

Measuring Transit Sustainability

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Outline

- > Genesis of the APTA Sustainability Metrics
- > Environmental, Economic, and Social Metrics
- > LACMTA Experience
- > Questions/Discussion







Genesis of Sustainability Metrics

- > APTA Sustainability Commitment
- > Recognition Levels
- > The Need For Standardization
- > Sustainability Metrics Working Group



Sustainability Metrics Working Group

- > Approach to the Selection of Metrics
- > Recommended Practice: Quantifying and Reporting Transit Sustainability Metrics
- > Mimics APTA Sustainability Commitment Requirements
- > Focus on the Environment



APTA STANDARDS DEVELOPMENT PROGRAM
RECOMMENDED PRACTICE
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Quantifying and Reporting Transit Sustainability Metrics

Abstract: This *Recommended Practice* provides guidance for reporting and tracking key indicators of sustainability for transit agency signatories to the APTA Sustainability Commitment.

Keywords: APTA Sustainability Commitment, sustainability metrics, sustainability reporting, energy use, water usage, air pollutant emissions, greenhouse gas emissions, greenhouse gas savings, vehicle miles traveled, recycling, operating expense, unlinked passenger trips

Summary: Sustainability is core to the mission of the transit industry. Transit agency signatories to the APTA Sustainability Commitment are required to quantify and annually report on a series of key performance indicators and to track performance against each metric over time. The APTA Standards Development Program created the Sustainability Metrics Working Group to provide technical assistance and guidance for transit agencies to report against these metrics. The Working Group created this *Recommended Practice* to develop a unified resource and tool for this reporting process. Its guidance reflects a basic framework and approach for quantifying each metric with examples, and provides a menu of alternative normalization factors from which to choose. The Working Group recommends that transit agencies select normalization factors that are context sensitive and best "tell the story" by representing each agency's unique operating conditions. This *Recommended Practice* will remain a living document to serve as a repository for data and information as new and innovative quantification and reporting practices emerge.

This *Recommended Practice* represents a common viewpoint of those parties concerned with its provisions, namely, transit operating/owning agencies, manufacturers, consultants, engineers and general interest groups. The application of any standards, practices or guidelines contained herein is voluntary. In some cases, federal and/or state regulations govern portions of a transit system's operations. In those cases, the government regulations take precedence over this standard. APTA recognizes that for certain applications, the standards or practices, as implemented by individual transit agencies, may be either more or less restrictive than those given in this document.

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Overview of Recommended Practice

- > Water Usage
- > Criteria Air Pollutant Emissions
- > Greenhouse Gas Emissions
- > GHG Displacement (savings)
- > Energy Use
- > Recycling and Waste
- > Operating Expense
- > Unlinked Passenger Trips per Capita
- > Vehicle Miles Travelled per Capita





Economic Metrics of Sustainability

- > Considerations
 - > Measure of connectivity of the transportation network
 - > Measure of the financial impact of transit nodes
 - > “Transit –friendliness” public policy indicator
 - > Measure of interagency cooperation
 - > Costs of time
 - > Customer lens focus





Foundation of an Economic Indicator

- > Issue: Transit does not operate for profit but its services have a positive impact overall. How do we financially justify transit's existence?

- > Consider two levels of economic indicators:
 - > Internal Economic Efficiency: Look at what we spend our funds on (Operating Expense, Opportunity Costs)
 - > External Economic Contribution: Economic impact of service to surrounding communities (What services facilitate most sales tax revenues?)



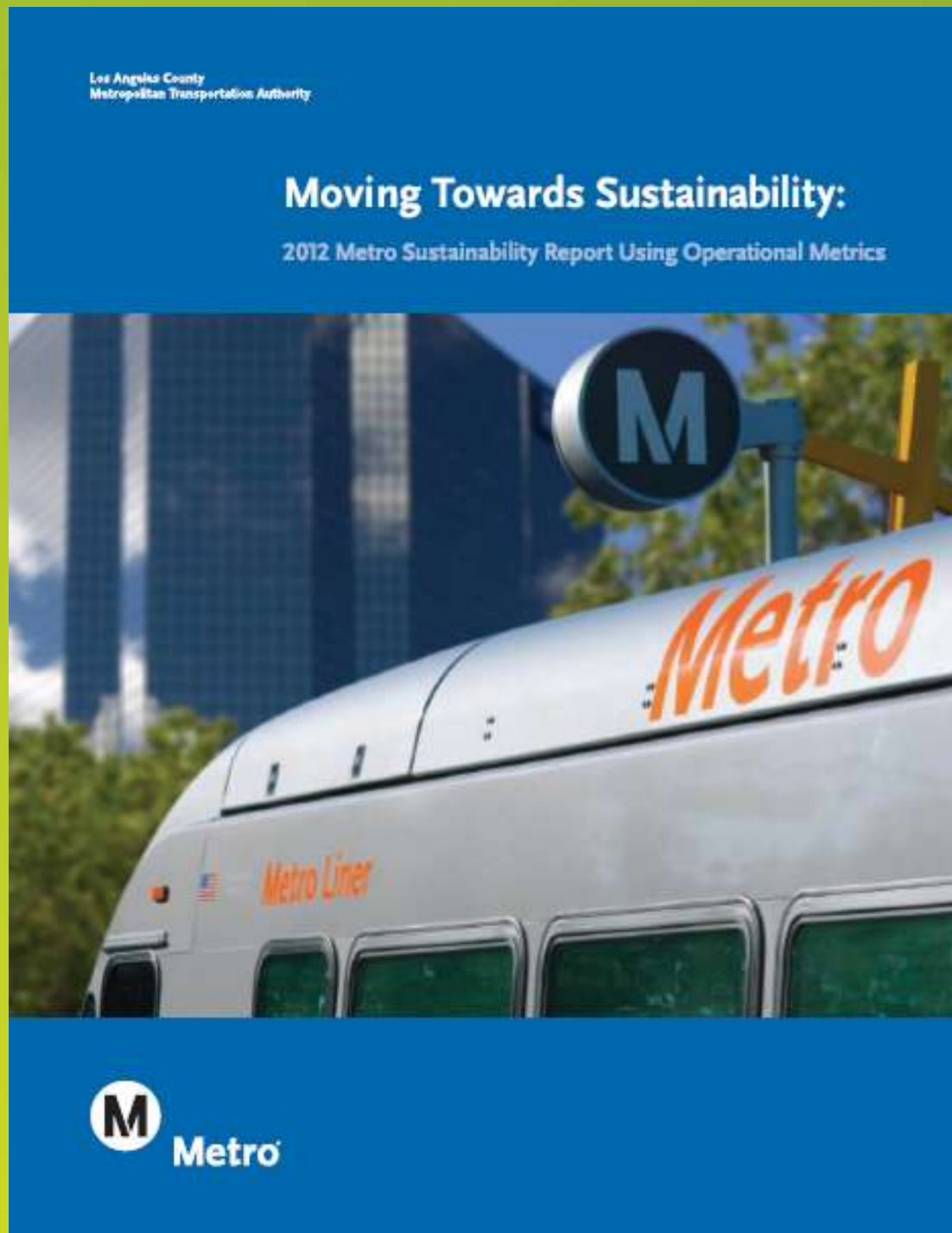


Social Metrics/Indicators

- > Internal and External
- > Internal
 - > Team well-being and building
 - > Team partnerships with community
 - > Development of sustainable skill sets and lifestyle
- > External
 - > Public Participation and Engagement
 - > Health and Safety of Customers and Broader Community
 - > Socially Responsible Procurement



LACMTA Sustainability Report



- > Published since 2008
- > Outlines the goals, accomplishments, challenges of LA Metro sustainability-related efforts
- > Used as a guide to reduce operational costs and advance innovation while simultaneously providing environmental and social co-benefits under a plan-do-check-act mechanism



“ Metro’s sustainability program has achieved significant reductions in resource usage, reduced the agency’s carbon footprint, and saved money: over \$2 million per year with additional savings in the future.”

- Antonio R. Villaraigosa, Mayor of Los Angeles and LACMTA Board Member



Indicator	Unit	2010	2011	Progress
1 Water Use	Gallons of Water	243,000,000	238,000,000	I
2 Criteria Air Pollutant Emissions	Tons of Criteria Pollutants	1,783	1,420	I
3 Greenhouse Gas Emissions	Metric Tons of CO ₂ e	476,000	457,000	I
4 Greenhouse Gas Displacement	Metric Tons of CO ₂ e	410,776	419,344	I
5 Energy Use <ul style="list-style-type: none"> Fuel Use Rail Propulsion Power Facility Electricity Use 	Gallons of Gas Equivalents	46,000,000	43,000,000	I
	Kilowatt Hours	244,000,000	261,000,000	R+
6 Waste and Recycling <ul style="list-style-type: none"> Solid Waste and Recycling Used Oil Waste Hazardous Liquid Waste Non-Hazardous Liquid Waste Anti-Freeze Waste 	Tons of Solid Waste	11,000	8,600	I
	Recycling Percentage	44	41	R+
7 Operating Expenses	Combined Dollars per Boarding	\$8.08	\$8.19	R
8 Unlinked Passenger Trips per Capita	Boardings	460,000,000	457,000,000	R
9 Vehicles Miles Traveled per Capita*	Miles	N/A	7,869	NC

* According to the most recent Highway Performance Monitoring System report, Caltrans (2010).

I = Improved R = Regressed NC = No Change + = Co Benefit Achieved (benefits achieved other than the benefit intended)





Summary

- > Sustainability is the core mission of the transit industry
- > Sustainability performance measurement is the basis of continual improvement
- > APTA Recommended Practice provides framework and tool in decision-making





Questions/Discussion

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