

# **Alternative Fueled Vehicles:**

## **The Dallas Story**

# City of Dallas Fleet

- **Equipment and Building Services (EBS) is responsible for over 4,600 vehicles.**
- **As of December 31, 2004, the composition of the fleet will be as follows:**
  - **3360 Gasoline or Diesel**
  - **1200 CNG**
  - **75 Gas Electric Hybrid**
- **Resulting in a 28% Alternative Fueled Vehicle (AFV) Fleet.**

# Air Quality Issues

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- **City of Dallas designated as a serious non-attainment area.**
- **State Legislative requirements for low emission vehicle purchases.**

# Dallas Response

- **Current alternative fuel vehicle (AFV) program began in spring 1992.**
- **Existing public access stations provided adequate fueling opportunities and anticipated growth of fueling company could facilitate growth of future CNG fleet.**
- **Compressed Natural Gas (CNG) selected:**
  - **14 Dedicated CNG pickups purchased in FY92**
  - **Vehicle bi-fuel conversions**
    - **50 in FY 92/93**
    - **261 in FY 93/94**

# Early Obstacles

- **User acceptance of new fuel type:**
  - **Bi-fuel vehicles leave users with easier gas options**
- **Fears of high-pressure cylinders:**
  - **First natural gas vehicles recalled**
- **Limited range of travel on CNG:**
  - **Bi-fuel capacity limited by space requirements**
- **Sacrifice of pickup bed space for additional fueling cylinders.**
- **Driving performance of bi-fuel vehicles**
- **Different & limited fueling locations**

# Early Obstacles, cont'd.

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- Driving performance of bi-fuel vehicles.
- Different & limited fueling locations.

# Program Re-evaluated

- Decision to purchase only dedicated CNG vehicles thereby taking gasoline option away from operator.
- Improved reliability and performance from OEM products.
- Increased private CNG fueling sites.
- OEM's began to offer increased range packets.

# Vehicle Acquisition

- With every fleet purchase, the City has aggressively sought to use alternative fuel vehicles if at all feasible.
- Recent vehicle purchases of dedicated CNG vehicles with ILEV certification:
  - FY 97--101
  - FY 98 -- 17
  - FY 99 -- 117
  - FY 00 -- 335
  - FY 01 -- 145
  - FY 02 -- 132
  - FY 03 -- 35
  - FY 04\* -- 88 purchased & 175 converted Crown Victorias
    - \* includes Crown Victoria CNG Conversions

# Major Acquisition Steps

- **FY 99 - forward – All light duty trucks had to submit documentation from upper management explaining why a CNG truck would not accomplish their task.**
- **FY 00 – Purchased CNG support cars for Fire and Police. Public Safety vehicles are exempted by the State but we chose to purchase any way.**
- **FY 01 – All administrative sedans had to submit documentation from upper management explaining why a CNG sedan would not accomplish their work task.**
- **FY 04 – Converted 175 in stock Ford Crown Victorias from gasoline to CNG for safety reasons.**

# Other Alternative Fuel Vehicles

- In FY 01, Dallas ordered 10 hybrid/electric vehicles:
  - To broaden the mileage range available, in turn allowing additional vehicles with specific long-range needs to use an alternative fuel.
  - To evaluate performance and clean air aspects.
  - Another 6 ordered in FY 02
  - Another 59 ordered in FY 03

# Successes

- Dallas purchases AFV's in categories exempt from the regulations.
- Dallas purchases AFV's with cleaner emission ratings than required.
- Dallas purchases more AFV's than required.
- Results in additional surplus credits for clean air actions.

# Factors for Success

- Existing privately owned and managed CNG fueling infrastructure.
- Support of the program from a majority of the Mayor and City Council and the City Manager.
- Aggressive promotion from Equipment Services Staff.
- Significant DOT grant funding available to assist with acquisitions.
- OEM product line continued to improve and expand.
- Development of high quality after-market conversion products.
- Improvements in local vendor's fueling infrastructure.
- Decision to construct two fueling sites at City facilities.

# Funding

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- **Dallas has utilized over \$5 million in Congestion Mitigation and Air Quality Improvement Program funds administered by the North Central Texas Council of Governments that reimburse over 80% of incremental costs.**
- **Matching funds are included in fleet replacement budget to maximize grant opportunities.**
- **Dallas strives to budget for the total acquisition costs for a CNG vehicle in the event grant funding is not available.**

# Remaining Challenges

- Continue to introduce CNG (LNG) fueled heavy equipment, especially refuse trucks into the fleet.
- Acceptance of CNG vehicles for squad cars.
- Departmental attempts to choose “necessary” options unavailable on CNG vehicles.
- Remote City facilities with limited access to close CNG fueling sites.
- Recent trend in OEM’s product line to minimize CNG.

# On-going Future Needs

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- **Additional vehicle types, especially heavy trucks and heavy equipment.**
- **Additional equipment options, such as extended ` and crew cabs on pickups.**
- **Extended range capacity.**
- **Additional fueling site-especially to allow travel between major metropolitan areas.**
- **Additional CNG providers to create competition.**