Rethink Paradise... for a Green Fleet
First Muni Fleet in FL with Evs
2011

- 7 Electric Vehicle Charging Stations (Level II, 240 v) Installed.
- 5 of the stations to be utilized for Nissan Leaf fleet vehicles.
- 2 publically accessible stations on 3rd floor of the Clematis Garage.
Don’t Be Fuelish: Idle Reduction

Public Utilities Department

RETHINK WPB
STOP Idling
START Saving

WE SUPPORT SAVING FUEL

SUSTAINABLE INSTITUTIONS

Clean Cities
U.S. Department of Energy
wpb.org/sustainability

THANK YOU FOR NOT IDLING

According to Argonne National Laboratory research:

- Idling uses more fuel than does restarting your car.
- Unless you’re driving a clunker, your vehicle will restart.
- You will not wear out the starter.
- Idling a car wastes about 0.3 gal/h and a big truck about 1 gal/h.
- Each gallon of fuel burned emits about 20 lb. of carbon dioxide.
- In some locations, idling is illegal and can result in substantial fines.
- Idling gets you nowhere!
Eight Major Cities Unite to form Energy Secure Cities Coalition—Fleets Embracing Alternative Fuels to Improve America’s National and Economic Security

FOR IMMEDIATE RELEASE

THURSDAY, MARCH 3, 2016

Coalition’s goal is to retire 50,000 petroleum-powered vehicles, saving tens of millions in taxpayer dollars and improving U.S. national and economic security.
Showcasing National Leadership, West Palm Beach Mayor Jeri Muoio Joins Seven Others to Launch Energy Secure Cities Coalition, Transition Municipal Fleets to Alternative Fuel Vehicles

FOR IMMEDIATE RELEASE:
TUESDAY, MARCH 8, 2016

Mayor Muoio joins coalition seeking to retire 50,000 petroleum-powered vehicles, saving tens of millions in taxpayer dollars and improving U.S. national and economic security.

West Palm Beach – Mayor Muoio joined seven other mayors last Thursday in launching the Energy Secure Cities Coalition (ESCC), a group of cities dedicated to transitioning their municipal fleets from petroleum-fueled vehicles to those powered by alternative fuels, like electricity and natural gas.
Key elements driving a fleet vehicle’s total cost of ownership (TCO)

**Fuel**
Cost to fuel the vehicle and maintain fueling infrastructure

**Infrastructure**
Cost of fueling infrastructure

**Maintenance**
Cost of maintenance, accidents, and repairs, including facility upgrades

**Telematics**
Cost of hardware and software to monitor vehicle performance

**Financing**
Direct cost of financing or indirect opportunity cost of using scarce capital

**Depreciation**
Difference between vehicle resale value and salvage value

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Summary: Preliminary findings from assessing West Palm Beach’s fleet

Preliminary analysis predicts **~$580k over 8 years** as the estimated **net added cost** of implementing 137 new AFVs and rightsizing candidates based on current annual VMT. Excluding CNG vehicles (or offsetting CNG infrastructure costs) provides for a **net savings** of between $988k and $1.3M.

### Potential Implementation Savings:

<table>
<thead>
<tr>
<th>AFV Type</th>
<th># of Units</th>
<th>Net 8-year Savings</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHEV</td>
<td>18</td>
<td>$119,900</td>
<td>Includes EVSE costs</td>
</tr>
<tr>
<td>BEV</td>
<td>28</td>
<td>$517,200</td>
<td>Includes EVSE costs</td>
</tr>
<tr>
<td>Hybrids</td>
<td>49</td>
<td>$349,600</td>
<td>1 sedan, 48 SUVs</td>
</tr>
<tr>
<td>CNG Vehicles</td>
<td>42</td>
<td>$344,400</td>
<td>Pickups and Vans</td>
</tr>
<tr>
<td>CNG (Infrastructure)</td>
<td>(1,111,000)</td>
<td></td>
<td>1 station; Maint. Upgrades</td>
</tr>
</tbody>
</table>

Total Net Savings: **($579,900)**

Net Savings w/o CNG infrastructure: **$1,331,000**

Net Savings (BEV, PHEV, Hybrid Only): **$986,700**

This preliminary analysis reveals a considerable opportunity but requires further analysis:

- Ability to leverage existing (or anticipated) CNG fueling infrastructure
- Right-sizing existing sedans could provide an additional ~$40k in annual savings
- Right-sizing candidates (SUV → PHEV Sedan) could potentially unlock exponential savings

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**Summary of Findings by Vehicle Segment**

<table>
<thead>
<tr>
<th>Vehicle Class</th>
<th>Mileage-Weighted TCO/Mile</th>
<th>Average Age (years)</th>
<th>Average VMT (last 12 months)</th>
<th># of Vehicles</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sedan - Compact</td>
<td>$0.39</td>
<td>5.8</td>
<td>6,361</td>
<td>4</td>
<td>0.5%</td>
</tr>
<tr>
<td>Sedan - Midsize</td>
<td>$0.48</td>
<td>7.2</td>
<td>9,678</td>
<td>66</td>
<td>8.9%</td>
</tr>
<tr>
<td>Sedan – Full Size</td>
<td>$0.76</td>
<td>9.5</td>
<td>7,578</td>
<td>18</td>
<td>2.4%</td>
</tr>
<tr>
<td>Sedan - Pursuit</td>
<td>$0.82</td>
<td>5.8</td>
<td>12,682</td>
<td>128</td>
<td>17.3%</td>
</tr>
<tr>
<td>SUV - Pursuit</td>
<td>$1.16</td>
<td>1.3</td>
<td>7,365</td>
<td>16</td>
<td>2.2%</td>
</tr>
<tr>
<td>SUV</td>
<td>$0.84</td>
<td>6.4</td>
<td>5,347</td>
<td>123</td>
<td>16.6%</td>
</tr>
<tr>
<td>Truck - Light Duty</td>
<td>$1.02</td>
<td>7.9</td>
<td>4,920</td>
<td>175</td>
<td>23.6%</td>
</tr>
<tr>
<td>Truck - Medium Duty</td>
<td>$1.67</td>
<td>6.7</td>
<td>6,519</td>
<td>77</td>
<td>10.4%</td>
</tr>
<tr>
<td>Truck - Heavy Duty</td>
<td>$4.75</td>
<td>8.4</td>
<td>5,578</td>
<td>83</td>
<td>11.2%</td>
</tr>
<tr>
<td>Minivan</td>
<td>$0.80</td>
<td>12.4</td>
<td>4,290</td>
<td>9</td>
<td>1.2%</td>
</tr>
<tr>
<td>Van</td>
<td>$1.26</td>
<td>7.8</td>
<td>3,134</td>
<td>42</td>
<td>5.7%</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>$1.27</strong></td>
<td><strong>7.2</strong></td>
<td><strong>6,678</strong></td>
<td><strong>741</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

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**AFV options evaluated for each vehicle classification**

- **Sedan – Compact**
- **Sedan – Midsize**
- **Sedan – Fullsize**
- **SUV**
- **Truck – Light Duty**
- **Minivan**
- **Truck – Medium Duty**
- **Van**
- **Truck – Heavy Duty**