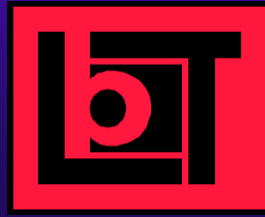




American Public Transportation

The Cash Benefits of being Green

May 7th, 2012





LBT Sustainable Policy

Long Beach Transit is committed to being a leader and a model for other organizations in environmental preservation and resource efficiency by using sustainable materials, methods and technology to improve environmental, social and economic health of our region.





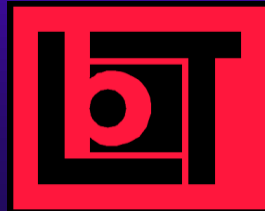
Approach to Sustainability

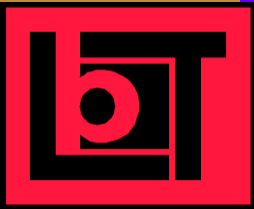
- ◆ 1st step - Review Practices
 - FY09 Employee GREEN team Created
 - Management team to review policies in 5 areas of VOICE
- ◆ 2nd step - Audit
- ◆ 3rd step - Benchmark
- ◆ 4th step - Set Goals
- ◆ 5th step - Report



Long Beach Transit

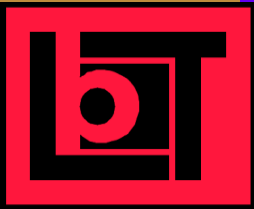
Let's Be Thinking green





LBT's green plan

- ◆ **V**ehicles
- ◆ **O**perations
- ◆ **I**nfrastructure
- ◆ **C**ommunications
- ◆ **E**mployees



Vehicles

◆ Alternative Fuels

- Diverse Fleet
- Lower Emissions
- Lower Carbon Footprint



◆ Hybrid Electric - 89

◆ CNG Coaches - 64

◆ Diesel Coaches - 75

- Ultra-low Sulfur Fuel
- Particulate Traps on 100% of coaches

◆ Service Cars -

- Prius / Camry's for staff & service relief
- Ford Escape replacing supervisor vehicles

◆ All Electric Coaches in 2013

Operations

- ◆ Reduce, Reuse, Recycle --- Waste
 - Waste Management
 - Recycle program
 - Toner Cartridge
 - Batteries
 - Fluorescent tubes
 - Maintenance Shop products
 - Employee Supplies

- ◆ Energy Usage Audits / Rebates
 - Electricity
 - Water
 - Gas



Infrastructure



◆ Sustainable Stops

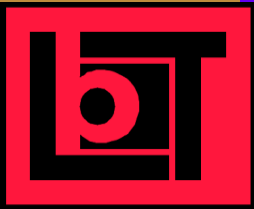
- Solar Panel lights
- Easy to setup

◆ Facility Plan

- Comprehensive Master Plan
- Procure high energy star equipment
- LEED guidelines for Existing Bldgs

◆ Grounds

- Landscape review
- Drought tolerant plants



Communications

◆ ESMS

- Completed FTA sponsored ESMS Institute
- Benchmarking
- Annual Reporting

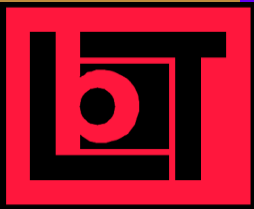
◆ Internal

- Sustainability Orientation
- Annual Updates
- Helpful Tips



◆ Public

- Press Releases
- Community Involvement



Employees

◆ Employee Green Team

- review, establish & improve programs & activities
- to change the culture
- sustainability efforts at home, work and getting to the job



◆ Eco-Driving

- Driving techniques to improve mpg
- Helpful Tips

◆ Energy Team

- Quarterly Review
- Circulate energy use tips

◆ Recycle Efforts

- Personal approach
- CRV separated for employee green fund

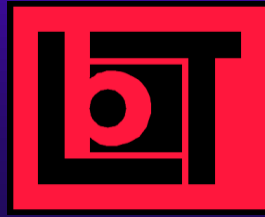
◆ Getting to Work

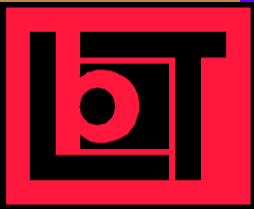
- Free Bus Pass
- Walk / Bike program



V.O.I.C.E.

Finding Green \$ with an active
Plan of Action





Vehicles

◆ Improved Practices

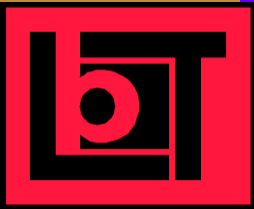
- FY09 - Rebuilding Electronic components in house
- FY11 Vehicle fluid recons (diesel, gasoline, anti-freeze, oil...) & mpg exception rptg on all fluids

◆ Impact

- Rebuilds average \$140k in savings 1st year, FY10 – \$179K & FY11 - \$148k
- Seeing improvement in mpg (can't quantify) definite savings in anti-freeze reduction - \$15k savings

◆ Improvement Plan

- Conducting Carbon Footprint study this summer
- Recycling on the bus being considered



Green Savings

Item	FY10	FY11	FY12	Total
Vehicles rebuilds	\$140k	\$178k	\$148k	\$466k
Anti-Freeze		\$15k	\$15k	\$30k

Savings
\$ 496k



Operations - Electricity

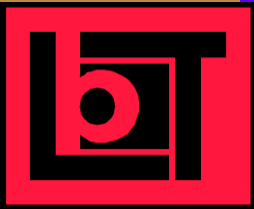
◆ Improved Practices

- Moved high electricity maintenance to lower cost electricity hours
- Improved light fixtures & sensors in offices
- Computer Monitored Thermostats

◆ Impact

- 2% drop in FY10 usage, steady year 11 & 12
- but were able to cap in a rate plan saving an actual 10% in our bill - \$81k in 3 years

◆ Improvement Plan to Infrastructure



Operations - Water

◆ Improved Practices

- Bus wash improvements / RO water 90%
- Reduced bus washing to 3 times a week
- Ground sprinklers repaired (PM, new fixtures, & satellite monitoring system)

◆ Impact

- FY 09 17% drop in usage in FY10 & steady in 11/12
- Although 20% increase in rate amts to \$20k in 3 yrs

◆ Improvement Plan

- Project to replace fixtures (toilets, urinals & sensor faucets)



Operations - Gas

◆ Improved Practices

- Sub-meter our high gas usage items & monitor the usage
- Lowered & Monitor Temperatures

◆ Impact

- 10.5% decrease in usage in year 1 and maintained lower usage in year 2 , went up in year 3
- Savings amounts to \$23k in 3 years

◆ Improvement Plan

- Can we collect & monitor data via computer?
- Now starting CNG fueling / special rates????



Green Savings

Item	FY10	FY11	FY12	Total
Vehicles rebuilds	\$140k	\$178k	\$148k	\$466k
Anti-Freeze		\$15k	\$15k	\$30k
Electricity	\$31k	\$23k	\$31k	\$85k
Water	\$7k	\$7k	\$6k	\$20k
Gas	\$11k	\$8k	\$4k	\$23k

Savings
\$ 624k



Operations - Maintenance Materials

◆ Practices

- Three R's then WASTE / LANDFILL
- Unique recycling bins & waste throughout shop
 - Metal, plastic, other, waste - different colors
 - Batteries, fluorescent, electronics -unique labels
 - Reuse pallets, cardboard, packaging mtl's etc..
- Income Producing – money to green projects
 - CRV's being handled by custodians for offices & Utilities on what comes from bus
 - Other items handled by shop employees
- Old parts – donating to local college

Operations - Office Materials

◆ Practices

- Office Single Stream Recycling
- Monitor paper usage / double-sided
- Reduction Campaign
- Old computer hardware to schools



ACCEPTABLE RECYCLING ITEMS

Paper

Newspapers & Junk Mail

Catalogs, Magazines & Phone Books

Cardboard

Chipboard (Cereal Boxes, Shoe Boxes)

Envelopes

Aluminum Cans

Glass Bottles & Jars (rinsed out)

Tin & Steel Cans (rinsed out)

Plastic Bottles (rinsed out)

NO GREEN WASTE OR
FOOD SOILD WASTE ACCEPTED



Operations - Maintenance Materials

◆ Impact

- Office Supplies \$5k in paper alone – (8%)
- Material - \$10k savings in packaging (50%)
- Income FY11 \$65k in recycling (increase by 50%)
- Waste Mgmt contract - \$15k a yr in savings (33%)
- FY11 - recycling 73% of Waste Stream – 113 tons a year is being diverted from landfill

◆ Improvement Plan

- WIP's detailing our material usage
- Can we collect data on other material savings)
- Can we collect recyclable on bus?



Green Savings

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Water	\$7k	\$7k	\$6k	\$20k
Gas	\$11k	\$8k	\$4k	\$23k
Reduce			\$5k	\$5k
Re-use		\$3k	\$7k	\$10k
Recycle	\$33k	\$65k	\$70k	\$168
then Waste	\$15k	\$15k	\$15k	\$45k

Savings
\$ 852k



Infrastructure - Electricity

◆ Practice driven by Operations

- Improved Office lighting & sensors, replaced aging T-4 tubes, with T-8 tubes
- Shop lights replacing halogen lights with fluorescent
- Bus Stop solar lights

◆ Impact

- Future operation savings – projected FY13 \$38k
- Rebates \$13k for office & \$28k this year for shop

◆ Improvement Plan

- CFMP assessing equipment including energy usage with ROI recommendations
- ASHRAE – Energy Study



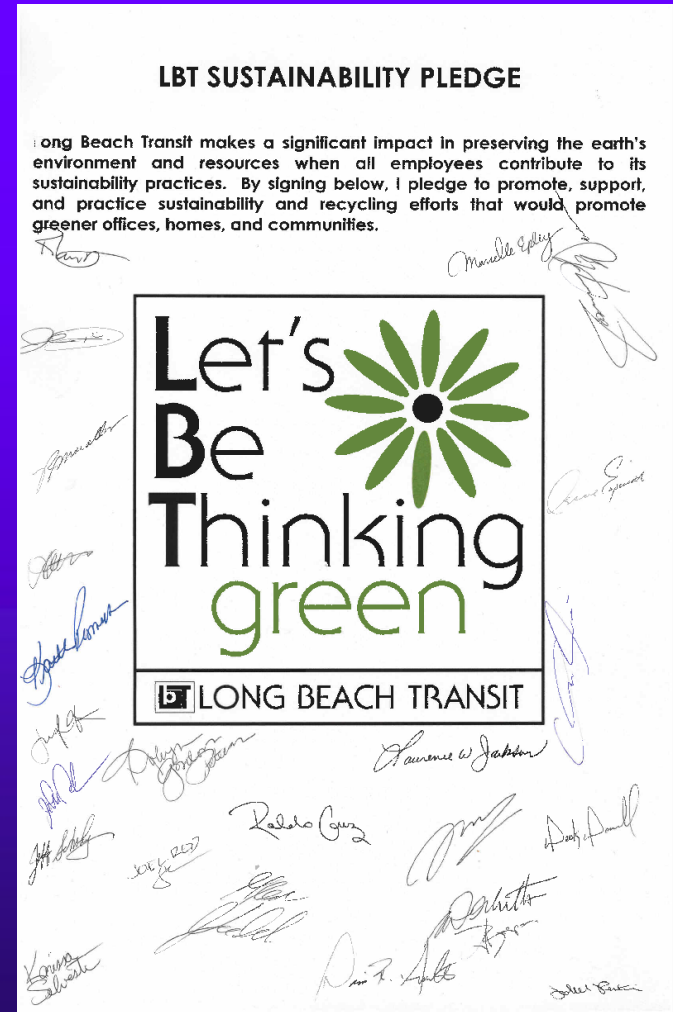
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then Waste	\$15k	\$15k	\$15k	\$45k
Rebates		\$13k	\$28k	\$41k

Savings
\$ 893k

Communications

- ◆ Practice
 - Sustainability Pledge in FY11
 - ESMS Campaign
- ◆ Impact
 - As we learn to use ESMS & measure our savings we can only imagine savings
- ◆ Improvement Plan





Employees



◆ Practice

- ESMS consolidates efforts
- Employee Green Team suggest ideas & drives programs

◆ Impact

- More coordinated efforts between Maintenance & Risk Management
- Savings are great but efforts are as a team

◆ Improvement Plan

- Continue with ESMS



Green Savings

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then Waste	\$15k	\$15k	\$15k	\$45k
Rebates		\$13k	\$28k	\$41k

Savings
\$ 893k

+ **FY13 Savings \$ 400k**
= **Total Savings \$ 1.2 Mil**



Conclusions

- ◆ Savings are there
 - Review what you are doing
 - Audits, benchmark, goals
- ◆ Collect Data
 - Create internal committee / plan - ESMS
 - Start with base year
- ◆ Communicate Regularly
- ◆ Your doing it – so get recognition!!!!