Use of Alternative Fuels and Clean Burning Fuels in the State Motor Vehicle Fleet

Data Reported as of June 30, 2016

To the Governor,
President of the Senate, and
Speaker of the House of Representatives

November 2016

PREPARED BY
Arizona Department of Administration
November 29, 2016

The Honorable Douglas A. Ducey
Governor, State of Arizona
1700 West Washington Street
Phoenix, Arizona 85007

The Honorable Andy Biggs
President, Arizona State Senate
1700 West Washington Street
Phoenix, Arizona 85007

The Honorable David M. Gowan, Sr.
Speaker, Arizona House of Representatives
1700 West Washington Street
Phoenix, Arizona 85007

Dear Governor Ducey, President Biggs and Speaker Gowan

On behalf of the State Motor Vehicle Fleet Alternative Fuel Coordinator, it is my pleasure to present you the eighteenth annual report on the Use of Alternative Fuels and Clean Burning Fuels in the State Motor Vehicle Fleet. The report has been prepared in accordance with the requirements of A.R.S. § 41-803(R).

Please contact me (602-542-1500) or Michael Beller, State Motor Vehicle Alternative Fuel Coordinator (602-542-4375) if you wish to discuss the contents of this report.

Sincerely,

Craig Brown
Director

cc: Lorenzo Romero, Director, OSPB
    Richard Stavneak, Director, JLBC Staff
Attachment
Use of Alternative Fuels and Clean Burning Fuels in the State Motor Vehicle Fleet

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Executive Summary

All State Fleet Entities (SFEs) participated in the eighteenth annual report on the State motor vehicle fleet. The following summarizes the State’s efforts to comply with the three requirements under A.R.S. § 41-803:

- The State is mandated to have at least 40% of the total fleet capable of using alternative fuels. Of the State’s 5,370 light duty vehicles that qualify under the alternative fuel mandates, a total of 3,827 or 71% are currently capable of using alternative fuels. After adjusting for 237 vehicle equivalents earned pursuant to clean burning fuel usage, the percentage of vehicles currently capable increases to 76%.

- In the State’s most populous county, Maricopa, the mandate is to have at least 90% of the qualifying fleet capable of using alternative fuels. Of the State’s 2,875 vehicles located in Maricopa County, 2,360 or 82% can use alternative fuels. This is a decrease of 6.6% over last year’s 88.6%; however, adjusting for 237 vehicle equivalents earned pursuant to alternative fuel usage, the percentage increases to 90%. To stay in compliance with this mandate, State entities must continue to purchase vehicles capable of using alternative fuels for use in Maricopa County or use more alternative fuel.

- There is also a State and Federal requirement that 75% of all new vehicles purchased for use in primarily Maricopa and Pima Counties (counties greater than 250,000 population) can operate on alternative fuels. In fiscal year 2016, 62%—excluding neighborhood electric vehicles—of all State vehicles purchased can use alternative fuel. In fiscal 2018 Pinal County will be added to the report as it has crossed the population threshold for inclusion. It should be noted that, regarding the U.S. Department of Energy’s State & Alternative Fuel Provider Program, the total State fleet exceeded the acquisition requirements in model years 1998 through 2001 and 2004 through 2015, and has “banked” almost 1,600 credits towards the purchase of new vehicles.

As demonstrated above, the State of Arizona follows State and Federal requirements. When compared to other states and alternative fuel provider fleets included in the federal mandates, Arizona is ranked among the top in compliance and banking credits.
Background

During the Forty-third Legislature, Second Regular Session, 1998, SB 1269 Alternative Fuels was passed and signed into law on June 1, 1998.

The Alternative Fuels bill established a State motor vehicle fleet alternative fuel coordinator (Coordinator) in the Department of Administration to ensure that State Agencies and educational institutions are in compliance with the State alternative fuel mandates (purchases, conversions, waivers, and certifications).

A.R.S. § 41-803 includes requirements for reporting, purchasing and operation of state owned vehicles. The most significant requirements are summarized below:

Paragraph C All state agencies must make available by August 1 of each year information regarding vehicle cost, operation, maintenance, mileage and custody.

Paragraph G Seventy-five percent of all new motor vehicles with a gross vehicle ≤8,500 pounds purchased in Pima and Pinal counties shall be capable of operating on alternative or clean burning fuels.

Paragraph H Seventy percent of new alternative and clean burning fuel vehicles with a gross vehicle ≤8,500 pounds purchased in Maricopa County shall comply with the United States environmental protection agency standards for low emission vehicles pursuant to 40 Code of Federal Regulations section 88.104 94 or 88.105 94.

Paragraph K The State Vehicle Fleet Coordinator shall develop and implement a vehicle fleet energy conservation plan to reduce fuel consumption and increase the use of alternative and cleans burning fuels in state owned vehicles. Among other requirements to promote energy conservation and reduced fuel consumption, the plan specifies that

- not less than 40% of the statewide total fleet operate on alternative or clean burning fuels
- not less than 90% of the total fleet operating in Maricopa County operate on alternative or clean burning fuels

Each year the State Vehicle Fleet Coordinator must report annually to the Governor and the Legislature on the use of alternative fuels in the State Motor Vehicle Fleet. According to A.R.S. § 41-803 (R), the report shall include the following:

1. The number of State fleet vehicles.
2. The number of State vehicles used primarily in Maricopa County.
3. The number of State fleet vehicles capable of using alternative fuels.
4. Progress on compliance with Federal and State guidelines mandating the conversion of State fleet vehicles to alternative fueled vehicles.

5. Alternative fuels usage data.

6. Information received from State Agencies and educational institutions (SFEs) requested by ADOA and the Fleet Coordinator.

7. Information gathered from local offices of Federal Agencies regarding progress made toward implementing the Federal mandates relating to the conversion of motor vehicle fleets to alternative fuels pursuant to the provision of the Alternative Fuel bill.

This is the eighteenth annual report by the Statewide Fleet Coordinator pursuant to A.R.S. § 41-803 (R). The data included in this report was prepared by each SFE which includes State Agencies, Universities and Community Colleges and was delivered to the Fleet Coordinator in August and September of 2016.

The following pages contain data tables, charts and graphs that describe the progress of the State towards meeting the vehicle alternative fuel mandates set by the Arizona State Legislature and the Federal Government.
Total Vehicles

The first data requirement is to report the number of State fleet vehicles. All SFEs submitted fleet data. A total of 12,709 vehicles were reported of which 6,103 were reported as alternative fuels capable. The total number of vehicles reported by each fleet and the total number of alternative fueled vehicles (alt fuel) is listed below in Table 1.

Table 1: Total Number of Vehicles and Alternative Fueled Vehicles by State Fleet Entity

<table>
<thead>
<tr>
<th>Agency</th>
<th>Total Vehicles*</th>
<th>Total Alt Fuel**</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHCCCS</td>
<td>59</td>
<td>-</td>
</tr>
<tr>
<td>Cotton Research Council (CRC)</td>
<td>39</td>
<td>-</td>
</tr>
<tr>
<td>Criminal Justice Commission (CJC)</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Dept. of Child Safety (ADCS)</td>
<td>789</td>
<td>758</td>
</tr>
<tr>
<td>Dept. Emergency &amp; Military Affairs (DEMA)</td>
<td>107</td>
<td>2</td>
</tr>
<tr>
<td>Dept. Game and Fish Commission (G&amp;F)</td>
<td>442</td>
<td>217</td>
</tr>
<tr>
<td>Dept. of Administration (ADOA)</td>
<td>1,373</td>
<td>1,113</td>
</tr>
<tr>
<td>Dept. of Corrections (ADOC)</td>
<td>1,924</td>
<td>1,153</td>
</tr>
<tr>
<td>Dept. of Economic Security (DES)</td>
<td>876</td>
<td>778</td>
</tr>
<tr>
<td>Dept. of Public Safety (DPS)</td>
<td>2,172</td>
<td>-</td>
</tr>
<tr>
<td>Dept. of Transportation (DOT)</td>
<td>2,335</td>
<td>1,301</td>
</tr>
<tr>
<td>Dept. Veteran Service (VS)</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>Office of the Attorney General (AG)</td>
<td>28</td>
<td>-</td>
</tr>
<tr>
<td>Pioneer's Home (PH)</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>School for the Deaf and Blind (ASDB)</td>
<td>265</td>
<td>158</td>
</tr>
<tr>
<td>State Fair, Exposition &amp; (SF)</td>
<td>15</td>
<td>-</td>
</tr>
<tr>
<td>State Library and Archives (STLA)</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>State Parks (Parks)</td>
<td>142</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total Executive Agencies</strong></td>
<td><strong>10,578</strong></td>
<td><strong>5,487</strong></td>
</tr>
<tr>
<td>Arizona State University (ASU)</td>
<td>420</td>
<td>195</td>
</tr>
<tr>
<td>Northern Arizona University (NAU)</td>
<td>435</td>
<td>71</td>
</tr>
<tr>
<td>University of Arizona (UofA)</td>
<td>929</td>
<td>273</td>
</tr>
<tr>
<td><strong>Total State Universities</strong></td>
<td><strong>1,784</strong></td>
<td><strong>539</strong></td>
</tr>
<tr>
<td>Maricopa County Community College District (MCCC)</td>
<td>236</td>
<td>29</td>
</tr>
<tr>
<td>Pima County Community College District (PCCC)</td>
<td>111</td>
<td>48</td>
</tr>
<tr>
<td><strong>Total Community College Districts</strong></td>
<td><strong>347</strong></td>
<td><strong>77</strong></td>
</tr>
<tr>
<td><strong>Total Reporting Agencies</strong></td>
<td><strong>12,709</strong></td>
<td><strong>6,103</strong></td>
</tr>
</tbody>
</table>

*Vehicle equivalents are not reflected in the total number count
Light Duty Vehicles (LDV)

A total of 8,645 vehicles were reported to be light duty. Of those 4,779 were reported to be alternative fuels (alt fuels) capable. Light duty is defined as any vehicle with a gross vehicle weight (GVW) of 8,500 pounds or less. Table 2 lists all reported light duty vehicles by SFE and the total number of light duty alternative fueled vehicles held by that fleet.

Based on the data submitted, the nine major SFEs (ADOA, ADOT, ASU, DCS, DES, DOC, DPS, NAU and the U of A) accounted for 92% of the total number of the light duty vehicles reported.

Table 2: Total LDV Alternative Fueled by State Fleet Entity

<table>
<thead>
<tr>
<th>Agency</th>
<th>Total LDV</th>
<th>Total LDV Alt Fuels</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHCCCS</td>
<td>59</td>
<td>-</td>
</tr>
<tr>
<td>Cotton Research Council (CRC)</td>
<td>37</td>
<td>-</td>
</tr>
<tr>
<td>Criminal Justice Commission (CJC)</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Dept. of Child Safety (ADCS)</td>
<td>784</td>
<td>753</td>
</tr>
<tr>
<td>Dept. Emergency &amp; Military Affairs (DEMA)</td>
<td>43</td>
<td>2</td>
</tr>
<tr>
<td>Dept. Game and Fish Commission (G&amp;F)</td>
<td>187</td>
<td>162</td>
</tr>
<tr>
<td>Dept. of Administration (ADOA)</td>
<td>1,185</td>
<td>1015</td>
</tr>
<tr>
<td>Dept. of Corrections (ADOC)</td>
<td>1,028</td>
<td>731</td>
</tr>
<tr>
<td>Dept. of Economic Security (DES)</td>
<td>806</td>
<td>717</td>
</tr>
<tr>
<td>Dept. of Public Safety (DPS)</td>
<td>1,916</td>
<td>-</td>
</tr>
<tr>
<td>Dept. of Transportation (DOT)</td>
<td>842</td>
<td>782</td>
</tr>
<tr>
<td>Dept. Veteran Service (VS)</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>Office of the Attorney General (AG)</td>
<td>27</td>
<td>-</td>
</tr>
<tr>
<td>Pioneer's Home (PH)</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>School for the Deaf and Blind (ASDB)</td>
<td>200</td>
<td>158</td>
</tr>
<tr>
<td>State Fair, Exposition &amp; (SF)</td>
<td>7</td>
<td>-</td>
</tr>
<tr>
<td>State Library and Archives (STLA)</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>State Parks (Parks)</td>
<td>79</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Executive Agencies                7,209               4,325

Arizona State University (ASU)               299        149
Northern Arizona University (NAU)             271        31
University of Arizona (UofA)                  633        229

Total State Universities                1,203               409

Maricopa County Community College District (MCCC) | 157   | 17
Pima County Community College District (PCCC)   | 76     | 28

Total Community College Districts            233               45

Total Reporting Agencies                8,645               4,779

*Vehicle equivalents are not reflected in the total number count
Light Duty Exempt Vehicles

The aforementioned Arizona Revised Statute exempts various types of light duty vehicles from the alternative fuel mandates. Vehicles that are used for law enforcement, motorcycles, ambulances, fire trucks or other fire suppression apparatus, and all-terrain vehicles are exempted from the mandates in the law. All-terrain vehicles are any automobile equipped with 4x4.

Table 3 lists light duty vehicles (LDV) with exempted vehicles removed from the reported numbers. This is the universe of vehicles used in calculating the State’s progress toward meeting the mandates set forth in A.R.S. § 41-803. SFEs reported a total of 5,370 exempt vehicles of which 3,827 were reported as alternative fuels capable.

Table 3: Percent of Light Duty Alt Fuel Vehicles by Agency Fleet (Exempts Removed)

<table>
<thead>
<tr>
<th>Agency</th>
<th>LDV</th>
<th>LDV Alt Fuels</th>
<th>% Alt Fuels</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHCCCS</td>
<td>59</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cotton Research Council (CRC)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Criminal Justice Commission (CJC)</td>
<td>2</td>
<td>2</td>
<td>100%</td>
</tr>
<tr>
<td>Dept. of Child Safety (ADCS)</td>
<td>784</td>
<td>753</td>
<td>96%</td>
</tr>
<tr>
<td>Dept. Emergency &amp; Military Affairs (DEMA)</td>
<td>36</td>
<td>2</td>
<td>6%</td>
</tr>
<tr>
<td>Dept. Game and Fish Commission (G&amp;F)</td>
<td>8</td>
<td>7</td>
<td>88%</td>
</tr>
<tr>
<td>Dept. of Administration (ADOA)</td>
<td>829</td>
<td>743</td>
<td>90%</td>
</tr>
<tr>
<td>Dept. of Corrections (ADOC)</td>
<td>937</td>
<td>686</td>
<td>73%</td>
</tr>
<tr>
<td>Dept. of Economic Security (DES)</td>
<td>621</td>
<td>560</td>
<td>90%</td>
</tr>
<tr>
<td>Dept. of Public Safety (DPS)</td>
<td>22</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Dept. of Transportation (DOT)</td>
<td>540</td>
<td>515</td>
<td>95%</td>
</tr>
<tr>
<td>Dept. Veteran Service (VS)</td>
<td>3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Office of the Attorney General (AG)</td>
<td>27</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pioneer's Home (PH)</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>School for the Deaf and Blind (ASDB)</td>
<td>200</td>
<td>158</td>
<td>79%</td>
</tr>
<tr>
<td>State Fair, Exposition &amp; (SF)</td>
<td>7</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>State Library and Archives (STLA)</td>
<td>3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>State Parks (Parks)</td>
<td>46</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total Executive Agencies</strong></td>
<td><strong>4,125</strong></td>
<td><strong>3,426</strong></td>
<td><strong>83%</strong></td>
</tr>
<tr>
<td>Arizona State University (ASU)</td>
<td>236</td>
<td>133</td>
<td>56%</td>
</tr>
<tr>
<td>Northern Arizona University (NAU)</td>
<td>235</td>
<td>26</td>
<td>11%</td>
</tr>
<tr>
<td>The University of Arizona (UofA)</td>
<td>570</td>
<td>213</td>
<td>37%</td>
</tr>
<tr>
<td><strong>Total State Universities</strong></td>
<td><strong>1,041</strong></td>
<td><strong>372</strong></td>
<td><strong>36%</strong></td>
</tr>
<tr>
<td>Maricopa County Community Colleges (MCCC)</td>
<td>149</td>
<td>17</td>
<td>12%</td>
</tr>
<tr>
<td>Pima County Community Colleges (PCCC)</td>
<td>55</td>
<td>12</td>
<td>22%</td>
</tr>
<tr>
<td><strong>Total Community College Districts</strong></td>
<td><strong>204</strong></td>
<td><strong>29</strong></td>
<td><strong>15%</strong></td>
</tr>
<tr>
<td><strong>Total Reporting Agencies</strong></td>
<td><strong>5,370</strong></td>
<td><strong>3,827</strong></td>
<td><strong>71%</strong></td>
</tr>
</tbody>
</table>
Light Duty Vehicles in Maricopa County with Exempted Vehicles Removed

The second data requirement is to report on the number of light duty vehicles used primarily in Maricopa County. This data is based on the zip codes reported by each SFE. However, it is possible that a vehicle could be “garaged” or “stationed” in Maricopa County, but used in another location most of the time. A total of 2,875 vehicles were reported in Maricopa County with 2,360 reported as alternative fuels capable. Table 4 lists the reported light duty vehicles with exempted vehicles removed in Maricopa County.

Table 4: Light Duty Vehicle Alt Fuel in Maricopa County by Agency (Exempts Removed)

<table>
<thead>
<tr>
<th>Agency</th>
<th>All LDV</th>
<th>LDV Alt Fuels</th>
<th>% Alt Fuels</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHCCCS</td>
<td>30</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cotton Research Council (CRC)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Criminal Justice Commission (CJC)</td>
<td>2</td>
<td>2</td>
<td>100%</td>
</tr>
<tr>
<td>Dept. of Child Safety (ADCS)</td>
<td>21</td>
<td>2</td>
<td>10%</td>
</tr>
<tr>
<td>Dept. Emergency &amp; Military Affairs (DEMA)</td>
<td>663</td>
<td>598</td>
<td>90%</td>
</tr>
<tr>
<td>Dept. Game and Fish Commission (G&amp;F)</td>
<td>510</td>
<td>495</td>
<td>97%</td>
</tr>
<tr>
<td>Dept. of Administration (ADOA)</td>
<td>432</td>
<td>386</td>
<td>89%</td>
</tr>
<tr>
<td>Dept. of Corrections (ADOC)</td>
<td>329</td>
<td>307</td>
<td>93%</td>
</tr>
<tr>
<td>Dept. of Economic Security (DES)</td>
<td>18</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Dept. of Public Safety (DPS)</td>
<td>382</td>
<td>364</td>
<td>95%</td>
</tr>
<tr>
<td>Dept. of Transportation (DOT)</td>
<td>3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Dept. Veteran Service (VS)</td>
<td>6</td>
<td>6</td>
<td>100%</td>
</tr>
<tr>
<td>Office of the Attorney General (AG)</td>
<td>20</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pioneer's Home (PH)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>School for the Deaf and Blind (ASDB)</td>
<td>63</td>
<td>49</td>
<td>78%</td>
</tr>
<tr>
<td>State Fair, Exposition &amp; (SF)</td>
<td>7</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>State Library and Archives (STLA)</td>
<td>3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>State Parks (Parks)</td>
<td>30</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total Executive Agencies</strong></td>
<td><strong>2,489</strong></td>
<td><strong>2,209</strong></td>
<td><strong>89%</strong></td>
</tr>
<tr>
<td>Arizona State University (ASU)</td>
<td>236</td>
<td>133</td>
<td>56%</td>
</tr>
<tr>
<td>Northern Arizona University (NAU)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>The University of Arizona (UofA)</td>
<td>1</td>
<td>1</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Total State Universities</strong></td>
<td><strong>237</strong></td>
<td><strong>134</strong></td>
<td><strong>57%</strong></td>
</tr>
<tr>
<td>Maricopa County Community Colleges (MCCC)</td>
<td>149</td>
<td>17</td>
<td>11%</td>
</tr>
<tr>
<td>Pima County Community Colleges (PCCC)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total Community College Districts</strong></td>
<td><strong>149</strong></td>
<td><strong>17</strong></td>
<td><strong>11%</strong></td>
</tr>
<tr>
<td><strong>Total Reporting Agencies</strong></td>
<td><strong>2,875</strong></td>
<td><strong>2,360</strong></td>
<td><strong>82%</strong></td>
</tr>
</tbody>
</table>
Vehicles Capable of Using Alternative Fuels

The third data requirement is to report on the number of State vehicles capable of using alternative fuels. There are 6,103 vehicles alternative fuels capable, and of those 4,779 are light duty. Below Table 5 depicts the breakdown of these vehicles by type of alternative fuel type and by SFE and Chart 1 illustrates their relative percentages.

Table 5: Total Alternative Fueled Vehicles by Fuel Type

<table>
<thead>
<tr>
<th>Alternative Fuels</th>
<th>Alt Fuels Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biodiesel</td>
<td>3</td>
</tr>
<tr>
<td>Compressed Natural Gas</td>
<td>150</td>
</tr>
<tr>
<td>Electric (includes hybrids)</td>
<td>123</td>
</tr>
<tr>
<td>Ethanol</td>
<td>5746</td>
</tr>
<tr>
<td>Liquid Propane Gas</td>
<td>75</td>
</tr>
<tr>
<td>Methanol</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total Alternative Fuel Vehicles</strong>*</td>
<td><strong>6103</strong></td>
</tr>
</tbody>
</table>

*Electric and hybrids included in counts where denoted and as appropriate.

Chart 1: Percentage of Vehicles by Alternative Fuel Type

- Ethanol: 94.15%
- Liquid Propane Gas: 1.23%
- Methanol: 0.10%
- Biodiesel: 0.05%
- Compressed Natural Gas: 2.46%
- Electric (includes hybrids)*: 2.02%
Compliance with Alternative Fuel Mandates as Percent of Fleet

The fourth data requirement is to report the State’s progress in complying with Federal and State guidelines which mandate the transition of State fleet vehicles from gasoline to AFVs.

Relative to the State’s efforts to comply with the mandate to have 40% of the qualifying fleet capable of using alternative fuels, excluding exempts there are 5,370 light duty vehicles of which 3,827 or 71% can use alternative fuels. For the fourteenth consecutive year, the State exceeded the 40.0% mandate.

In addition to the nonexempt 3,827 light duty vehicles capable of using alternative fuels, there are 237 vehicle equivalents which would bring the FY 2016 total to 4,064 or 76% of the State’s light duty nonexempt vehicles capable of using alternative fuels.

**Graph 1** – The chart below illustrates the 5-year trend of alternative fuels light duty vehicles for fiscal years 2012 through 2016 as reported by agencies. This graph is broken down by individual SFE, whereas the data in the previous paragraph is a combined State fleet.

**Graph 1: Percentage of LDV by SFE Capable of Using Alt Fuels**
Table 6 shows the results of the State’s efforts to comply with the mandate to have 90% of the fleet, operating primarily in Maricopa County, capable of using alternative fuels. SFEs reported 82.1% of the vehicles in Maricopa County can use alternative fuels.

A.R.S. § 41-803 (S) awards vehicle equivalents for the use of clean burning fuel. Adjusting for 237 vehicle equivalents earned pursuant to alternative fuel usage (as shown in Table 16 on page 20), the percentage increases to 90%.

Table 6: Maricopa County Light Duty Vehicles Alternative Fuels by Fuel Type per SFE

<table>
<thead>
<tr>
<th>Agency</th>
<th>LDV Alt Fuel Count</th>
<th>Fuel Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration, Department of</td>
<td>23</td>
<td>Compressed Natural Gas</td>
</tr>
<tr>
<td>Administration, Department of</td>
<td>575</td>
<td>Ethanol</td>
</tr>
<tr>
<td>Arizona State University</td>
<td>133</td>
<td>Ethanol</td>
</tr>
<tr>
<td>Child Safety, Department of</td>
<td>495</td>
<td>Ethanol</td>
</tr>
<tr>
<td>Corrections, Department of</td>
<td>1</td>
<td>Compressed Natural Gas</td>
</tr>
<tr>
<td>Corrections, Department of</td>
<td>1</td>
<td>Electric</td>
</tr>
<tr>
<td>Corrections, Department of</td>
<td>369</td>
<td>Ethanol</td>
</tr>
<tr>
<td>Corrections, Department of</td>
<td>16</td>
<td>Liquid Propane Gas</td>
</tr>
<tr>
<td>Criminal Justice Commission</td>
<td>2</td>
<td>Ethanol</td>
</tr>
<tr>
<td>Economic Security, Department of</td>
<td>306</td>
<td>Ethanol</td>
</tr>
<tr>
<td>Economic Security, Department of</td>
<td>1</td>
<td>Methanol</td>
</tr>
<tr>
<td>Emergency and Military Affairs, Department of</td>
<td>2</td>
<td>Ethanol</td>
</tr>
<tr>
<td>Game &amp; Fish, Arizona</td>
<td>6</td>
<td>Ethanol</td>
</tr>
<tr>
<td>Maricopa County Community Colleges</td>
<td>4</td>
<td>Compressed Natural Gas</td>
</tr>
<tr>
<td>Maricopa County Community Colleges</td>
<td>6</td>
<td>Ethanol</td>
</tr>
<tr>
<td>Maricopa County Community Colleges</td>
<td>3</td>
<td>Liquid Propane Gas</td>
</tr>
<tr>
<td>Maricopa County Community Colleges</td>
<td>4</td>
<td>Methanol</td>
</tr>
<tr>
<td>Schools for the Deaf &amp; the Blind</td>
<td>5</td>
<td>Compressed Natural Gas</td>
</tr>
<tr>
<td>Schools for the Deaf &amp; the Blind</td>
<td>44</td>
<td>Ethanol</td>
</tr>
<tr>
<td>Transportation. Department of</td>
<td>17</td>
<td>Compressed Natural Gas</td>
</tr>
<tr>
<td>Transportation. Department of</td>
<td>342</td>
<td>Ethanol</td>
</tr>
<tr>
<td>Transportation. Department of</td>
<td>5</td>
<td>Liquid Propane Gas</td>
</tr>
<tr>
<td>University of Arizona</td>
<td>1</td>
<td>Ethanol</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2360</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Total Light Duty in Maricopa County</strong></td>
<td><strong>2875</strong></td>
<td></td>
</tr>
<tr>
<td>% Alt Fuel Light Duty in Maricopa County</td>
<td>82.1%</td>
<td></td>
</tr>
<tr>
<td><strong>Total Vehicle Equivalents</strong></td>
<td><strong>237</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Total %e Alt Fuel Light Duty in Maricopa County</strong></td>
<td><strong>90%</strong></td>
<td></td>
</tr>
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</table>
Graph 2 illustrates the percentage of light duty vehicles, operating primarily in Maricopa County, that are reported as capable of using alternative fuels. The graph includes information for FY 2011 through FY 2016.

Graph 2: Percentage of LDV in Maricopa County Capable of Using Alternative Fuels by SFE
New Vehicle Purchases

An additional mandate in A.R.S. § 41-803 is to have 75% of new vehicle purchases, operating primarily in Pima and Maricopa Counties, capable of using alternative fuels. This applies to model year 2001 and later. In fiscal year 2016, 62% of all State vehicles purchased can use alternative fuels.

Table 7 presents the total number of new light duty motor vehicles purchased, the number and type of vehicles capable of using alternative fuels purchased, and the percentage in compliance as of August 1, 2016.

Table 7: Model year 2016 Light Duty Vehicle Purchases for Pima and Maricopa Counties by SFE

<table>
<thead>
<tr>
<th>Agency</th>
<th>FY16 Vehicles†</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHCCCS</td>
<td>None Reported</td>
</tr>
<tr>
<td>Dept. of Administration (ADOA)</td>
<td></td>
</tr>
<tr>
<td>Total 2016 New Light Duty Eligible Vehicle Arrivals</td>
<td>63</td>
</tr>
<tr>
<td>E85</td>
<td>24</td>
</tr>
<tr>
<td>Unleaded</td>
<td>39</td>
</tr>
<tr>
<td>% Alternative Fuel of Total 2016 Arrivals</td>
<td>38%</td>
</tr>
<tr>
<td>Dept. of Child Safety (DCS)</td>
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</tr>
<tr>
<td>Total 2016 New Light Duty Eligible Vehicle Arrivals</td>
<td>39</td>
</tr>
<tr>
<td>E85</td>
<td>39</td>
</tr>
<tr>
<td>% Alternative Fuel of Total 2016 Arrivals</td>
<td>100%</td>
</tr>
<tr>
<td>Dept. of Corrections (DOC)</td>
<td></td>
</tr>
<tr>
<td>Total 2016 New Light Duty Eligible Vehicle Arrivals</td>
<td>15</td>
</tr>
<tr>
<td>E85</td>
<td>15</td>
</tr>
<tr>
<td>% Alternative Fuel of Total 2016 Arrivals</td>
<td>100%</td>
</tr>
<tr>
<td>Dept. of Economic Security(DES)</td>
<td></td>
</tr>
<tr>
<td>Total 2016 New Light Duty Eligible Vehicle Arrivals</td>
<td>12</td>
</tr>
<tr>
<td>E85</td>
<td>12</td>
</tr>
<tr>
<td>% Alternative Fuel of Total 2016 Arrivals</td>
<td>100%</td>
</tr>
<tr>
<td>Dept. of Public Safety (DPS)</td>
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</tr>
<tr>
<td>Total 2016 New Light Duty Eligible Vehicle Arrivals</td>
<td>1</td>
</tr>
<tr>
<td>Unleaded</td>
<td>1</td>
</tr>
<tr>
<td>% Alternative Fuel of Total 2016 Arrivals</td>
<td>0%</td>
</tr>
<tr>
<td>Dept. of Transportation (ADOT)</td>
<td></td>
</tr>
<tr>
<td>Total 2016 New Light Duty Eligible Vehicle Arrivals</td>
<td>5</td>
</tr>
<tr>
<td>E85</td>
<td>5</td>
</tr>
<tr>
<td>% Alternative Fuel of Total 2016 Arrivals</td>
<td>100%</td>
</tr>
<tr>
<td>State Library and Archives (STA)</td>
<td>None Reported</td>
</tr>
<tr>
<td>Total Executive Agencies</td>
<td>140</td>
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### Agency FY16 Vehicles†

<table>
<thead>
<tr>
<th>Agency</th>
<th>FY16 Vehicles†</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Arizona State University (ASU)</strong></td>
<td></td>
</tr>
<tr>
<td>Total 2016 New Light Duty Eligible Vehicle Arrivals</td>
<td>13</td>
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<tr>
<td>E85</td>
<td>10</td>
</tr>
<tr>
<td>Electric</td>
<td>2</td>
</tr>
<tr>
<td>Unleaded</td>
<td>1</td>
</tr>
<tr>
<td>% Alternative Fuel of Total 2016 Arrivals</td>
<td>77%</td>
</tr>
<tr>
<td><strong>University of Arizona (UofA)</strong></td>
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</tr>
<tr>
<td>Total 2016 New Light Duty Eligible Vehicle Arrivals</td>
<td>22</td>
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<tr>
<td>Unleaded</td>
<td>22</td>
</tr>
<tr>
<td>% Alternative Fuel of Total 2016 Arrivals</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Total State Universities</strong></td>
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<td><strong>Maricopa County Community College District (MCCC)</strong></td>
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<tr>
<td>Total 2016 New Light Duty Eligible Vehicle Arrivals</td>
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</tr>
<tr>
<td>Unleaded</td>
<td>4</td>
</tr>
<tr>
<td>% Alternative Fuel of Total 2016 Arrivals</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Pima County Community College District (PCCC)</strong></td>
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</tr>
<tr>
<td>Total 2016 New Light Duty Eligible Vehicle Arrivals</td>
<td>3</td>
</tr>
<tr>
<td>E85</td>
<td>2</td>
</tr>
<tr>
<td>Unleaded</td>
<td>1</td>
</tr>
<tr>
<td>% Alternative Fuel of Total 2016 Arrivals</td>
<td>67%</td>
</tr>
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<td><strong>Total Community College Districts</strong></td>
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<tr>
<td><strong>Total Reporting Agencies</strong></td>
<td>177</td>
</tr>
<tr>
<td><strong>Total AFV Purchased</strong></td>
<td>109</td>
</tr>
<tr>
<td>Percentage AFV</td>
<td>62%</td>
</tr>
</tbody>
</table>

†Neighborhood electric vehicles not included
Light Duty Vehicles Costs

The fifth and sixth requirements are reporting alternative fuels and maintenance usage data. In FY16 maintenance costs, gas/diesel costs, and alternative fuel costs were provided by most SFEs as shown in Table 8.

Table 8: Maintenance and Fuel Costs with Averages for Light Duty Vehicles by SFE

<table>
<thead>
<tr>
<th>AGENCY</th>
<th>MAINTENANCE COSTS</th>
<th>GAS AND DIESEL COSTS</th>
<th>ALT FUEL COSTS</th>
<th>AVG MAINT COSTS</th>
<th>AVG FUEL COSTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHCCCS</td>
<td>26681</td>
<td>51779</td>
<td>498</td>
<td>417</td>
<td>817</td>
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<tr>
<td>Cotton Research Council (CRC)</td>
<td>16262</td>
<td>41120</td>
<td>-</td>
<td>465</td>
<td>935</td>
</tr>
<tr>
<td>Criminal Justice Commission (CJC)</td>
<td>1790</td>
<td>318</td>
<td>-</td>
<td>895</td>
<td>159</td>
</tr>
<tr>
<td>Dept. of Emergency &amp; Military Affairs (DEMA)</td>
<td>21858</td>
<td>26623</td>
<td>-</td>
<td>625</td>
<td>605</td>
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<td>Dept. of Administration (ADOA)</td>
<td>1332015</td>
<td>1229529</td>
<td>136195</td>
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<td>1012</td>
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<td>Dept. of Child Safety (DCS)</td>
<td>731911</td>
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<td>Dept. of Corrections (DOC)</td>
<td>520325</td>
<td>1016278</td>
<td>41880</td>
<td>484</td>
<td>983</td>
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<tr>
<td>Dept. of Economic Security (DES)</td>
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<td>659142</td>
<td>18331</td>
<td>778</td>
<td>800</td>
</tr>
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<td>Dept. of Public Safety (DPS)</td>
<td>1853523</td>
<td>3809777</td>
<td>-</td>
<td>976</td>
<td>1909</td>
</tr>
<tr>
<td>Dept. of Transportation (ADOT)</td>
<td>1052293</td>
<td>1038656</td>
<td>-</td>
<td>1180</td>
<td>1164</td>
</tr>
<tr>
<td>Dept of Veteran Services (DVS)</td>
<td>1212</td>
<td>937</td>
<td>-</td>
<td>1212</td>
<td>312</td>
</tr>
<tr>
<td>Dept. Game and Fish Commission (G&amp;FD)</td>
<td>255052</td>
<td>345920</td>
<td>-</td>
<td>1275</td>
<td>1730</td>
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<tr>
<td>Attorney General, Office of the (AG)</td>
<td>32475</td>
<td>27350</td>
<td>-</td>
<td>1203</td>
<td>1013</td>
</tr>
<tr>
<td>Pioneer’s Home (PH)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>School for the Deaf and Blind (ASDB)</td>
<td>134950</td>
<td>160405</td>
<td>-</td>
<td>649</td>
<td>726</td>
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<td>State Fair, Exposition &amp; (SF)</td>
<td>1082</td>
<td>4938</td>
<td>-</td>
<td>180</td>
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</tr>
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<td>State Library and Archives (STA)</td>
<td>1465</td>
<td>2346</td>
<td>-</td>
<td>293</td>
<td>469</td>
</tr>
<tr>
<td>State Parks (Parks)</td>
<td>38945</td>
<td>58149</td>
<td>-</td>
<td>609</td>
<td>632</td>
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<tr>
<td><strong>Total Executive Agencies</strong></td>
<td><strong>$ 6,680,793</strong></td>
<td><strong>$ 9,553,738</strong></td>
<td><strong>$ 200,574</strong></td>
<td><strong>$ 819</strong></td>
<td><strong>$ 1,266</strong></td>
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<tr>
<td>Arizona State University (ASU)</td>
<td>252813</td>
<td>104772</td>
<td>-</td>
<td>816</td>
<td>327</td>
</tr>
<tr>
<td>Northern Arizona University (NAU)</td>
<td>169297</td>
<td>169426</td>
<td>-</td>
<td>708</td>
<td>578</td>
</tr>
<tr>
<td>The University of Arizona (UofA)</td>
<td>430964</td>
<td>342736</td>
<td>-</td>
<td>510</td>
<td>406</td>
</tr>
<tr>
<td><strong>Total State Universities</strong></td>
<td><strong>$ 853,074</strong></td>
<td><strong>$ 616,934</strong></td>
<td><strong>$ -</strong></td>
<td><strong>$ 678</strong></td>
<td><strong>$ 423</strong></td>
</tr>
<tr>
<td>Maricopa County Community Colleges (MCCC)</td>
<td>106465</td>
<td>73022</td>
<td>102</td>
<td>755</td>
<td>457</td>
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<tr>
<td>Pima County Community Colleges (PCCC)</td>
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<td>47174</td>
<td>-</td>
<td>739</td>
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<tr>
<td><strong>Total Community College Districts</strong></td>
<td><strong>$ 164,860</strong></td>
<td><strong>$ 120,196</strong></td>
<td><strong>$ 102</strong></td>
<td><strong>$ 747</strong></td>
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<td><strong>Total Reporting Agencies</strong></td>
<td><strong>$ 7,698,727</strong></td>
<td><strong>$ 10,290,868</strong></td>
<td><strong>$ 200,675</strong></td>
<td><strong>$ 841</strong></td>
<td><strong>$ 1,116</strong></td>
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</tbody>
</table>
The addition of averages and fleet age analysis have been provided to assist in data based decision making. Data for model years 1996 through 2016 was compiled for the seven largest State fleets, excluding the universities and community colleges. The number of vehicles by model year and SFE is provided below in Table 9, Graph 3 and 4.

Table 9: LTD Vehicles by select model year

<table>
<thead>
<tr>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>AHCCCS</td>
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<td>6</td>
<td>18</td>
<td>4</td>
<td></td>
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<td>3</td>
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Graph 3: Number of LDV by Model Year by Agency

*Disposed vehicles removed
**Vehicle ages extend beyond 30 years

Graph 4: Number of LDV Alt Fuel by Model Year and Agency

*Disposed vehicles removed
**Consolidated data, vehicle ages extend beyond 30 years
Light Duty Vehicles Costs Cont.

The average FY 2016 maintenance cost per light duty vehicle for the following agency fleets as reported is broken down by model year in Table 10 and Graph 5.

Table 10: Average Maintenance Costs per Light Duty Vehicle by Model Year (Exempts Included) and shown in whole dollars.

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Graph 5: Average Maintenance Cost
Vehicle Type and Utilization

In the previous year an additional data reporting element was added to the fleet reporting requirements. The fleets were asked to list the primary function or use for each vehicle. They were presented with a series of options including: Staff Transport; Client Transport; Maintenance Operations; Law Enforcement and a number of others. Chart 2 illustrates the percent of utilization by vehicle class and Table 11 provides a brief description of the classification.

Table 11: Vehicle Usage Classifications

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<td>CT</td>
<td>Client Transport</td>
<td>A passenger vehicle primarily utilized for ground transportation of passengers including clients or inmates in the conduct of official state business.</td>
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<td>CO</td>
<td>Construction Operations</td>
<td>Vehicle is used in the actual construction or repair of buildings, facilities, or roadways. This includes, but is not limited to: cranes, dump trucks, and highway stripers.</td>
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<td>EV</td>
<td>Emergency Vehicle</td>
<td>A vehicle used specifically for emergency operations, including fire engines and ambulances or other emergency response vehicles excluding law enforcement.</td>
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<td>LE</td>
<td>Law Enforcement</td>
<td>Vehicle is used solely for official law enforcement purposes of a state agency or institution of higher education. This purpose includes pursuit, covert and security vehicles used for the pursuit of potential law offenders and the enforcement of state and institution laws. Vehicles used for administrative or transport purposes by law enforcement agencies, including institutions of higher education, are not designated as Law Enforcement.</td>
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<td>Maintenance Operations</td>
<td>Vehicle is used to maintain a specific building, facility, roadway or groups of structures in a specific geographic area. This includes but is not limited to: refuse collection trucks, vans or trucks used by electrical or plumbing technicians and vehicles used specifically for the conduct of custodial work. Inspection of work is not maintenance and should be considered staff transport.</td>
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<td>Vehicle is used to transport agency materials or equipment to and from state and commercial facilities while conducting official state business. Agency materials include raw or manufactured components or goods used in the official daily business of state agencies. This includes but is not limited to: lumber, paper, mail, building supplies, office supplies, machinery and equipment.</td>
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<td>Safety</td>
<td>Vehicle is used to maintain safe working or environmental conditions and/or monitor for specific safety or environmental threats. Vehicles used to enforce safety or environmental codes and to investigate incidents or enforce code should be designated as Safety.</td>
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<td>SR</td>
<td>Scientific Research</td>
<td>Vehicle is equipped and specifically designated to conduct scientific research.</td>
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<td>ST</td>
<td>Staff Transport</td>
<td>Vehicle is used to transport agency personnel to and from public, state or private facilities while conducting state business.</td>
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### Table 12: Classification Counts by State Fleet Entity

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<td>MCCCDD</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>236</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>NAU</td>
<td>6</td>
<td>36</td>
<td>14</td>
<td>178</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>200</td>
<td>435</td>
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<tr>
<td>PARKS</td>
<td>7</td>
<td>-</td>
<td>4</td>
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<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
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<td>142</td>
</tr>
<tr>
<td>PCCCD</td>
<td>-</td>
<td>15</td>
<td>-</td>
<td>21</td>
<td>52</td>
<td>5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>18</td>
<td>111</td>
</tr>
<tr>
<td>PIA</td>
<td>-</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>STA</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>UofA</td>
<td>-</td>
<td>328</td>
<td>-</td>
<td>55</td>
<td>219</td>
<td>29</td>
<td>71</td>
<td>-</td>
<td>4</td>
<td>223</td>
<td>929</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>417</td>
<td>1120</td>
<td>124</td>
<td>2610</td>
<td>2126</td>
<td>392</td>
<td>1140</td>
<td>197</td>
<td>177</td>
<td>4406</td>
<td>12,709</td>
</tr>
</tbody>
</table>

### Table 13: Vehicle Counts by Category Code

<table>
<thead>
<tr>
<th>Vehicle Category Code</th>
<th>Vehicle Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automobiles (including LEVs)</td>
<td>3180</td>
</tr>
<tr>
<td>Passenger Buses</td>
<td>235</td>
</tr>
<tr>
<td>Class C3-8 Trucks</td>
<td>1100</td>
</tr>
<tr>
<td>Heavy Duty Trucks</td>
<td>490</td>
</tr>
<tr>
<td>Light Duty Trucks</td>
<td>2225</td>
</tr>
<tr>
<td>Medium Duty Trucks</td>
<td>1162</td>
</tr>
<tr>
<td>Minivans</td>
<td>599</td>
</tr>
<tr>
<td>Others</td>
<td>111</td>
</tr>
<tr>
<td>Passenger Vans</td>
<td>834</td>
</tr>
<tr>
<td>Service Bed Trucks</td>
<td>155</td>
</tr>
<tr>
<td>Station Wagons</td>
<td>9</td>
</tr>
<tr>
<td>Sport Utility Vehicles (SUVs)</td>
<td>2354</td>
</tr>
<tr>
<td>SVAN</td>
<td>255</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12,709</strong></td>
</tr>
</tbody>
</table>
Compliance of Federal Agencies in Arizona

The seventh data requirement is to provide information gathered from local offices of federal agencies regarding progress made toward implementing state and Federal mandates relating to the transition of motor vehicle fleets to alternative fuels. The Federal General Services Administration provided the following data for 2015 (2016 is not yet available):

Table 14: Vehicles Capable of Using Alternative Fuels

<table>
<thead>
<tr>
<th>Vehicle Type</th>
<th>Vehicle Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unlead/Diesel</td>
<td>13,712</td>
</tr>
<tr>
<td>CNG</td>
<td>64</td>
</tr>
<tr>
<td>DSL - B20</td>
<td>None Reported</td>
</tr>
<tr>
<td>DSL - B100</td>
<td>None Reported</td>
</tr>
<tr>
<td>E85</td>
<td>5,486</td>
</tr>
<tr>
<td>ELE</td>
<td>87</td>
</tr>
<tr>
<td><strong>Total Vehicles</strong></td>
<td><strong>19,349</strong></td>
</tr>
<tr>
<td><strong>Total Alternative Fuel Vehicles</strong></td>
<td><strong>5,637</strong></td>
</tr>
</tbody>
</table>

As reported by the Federal GSA 5,637 of 19,349 Federal vehicles reported were AFVs, which is 29% of total vehicles.

Table 15: Gasoline Gallon Equivalents (CGE) Alt Fuel Consumed by Federal Agencies

<table>
<thead>
<tr>
<th>Fuel Type</th>
<th># Vehicles</th>
<th>Natural Units</th>
<th>CGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNG</td>
<td>64</td>
<td>256,968</td>
<td>212,961</td>
</tr>
<tr>
<td>DSL - B20</td>
<td>None Reported</td>
<td>80,850</td>
<td>91,035</td>
</tr>
<tr>
<td>DSL - B100</td>
<td>None Reported</td>
<td>1,034</td>
<td>1,049</td>
</tr>
<tr>
<td>E85</td>
<td>5,486</td>
<td>328,108</td>
<td>236,245</td>
</tr>
<tr>
<td>ELE</td>
<td>87</td>
<td>107,293</td>
<td>3,218</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>5,637</strong></td>
<td><strong>774,253</strong></td>
<td><strong>544,508</strong></td>
</tr>
</tbody>
</table>

For the 2015 reporting period, Federal agencies consumed a total of 544,508 Gasoline Gallon Equivalents of alternative fuels.
Other Statistical Data

A.R.S. § 41-803 (S) awards vehicle equivalents for the use of clean burning fuel. The vehicle equivalents are calculated as follows:

- One vehicle equivalent for every 450 gallons of neat biodiesel (B100) or 2,250 gallons of a diesel fuel substitute in vehicles with a gross vehicle weight rating of at least 8500 pounds.
- One vehicle equivalent for every 530 gallons of the fuel prescribed in section 1-215, paragraph 7, subdivision (d).

Ethanol

*Table 16: Vehicle Equivalent for Ethanol Gallons Consumed*

<table>
<thead>
<tr>
<th>Agencies</th>
<th>E85 Gallons</th>
<th>Equivalents</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHCCCS</td>
<td>251</td>
<td>0.47</td>
</tr>
<tr>
<td>Dept. of Administration (ADOA)</td>
<td>70,557</td>
<td>113.13</td>
</tr>
<tr>
<td>Dept. of Child Safety (DCS)</td>
<td>1,678</td>
<td>3.17</td>
</tr>
<tr>
<td>Dept. of Corrections (DOC)</td>
<td>31,622</td>
<td>59.66</td>
</tr>
<tr>
<td>Dept. of Economic Security (DES)</td>
<td>9,965</td>
<td>18.80</td>
</tr>
<tr>
<td>University of Arizona (UofA)</td>
<td>11,388</td>
<td>21.49</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>125461</strong></td>
<td><strong>237</strong></td>
</tr>
</tbody>
</table>

Total Vehicle Equivalents = 237 for FY16
Conclusion

A.R.S. § 41-803 (G) and (H) specifies that a minimum percentage of vehicle purchased be “...capable of operating...” on alternative fuels. In addition, Paragraph K sets a target for a percentage of total fleet vehicles “…which operate...” on alternative fuels. The discrepancy between the terms used in these Paragraphs leads to uncertainty as to whether the original intent of the statute was to create a fleet with the capability to use alternative fuels or to set a minimum percentage of vehicles that actually use alternative fuels on an ongoing basis.

Assuming that the intent was to set a target for purchase of alternative fuel vehicles, then this report demonstrates ongoing compliance with the statutory requirements.

However, if the intent of the statute was to require that a percentage of vehicles actually use alternative fuels, then additional clarification will be needed. The current fleet budgets do not support the additional costs associated with purchasing alternative fuel capable vehicles and the use of alternative fuels. For example, over 94% of the state’s alternative fuel vehicles can use E85 ethanol based fuel. Because ethanol contains approximately 34% less energy per gallon than gasoline, vehicles operating on E85 fuel yield fewer miles per gallons than conventional fuel vehicles. While there has not been a determination as to the net cost of using alternative fuels, A.R.S. § 41-803 (H) sets a limit of no greater than a 30% cost increase over conventional fuel. Paragraph (H) also exempts use of alternative fuels if refueling facilities are not available. At this point, aging infrastructure has led to many of the State’s alternative fuel sites to be decommissioned because of increased maintenance costs.

At the time that A.R.S. § 41-803 was established, it was likely assumed there would be a significant market penetration of ethanol based and other alternative fuels. To date, the trend has been more towards higher efficiency gasoline and clean diesel powered vehicles instead. While in some areas of the country E85 is not uncommon, in Arizona, the availability of E85 is limited.

It is also noteworthy to consider that the major area of emphasis in alternatives to gasoline and diesel powered vehicles is towards battery electric vehicles (BEVs) and hybrid electric vehicles (HEVs). In recent years, both the availability and affordability of electric vehicles has been steadily increasing, along with the development of the necessary charging infrastructure.

The vehicle fleet energy conservation plan required under A.R.S. § 41-803 (K) is, “…for the purposes of reducing vehicle fuel consumption and to encourage and progressively increase the use of alternative fuels...” It appears the intent of A.R.S. § 41-803 was to increase the use of ethanol and other gasoline substitutes in order to meet those goals; however, Paragraph F of the statutes does suggest that the alternative fuel plan can be modified as necessary. Considering the state of the alternative fuel market at this time and emerging technologies, it may be appropriate to revisit the means and methods by which the plan addresses the intent of the statute.