
- Saved 876,000 gallons of potable water by recycling at BART vehicle washing facilities

PROJECT SUMMARY

BART, in partnership with EPA Region 9, reviewed BART Facilities Standards (BFS) documents, including Design Guidelines, Facilities Criteria, Standard Plans, and Standard Specifications to prioritize opportunities to incorporate sustainable building practices. BART used an online, paperless process to incorporate sustainability requirements into over 6,000 pages of guidance. BART's Sustainable Design Guidelines were prepared based on a wide range of existing measures, including the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Green Building Rating System and GSA Green Building Guidelines. The pilot developed, implemented and documented short and long-term sustainable transit design, procurement, and construction practices through six specific objectives:

1. Assess opportunities for BART innovations
2. Implement a short range energy efficiency pilot project
3. Redevelop BART Facilities Standards to promote sustainability
4. Share project information to promote public awareness and replication
5. Transfer Innovations Pilot Findings by creating Sustainable Transit Guidelines
6. Quantify Environmental Benefits and Costs of Sustainable Transit Practices

RESULTS

Measures implemented under the Sustainable Transit Leadership Project, including BFS adoption and the energy efficiency pilot, led to the adoption of sustainability practices in BART's facility planning, construction, and operations. Detailed project results data were gathered from contractor submittals, project drawings and interviews with project managers, resident engineers and contactors. BART hosted a workshop to develop guidelines for sustainability practices broadly applicable across the transit sector and organized a National Working Group for Sustainability in Transit.

2010 UPDATE

The Sustainable Transit Practices Compendium and draft Sustainability Guidelines sustainability guidelines are already being used by numerous transit agencies. The guidelines are also being reviewed through the American Public Transportation Association (APTA) Guidelines adoption process. Project partners have developed detailed guidance and transit-specific case studies and presented collective results through APTA, EPA, and leading sustainability conferences and webinars. BART is also documenting three transit sustainability case studies at major station renovation sites. The project remains a successful, ongoing innovation.

Innovation Pilot Partners

Lead: Bay Area Rapid Transit (BART)

Sponsor: U.S. EPA Region 9

Other Partners:

Transit Agencies from the following cities: Chicago, Los Angeles, Atlanta, Miami Dade, New York City, Denver, Toronto, British Columbia, Vancouver, Portland, Washington, DC

State Entities: CalRecycles, Florida Department of Health, Florida Department of Transportation, Florida State University

Additional Partners:

- Federal Transit Association
- StopWaste.org
- American Public Transportation Association (APTA)

Additional Information

OSWER Innovation Projects:

www.epa.gov/oswer/iwg/pilots

HUD-DOT-EPA Sustainable Communities Partnership:

www.epa.gov/dced/partnership/

Transit Sustainability Practice Compendium:

<http://apta.com/resources/hottopics/sustainability/Documents/Transit-Sustainability-Practice-Compendium.pdf>

Transit Sustainability Guidelines (Draft):

http://apta.com/resources/hottopics/sustainability/Documents/Transit_Sustainability_Guidelines_Draft_09-20-10.pdf

BART Strategic Plan and Policies:

www.bart.gov/about/planning/strategic.aspx

EPA Resource Conservation Challenge Workshop:

www.epa.gov/osw/rcc/resources/meetings/rcc-2010/hood.pdf