

# Can Sustainability Initiatives be Effective?



APTA Sustainability &  
Multimodal Workshop  
Minneapolis, MN  
August 9<sup>th</sup>, 2017

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*“I have seen a lot of scenery in my life, but I have seen nothing so tempting as a home for man than this Oregon country. You have a basis here for civilization on its highest scale, and I am going to ask you a question which you may not like . Are you good enough to have this country in your possession? Have you enough intelligence, imagination and cooperation among you to make the best use of these opportunities?”*



**Lewis Mumford, address to the  
Portland City Club, 1938**

# TriMet's story – the evolution of sustainable transit

PORTLAND 1970s:  
180 DAYS OF AIR QUALITY VIOLATIONS



1969 – 1978: Watershed events that changed the course of Portland's future...

1969: TriMet

1972: Portland Plan

1973: Senate Bill 100

1978: METRO

## Why TriMet applied for the ESMS training

- Build on evolution of sustainable transit
- ESMS aligns with TriMet's new business model - *spur innovation and continuous improvement*
- Pilot Project - Elmonica LRT Facility Maintenance; a chance to 'get our feet wet'
- Biggest challenges
- Examples of success
- Next steps

## TriMet at a glance

316,700 weekday trips (114,600 LRT)

100 million trips per year ( 40% LRT)

78% choice riders

12 million trips-seniors, people with disabilities

Portland- 25th largest U.S. metro area, 11th in transit ridership (and 9th in ridership per capita)

## Portland region at a glance

- 2.5M - Region's population
- 628,830 - City of Portland (coin toss; Boston)
- 1.7% annual growth
- Largest US city - (lethargic) volcano inside city limits
- 700+ - food trucks
- Beervana - greater number of microbreweries than any other city on the planet... (which might explain)
- 10,100 - World Naked Bike Ride

# Project successes

## Capital Projects; an evolutionary process

- Yellow line



## Project successes

### Capital Projects; an evolutionary process

- Green (Mall Renovation & I-205)





# Project successes

## Capital Projects; an evolutionary process

- Orange



# Operations Successes

**TriMet is the largest consumer of biofuel (B5) in Oregon**

**No violations at the Elmonica facility**



# Operations Successes

**Garage recycling program  
agency-wide;  
Elmonica....**

- **Batteries**
- **Lamps**
- **Parts washer solvent**
- **Non-hazardous paints**



# Sustainability teams

## Orange line opens

- Huge success for Capital Projects Division



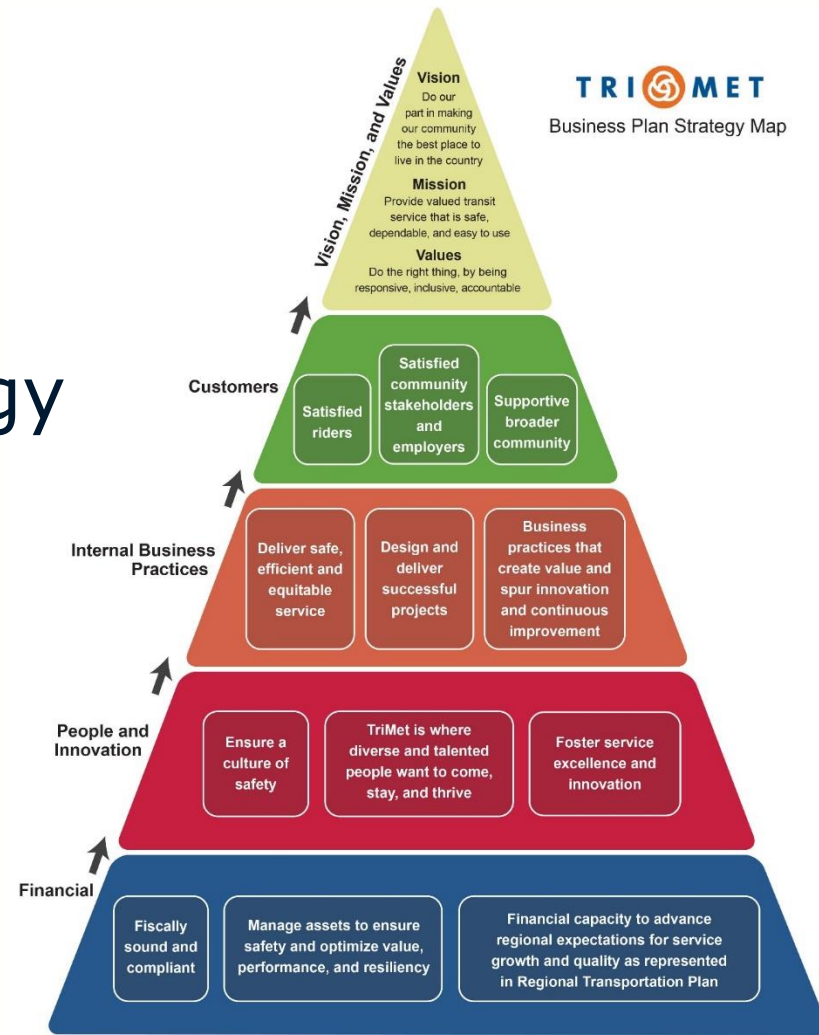
# Sustainability teams

## Lost momentum during the recession to advance the agency sustainability program

- 2008 – sustainability fell off Agency’s radar (nice, but...)
- 2014 - tried to restart the Sustainability Team
  - APTA sustainability commitment!
  - Gained a little, got squashed a bit...
  - Challenged by lack of rigor, awareness, broad commitment

# ESMS aligns with TriMet's new business model to spur innovation and continuous improvement

- Leveraging FTA's training opportunity
- ISO 14001 methodology
- Build on competencies
- Create a 'Core Team'



## Enter ESMS opportunity

- Build on core competencies
- Core Team supports Elmonica Team
- “Don’t add to their work load, but provide an added value”
- Leveraging each disciplines QA/QC program into a holistic ESMS



## ESMS Core Team- *key role*

### Senior Executive

- Leads the vision of ESMS
- Strong communicator to Agency leadership
- Provides support, resources for the Core Team
- Holds Team accountable
- Ongoing funding for ESMS





## ESMS Core Team- *key role*

### Management Representative

- Repore and understanding of Agency Leadership Team
- Visionary, yet pragmatic
- Strong Project Management skills
- Liaison to FTA & VaTech



## ESMS Core Team- *key role*

### Environmental Champion

- Understands Elmonica people and facility
- Works to ensure competence and awareness training
- Stormwater and spill response
- Contractor training



## ESMS Core Team- *key role*

### Project Control Specialist

- Data organization guru
- Strong communications skills
- Holds team accountable, yet...
- Keeps the team moving forward...
- Together!



## ESMS Core Team- *key role*

### Facilities/ Operations Management

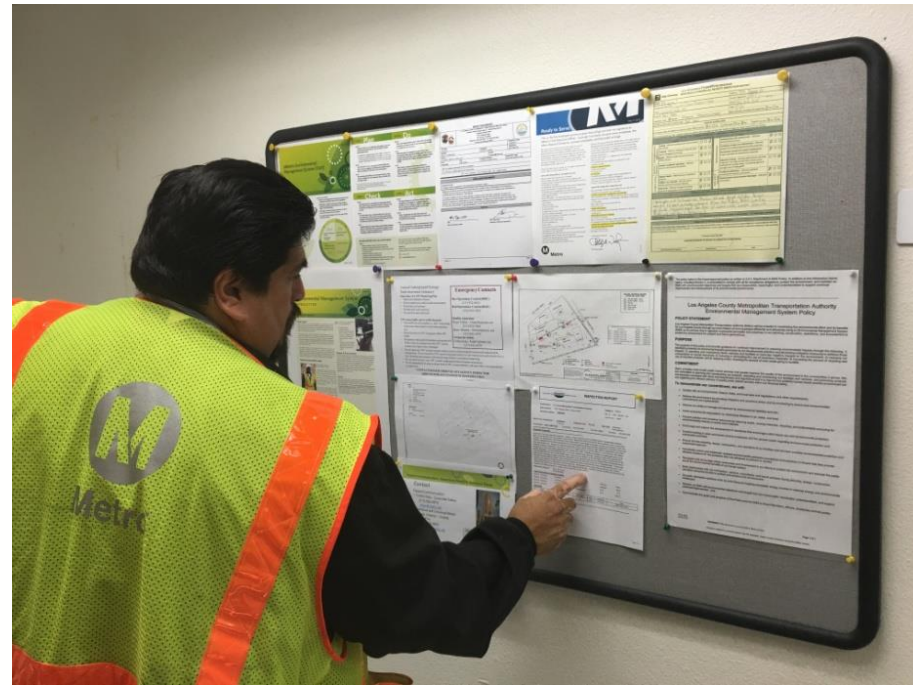
- Understands how the organization works
- Knows who to coordinate with
- Strong leadership & communications skills
- Passion for the mission



## Thank you LA Metro! *Seeing is believing*

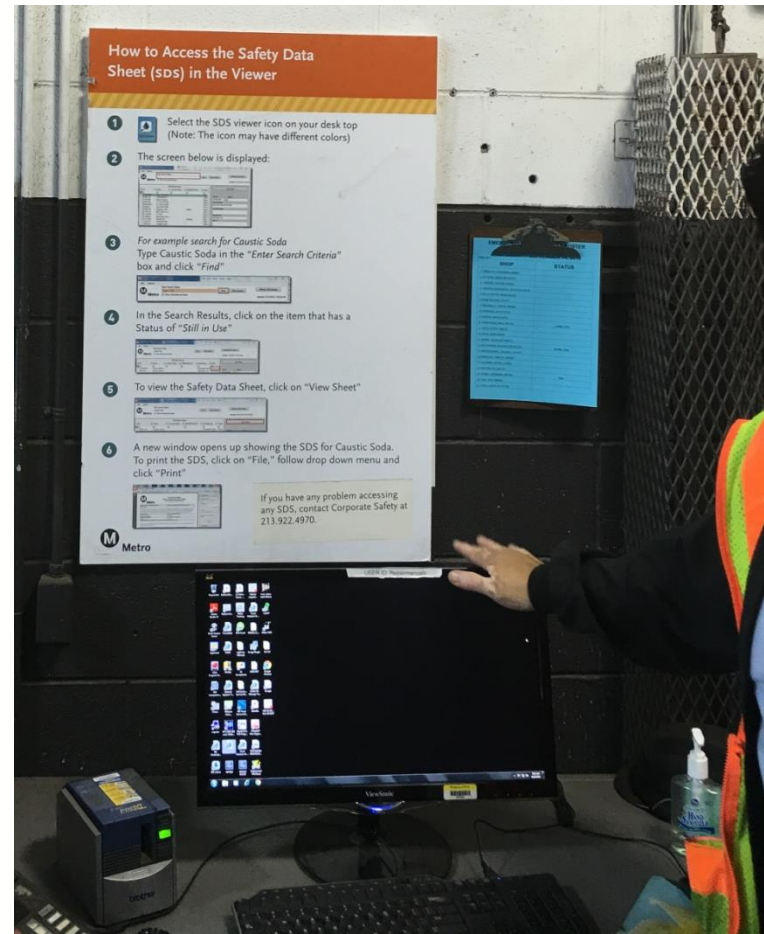
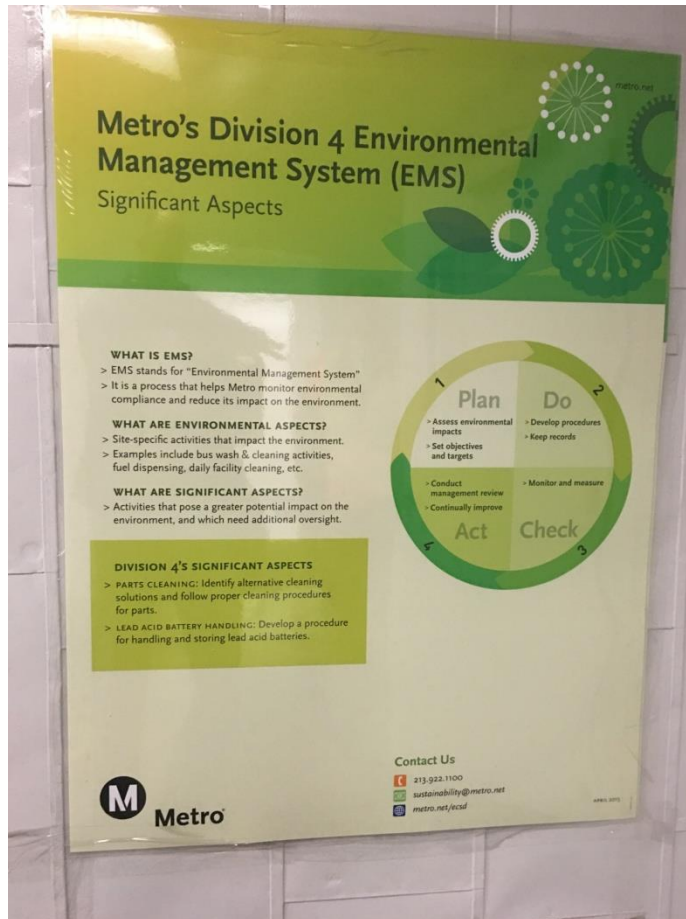
Great field trip to NRV Maintenance Facility

- Project Team- knows their ESMS
- Supported by- excellent Core Team
- Produces Continuous Improvement!



# Thank you LA Metro! *Seeing is believing*

Important lesson- Staff empowered, and recognized



## Example of ESMS work product-

Verification	Originator	Revised	Approved	Issued
Initials	SC	Original		
Date	11/2016	Version		

#### ESMS Procedure

##### EP-9.1-1 Monitoring, Measurement, Analysis & Evaluation

This document is uncontrolled when printed. Previous versions or printed copies may be obsolete. Verify current revisions by going to the TriMet ESMS web site.

<b>Person responsible:</b> Manager of Environmental Services		
<b>Area of application:</b> Elmonica Maintenance Facility		
<b>Document location:</b> W:Projects/ESMS		
<b>Original issue date:</b> 11-22-16		
<b>Revisions</b>		
<b>Rev. No.</b>	<b>Date</b>	<b>Description</b>
001		
<b>Recurring action items</b>		
<b>Activity</b>	<b>Responsibility</b>	<b>Frequency</b>
1. Review the overall ESMS performance, specifically Objectives, operations that have significant environmental impact, compliance obligations, and operational controls	ESMS Core team	Quarterly
2. Review compliance with environmental regulations and policies.	ESMS Core team	Annually
3. Identify and review those Standard Operating Procedures (SOP) which address activities and operations associated with monitoring and measurement. Modify existing or develop new SOPs as required.	ESMS Core team	Annually
4. Retention of calibration records.	ESMS Core team	Annually

#### Procedure Index

- 1.0 Purpose
- 2.0 Scope
- 3.0 Responsibility
- 4.0 Definitions
- 5.0 Process
- 6.0 References / Related Documents

#### 1.0 Purpose

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#### ESMS Procedure

##### EP-9.1-1 Monitoring, Measurement, Analysis & Evaluation

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- 1.1 **Objectives**- This procedure describes the method for establishing, reviewing, and maintaining documents to Monitor and Measure the progress towards meeting the Objectives of Elmonica Maintenance Facility
- 1.2 **Operational Control** - This procedure addresses the requirements for Monitoring and Measurement to record information for tracking conformance with Standard Operating Procedures (SOPs).
- 1.3 **Calibration** – Elmonica Maintenance facility currently does not have any regulatory requirement for environmental monitoring equipment that requires calibration. Changes to regulatory requirements will be monitored to ensure TriMet maintains compliance with any new regulatory monitoring requirements.
- 1.4 **ESMS Performance Tracking** - This procedure ensures that the necessary information for making informed decisions regarding the environmental performance tracking of TriMet is collected and recorded.

#### 2.0 Scope

- 2.1 This procedure is responsive to clause 9.1, *Monitoring, Measurement, Analysis and Evaluation* of the ISO 14001, 2015 standard and covers operations of the Elmonica Maintenance Facility.
- 2.2 The scope of establishing and documenting the *Monitoring and Measurement* requirements of the TriMet Elmonica Maintenance Facility are directly related to the significant environmental aspects, operations and activities which have the potential to impact the environment. The identified significant aspects are documented and controlled in EP-6.1.2-1 **Environmental Aspects Procedure** and ED-6.1.2-2 **Evaluation of Aspects & Impacts Matrix**.
- 2.3 The Standard Operating Procedure, (SOP) will document the instructions related to *Monitoring and Measurement* tasks as needed. Further details regarding *Operational Controls* are defined in EP-8.1-1 **Operational Controls Procedure**.

#### 3.0 Responsibility

- 3.1 The **ESMS Core Team** is responsible for evaluating compliance with relevant environmental legislation and regulations periodically as defined in the EP-9.1.2-1 **Evaluation of Compliance Procedure**. This evaluation will be conducted in accordance with the EP-9.2-1 **Internal Audit Procedure** and the EP-6.1.3-1 **Compliance Obligations Procedure**.
- 3.2 The **Environmental Services Manager** will coordinate and maintain the procedures and work product related to *Monitoring and Measurement* of the TriMet by gathering the necessary information and use of the following:  
ED-9.1-2 **Monitoring & Measurement of Objectives**;  
ED-9.1-3 **Monitoring & Measurement Calibration Log**;  
ED-9.1-4 **Monitoring & Measurement Annual Evaluation**; and  
EP-9.1.2-1 **Evaluation of Compliance Procedure**.
- 3.3 The **ESMS Core Team** will identify the activities and operations that are associated with monitoring and measurement of the significant aspects. They will also conduct an annual evaluation of the overall performance of the ESMS.

# TriMet Quality Audits - Construction Projects

- Assure Compliance to Contract Documents
  - **By Who?**
    - Design: Consultants / Subconsultants
    - Construction: Contractors / Subcontractors / Manufacturers
    - Internal TriMet: Project Managers – Design & Construction
  - **To What?**
    - Contract Documents
    - Auditee's' Quality Plan – TriMet approved
    - Governing Agencies
  - **Tools**
    - Audit Plan
    - Audit Schedule
    - Standard Checklist – customized as auditee specific
  - **Findings vs. Recommendations**
  - **Operating & Effective = *Continuous Improvement***



# TriMet Quality Audits – ISO14001 ESMS

- Assure Compliance to Governing Agencies
  - **By Who?**
    - TriMet ESMS Core Team (Audit Phase I)
    - TriMet Operations Pilot Team (Audit Phase II, ongoing)
  - **To What?**
    - Implementation Plan (Core Team)
    - ESMS Operating Plan/SOPs (Pilot Team)
  - **Tools**
    - Audit Plan
    - Audit Schedule
    - Standard Checklist – customized as auditee specific
  - **Findings vs. Recommendations**
  - **Operating & Effective = *Continuous Improvement***

# Next Steps

## Launching the ESMS Pilot Project

- Quarterly reporting to TriMet Leadership
- Communicating to internal (and external) interested parties
- Doing the work on our Significant Aspects
  - Energy reductions- Electricity & Natural Gas
  - Reducing employee exposure to hazardous materials