



**AMERICAN
PUBLIC
TRANSPORTATION
ASSOCIATION**

Show Me the Money – The Business Case for Sustainability

APTA Sustainability Committee Webinar

Tuesday, April 30, 2019
2:30 – 4:00 PM ET

Session Moderator

Norine Walker

Project Manager for Design & Construction

Virginia Railway Express (VRE)

Alexandria, VA



Thinking Strategically - The Business Case for Sustainability

- “What are the benefits of incorporating sustainability principles into an organization’s strategic objectives?”
- “How do you get your senior leadership on board with sustainability?”
- “How do you implement a sustainability program?”
- “How do organizations communicate sustainability, both internally and externally?”



Today's Presenters

- **Clary Coutu**, Director of Environmental Affairs, Keolis Commuter Services, Boston, MA
- **Chelsey Hohensee**, Operations Manager, Rock Island County Metropolitan Mass Transit District (MetroLink), Moline, IL
- **Amy Shatzkin**, Deputy Director - Environmental Affairs and Sustainability, Sound Transit, Seattle, WA
- **Pamela Yonkin**, Principal Economist, HDR, Boston, MA

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SOUNDTRANSIT

HDR

Webinar Agenda

- Introduction
- Industry Presentation
 - Clary Coutu, Keolis
- Panel Discussion
 - Pamela Yonkin, HDR
 - Amy Shatzkin, Sound Transit
 - Chelsey Hohensee, MetroLink
- Audience Q&A
- Wrap up



Asking Questions

To submit a question or comment to the panel during the webinar, please type it into the **Question** box on your screen and click on the send arrow located at the bottom of the box.

Be a Part of the Dialogue.

Presenter

Clary Coutu

Director of Environmental Affairs

Keolis Commuter Services

Boston, MA

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SHOW ME THE MONEY: Making the Case for Sustainability

Clary Coutu, Director of Environmental Affairs
Environmental Services, Compliance and Sustainability

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BACKGROUND

KEOLIS IN BOSTON

Public Transit Authority (PTA):
Massachusetts Bay Transportation
Authority (MBTA)

Contracts: Amtrak (1987-2003), MBCR
(2003-2014) Keolis 2014 - Present

- **35 million** annual passengers
- **14** lines
- **400** route miles
- **139** stations
- **86** locomotives
- **427** coaches



#1 Sustainability:
*Our Purpose as industry
leaders*

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How do you make sustainability work for your business?

“Sustainability, preserving the environment, being socially responsible and maintaining economic vitality, with an overall contribution to quality of life.” *APTA Commitment*

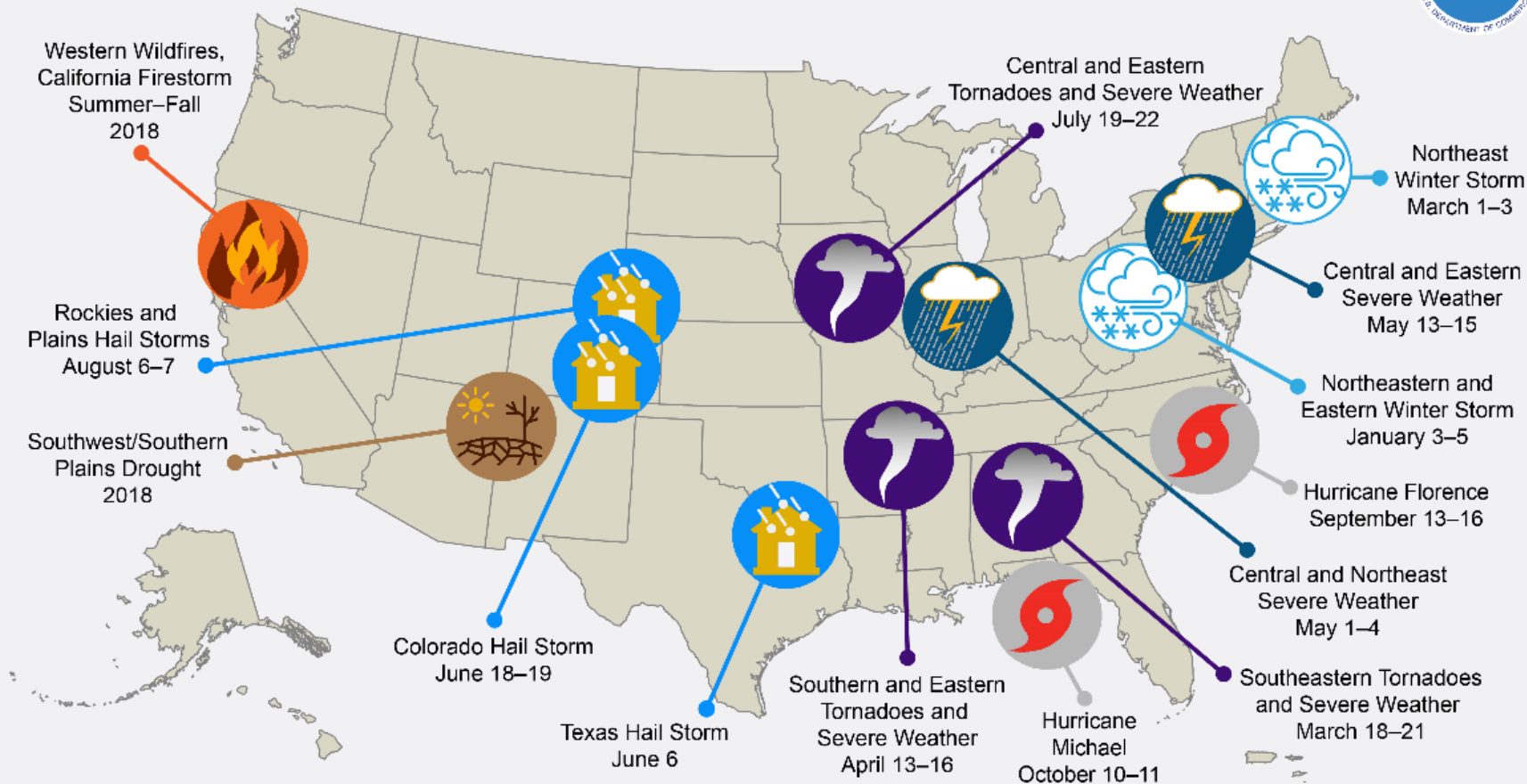
SUSTAINABILITY: OUR PURPOSE AS INDUSTRY LEADERS

“All modes of transportation need to take into account a robust climate and sea level rise projection for all their capital spending projects...Not investing in these resilience measures will be more expensive by factors of four to ten in incurred, direct and economic losses combined.”

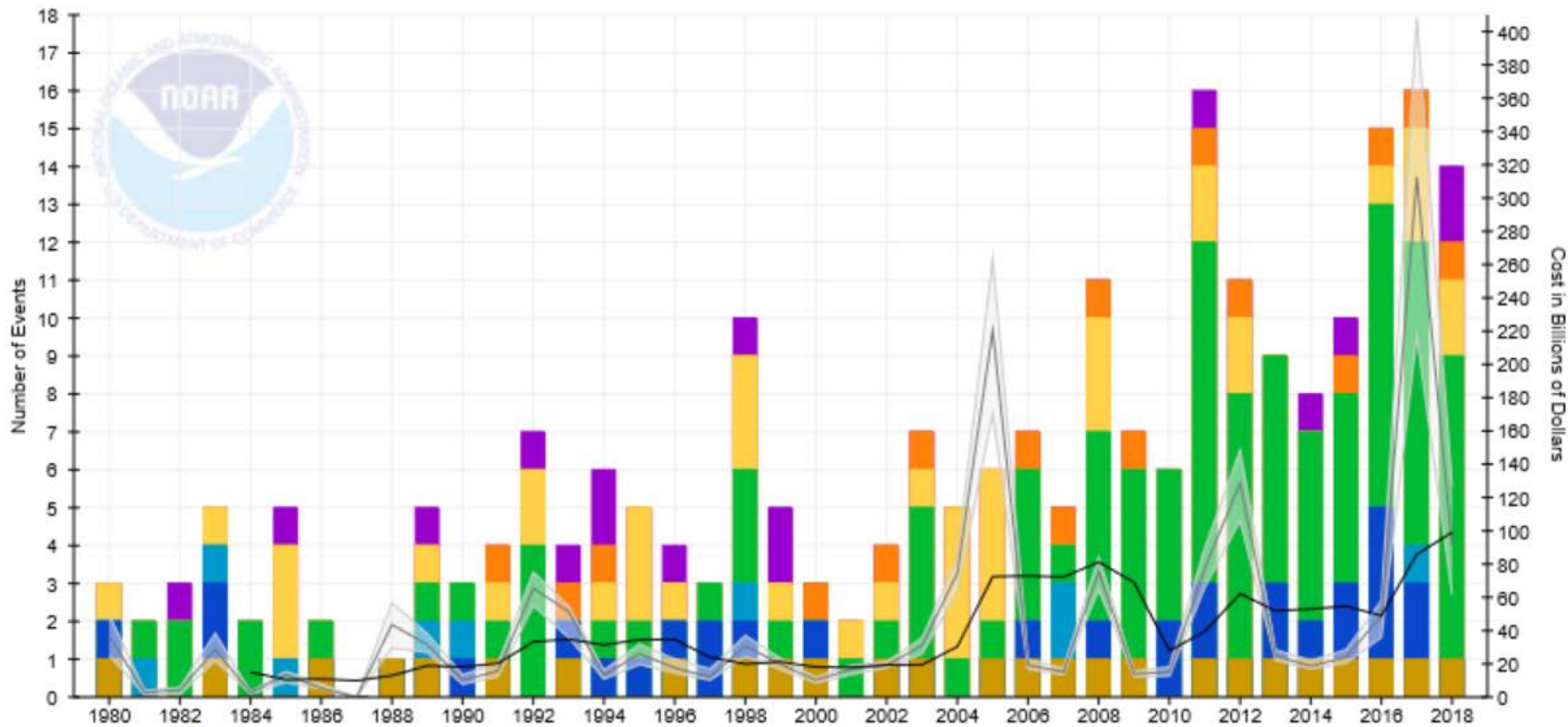
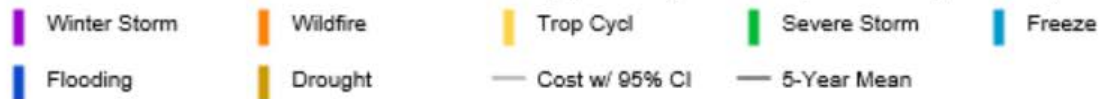
Dr. Klaus H. Jacob
*Lamont-Doherty Earth Observatory
School of International and Public Affairs
Columbia University*



U.S. 2018 Billion-Dollar Weather and Climate Disasters

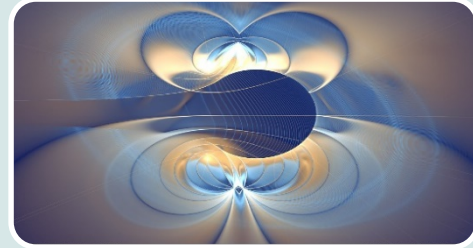
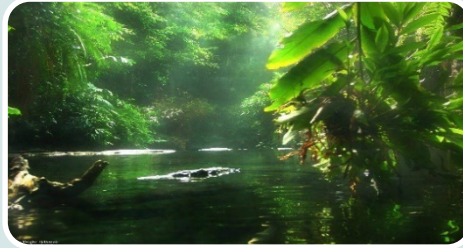


Billion-Dollar Disaster Event Types by Year (CPI-Adjusted)



SUSTAINABILITY: OUR PURPOSE AS INDUSTRY LEADERS

Consider future generations while making present decisions



Population Growth
Economic Growth
Market Demands
Stakeholder Expectations
Technology



Resources
Climate change/
Resilience
Continuity of
Operations



Sustainability

Sustainability
An integrated approach

Socio-Economic
Employment
Training & Development
Local Economy
Entrepreneurship
Social & Community
Sponsorship



Social
Respect the Individual
Equal Opportunity
Diversity
Employee Assistance
Human Rights

Economic
Consistently Profitable
Growth
Risk Management
Shareholder Return

Environmental
Permit & Licence
Compliance
Biodiversity Management
Carbon Management
Emissions

Socio-Environmental
Health & Safety
Climate Change
COMAH/Seveso
Crisis Management
Business Continuity

Eco-Economy
Resource Efficiency
Energy Efficiency
Reuse
Recycling

Triple Bottom Line
1994: People, Planet, Profit/ 2005
World Summit Social Development

SUSTAINABILITY : TRIPLE BOTTOM LINE

MANAGEMENT DIMENSIONS OF SUCCESS

Financial framework that identifies strategically an organizations position towards achieving greater business value through:

- Strategic Planning - a clear vision of corporate values & objectives
- Performance objectives aligned with the Social, Economic and Environment dimensions
- A business model that reflects a balanced approach towards measuring continual improvement



How a business assess/maintains profits/economic growth through their corporate sustainability solutions and the ability to survive/adapt to changing dynamics and future demands.

SUSTAINABILITY: BENEFITS

- ⊙ Increase revenue (market innovations & new market opportunities)
- ⊙ Increase market competitiveness
- ⊙ Increase employee satisfaction and retention
- ⊙ Increase Social Responsibility
- ⊙ Reduce costs through management of resources/risk
- ⊙ Demonstrate/Improve compliance
- ⊙ Improve Public Profile
- ⊙ Improve resilience, adaptation and continuity of operations



SUSTAINABILITY PLANNING: WHERE DO WE START?

MANAGEMENT DIMENSIONS OF SUCCESS

BE SMART

SPECIFIC

- Define goals/objectives
- WHO, WHAT, WHERE, WHY

MEASURABLE

- How will you know your objective is accomplished? Can you track progress?

ATTAINABLE

- Is objective reasonable to be accomplished and how?

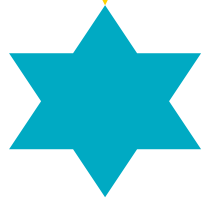
RELEVANT

- Is the goal worthwhile/meet the needs
- Does it meet short and or long term plans?

TIMELY

- Objective should include a time limit/deadline

Integrate
Sustainability
dimension



SUSTAINABILITY PLANNING: COSTS/REVENUE?

MANAGEMENT DIMENSIONS OF SUCCESS

BUILDING A STRONG BUSINESS CASE:

◎ Understand your business operations objectives, strategic plan, fiscal challenges, market demands, other

- Quantify RISK/Liability
- Define ROIs/IRRs/Cost-Benefit
- Materiality Assessments

◎ Talk the language management understand (typically \$\$)

DEMONSTRATE:

3BL Sustainability Benefits- establish objectives that balance operations continual improvement actions to support financial stability and growth.



SUSTAINABILITY PLANNING

MANAGEMENT DIMENSIONS OF SUCCESS

- ⊙ Integrate dimensions of Sustainability into the way the company makes decisions
- ⊙ Align sustainability initiatives with company objectives
- ⊙ Define strategy - BUY IN
 - Choose your audience
 - Identify Champions/Leaders
- ⊙ TIMING- *BEFORE FISCAL YEAR BUDGET*
- ⊙ Method of delivery-
 - Senior Level Meetings
 - Management Review Meetings
 - Fiscal Management Meetings
- ⊙ Develop Continual Improvement Program
- ⊙ Execute an annual plan/roadmap



GLOBAL APPROACH: CONTINUAL IMPROVEMENT (PDCA)



#2 Sustainability: *Approach*

TRANSFORMING COMMUTER RAIL

“In 2014 the infrastructure was in bad shape, the track condition was terrible, there were serious staffing issues and with the maintenance facilities... Getting commuter rail to work is a collaborative effort between the MBTA and Keolis.”

- State Transportation Secretary Stephanie Pollack



INFRASTRUCTURE



WORKFORCE



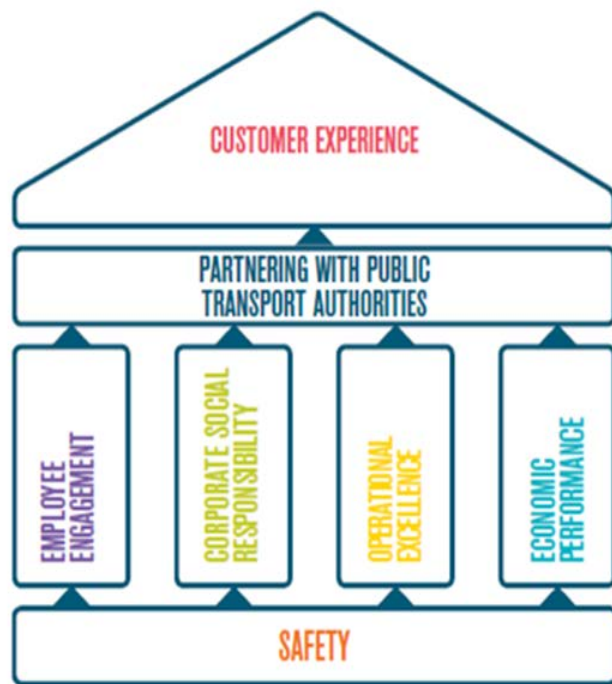
FLEET

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THE SEVEN WORKSTREAMS



The KeoLife continuous improvement programme and its **seven pillars** are designed to enable us to achieve our goals.



SUSTAINABILITY APPROACH: A CORPORATE STRATEGY

MANAGEMENT DIMENSIONS OF SUCCESS



- ⦿ Workstream (Owners/Champions)
- ⦿ Yearly Objectives
- ⦿ Yearly Targets (Quantitative/Qualitative)
- ⦿ Roadmap (QRTLY Milestones to meet objectives)
- ⦿ QRTLY Milestones (Cross-Department RACI)

SUSTAINABILITY APPROACH: A CORPORATE STRATEGY

MANAGEMENT DIMENSIONS OF SUCCESS





Certified ISO 14001

Since 2015

- **91.3% On Time Performance**
in Q1, 2019
- **21% Ridership Increase**
since 2012
- **25% Revenue Growth**
since 2015
- **15.5% Employment Growth**
- **99.8% Service Delivery**
Q1 2019

THE RESULTS >>>

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Lessons learned Making the Case:

- ✓ Requires culture change- Select champions in each operations team.
- ✓ Requires knowledge of all business operations- talk the talk – walk the walk.
- ✓ Persistence and consistency of message- you will find many road blocks, prioritize dimensions of sustainability that fit your business objectives
- ✓ Talk Money- Quantify benefits and long term impacts.
CRITICAL
- ✓ Lastly – Showcase your teams work!



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THANK YOU!

Clary Coutu
Clary.coutu@keoliscs.com

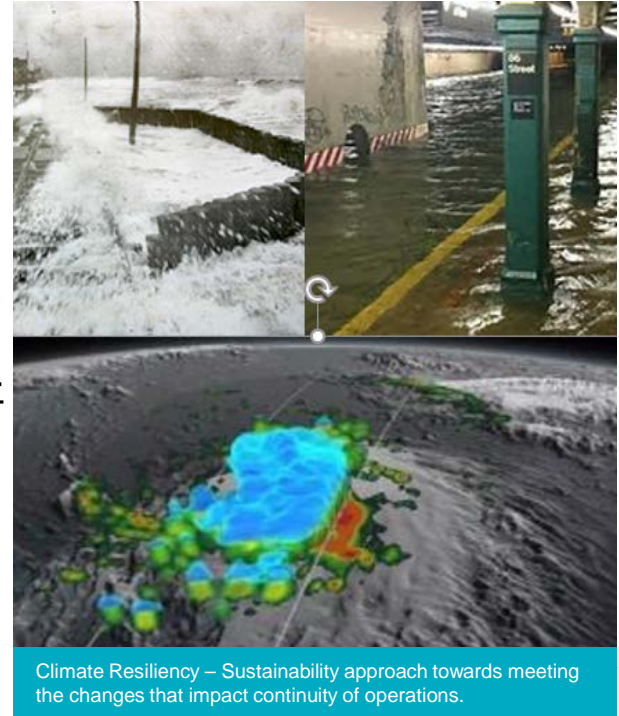
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Resources

🕒 Websites

- www.sustainablebusiness.com
- www.greenbiz.com
- www.wiserbusiness.org
- www.thedailygreen.com
- www.transportation.gov/office-policy/transportation-policy/benefit-cost-analysis-guidance-2017
- <http://www.vtppi.org/nmt-tdm.pdf>
- www.volpe.dot.gov/events/transportation-system-resilience-extreme-weather-and-climate-change
- www.epa.gov/cre/king-tides-and-climate-change
- <https://www.ncdc.noaa.gov/extremes/>
- <https://www.weforum.org/>
- <https://www.nap.edu/download/25042> TCRP Sustainability

NOTE: Pictures are for educational purpose only selected from worldwide web.



Climate Resiliency – Sustainability approach towards meeting the changes that impact continuity of operations.

Sustainability and TBL Resources

Organizations

- United Nations Global Compact
- World Business Council for Sustainable Development
- American Public Transportation Association (APTA)
- Business for Social Responsibility

Resources for Leadership Development

- Center for Creative Leadership
- Globally Responsible Leadership Initiative

Reporting

- APTA Sustainability Commitment
- The Natural Step
- UN Global Compact
- Global Reporting Initiative



Sustainability and TBL Resources

🕒 Books/Literature and other

- The Triple Bottom Line (Richardson, Henriques, 2013)
- Cannibals with Forks, The Triple Bottom Line of 21st Century Business (Elkington, 1999)
- The Sustainability Handbook, 2007
- Leading Change Towards Sustainability (Doppelt, 2003)
- The Sustainability Advantage (Willard, 2002)
- World on the Edge (Brown, 2011)
- Driving Sustainability to Business Success (Pilo, 2015)
- Our Common Future, United Nations World Commission on Environment and Development, 1987



As leaders in the industry – we need to act and plan to meet the future demands and climate changes

Moderator and Presenter Conversations

Norine Walker

Project Manager for Design &
Construction

Virginia Railway Express (VRE)

Alexandria, VA



Clary Coutu

Director of Environmental Affairs

Keolis Commuter Services

Boston, MA



Discussion Panel

Pamela Yonkin

Principal Economist

HDR

Boston, MA



Amy Shatzkin

Deputy Director -
Environmental Affairs

Sound Transit

Seattle, WA



Chelsey Hohensee

Operations Manager

MetroLink

Moline, IL



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SUSTAINABLE VALUE ANALYSIS (SVA)

2019

Pamela Yonkin, Economics & Finance



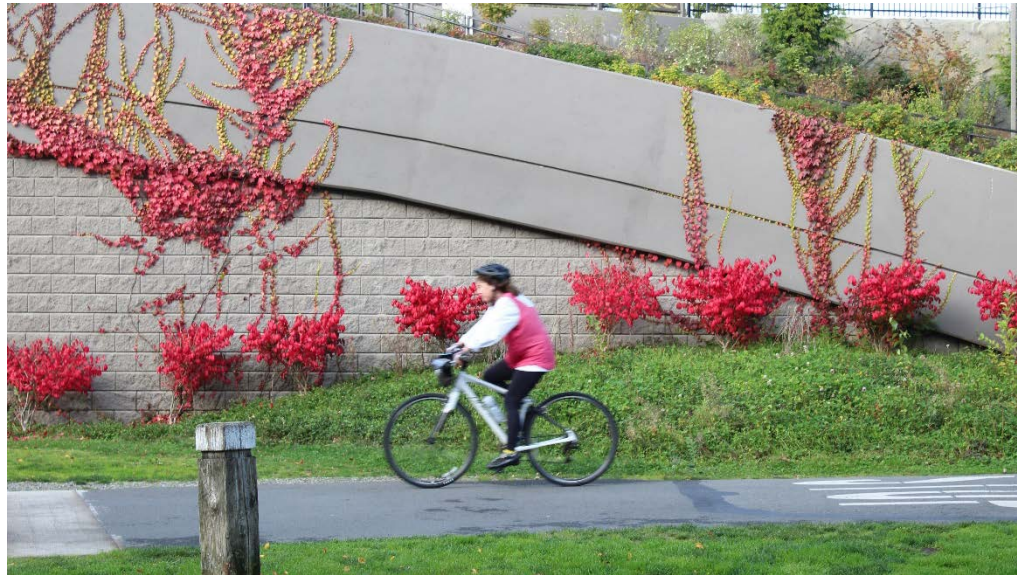
SUSTAINABLE VALUE ANALYSIS (SVA)

“Sustainability Value” – measures the Triple Bottom Line



REASONS TO INCORPORATE SUSTAINABILITY

- Agency sustainability
- Public outreach
 - Data driven analysis can assist with communications
- Federal grants
 - Monetization of some benefits required (e.g., emissions reduction, public safety)
- Project prioritization or alternatives analyses
 - Benefits' monetization supports economic feasibility assessment



10 PRINCIPLES TO VALUING SUSTAINABILITY



Consider All Significant Economic, Social and Environmental Outcomes



Communicate Monetary and Non-Monetary Results Clearly and Effectively



Express Outcomes in Monetary Terms, and Identify Non-Monetary Indicators



Involve Subject Matter Experts and Stakeholders, When Possible



Assess Long-term Outcomes and Dynamic Feedback Implications



Use Sustainability (or Measurement) Frameworks Tailored to Clients Needs



Complement Traditional Valuation Methods with Evidence on Wellness



Evaluate the Distribution of Benefits and Costs to Different Stakeholders



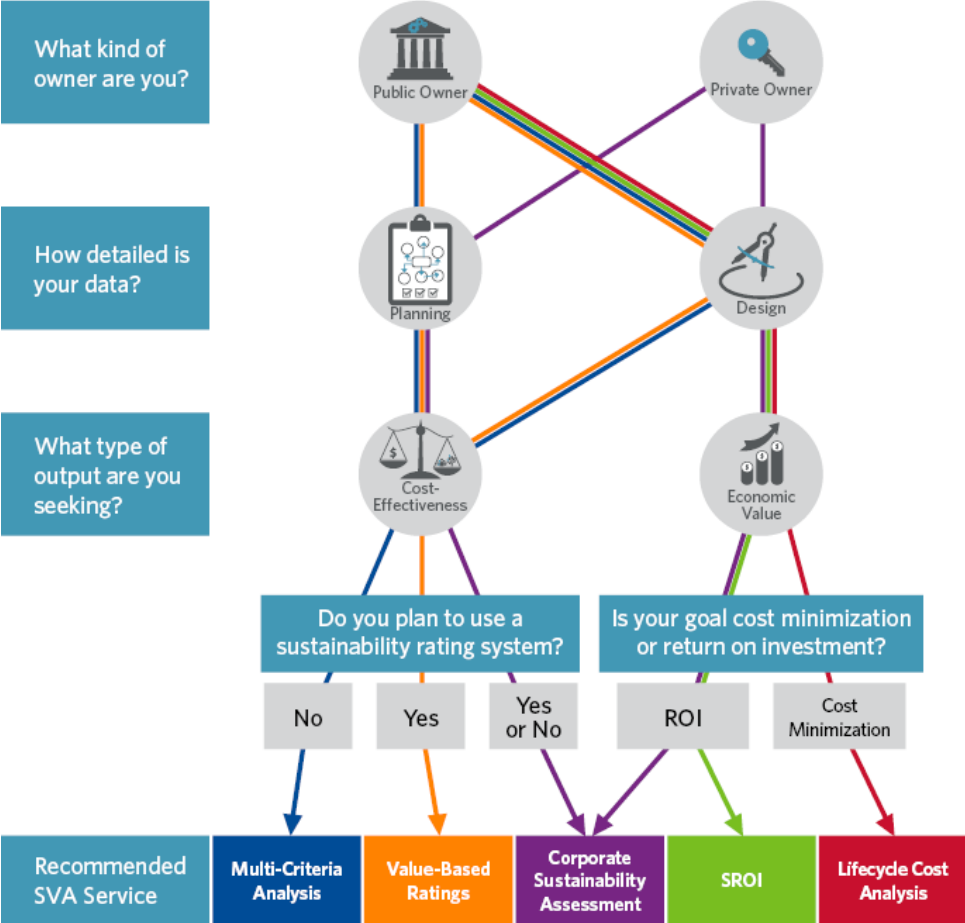
Account for Risks and Uncertainty



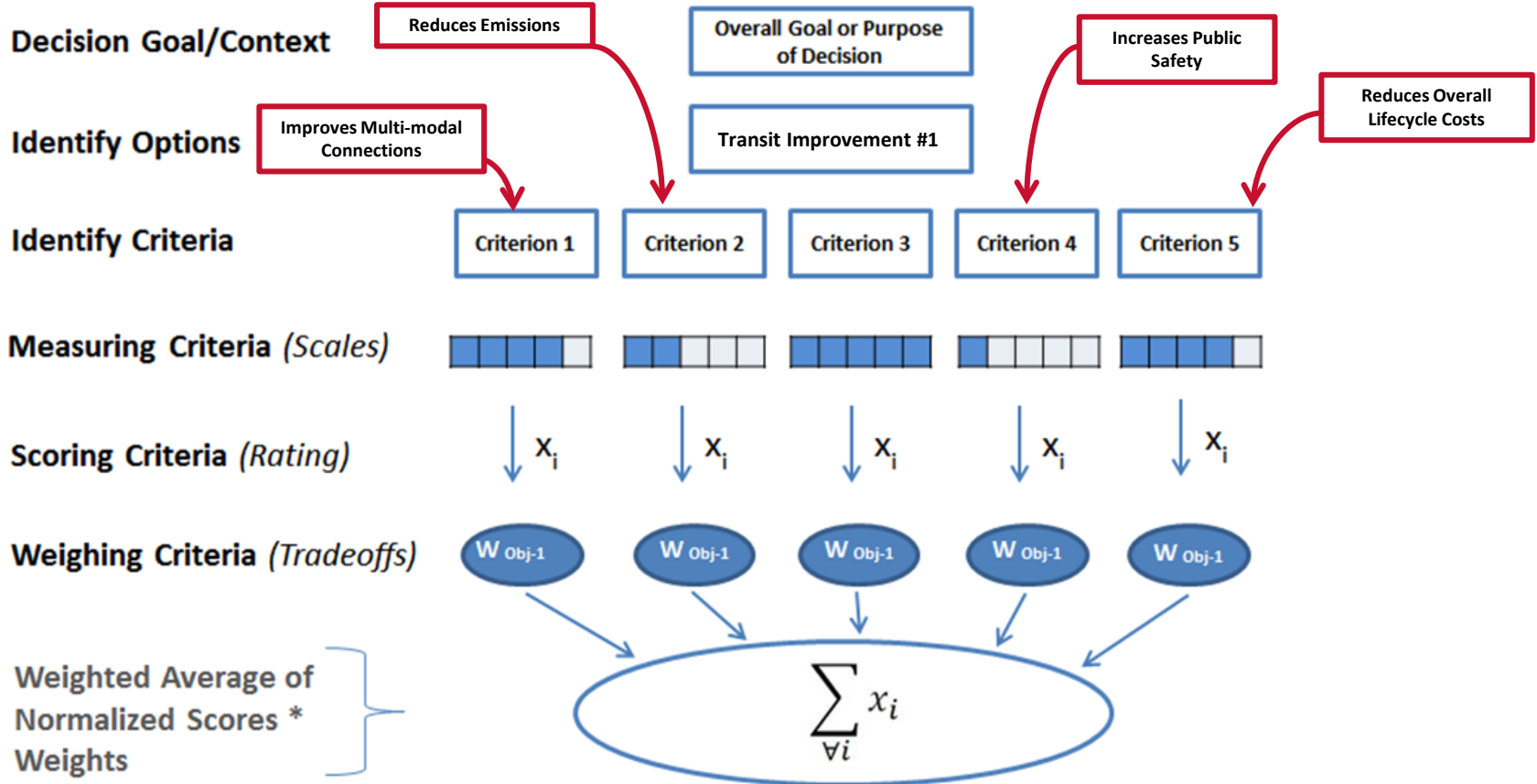
Transparently Explain All Methods, Data Sources and Assumptions



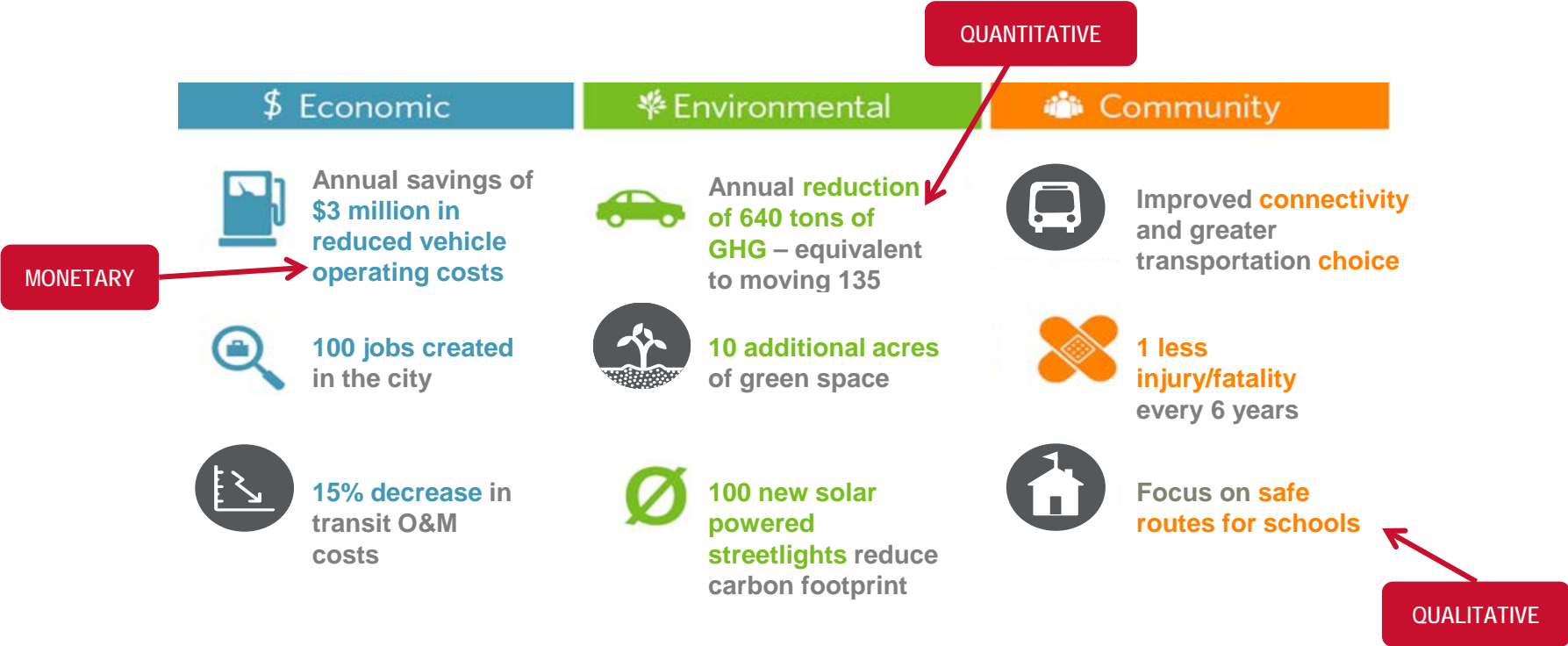
CRITERIA FOR GUIDING SELECTION OF SVA SERVICES



MULTI-CRITERIA ANALYSIS



POTENTIAL SUSTAINABILITY-FOCUSED OUTPUTS





ANY QUESTIONS?

Presenter

Amy Shatzkin

Deputy Director -
Environmental Affairs

Sound Transit

Seattle, WA






Sound Transit's Sustainable Business Case

Amy Shatzkin, Deputy Director, Environmental Affairs and Sustainability

Sound Transit District




- Established in 1996
- RTA for Central Puget Sound
- Serves:
 - 3+M people – 40% of state population
 - 3 Counties & 54 Cities
- 48M rides in 2018
- Multi-modal service
 - ST Express Bus
 - Link Light Rail
 - Sounder Commuter Rail
- \$54B expansion project
 - 110 miles of Light Rail
 - ST /Sounder improvements

Agency Mission

Moving more people to more places

Sustainable Business Practices and strategies will be integrated throughout the Sound Transit organization, including planning, designing, constructing, operating existing and new transit systems and facilities.

Executive Order 1 – 2007



Sustainability Timeline

Sustainability at Sound Transit



Program Elements & Benefits

- **ESMS** – Organizational collaboration; reduces environmental compliance and planning risks including fines/fees
- **Resource conservation** – Save natural resources & utility \$\$
- **Green building & infrastructure** – Integrated design, resource savings, challenge innovation, staff/consultant efficiencies
- **Reporting** – Communicating benefits to all stakeholders
- **3rd Party Certifications** – Rigor, monitoring & measurement

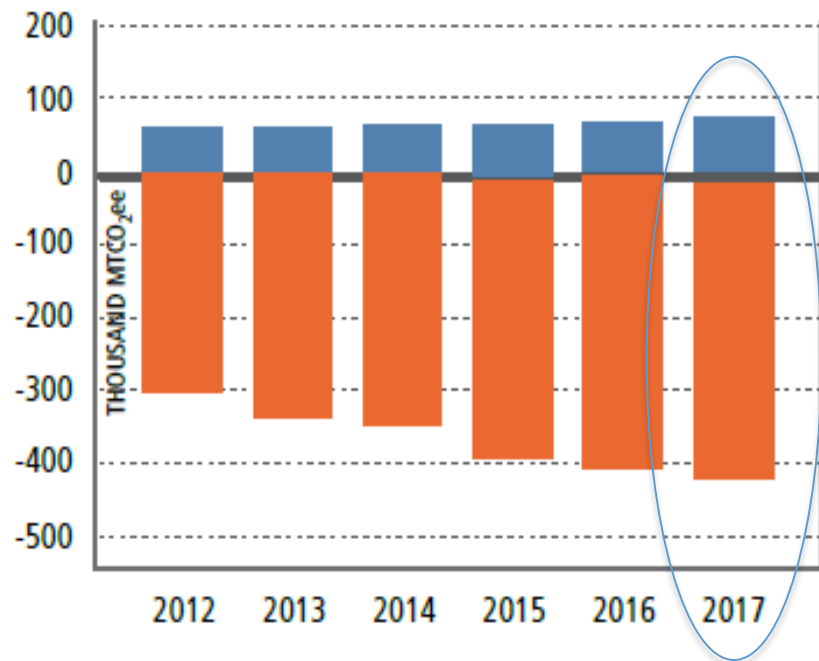
- Life cycle & Total cost = costs vs. savings & benefits
 - Capital costs & project/product lifetime
 - Maintenance savings
 - Procurement process savings
 - Staff time savings & efficiencies
 - Natural resource & utility savings
 - Benefits to riders, stakeholders, partners
 - Benefit to grant funding and federal funding opportunities
 - Anticipate/meet regulatory changes

2017 Highlight – Resource Conservation

PROJECT	YEAR	CAPITAL COSTS	2017 SAVINGS	SAVINGS TO DATE	PAY-BACK YEAR	DESCRIPTION
CAPITAL INVESTMENT PAID BACK IN 5-7 YEARS						
Sounder Everett–Seattle wayside power	2011	\$315,000	\$17,270	\$212,890	2018	Electric wayside power units are used instead of the commuter rail locomotives' diesel engines to heat and power coach cars during layover, reducing diesel use and air pollutants.
Federal Way Transit Center lighting upgrades	2013	\$603,000	\$36,931	\$153,335	2019	Three transit facilities were retrofitted for energy efficiency upgrades. Lighting upgrades were made at Federal Way Transit Center and Kent

2017 Highlight – Growing Regional Benefits

GREENHOUSE GAS EMISSIONS



2017:
5 % more GHG savings than 2016

- Agency emissions from operations
- Regional emissions avoided when residents take transit

Regional environmental benefits


ST services avoid GHG emissions equivalent to:



Powering more than
45,000 homes for a year



Burning **48 million**
gallons of gasoline



Amy Shatzkin
Deputy Director, Environmental Affairs and Sustainability
Amy.Shatzkin@Soundtransit.org



Presenter

Chelsey Hohensee

Operations Manager

MetroLink

Moline, IL



MetroLINK – At a Glance



MetroLINK

- Rock Island County Metropolitan Mass Transit District (MetroLINK) serves the Illinois Quad Cities, including the communities of Carbon Cliff, Colona, East Moline, Hampton, Milan, Moline, Rock Island, and Silvis, IL.



- Fixed-route service, known as the Metro, operates 62 fixed-route vehicles across twelve (12) routes and provides 3.5 million trips per year
- ADA paratransit and special transportation services operate fifteen (15) vehicles (mini-vans, 12-passenger, and 14-passenger)



- Passenger ferryboat service, known as the Channel Cat Water Taxi, operates three (3) 49-passenger vessels on the Mississippi River from May-October

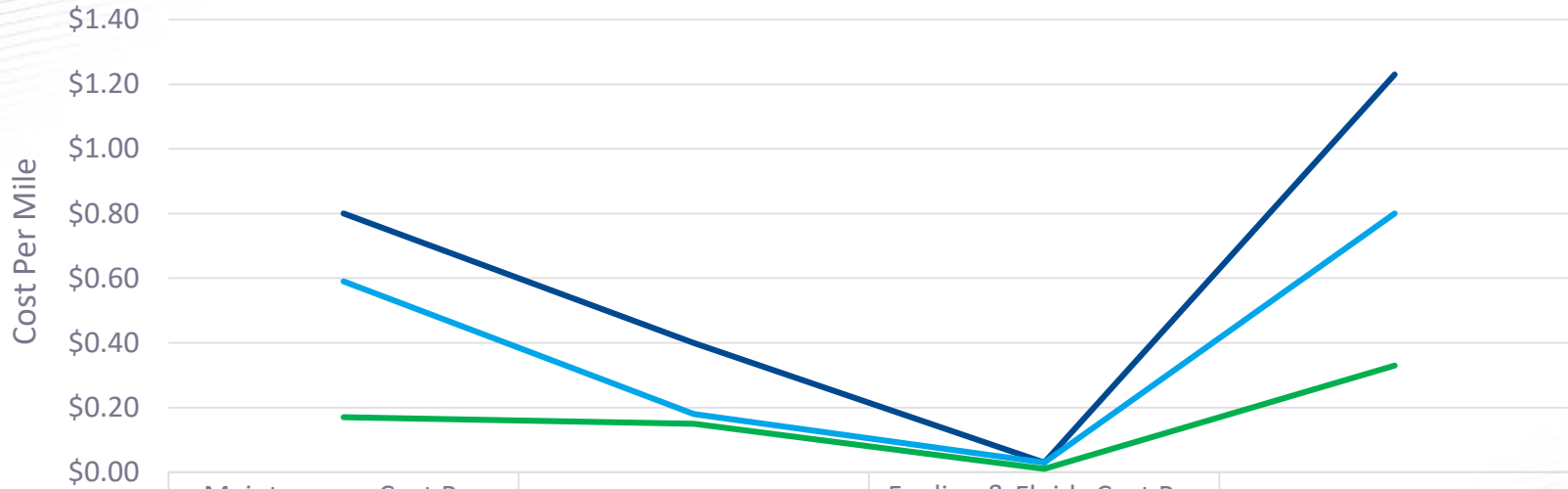


MetroLINK – Fleet Sustainability

- Converted nearly 85% of fixed-route fleet to Compressed Natural Gas (CNG) between 2002-2016. Initial 25 buses were powered by John Deere CNG engines
- Deployed three (3) Proterra Catalyst E2 40' battery electric buses in 2018. Additional five (5) 40' buses are pending shipment in May 2019
- Two (2) floor-mounted electric bus depot chargers installed in Spring 2018. Seven (7) ceiling-mounted electric bus depot chargers installed in Spring 2019
- Nine (9) remaining diesel buses are expected to be replaced with CNG and/or electric buses in the next 1-3 years



MetroLINK – Alt. Fuel Cost Savings



	Maintenance Cost Per Mile	Fuel Cost Per Mile	Fueling & Fluids Cost Per Mile	Total Cost Per Mile
Diesel	\$0.80	\$0.40	\$0.03	\$1.23
CNG	\$0.59	\$0.18	\$0.03	\$0.80
Electric	\$0.17	\$0.15	\$0.01	\$0.33

MetroLINK – Electric Emissions Reductions

Electric bus fuel and CO2 savings since May 2018 (3 buses)

73,891

Miles
Driven

19,624

Gallons of
Diesel Saved

201

Tons CO2
Avoided

MetroLINK – Sustainable Infrastructure

- All new infrastructure designed to USGBC LEED standards
- Operations & Maintenance Facility (2014)
 - Rooftop solar array (\$175k savings to-date)
 - Solar thermal hot water system
 - Bus wash water reclamation system
 - Indoor CNG fueling station
- District Station Passenger Terminal (2014)
 - Joint project with “The Locks” multi-family housing development
 - Rooftop solar array
 - Occupancy-controlled lighting
 - Reuse of rooftop water runoff for Station’s water feature



MetroLINK – Public Education Campaigns

- Public education campaigns and key community partnerships to build support of sustainability efforts (John Deere, MidAmerican Energy)

WHY RIDE METRO?

Half of Metro's fleet runs on Compressed Natural Gas (CNG) buses which reduce exhaust pollutants by 70 to 85 percent.

Converting one diesel bus to CNG saves about **145 barrels** of petroleum annually.

A solo commuter switching their commute from a private vehicle can reduce CO₂ emissions by 20 pounds per day – more than **4,800 pounds** in a year.

Public transportation is estimated to reduce CO₂ emissions by **37 million metric tons** annually.

Save Something GREEN
GoGreenMetro.com




SAVE SOMETHING GREEN

RIDE METRO

With over **70%** of Metro buses running on clean burning Compressed Natural Gas, riding Metro means cleaner air for everyone.

gogreenmetro.com




METRO ELECTRIC BUS | ZERO EMISSIONS

THE ONLY THING COMING OUT OF THESE BUSES WILL BE PASSENGERS.



Before long, you'll start seeing different looking buses in the Quad Cities. But they don't just look different, they're powered entirely by **ELECTRICITY**, which means zero emissions. Yes, zero.

It's the next evolution in reliable, responsible transit. And we're the first transit system in the state to get them. So whether you ride transit or not...these buses make life better for **all** of the Quad Cities.



www.metroq.com

MidAmerican Energy

METRO ELECTRIC BUS | ZERO EMISSIONS

THE FUTURE JUST ARRIVED. RIGHT ON TIME.



The technology isn't new. Metro's fleet has ground 13 years ago with the introduction of their learning compressed natural gas buses. Now, you're seeing the leading edge of zero-emissions transit.

It's the next evolution in **reliable, responsible transit**, to whether you ride transit or not. These buses make life better for **all** of the Quad Cities.



www.metroq.com

MidAmerican Energy

Discussion Panel

Pamela Yonkin

Principal Economist

HDR

Boston, MA



Amy Shatzkin

Sustainability Manager

Sound Transit

Seattle, WA



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Q&A with Today's Moderator and Speakers

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Q&A with Today's Moderator and Speakers

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