

The background of the slide is a blurred photograph of a transit system, likely a train or subway, with light trails from the tracks and overhead lights creating a sense of motion and speed.

Sustainable Transit

Racing Toward Sustainability

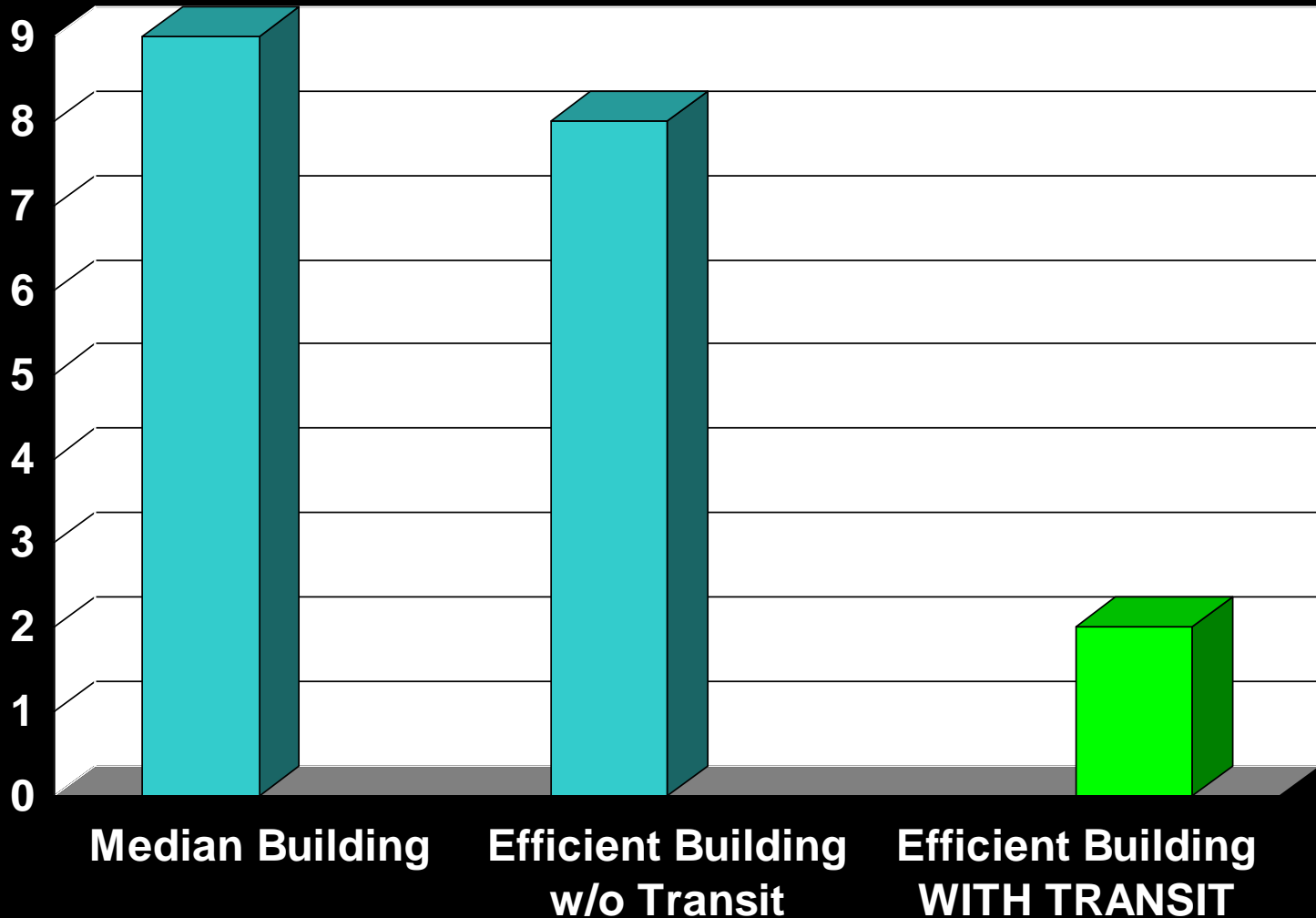
EPA Resource Conservation Challenge Workshop

March 24, 2010

Timonie Hood

EPA Region 9

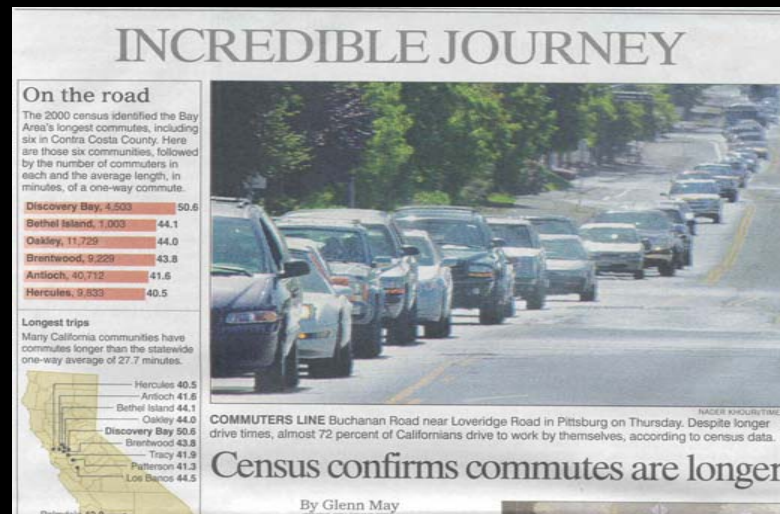
Why Transit? **Tons CO₂e/FTE**





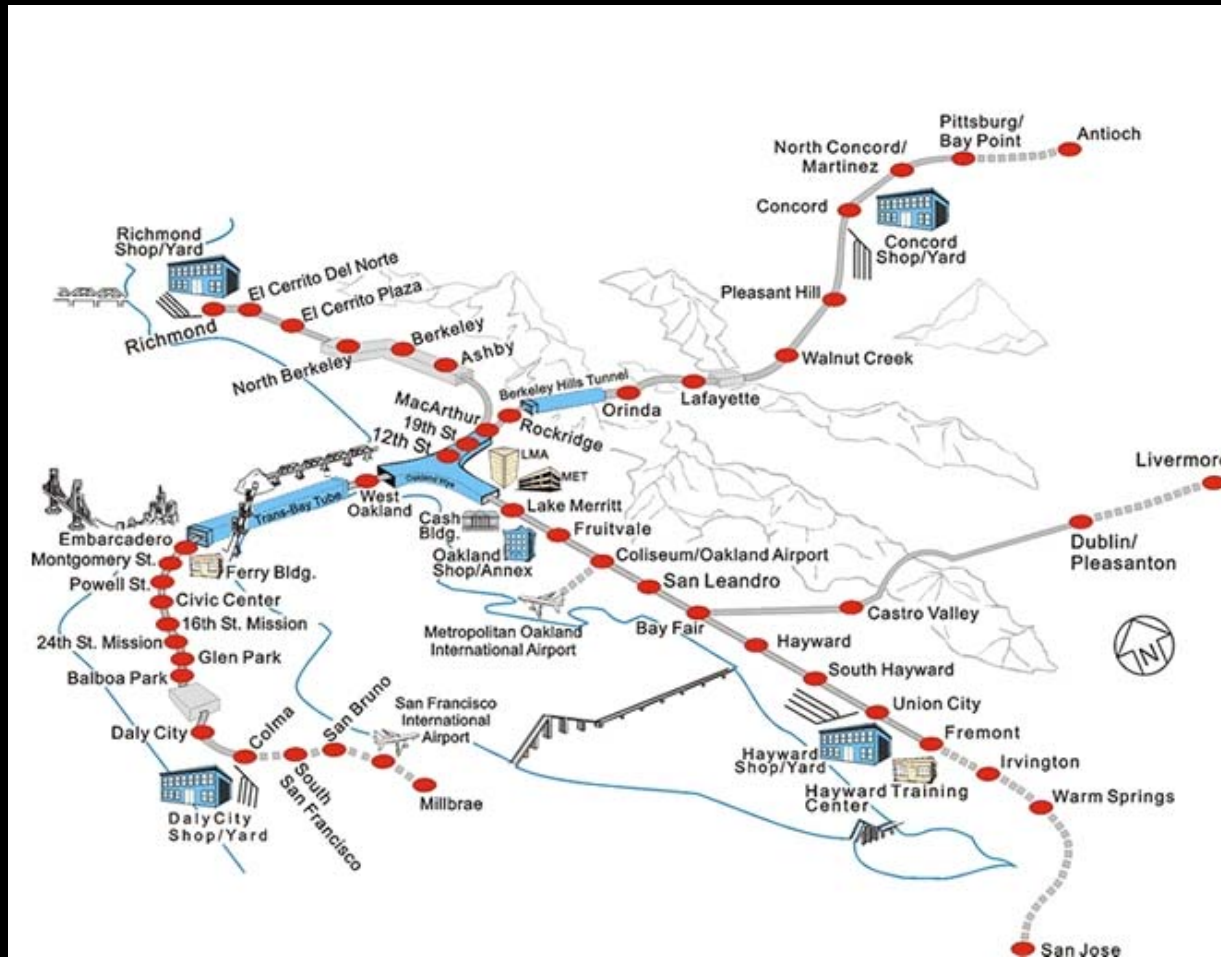
BART, Bay Area Economy & Sustainability

BART's goal is to encourage a robust and diverse economy for the Bay Area while maintaining healthy and livable communities and protecting the natural environment.



BART transports 300,000 commuters daily virtually without emission. BART is an essential “green” element to the sustainable Bay Area.

BART: 43 stations and over 100 miles of railway in 4 counties



EPA/BART Sustainable Transit Leadership Pilot

- 2002 OSWER Innovations Workgroup Pilot - \$45,000 grant
- Focus on Greening Transit:
 - Energy Efficiency Pilot
 - Facility Standards/Specifications
 - Construction & Demolition Debris
 - Recycling
 - Environmentally Preferable Purchasing
 - +6,000 page Facility Standard “Greening”



NATURAL ENVIRONMENT

Regional and local sustainability - economical, environmental and quality of life

Strategically partnering with federal, regional, state and local government for formulating the Sustainability Policy

BART Sustainability Policy

Community sustainability and livability - performance of public transportation industry

Use pilot/leadership projects to identify sustainable, materials, facilities and technologies through scientific research and development based approach

Sustainability Policy Leadership Projects

BART infrastructure sustainability and life-cycle value, public investment

Formulate the Facilities Standards to incorporate and adopt proven sustainable materials, facilities and technologies.

BART Facilities Standards

BART facilities and systems functionality, operability and maintainability

Planning, design, construction and operations of BART physical infrastructure and facilities

Sustainability Policy & Facilities Standards Implementation

FACILITIES OPERATIONS

POLICIES & STANDARDS

BUILT ENVIRONMENT



BART Sustainability Policy

1. Resource Efficiency
To satisfy today & future generations' needs, including water, energy and materials conservation, innovation and recycling.

2. Service Quality
To fulfill the basic purpose of the transit system, including safety, reliability and comfort.

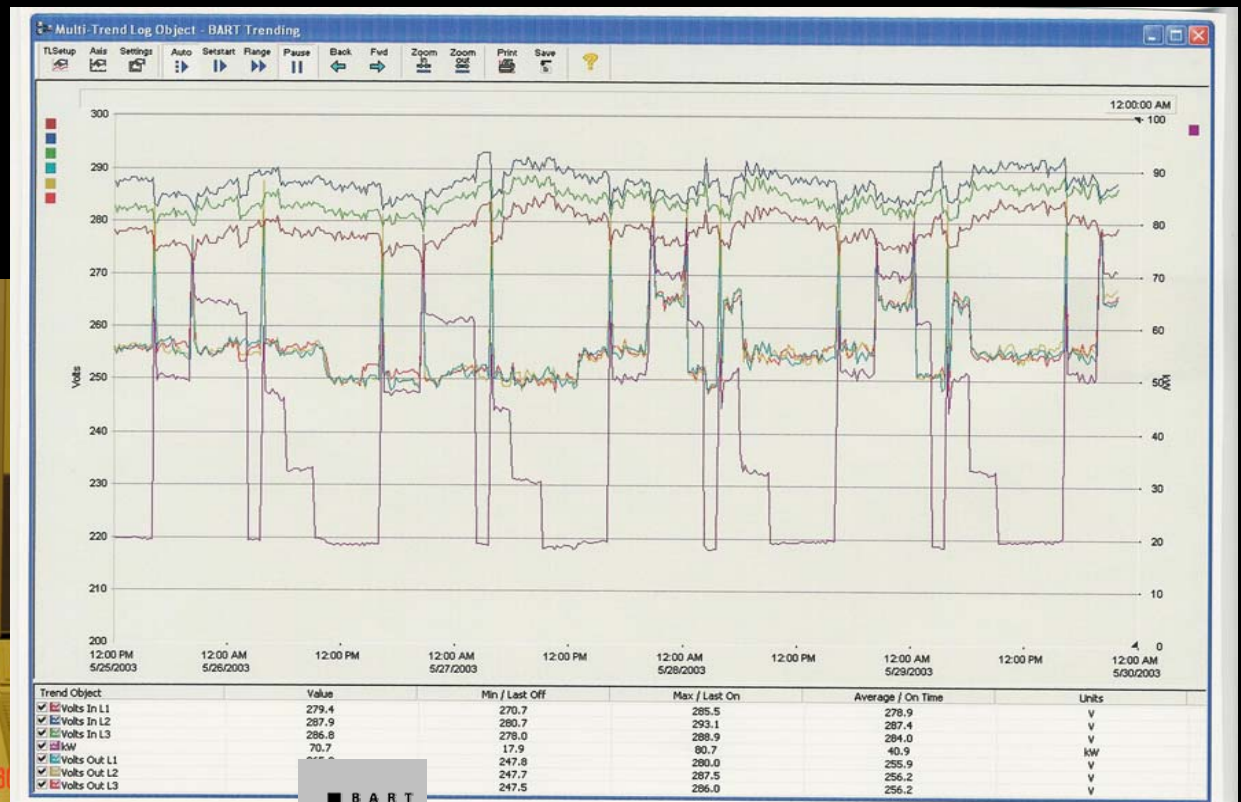
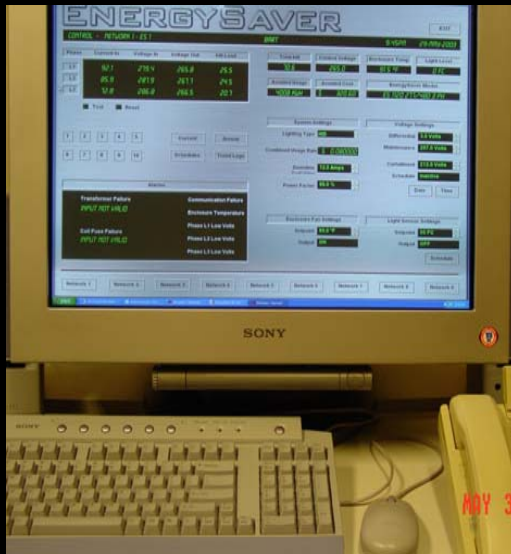
3. Environmental Preservation
To protect current & future generations' quality of life, including reducing pollutants & increasing human health.

4. Cost Effectiveness
To construct & operate a public transit system in an economically justifiable way, providing affordable transportation to the public at competitive market rates.

Energy Efficiency Pilot

- BART is one of the largest parking garage owners in CA
- Lighting Control Power Reduction System
 - Dual metered parking garage
 - Transformer with centrally controls to reduce voltage and current
 - **Sustained 25% reduction in energy use**
 - Kwh Savings: 97,090/yr.
 - CO2 Reduction 130,108/yr
 - Cost \$12,226/Return on Investment 1.8 yrs.
- Required in Facility Specification for new construction

Energy Efficiency Pilot System





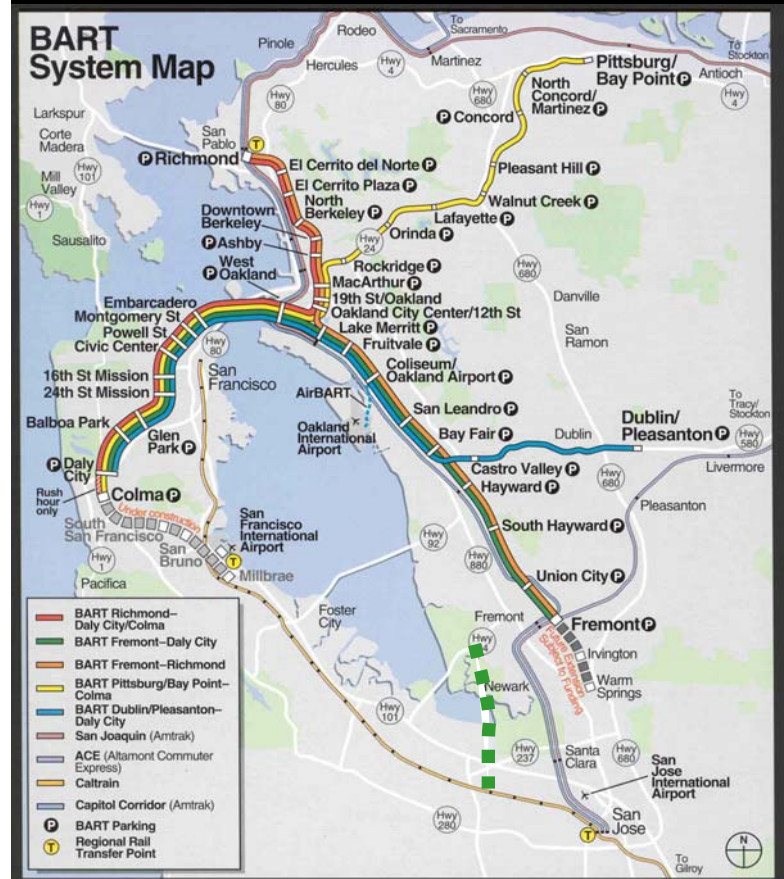
Land Use and Community Development

The Sustainability Policy will encourage BART to:

- increase its system capacity for serving more communities;
- optimize its facility & operational performance; and
- enhance its service quality to the riding public

Results

- More compact land uses in developed areas & less pressure in undeveloped areas;
- More preservation and less impact to the natural environment and resources;
- Safer commutes and healthier living communities






Benefits Sustainability Policy

- The policy commits BART to pursuing the synergy of sustainability elements of resource efficiency, service quality, environmental preservation and cost effectiveness
- The policy has received support and input from US Green Building Council, Alameda County Waste Management Authority, California Green Building Task Force and EPA Region 9
- The process of developing the policy has created and enhanced BART's partnerships with other agencies at the local, state, regional, federal level and has received international attention

United States Environmental Protection Agency | Office of Public Affairs Washington, D.C. 20460 (1703A) | www.epa.gov/newsroom




Note to Correspondents

FOR RELEASE: MONDAY, SEPTEMBER 9, 2002

EPA ANNOUNCES CREATIVE APPROACHES FOR HELPING AMERICANS RECYCLE, RECOVER ENERGY, MINIMIZE WASTE AND REVITALIZE THE LANDSCAPE

A BRIEF DESCRIPTION OF THE 12 PROJECTS:

Sustainable Transit Leadership Sponsor: U.S. EPA Region 9 Partner: Bay Area Rapid Transit (BART), San Francisco Overview: This pilot will research and demonstrate specific green practices that transit authorities can implement to	Amount \$35,000
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
"Green" Solutions REGION IX for Transit Projects
75 Hawthorne Street
San Francisco, CA 94105-3901


December 19, 2001

Tian Feng, District Architect
BART, Main Office
P.O. Box 12688
Oakland, CA 94604-2688

Dear Mr. Feng:

It was a pleasure meeting you a few weeks ago. EPA is excited about BART's efforts to "green" BART operations. I have attached a list of "green" recommendations for transit projects. These recommendations are geared specifically toward the development of environmental documents, such as Environmental Impact Statements and Environmental Assessments, and they should also be useful in project planning. Please keep in mind that this is not an official publication, but a tool developed by EPA to help transit agencies incorporate a greater level of environmental protection features into their projects. If you have any questions, do not hesitate to contact me. I can be reached at (415) 904-6211 or tian.feng@epa.gov.

I look forward to working with you on these projects.



Alameda County Waste Management Authority
Alameda County Source Reduction and Recycling Board
www.stopwaste.org

Institutionalizing Sustainable Transit

- 2008 Innovations Workgroup contract \$50K
- Multi-Stakeholder Green Transit Guidelines
 - On site R9 EIP rotation support 5 months: **Jennifer Blonn**
 - Multiple Working Meetings
 - **Includes multimodal case studies**
 - American Association of Public Transportation (APTA) Review
- Major BART Renovation Case Studies (+\$220M)

Transit Sustainability Work Group

Transit Agencies

- **San Francisco Bay Area Rapid Transit District, Oakland, CA – R9**
- Chicago Transit Authority, Chicago, IL – R5
- Denver Regional Transportation District, Denver, CO – R8
- Los Angeles Metro, Los Angeles, CA – R9
- Metropolitan Atlanta Rapid Transit Authority, Atlanta, GA – R4
- New York City Transit, New York, NY – R2
- Southern Nevada Regional Transportation Commission, Las Vegas, NV – R9
- TriMet, Portland, OR – R10
- Toronto Transit Commission, Toronto, Canada
- TransLink, Vancouver, Canada
- Washington Metropolitan Area Transit Authority, Washington, DC – R3

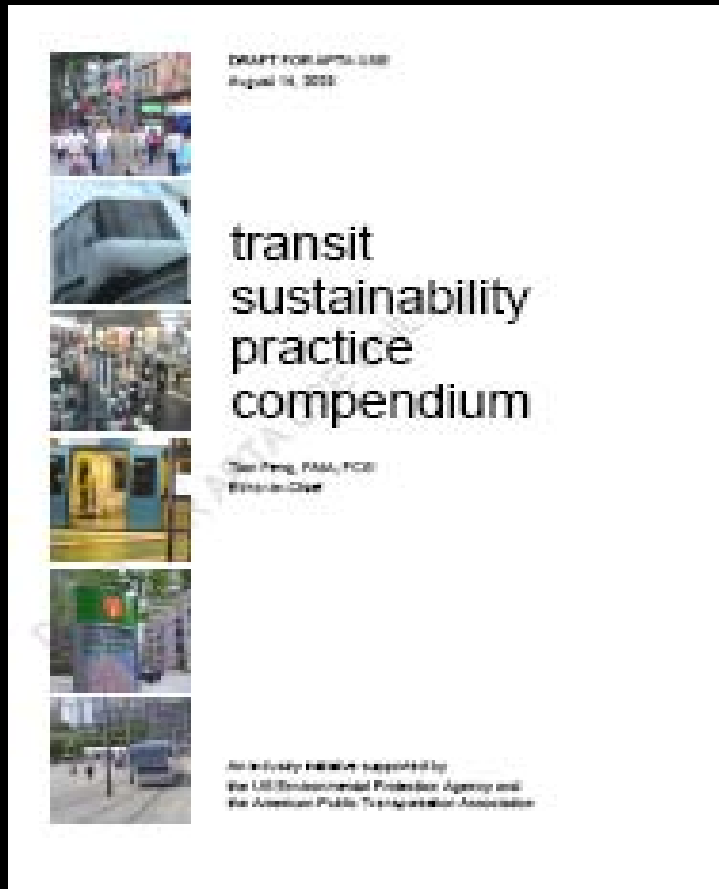
Federal Government

- **U.S. Environmental Protection Agency**
- **Federal Transit Administration - U.S. Department of Transportation**
- **Opportunity: HUD - through Transit Oriented Development efforts**

Industry Association

- American Public Transportation Association

Transit Sustainability Practice Compendium (Draft)

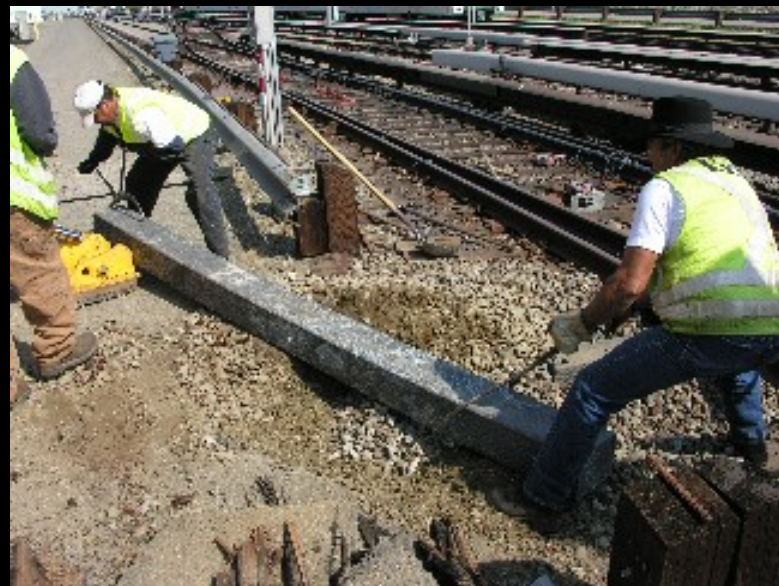


<http://bit.ly/TransitSustainability>

Recycled Plastic Rail Ties

Less Energy, Less Waste, Lower Life-Cycle Cost

- Plastic bottles, Plastic bags Automobile tires
- Last twice as long & can be recycled
- **BART replaced 400 wooden railroad ties with recycled ties (1.1 million grocery bags, 246,400 plastic bottles and 1200 tires)**
- Old wood ties used to make electricity (state-of-the-art air quality controls)
- Impact: Railroads replace millions of ties each year



Transit - Renewable Energy

- **TriMet/Portland General Electric (PGE) - innovative renewable initiatives**
- **The Portland Mall Revitalization - photovoltaic and vertical axis wind turbines**
 - PV panels on the exterior structure (50 kilowatts).
 - 22 turbines on top of the light rail's catenary poles (275 watts).
- Energy fed directly into PGE's grid
- Power site lighting, lights for exterior screen wrap and buildings' electrical systems.



Changing the Bus Experience

- Southern Nevada RTC in Las Vegas operates the **only “specialized” Bus Rapid Transit vehicle in the U.S.**
- **280% increase in ridership in the first year of operation.**
- Key objectives
 - Aesthetically appealing, more “rail-like”
 - Branding identity separate from other transit services



NEXT STEPS

- **HUD/DOT/EPA Livable Communities**
- Finalize Guidelines and Case Studies
 - **Add Measurement**
 - Add High Speed Rail
 - Influence Transit Stimulus
 - STAR Community Index
- Incorporate into Funding/Criteria
- Outreach
 - HUD/DOT/EPA Partnership Events
 - Video & Social Media Outreach

Efficient buildings with efficient TRANSIT

A blurred high-speed train is shown in motion at a station platform. The train is white with blue and grey accents. The platform has a yellow tactile strip along the edge. In the background, there is an 'EXIT' sign and some people waiting. The overall scene is dynamic and modern.

Get onboard!

Timonie Hood

hood.timonie@epa.gov

415 972 3282

Jennifer Blonn

blonn.jennifer@epa.gov

415 972 3855