PAAC's Natural Gas P3 Project

Ellen M. McLean
Interim Chief Executive Officer

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PAAC Metrics

- **Fleet:** 730 Buses, 83 LRVs, 2 Inclines, ACCESS
- **Riders:** 220,000 average weekday, 65 million yearly
- **Garages:** 4 & 1 Heavy Maintenance Shop
- **Diesel Fuel:** 600,000 gals/month or 7.2 M gals yearly
  Current average lock-in price @ $3.32
- **Fuel Costs:** $25 million annually

Project Scope

- Retrofit existing East Liberty garage for CNG use

OR

- Build a new facility along the East Busway

AND

- Build a high compression CNG fueling station on site
- Retrofit the Northside Main Maintenance Shop to service & fuel CNG buses
- Purchase CNG buses on a phase-in basis per Federal rules

Perception v. Reality

2013 Engine Certification Levels

MANUFACTURER		MODEL	UNITS	NMHC	NOx	NMHC+NOx	CO	PM	HCHO
Cummins Inc.	**Hybrid**	ISB	g/bHp-hr	0.04	0.18	*	0.6	0.000	*
Cummins Inc.	**Diesel**	ISL	g/bHp-hr	0.007	0.19	*	0.05	0.000	*
Cummins Inc.	**CNG**	ISL G	g/bHp-hr	0.05	0.13	*	**7.8**	**0.002**	*

g/bHp-hr	grams per brake horsepower-hour
NMHC	non-methane/hydrocarbon
NOx	oxides of nitrogen
CO	carbon monoxide
PM	particulate matter
HCHO	formaldehyde

Source: California Air Resource Board

The Economics

- Is there sufficient external funding through Federal, State or private sector grants to reduce capital costs and financial risk to the Port Authority?
- What is the market's appetite for risk sharing?
- Is the fuel price differential sufficient to justify infrastructure costs **and** provide operating budget relief?
- What benefits does the P3 model provide under State law?
- Is the project financially feasible?
- What is the ROI?

Questions