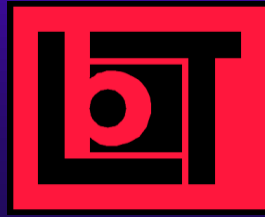




# American Public Transportation

The Cash Benefits of being Green  
May 7<sup>th</sup>, 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.





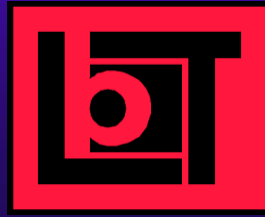
# Approach to Sustainability

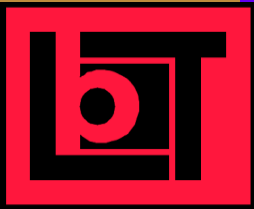
- ◆ 1<sup>st</sup> step - Review Practices
  - FY09 Employee GREEN team Created
  - Management team to review policies in 5 areas of VOICE
- ◆ 2<sup>nd</sup> step - Audit
- ◆ 3<sup>rd</sup> step - Benchmark
- ◆ 4<sup>th</sup> step - Set Goals
- ◆ 5<sup>th</sup> step - Report



# Long Beach Transit

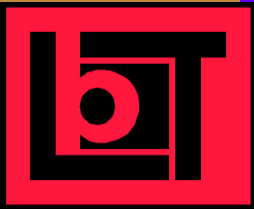
Let's Be Thinking green





# 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

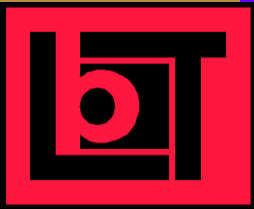
## ◆ Facility Plan

- 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

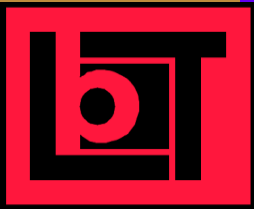
## ◆ Internal

- 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

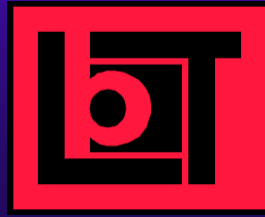
## ◆ Getting to Work

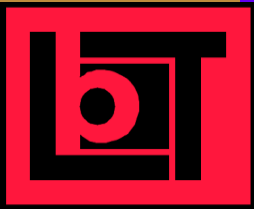
- Free Bus Pass
- Walk / Bike program



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 1<sup>st</sup> 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

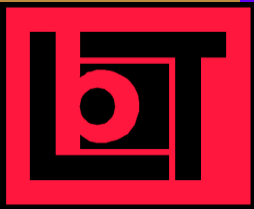
## ◆ Improved Practices

- 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



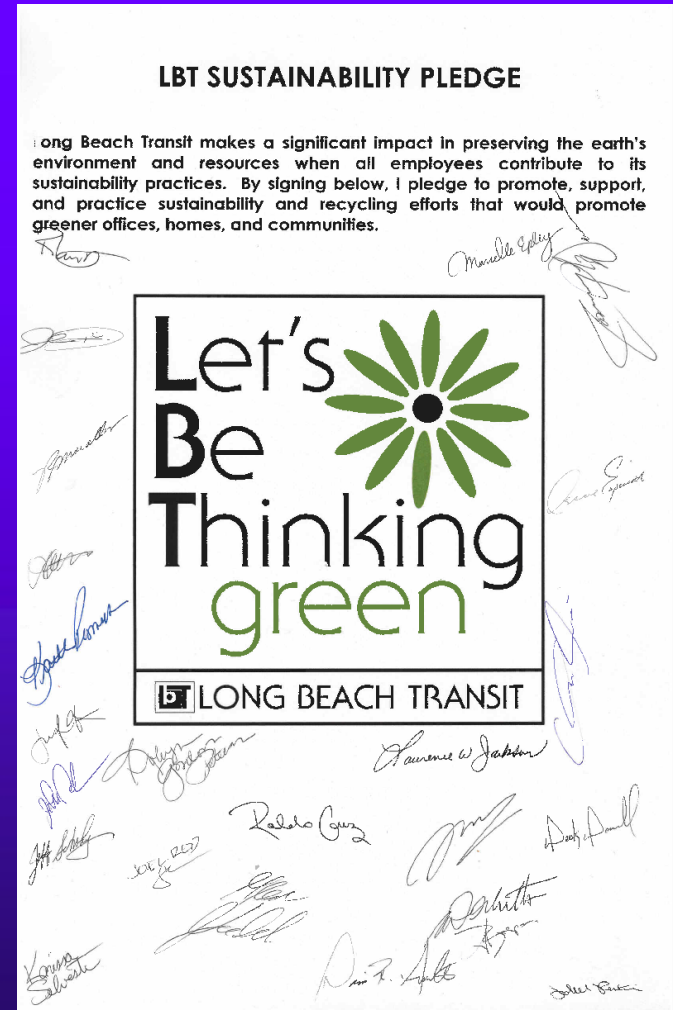
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Recycle	\$33k	\$65k	\$70k	\$168
then Waste	\$15k	\$15k	\$15k	\$45k
Rebates		\$13k	\$28k	\$41k

**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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Rebates		\$13k	\$28k	\$41k

**Savings**  
**\$ 893k**

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



# Conclusions

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- ◆ 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!!!!