



# Environmental Management System (EMS) As A Climate Change Management Tool

2010 Sustainability Summit  
June 9, 2010

# Why are we here today?

- **Introduce Metro's EMS process as a Climate Change Management Tool**
- **Engage and Identify Opportunities of Improvement and Collaboration**
- **Spread the word**

# Outline

- Metro's Environmental and Sustainability Program
- Environmental Management System
- Indicators
- Accomplishments
- Current Studies
- Questions/Discussion



# Metro's Environmental Program

- Four-pronged approach to environmental protection and enhancement
  - Environmental clearance
  - Remediation, restoration and enhancement of impacted sites
  - Accounting and reduction of environmental liabilities
  - Development, implementation and promotion of sustainable planning, construction, operations, and procurement practices
- Establish sustainability criteria and standards for all new bus and rail extension projects
- Reduced financial obligations and exposure
- Create value through more efficient operations
- Leads to our overall sustainability



# What is EMS?

- Environmental Management System
- Collection of best practices to ensure environmental compliance at all levels of organization
- Based on ISO 14001 standard
  - ISO 14001 compliant vs. ISO 14001 certified
- Cited by the FTA across the nation as any transit property's clearest commitment to environmental compliance and stewardship



# Major Elements of EMS?

- *Environmental Policy*
- *Identification of Environmental Laws and Regulations*
- *Identification of Environmental Issues*
- *Development of Targets and Objectives*
- *Identification of Resources, Roles and Responsibilities*
- *Identification of Training Requirements*
- **Development of Internal and External Communications**
- **Documentation to Develop, Review, and Revise Procedures**
- **Develop Document Control**
- **Control and Distribution of Records**
- **Develop Policies and Procedures to Address Environmental Issues**
- *Emergency Preparedness*
- *Monitoring and Measurement of Progress*
- *Evaluation of Environmental Compliance*
- *Identification of Non-Conformity to EMS process*
- *Internal Audit to Ensure EMS Compliance*
- **Management Review**

PLAN

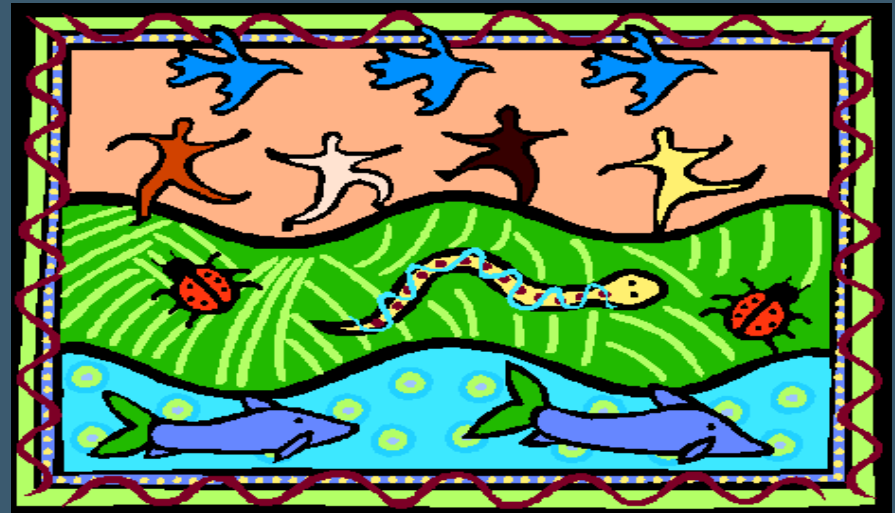
DO

CHECK

ACT

# Metro EMS Efforts

- Basis is the Metro-Board adopted Environmental Policy
- EMS as the tool to ensure environmental compliance and sustainability
- FTA-assisted effort
- Training at VA Tech for selected personnel
- Designation of Local resources to Implement EMS at Facility Level
- FTA Report



# Sustainability Indicators and Efficiency

## Twelve sustainability indicators historically evaluated

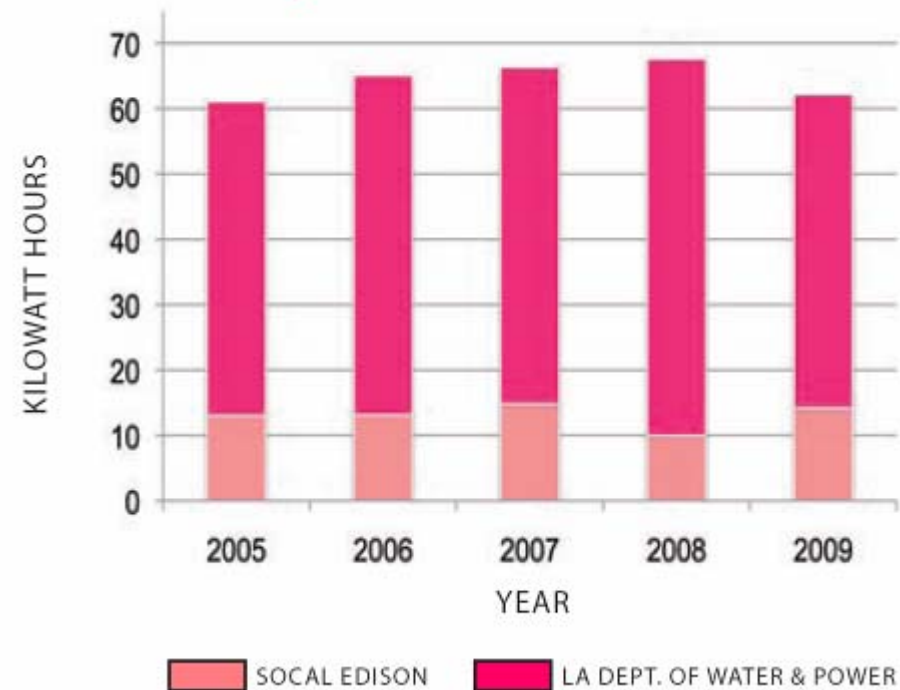
- Derived from The Global Reporting Initiative (GRI)
- Inputs (energy, water, materials)
- Outputs (emissions, effluents, waste)

- 1 Ridership
- 2 Fuel Use
- 3 Rail Propulsion Power
- 4 Facility Electricity Use
- 5 Water Use
- 6 Greenhouse Gas Emissions
- 7 Air Quality
- 8 Solid Waste and Recycling
- 9 Used Oil Waste
- 10 Hazardous Liquid Waste
- 11 Non-Hazardous Liquid Waste
- 12 Anti-Freeze Waste

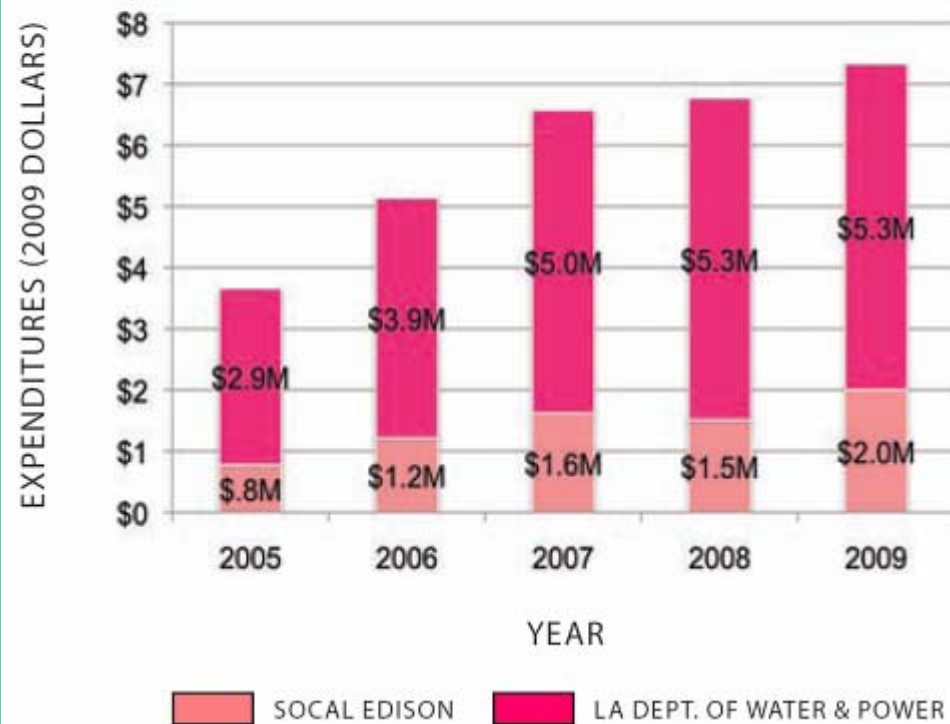


# Data and Analysis – Facility Electricity Use

## Electricity Use Decreased in 2009

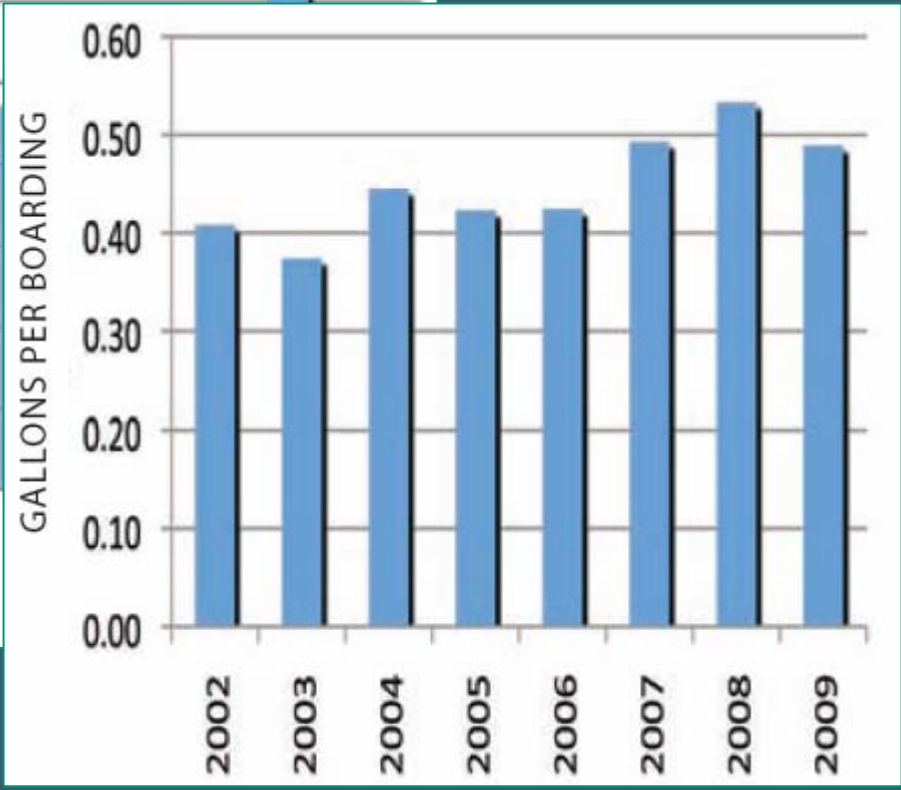
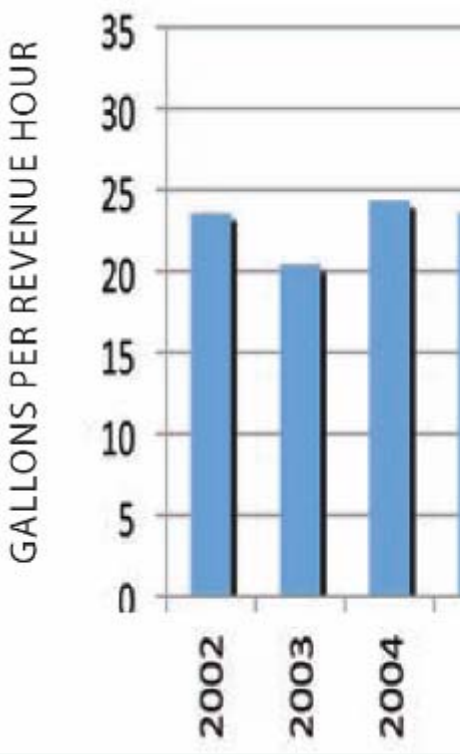
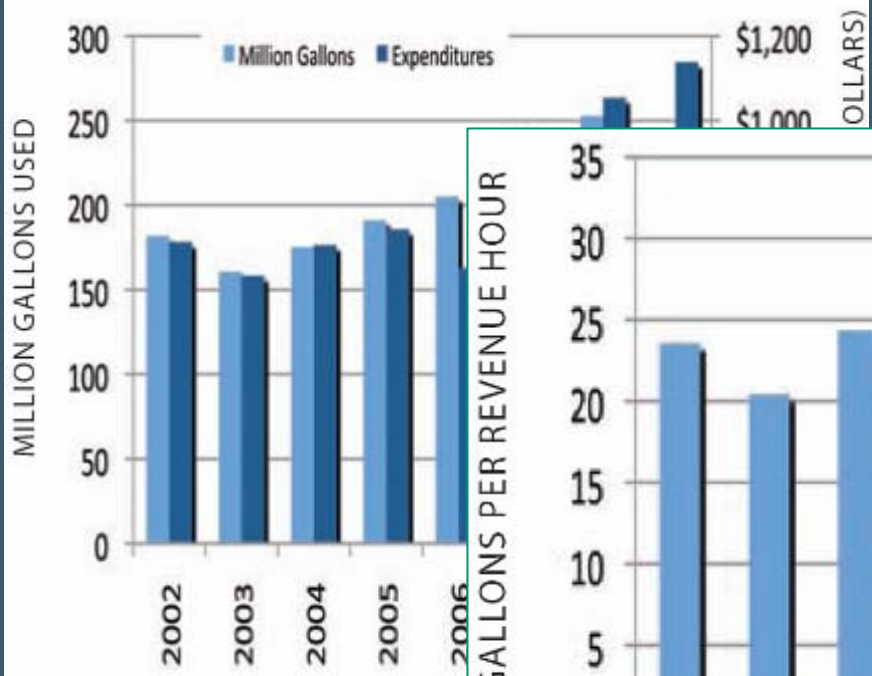


## Electricity is a Significant and Growing Cost

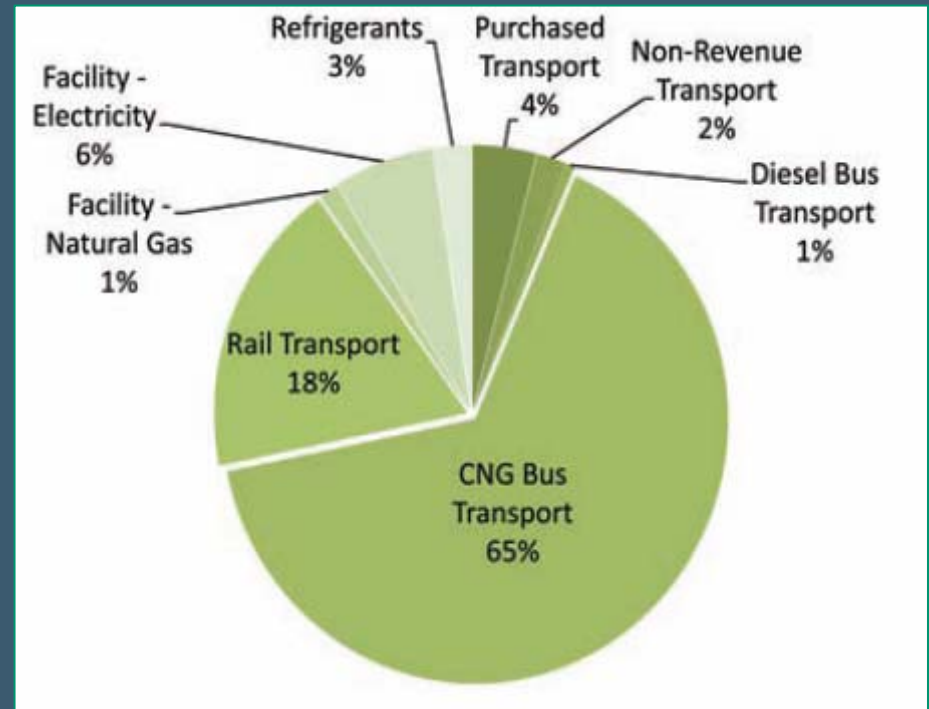
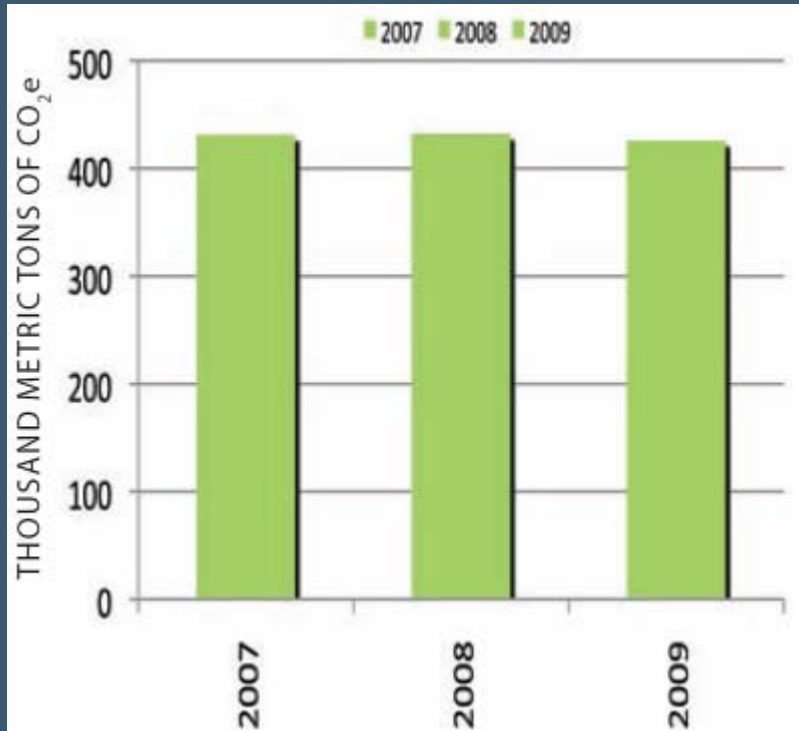


# Data and Analysis – Water Use

**Water Use Decreased in 2009**



# Data and Analysis – Greenhouse Gas



# Transit Related Protocols

- APTA Climate Change Working Group
- *Recommended Practice for Quantifying Greenhouse Gas Emissions from Transit (August 2009)*
  - Basis: Climate Registry Protocol
  - Vehicle Miles Travelled Offset
  - Congestion Reduction Offset
  - Land Use Multiplier Co-Benefit Offset
- *Recommended Practice for Climate Action Planning*
  - Will be completed in August 2010



# Accomplishments To Date

- Identified the most pressing environmental issues and began addressing them
- Development of procedures where none previously existed
- Complete EMS training program
  - Sustainability Awareness Training
  - Environmental Management System Awareness Training



# Accomplishments To Date

- **Strengthen existing programs**
  - Monthly environmental inspection and reporting
  - Stormwater and wastewater programs
  - Underground and aboveground storage program
  - Battery and Universal Waste Disposal
  - Recycling Program
- **Develop an EMS Awareness video**
- **Develop Contractor Management documents**
- **Develop EMS campaign documents**

# Accomplishments To Date

- Awareness at executive management level of environmental issues
- Development of Environmental Information Management System [EIMS]
- Identification and implementation of cost-saving ideas
- Robust Bottoms Up/Top Down Approach



# Related Documents and Efforts

- **Environmental Policies**
  - Environmental Policy
  - Sustainability and Energy Policy
  - Water Use and Conservation Policy
  - Construction and Demolition Debris Recycling and Reuse Policy
  - Environmental Liabilities Assessment and Reporting Policy
- **Inclusion of sustainability principles in Operations and Design Criteria**
  - Planning, Construction, Operations, Procurement
  - Busway and Heavy Rail and Light Rail

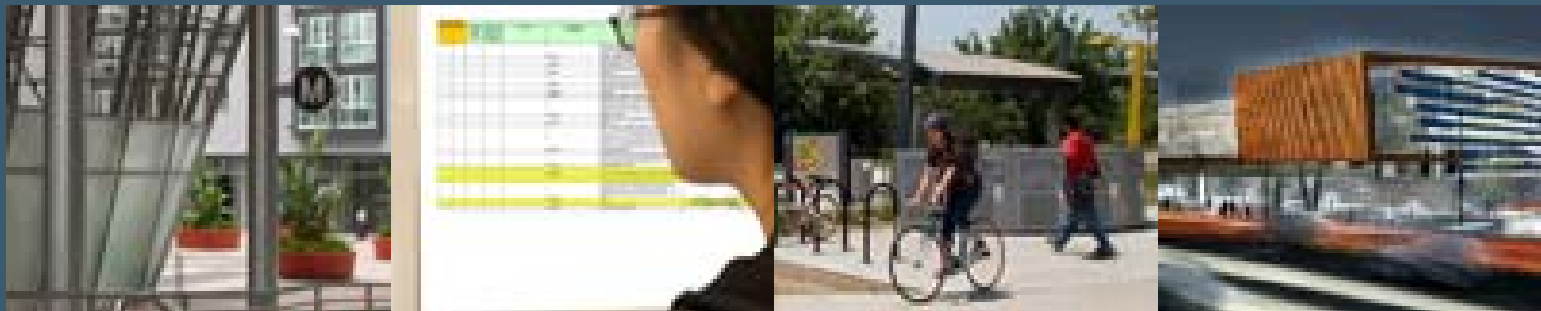


# Related Documents and Efforts

- **Pilot LEED-Existing Buildings Operations and Maintenance project at Gateway**
- **Energy Partnership Opportunities**
  - Caltrans
  - Utilities
  - Energy Services Corporations
- **Grants**
  - **Electric Vehicle Plug-in Stations Grant: California Energy Commission**
  - **Wayside Energy Storage System: ARRA**
  - **SCE Cool Planet Grant**
    - **Climate Registry Membership and Support**

# On-Going Studies

- Greenhouse Gas Emissions Reduction Strategies Cost-effectiveness Study
- Water Action Plan
- Energy Management and Conservation Plan
- Facility-wide Environmental Baseline Analysis
- Energy Audits for all Facilities
- Orange Line Bike Path Cost-Effectiveness Study
- Rail Station Bike Counts



# Recognitions and Cost-Savings

- *National Training Institute as a National Model Program*
- *USDOT, FTA, and APTA as a model effort*
- *United Nations International Case Study for sustainability implementation by a transit agency*
- *Current and Projected Cost-Savings in all EMS and Sustainability Efforts: about \$2M per year*

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# Questions/Discussion

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