

Sustainability Indicators

Public Transit

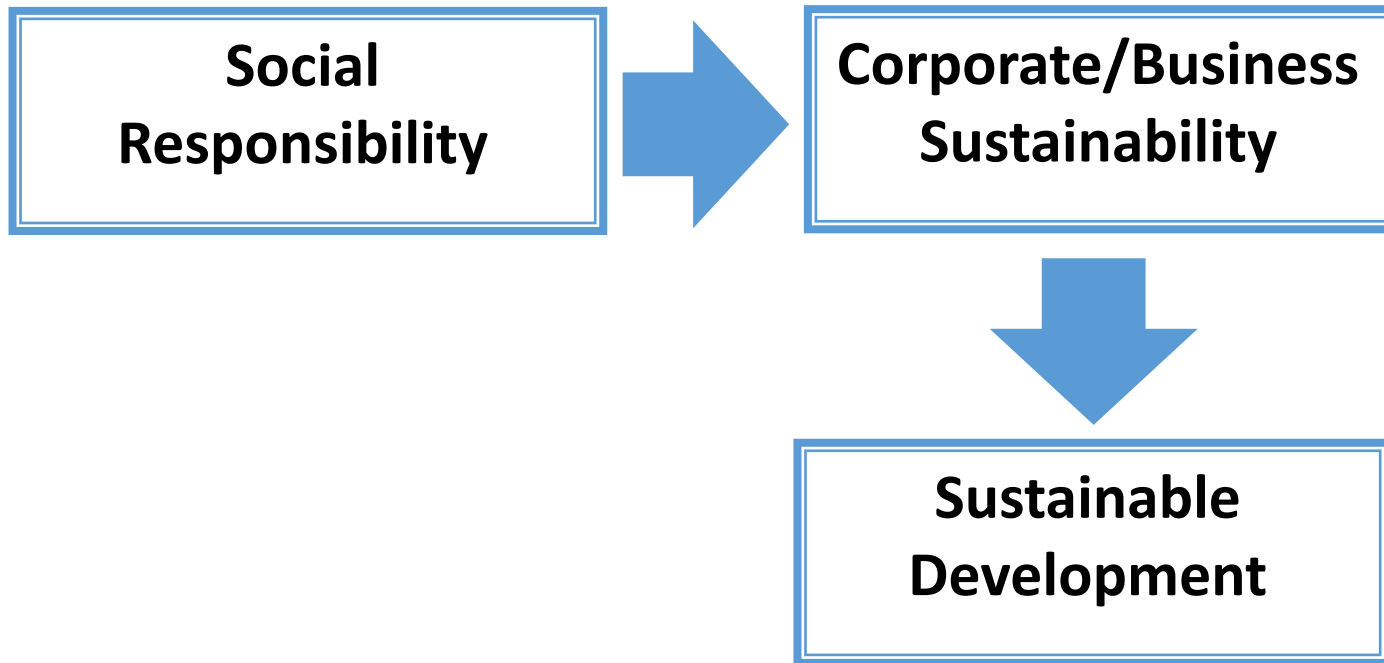
Overview

1. Key sustainability concepts
2. Making sustainability work is a challenge
3. Why sustainability indicators are growing in number
4. How sustainability goals shape transportation planning objectives
5. How transit agencies can make positive sustainability impacts
6. Recap

1

Key sustainability concepts

Key concepts



Key concepts

“**Sustainable Development** is development that meets the needs of the present without compromising the ability of future generations to meet their own needs”.

Our Common Future, the World Commission on Environment and Development

“**Corporate Sustainability** is a business approach that creates long-term shareholder value by embracing opportunities and managing risks deriving from economic, environmental and social development”.

Dow Jones Sustainability Indexes (DJSI)

“**Social Responsibility** is responsibility of an organization for the impacts of its decisions and activities on society and the environment, through transparent and ethical behavior. Social Responsibility contributes to sustainable development.”

ISO 26000:2010 Guidance on Social Responsibility



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Making sustainability work
is a challenge

BlackBerry has implemented more sustainability systems ...



- ISO 9001
- ISO 14001
- ISO 27001
- Annual Sustainability Reports



... with worse financial and environmental outcomes.

BLACKBERRY 2.0/10



APPLE 4.5/10



Ref: Greenpeace Guide to Greener Electronics

Sustainable companies...

- View sustainability as a source of innovation
- Identify key metrics and establish baselines
- Measure sustainability-related impacts
- Promote sustainability throughout the supply chain
- Make efficiency their first “fuel” of choice
- Identify and manage sustainability-related risks

3

Why sustainability indicators are growing in number



1999



2000



2007



2010



2011



2011

Sustainability management systems

ISO 26000 Guidance on social responsibility

ISO 50001 Energy management systems

ISO 14000 Environment management systems

OHSAS 18000 Occupational health and safety systems

ISO 21929/30/31 Sustainability in building construction

SO/TR 37150:2014 Smart community infrastructure

IWA 9:2011 Sustainable development in business districts

ISO 20121:2012 Event sustainability management systems

AccountAbility AA1000 Assurance Standards

GRI vs. ISO 26000

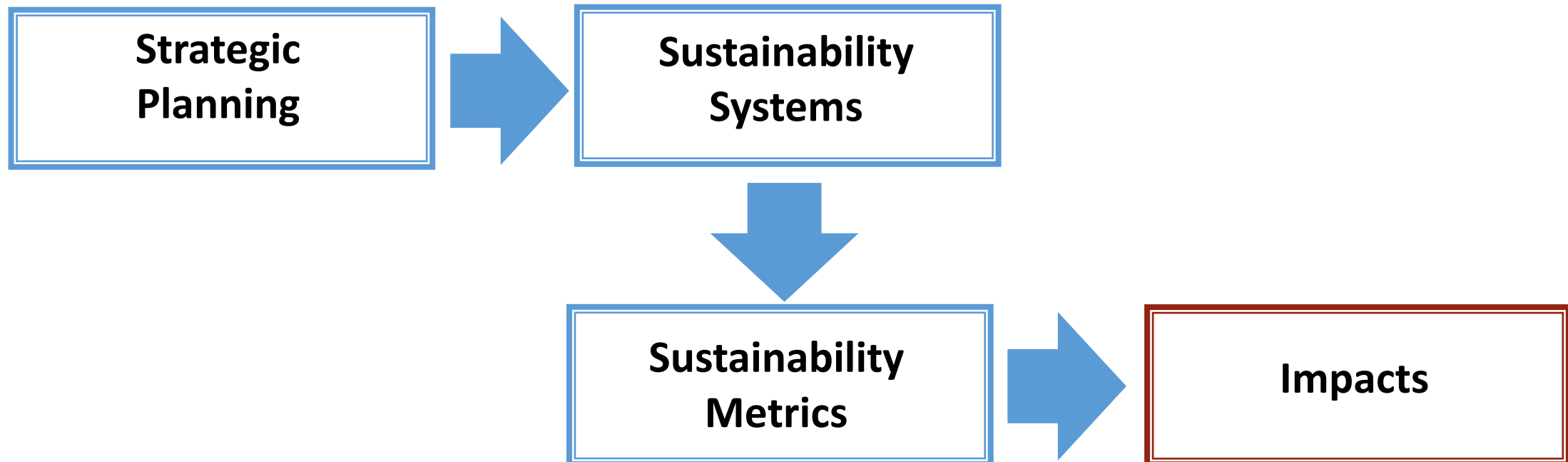
Seven Elements of G3 (GRI)	Seven Core Subjects of ISO 26000
Governance, Commitments and Engagements (4.1-4.17)	Organizational governance 6.2
Human Rights (HR1-HR9)	Human rights 6.3
Labor Practices and Decent Work (LA1-LA14)	Labor Practices 6.4
Environmental (EN1-EN30)	The environment 6.5
Economic (EC1-EC9)	Fair operating practices 6.6
Product Responsibility (PR1-PR9)	Consumer issues 6.7
Society (SO1-SO8)	Community involvement and development 6.8



IAIA What Is Impact Assessment?

- Social Impact
- Environment Impact
- Impact on Biodiversity
- Economic Impact
- Health Impact

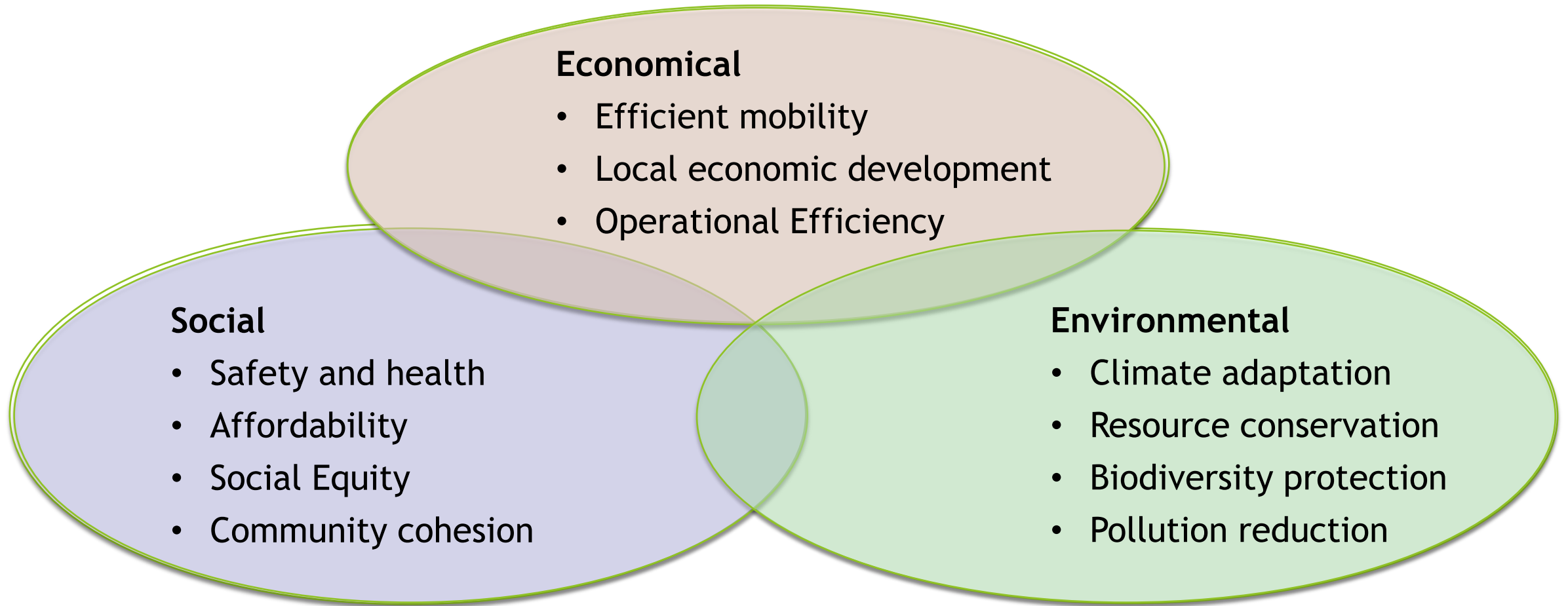
Pick the right metrics to realize the right impacts



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How sustainability goals
shape transportation
planning objectives

Transportation-specific sustainability indicators



Ref: L. Todd Well measured: developing indicators for sustainable and livable transportation planning

Sustainability Goals	Transport Planning Objectives							
	Transport Diversity	System Integration	Affordability	Resource (energy and land) Efficiency	Demand Management (efficient pricing & prioritization)	Land Use Accessibility (smart growth)	Cost Effective Operations	Comprehensive and Inclusive Planning
Economic productivity	✓	✓		✓	✓	✓	✓	
Economic development	✓	✓	✓	✓	✓	✓		✓
Energy efficiency	✓	✓		✓	✓	✓		
Affordability	✓	✓	✓	✓	✓	✓		
Operational efficiency					✓		✓	✓
Equity / Fairness	✓	✓	✓		✓	✓		
Safety, security and health	✓	✓	✓	✓	✓	✓		✓
Community development	✓	✓	✓	✓	✓	✓		✓
Heritage protection	✓			✓	✓	✓		✓
Climate stability	✓	✓	✓	✓	✓	✓		
Air pollution prevention	✓	✓	✓	✓	✓	✓		
Noise prevention	✓			✓				
Water pollution	✓	✓	✓	✓	✓	✓		✓
Openspace preservation	✓	✓	✓		✓	✓		✓
Good planning								✓
Efficient Pricing				✓	✓		✓	

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How transit agencies can
make positive sustainability
impacts

Transit agencies using good practices

Annual GRI reports

- TransLink – Metro Vancouver region
- Société de transport de Montréal

ISO 14001 EMS

- Calgary Transit
- Los Angeles County Metropolitan Transportation
- Lynx - Central Florida Regional Transportation

ISO 50001 EnMS

- Public transportation of Madrid (under consideration)

APTA Platinum 2013

- Los Angeles County Metropolitan Transportation Authority (LA Metro)

APTA Gold 2013

- Hampton Roads Transit (Hampton, VA)
- King County Metro Transit (Seattle, WA)
- San Francisco Municipal Transportation Agency (San Francisco, CA)

Los Angeles County Metropolitan Transportation Authority (LA Metro) - Platinum Award

Reductions in 2008-2011

- 38 % - criteria air pollutants per PMP
- 15 % - fuel use per PMT
- 9 % - GHG per PMT from
- 30% - solid waste
- 8% - water usage

PMT - passenger mile traveled

- ISO 14001: 2004 certified environmental management system
- Green construction policy to reduce air emission from construction equipment and activities.
- More than \$2 million per year in savings through the sustainability program

San Francisco Municipal Transportation Agency (SFMTA) - Gold Award

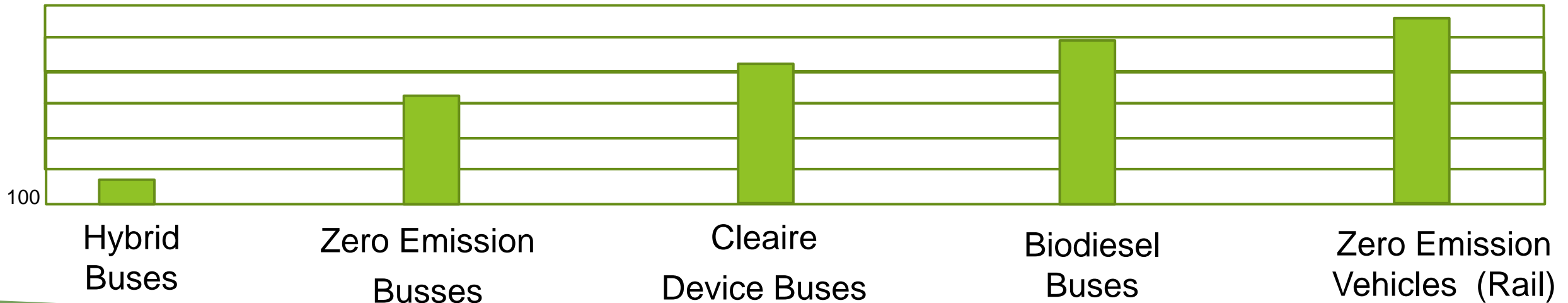
Reductions in 1990-2010

23.2 % - GHG per PMT

Strategy:

1. Replace diesel buses with electric-drive buses
2. Clean up remaining fleet with retrofit technologies and fuels (Cleaire Device)

Composition of Fleet by Vehicle Types



Hampton Roads Transit (Norfolk, VA) - Gold Award

Reductions in 2008-2011

- 59 % - air pollutant emissions
 - 6 % - GHG
 - 30% - water usage
 - 9.7% - energy use per transit vehicle mile traveled
-
- Procured multiple hybrid buses and opened first light rail line
 - Internal recycling program expanded
 - Agency-wide recycling program
 - Single-stream recycling in all facilities
 - Scrap metals recycling

King County Metro Transit (Seattle, WA) - Gold Award

Reductions in 2008-2011

- 10% - air pollutant emissions
- 35% - water usage per unlinked trip
- 34% - waste

- Replaced diesel buses with fuel efficient hybrid buses
- Added zero-emission electric vehicles
- Using customer feedback to improve communication
- The Eye on Your Metro Commute blog and e-mail Transit Alerts system metrocommute.wordpress.com/
- Online calculator of savings for commuters <http://www.rideshareonline.com>



Commute Cost Calculator

Compare the actual cost of three different commuting modes.

Fill out this form to figure out your annual drive-alone commute cost. Compare it to the cost of carpooling and vanpooling. If your employer subsidizes commute options such as transit, carpooling or vanpooling, or if you receive free HOV parking, the costs of other modes may be even lower.

1. How many days per month do you work? (21 is full time.)
2. What is your round-trip commute (in miles)?
Use [Google Maps](#) to help you calculate¹
3. What is your cost per mile² for fuel, maintenance, insurance, license, registration, depreciation, finance charges and taxes?
4. How much do you pay for monthly parking?

Summary of good practices

- Expanded and improved recycling programs
- Green construction policies and standards
- Focus on green production and procurement
- Procurement of hybrid and electric vehicles
- Using alternative sources of energy (biofuel)
- Retrofit (PM+NOx reduction) devices and fuel
- Improved logistics: unlinked passenger trips
- IT to improve communication with commuters

Framing Questions	KPIs
How are we moving around the GTHA?	<ul style="list-style-type: none"> • mode of transportation • transit ridership
Is there more choice in how we travel?	<ul style="list-style-type: none"> • transit service per capita • length of regional rapid transit
Do more people live and work close to fast and reliable transit?	<ul style="list-style-type: none"> • living close to rapid transit • working close to rapid transit
Are we providing transportation alternatives for those who need them the most?	<ul style="list-style-type: none"> • transportation choice for low-income households • accessibility of transit • transportation choice for children • transportation choice for seniors
Are we safer as we travel?	<ul style="list-style-type: none"> • road safety
Are we reducing the impact of transportation on the environment?	<ul style="list-style-type: none"> • air quality • emissions
Are we better connected across the GTHA?	<ul style="list-style-type: none"> • transit between urban centres • highway travel speeds • Pearson Airport access
Is transit provision in the GTHA becoming more fiscally sustainable?	<ul style="list-style-type: none"> • transit efficiency

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Recap

- The number of sustainability indicators is growing because they don't always help to make sustainability impacts.
- To make impacts, sustainability objectives should be integrated into an organizational strategy and planning
- Successful sustainability practices are linked to innovation, measurements, supply chain, risk and controls.

Want to Learn More?

Related Training Courses:



**Social Responsibility and
ISO 26000**

<http://c-bg.com/training/sas11.aspx>



**Sustainable Development
through
Quality Management**

<http://c-bg.com/training/blsm93.aspx>



**Energy Management and
ISO 50001**

<http://c-bg.com/training/cae14.aspx>