

Link Transit – Issues and Projects

Presentation to Washington State
Transportation Commission

June 19, 2012



Link Transit

- Public Transit Benefit Area (PTBA) for Chelan and Western Douglas Counties
- 3,200 sq. mile service area
- 111,000 residents
(66,000 urban - 55,000 rural)
- 2 Counties, 8 Cities, 10 Communities
- 60 buses, 1.1 million annual passengers

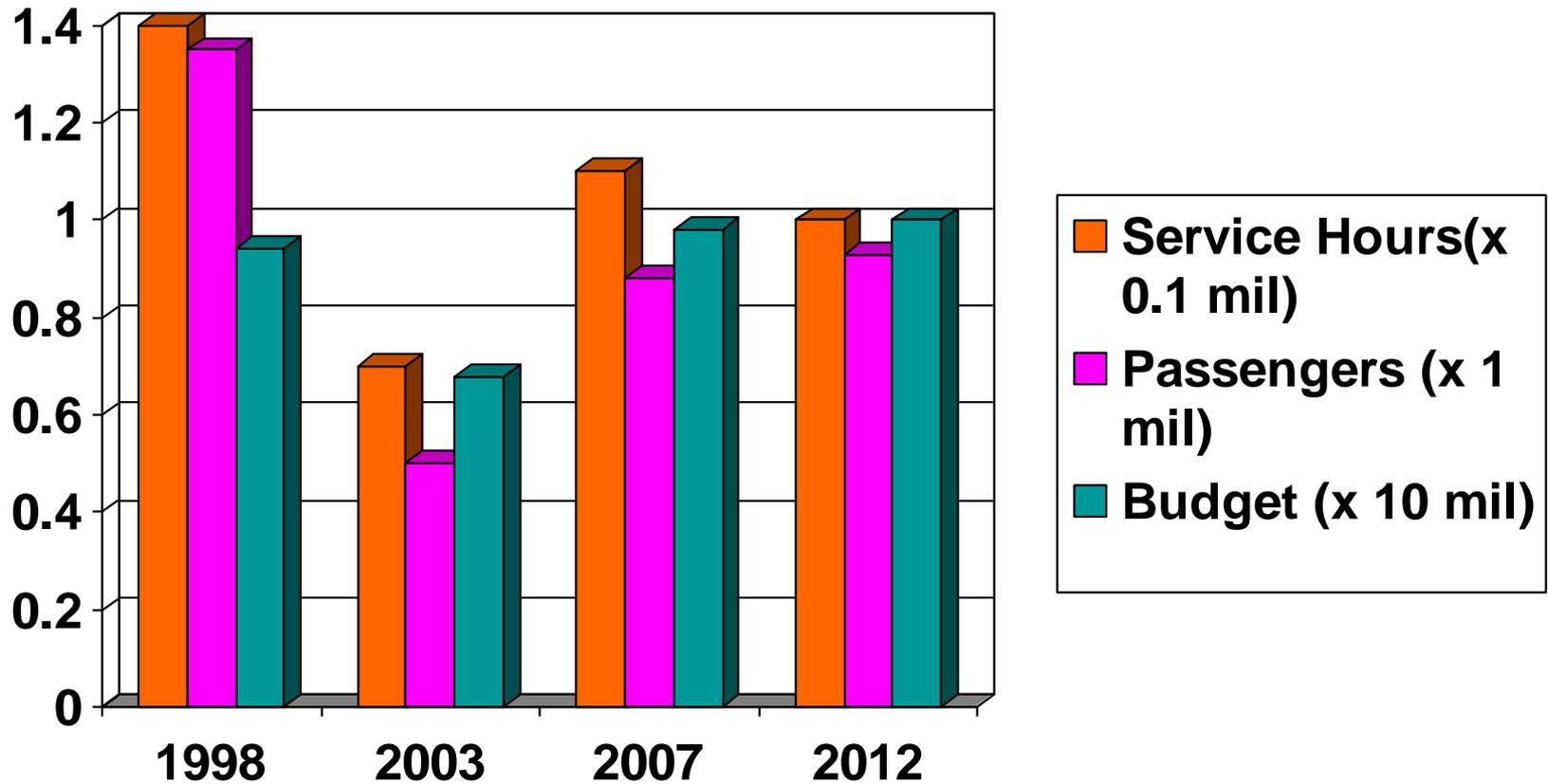


Revenue Problem

- Actual sales tax down 8% from 2007
- Sales tax is 27% lower than projected
- Federal funding is down 2%
- Non-traditional funding maximized but limited
- Increasing sales tax not politically possible



Service, Passengers & Budget



Uncontrolled Cost Drivers

- PERS – up 108% since 07
- Medical – up 22% since 07
- Fuel – up 77% since 07
- L & I – up 85% since 07
- Unemployment – up 133%

Total uncontrolled - 7.8% of budget



What We Have Done

	% of Expenditure Cut
• Increase fares revenue 63%	9%
• Cut service/operators 12%	38%
• Reduce admin staff 18%	19%
• Increase part-time 50%	9%
• Vehicle replacement 90%	25%



Current and Future Concerns

- State allocated Federal grants
 - Special Needs funding rules
 - Connectivity vs. productivity policies
 - Stability and predictability of service
 - Capital replacement funding
 - Availability of Federal funding
- 



Link Transit's Ultra Fast Charge Battery Electric Trolley Project

June, 2012



www.linktransit.com

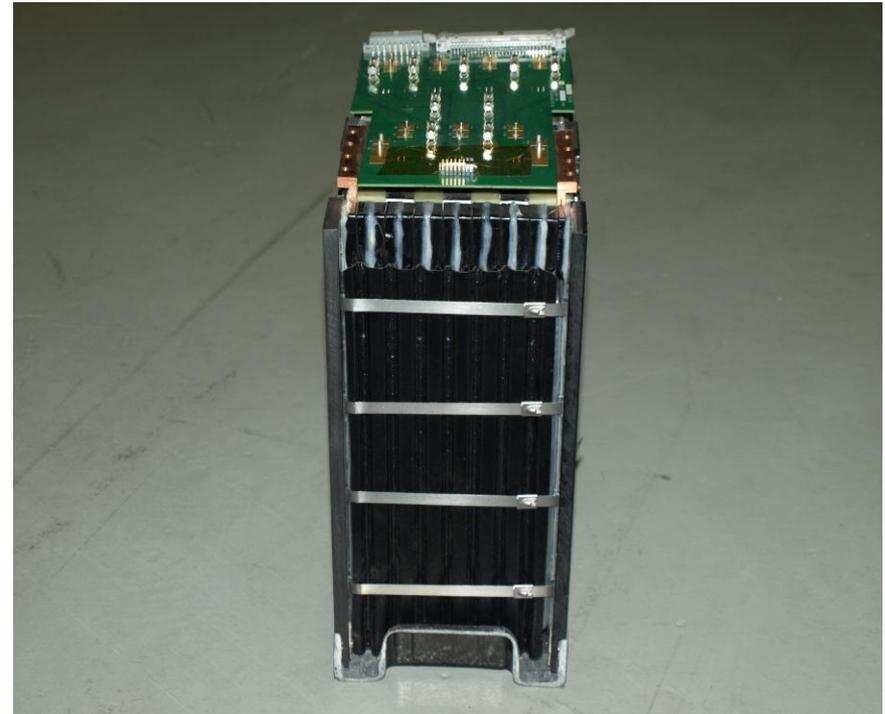
Project Summary

- \$2.95 mil. “ARRA” TIGGER Grant
 - Five ultra-fast charge battery electric replica trolley style vehicles,
 - Two all weather ultra fast charge stations
 - One - five (5) vehicle slow charge station
- Minimum range 18 miles
- Maximum recharge time 5 – 7 minutes



Battery Technology

- Lithium-ion Titanate Oxide Battery
- 256-2.3v battery cells – Altair Nano
- 32 blocks of 8 cells
- Glycol cooled
- 588 volt – 25.6 Kwh energy storage



Actual Individual Battery



WHERE WE ARE TODAY



- Three Trolley's in-service with Ni-Cad batteries
- Two trolleys in testing in Downey
- Slow Charger delivered
- Fast Charger delivery scheduled for July
- Revised Li-Ti batteries scheduled for Aug/Sept



Slow Charger Multiplexer and Transformer



Slow Charger Specifications

- Manual plug in connection to trolley
- 60 amp balanced charge
- Charge time is 20 minutes on LiTi (approx 10 kwh)
- 2.5 hours on NiCd (approx 20kwh)



Slow Charge Connection



Gamma Charger



Fast Charge GAMMA

- Delivery in July
- Two units will be installed at transit center
- Fully automated – robotic charger
- 3 to 4 minute charge every 30 minutes
- Fast Charge power requirements are 400 amps @ 800 volts



Trolley Fast Charge Connection



Vehicle Use



Monthly Energy Cost Comparisons

Electric:

\$94.05 per month

2.4 cents per kW-h x 3325 kW-h

Diesel:

\$1,381 per month

429 gallons @ \$3.22 per gal



Operator and General Public Response

- Drivers love the way the vehicle performs!
- Very low noise “Quite Ride” inside and out!
- Driving simplicity!
- 99% approval from the General Public!
- Positive comments from community leaders!
- No Tailpipe!

