Sustainability and Metro’s Zero-Emission Fleet

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Zero-Emissions Fleet

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King County Metro’s Trek to a Sustainable Future

• Strategy options:
  - **study**: learn from others, observe
  - **deploy**: test, evaluate and scale
  - **convert**: start replacing now
100% Clean: 100% Possible

ELIAS
King County Metro, Transit Operator
Seattle, Washington

“I have been driving for King County Metro for 5 years. Basically I’ve driven every single bus that we have in King County. The riders actually love these buses. I don’t think they realize it’s a 100% battery operated bus. When I tell them it’s an electric bus they just love it because it’s good for the environment.”
Scope of Testing

- Current technology electric buses (AEB, BEB, ZEB) can theoretically meet **70%** of KC Metro operational requirements.
  - 174 Zero-Emissions *Electric Trolley Buses*
  - 11 Zero-Emissions *Battery Electric Buses*

*Note: Achieving a 100% emission fleet is dependent upon the successful extended-range bus pilot test, availability of 60-ft. buses by 2020, and space efficient charging infrastructure.*
Testing Data

- **Document:**
  - bus size: 40’ or 60’
  - weight over each axle
  - acceleration/velocity on various grades
  - energy used, and energy recovered
  - other **KPIs**
  - telematics
Design for the future: Base/Garage/Depot for BEBs
Discussion

• Why Test, are OEM claims “Best Case”?

• How important are charging standards?
  – Sunk Costs, Stranded Assets

• BEB skills sets for mechanics and operators?
  – Utilities /Electric Train /Light Rail /Subway /Tram /Trolleybus/
    Diesel Electric Hybrid

• How will we use performance metrics to inform decisions?
  – study: learn from others, observe
  – deploy: test, evaluate and scale
  – convert: start replacing now
Sustainability and Metro’s Zero-Emission Fleet
13% there, 87% to go...

Thank you!

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