



PSTA Replacement Buses

Decision-Making Guide for PSTA Board

Pinellas Suncoast Transit Authority (PSTA)
St. Petersburg, Florida



Recommendation

- **Multiple Actions:**
 - Advance Plans to Operate Electric Buses
 - Interim Phase – Hybrid Electric Buses with BAE Series Transmissions
 - Sustainable Year 1 Approach: Purchase 7 Replacement Hybrid Buses at \$4.9M
- **1-Year Decision is Financial & Environmental Priority**
- **Follow-Up Work to Continue**



Bus Technology Options Examined

- **Hybrid-Electric**
 - PSTA has 60 Gillig Hybrids (1/3rd of Fleet)
 - Proven Technology
- **Diesel**
 - Future Engines Much Cleaner than Existing PSTA Buses
 - Proven Technology
- **All Electric**
 - Proterra/BYD/New Flyer & Future Gillig
 - Promising Technology
 - Requires Charging Stations
- **Refurbished Electric**
 - Custom Coach Works/ZEP Bus
 - Few in service showing reliability issues.
- **CNG**
 - Gillig offers CNG Option
 - Proven Technology
 - New Financing Arrangements Spread Up-Front Compressor Costs



Follow-Up Work Completed

- **Educational Efforts:**
 - 3 Electric Bus Displays/3 CNG Provider Meetings/5 Bus Manufacturers/5 Transit Maintenance Managers.
- **CNG – On-Site Fueling Station – \$2M Cost to PSTA**
- **Hybrid Electric-Diesel Bus:** **BAE SYSTEMS**
 - BAE Series Transmission – Allows for no emission operation at minimal cost.
- **Electric Bus**
 - Requires On-Route Quick Charging Stations to be Constructed.



Electric Buses Need Infrastructure



Louisville, KY “Zero Bus” Circulator – 2 Chargers, 10 Buses, \$11M



Why Recommend Hybrids?

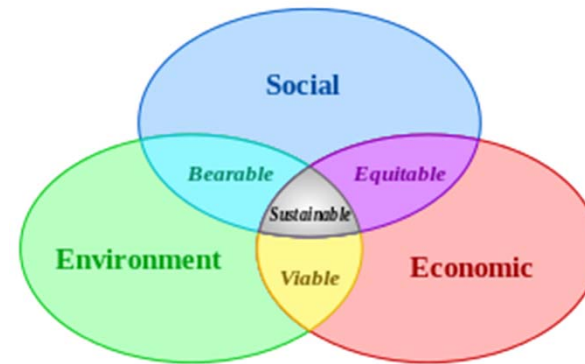
- Best option today to comply with 2014 Board Adopted Sustainability Policy.
- Best environmental decision.
- Best financial decision.
- In parallel with Electric Bus Grant/Planning, allows for best flexibility.
- Maintains PSTA's Leadership Role as Most Sustainable Transportation Option in Region.



PSTA Sustainability Policy

- Adopted February 2014 Policy Requires Comprehensive Decision-making:

- Financial
- Environmental
- Social



- October 2013 Recommendation to Approve Hybrid-Only Purchase Policy Not Approved By Board to maintain future flexibility.



Environmental Priority: Get New Buses



2001 Gilligs (7) to Be Replaced

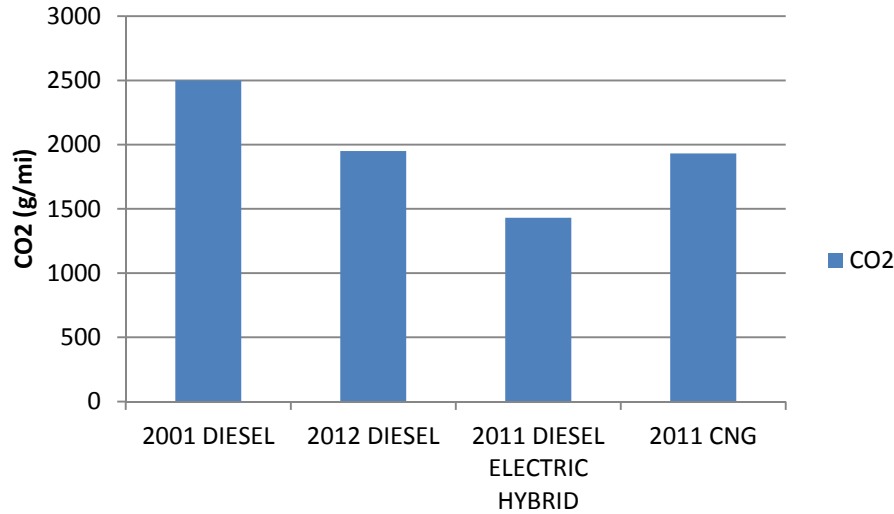
Electric Bus Infrastructure Timeline

- Louisville – 3 Years
- Tallahassee – 3.5 Yrs.
- Foothill, CA – 3.5 Yrs.
- Nashville – 3 Years

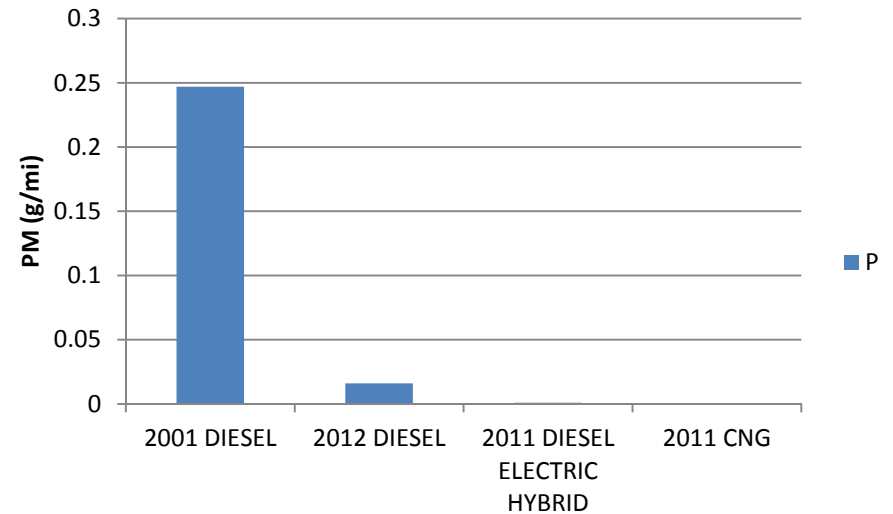


1-Year Decision Should Be Made

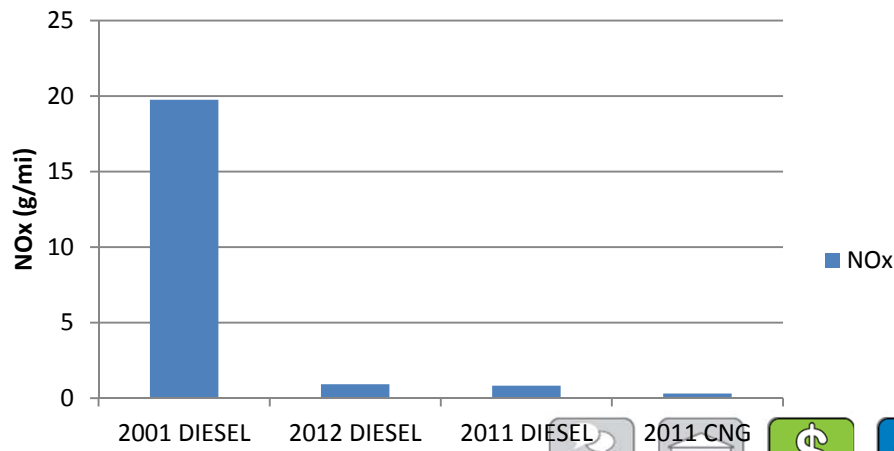
MEASURED CO2 EMISSIONS



MEASURED PM EMISSIONS



MEASURED NOx EMISSIONS



MEASURED CO EMISSIONS

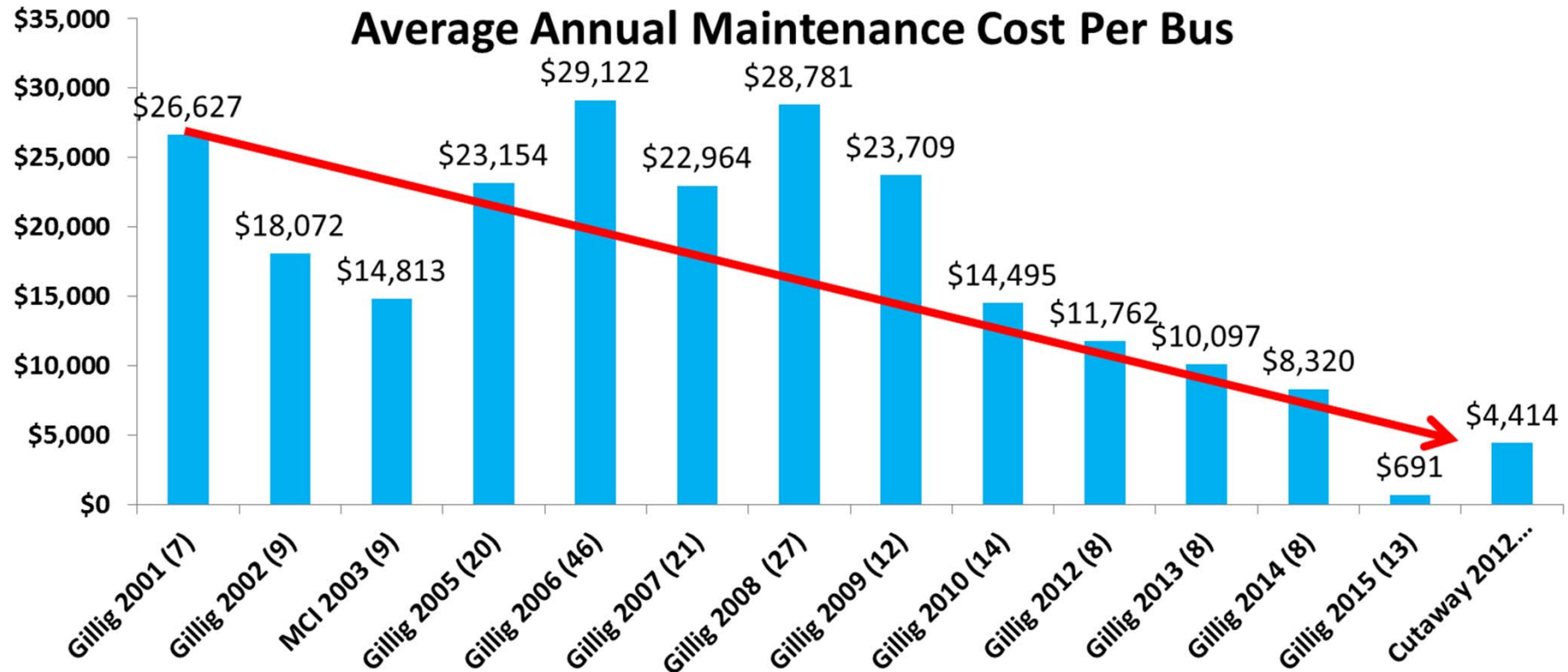


Best Financial Decision

- **Path Forward Plan:**
 - Cut \$7M in other programmed projects
 - Plan to privatize services to reduce fleet size
 - Extended replacement cycle from 12 to 15+ years
 - Sets Aside \$28.5M for replacement buses through 2020.
- PSTA Capital Reserves (\$13M) + Grants Balances CIP:
 - Diesel Buses: 5 Years – through 2020
 - Hybrid Buses: 4 Years
 - Electric Buses & Infrastructure : 2 Years



1-Year Decision Should Be Made



Additional Funding Possibilities

- **Legislative Advocacy**

- House & Senate Bills include additional bus funding.
- MPO Priorities All Using Multi-Modal Approach – January 21 Joint Meeting



- **PSTA Capital Reserve Flexible**

- **7 Hybrid Replacements** - \$4.9M will advance local reserve funds by one year.
- **9 Diesel Replacements** - \$4.5M will require no future reserve advancement.

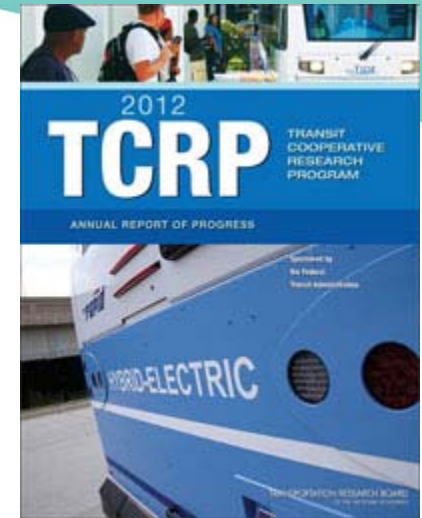


Federal Transit
Administration



Follow-Up Work Completed

- **Life Cycle Cost Analysis Improved**
 - National TCRP Model Utilized.
 - Verified PSTA Hybrid & CNG Assumptions & Lowered Electric Bus Assumptions
- **Cost-Benefit Analysis**
 - **State-of-Good Repair** – San Francisco MPO Concluded SGR Investments = Expansion Investments
 - **Trade-offs:** Without future new funding, fare, service, and tax rate decisions will be needed.



Federal Transit
Administration



PSTA's Federal Lo-No Application

Keys to Success:

- Specific Proposal
- Bus OEM Partnership
- Local Match (Diesel Equivalent)
- Legislative Advocacy
- Community Support
- PSTA & Gainesville likely Florida Applicants.



Federal Transit
Administration



PSTA Remains a Leader

- Largest fleet of hybrid electric buses in Florida/Largest proportion.
- 4 Years Record Ridership



Riding PSTA instead of your car helps environment more than:

- Replacing your light bulbs
- Replacing your appliances
- Adjusting your thermostat - **COMBINED**



Actions

1. Apply for **Federal Lo-No Electric Bus Grant** Funds for PSTA Pilot Project
2. **Order Seven (7) 2016 Gillig Hybrid-Electric Buses with BAE series transmissions** at a cost not to exceed \$4.9M.

