

# MEMO

TO: Jim Preston

FROM: Robin Bommersbach, accountant

DATE: December 8, 2005

RE: E85 research

You have asked me to gather information on the possible use of E85 vehicles by the City. This analysis is for vehicle replacement based on the 2006 budget.

First, I contacted each department that had budgeted replacement vehicles for 2006. I asked them to give me their best guess as to what vehicles they intended to purchase. Based on this, I determined if an E85-comparable vehicle was available to purchase from the authorized State contracts. See attached analysis.

The next issue concerns the availability of fueling stations that carry E85 fuel. Currently there are two stations that carry this product, Canyon Lake Gas & Auto Care and the Flying J Travel Plaza. Dave Gaudette from Canyon Lake Gas & Auto Care has contacted the City to request information on contracting with the City for the E85 fuel.

Based on information from Dave Kulish at MG Oil, the cost to add an additional tank and dispensing equipment is approximately \$40,000 to \$50,000. There may be organizations that would subsidize this cost. In order to replace unleaded fuel with E85 in an existing pump, E85 would need to generate at least 15% of the station's revenue to make it practical to make the switch. Availability of E85 fueling stations will grow at a slow pace until large demand is created.

The distance from CSAC to Canyon Lake Gas & Auto Care is 7.1 miles requiring 19 minutes round-trip travel time. The cost of staff time based on a \$24 per hour average salary equals \$7.60. The distance from CSAC to the Flying J Travel Plaza is 11 miles requiring 21 minutes round-trip travel time. The cost of staff time based on a \$24 per hour average salary equals \$8.40.

Third is the issue of fuel prices. The City is exempt from federal gasoline tax so pays less than consumer "pump" prices.

The City's cost of E85 fuel and unleaded gasoline is \$1.875 and \$2.075 respectively, based on information from Dave Kulish.

Based on this information, I have recalculated the operating costs of the sample vehicles listed in Dirk Jablonski's memo of November 28, 2005.

Example 1 - Chevy Impala

Unit Fuel Cost:	Gasoline \$0.1153
	E85 \$0.1302
Life Fuel Cost:	Gasoline = \$11,530
	E85 = \$13,020
Cost Savings:	(\$1,490)

Example 2 - ½ Ton Chevy Pickup

Unit Fuel Cost:	Gasoline \$0.1221
	E85 \$0.1563
Life Fuel Cost:	Gasoline = \$12,210
	E85 = \$15,630
Cost Savings:	(\$3,420)

Clearly, a number of variables need to be considered in making a decision to convert the City's fleet to E85 vehicles.

- price of the vehicle
- availability of fueling stations in (and outside) of Rapid City (this could be a particular issue for the Fire Department according to Chief Shepherd)
- cost of staff time to fuel vehicles given limited availability of fueling station carrying E85.
- Fuel efficiency
- Vehicle maintenance costs
- Ethanol is derived from **renewable** sources and is purported to burn cleaner than gasoline.
- Use of E85 promotes a state grown and produced product, as well as supports the nation's farm economy
- Use of ethanol purports to reducing emissions caused by burning fossil fuels. However, I did read an editorial stating facilities that produce ethanol use electricity and fossil fuels to operate. His contention was that although there would be fewer emissions from vehicles, there would be increased emissions from ethanol-producing plants.

If you require additional information, please let me know.

Cc: Coleen Schmidt

VEHICLES IN 2006 BUDGET  
BY DEPARTMENT

Dept.	Description	new vehicle	Description	available as E-85 **
<u>Governmental</u>				
108	Public Works Administration	yes	two (2) 1/2 ton 4WD short box trucks	yes - Chevy Silverado extended cab
201	Police	yes	one (1) 3/4 ton 4WD Suburban	yes - Chevy Suburban 5.3 liter V8
		yes	two (2) 4WD Durangos or Tahoes	yes - Chevy Tahoe Engine 5.3 liter V8
		yes	eight (8) patrol sedans	no
202	Fire	yes	one (1) car - sedan	yes - Ford Taurus, Crown Victoria and Chevy Impala
301	Street Department	yes	two (2) 3/4 ton 4WD trucks	no - closest comparison is 1/2 ton 4WD
601	Recreation	??	12 to 13 passenger/cargo van	no - closest comparison is 7 passenger Dodge Caravan 5
607	Parks	yes	three (3) 1/2 ton 4WD trucks	yes - Chevy Silverado
		yes	three (3) 3/4 ton 4WD trucks	no - closest comparison is 1/2 ton 4WD
705	Growth Management	yes	two (2) 4x4 compact trucks	yes - Chevy Silverado
726	Cemetery Endowment	yes	specialy equipped ATV (mule)	no
<u>Enterprise</u>				
602	Water	yes	two (2) 3/4 ton 4WD trucks	no - closest comparison is 1/2 ton 4WD
			one (1) 1/2 ton 2WD truck	yes - Chevy Silverado
			one (1) 1/2 ton 4WD truck	yes - Chevy Silverado
613	Golf	no	one (1) 1/2 ton pickup	maybe - based on availability from federal surplus
777	Energy Plant	yes	one (1) 4WD SUV, S-10 type vehicle	yes - Chevy Suburban or Tahoe

\*\* availability is based on 2006 approved state contracts