

DATE: July 20, 2015

TO: Michael G. Herring
City Administrator

FROM: James A. Eckrich, P.E. *JAE*
Public Works Director City Engineer

RE: Compressed Natural Gas
Fueling Station and Truck Conversions



As you are aware, for some time the Department of Public Services has been developing a long term fuel strategy to avoid an over-reliance on a single fuel source, due to environmental concerns and to combat erratic fuel pricing. This strategy has been discussed with City Council in detail on several occasions, most recently during the 2015 Budget deliberations, at which time Council authorized the funding of five Compressed Natural Gas (CNG) trucks and an agreement with the Parkway School District allowing the City of Chesterfield to utilize its CNG fueling system. As discussed and advised when presenting the 2015 CNG vehicle purchases, no further significant vehicle conversions were to be pursued until such time as there were opportunities to fuel the CNG vehicles in close proximity to the Public Works Facility. While utilization of the Parkway CNG pumps allowed early entry and experience into the CNG market, the Parkway refueling facility is seven miles from the City's Public Works Facility, and we continued to seek better and closer opportunities to fuel our trucks. As you also will remember, Staff's proposal for the Capital Replacement Fund was presented to the F&A Committee in July of 2013. This proposal included the line item of \$350,000 for the conversion of a limited number of vehicles to utilize compressed natural gas.

I am excited and pleased to report that the City has been successful in obtaining grant funding through the Congestion Mitigation and Air Quality (CMAQ) program. The grant will fund construction of a new, minimal CNG fueling facility at the Public Works Maintenance Facility, as well providing funds for the incremental costs to upgrade 13 vehicles already scheduled and programmed for normal replacement in the next three years. The CMAQ grant will fund eighty percent of all costs, up to the estimated project amount of \$1,400,030. The City of Chesterfield would be responsible for only twenty percent of the project costs, or \$280,006, while the grant will fund eighty percent, or \$1,120,023. The City is also responsible for the normal vehicle replacement capital costs that we would otherwise incur without respect to the grant. **The grant strategy involves the consolidation of three years of vehicle replacements within the Public Services Department which is arduous to explain and requires some degree of funding flexibility, although the net result is easily communicated. The net impact to the General Fund - Fund**

Reserve is limited to \$238,406. The current balance of the General Fund – Fund Reserve in excess of the City’s 40% policy threshold is \$2,403,211. The mechanisms to initially fund this project and reimburse City expenses are detailed herein, and summarized in the attached “Exhibit A”. It should also be clearly stated that if the grant is accepted and once the new CNG station is constructed at the Public Works Facility, we will likely continue to access the Parkway CNG station at certain times. Having access to an alternative fueling station, especially for lighter duty vehicles, would continue to be advantageous for the City.

As you know, the City was unsuccessful in 2014 when applying for a similar grant to construct a CNG facility. Public Services Staff critically reviewed the grant scoring criteria and revised the 2015 grant application in an effort to optimize the benefit points awarded, which are largely impacted by the quantity of vehicle conversions. For the purposes of the grant, we combined the planned vehicle replacement purchases already scheduled for calendar years 2015¹, 2016, and 2017 into one cumulative purchase, which would most likely occur in 2016. The trucks planned to be purchased in 2015 will be delayed one year and the 2017 purchases will be accelerated one year. The three year vehicle purchase is proposed to be aggregated into a single 2016 equipment purchase. **In order to purchase all 13 grant funded vehicle upgrades, we will defer the current 2015 vehicle replacement funding, utilize the planned 2016 vehicle replacement funding, and “forward fund” the 2017 vehicle replacement funding, to provide for one cumulative purchase during the 2016 fiscal year.**

The proposed truck purchases are shown in the table below:

Truck	Style / Size	Planned Replacement Year
S-70	2.5 ton	2015
S-100	2.5 ton	2017
S-101	2.5 ton	2017
S-109	2.5 ton	2015
S-110	2.5 ton	2016
S-111	2.5 ton	2016
S-112	2.5 ton	2017
S-51	1 ton	2016
S-53	1 ton	2017
S-71	1.5 ton	2016
S-72	1.5 ton	2016
S-76	1.5 ton	2017
BG-1	½ ton	2016

¹ All but two of the budgeted 2015 vehicles have already been purchased, including the two ½ ton CNG trucks and one 1.5 ton CNG truck. The two budgeted 2.5 ton trucks will be deferred to be incorporated into the grant purchase.

As part of the 2016 Budget, City Staff will request funding for those trucks which were already scheduled for replacement in 2016, including the twenty percent CNG upgrade charge for each truck. We will also need to provide for the two 2.5 ton trucks planned (and budgeted) for purchase in 2015, as well as those trucks (three 2.5 ton, one 1 ton, one 1.5 ton) which are scheduled for 2017. Funding for the 2015 trucks has already been budgeted and can simply be deferred and earmarked for re-budgeting in 2016. However, the 2016 Capital Projects Fund budget will not be able to absorb the costs necessary to “forward fund” the 2017 fiscal year vehicle replacements, which will need to be temporarily funded through a transfer from the General Fund – Fund Reserves. The 2017 upgraded vehicle costs are estimated to be \$729,000, of which \$700,200 is to be reimbursed to the General Fund; \$115,200 directly from the CMAQ grant proceeds, and \$585,000 from the Capital Projects Fund in conjunction with the 2017 Budget proposal.

The CNG Fueling Station itself is to be located just southwest of the existing Public Works Facility, on vacant land owned by the City of Chesterfield. The Station is proposed to be constructed as a “bare bones” station initially, providing two dispenser hoses for official City use only. The station could potentially be expanded at a later date. The estimated cost of the CNG Station is \$1,048,030, which includes design engineering, construction engineering, utility coordination, and contingency. A full eighty percent of the cost of the Fueling Station (\$838,424) is reimbursable through the CMAQ grant. This results in a net estimated City expenditure of \$209,606, which would also need to be funded by General Fund – Fund Reserves. This differs somewhat from the truck purchase, in that we are not accelerating an existing planned expense. The General Fund – Fund Reserves will NOT be reimbursed at a later date.

We anticipate that the CMAQ grant will be officially approved by East West Gateway at its July 29, 2015 meeting. When that occurs, the City of Chesterfield will be asked to enter into a Program Agreement, detailing the terms of the grant. In order for the City to proceed with this project and enter into the Program Agreement, it should be prepared to spend the necessary funds. Accordingly, **I recommend the following:**

1. **The City should delay the purchase of two 2.5 ton trucks already approved and funded within the 2015 Budget. Funds appropriated for these purchases (\$380,000) will be incorporated into the 2016 Capital Projects fund budget request.**

The two trucks will subsequently be purchased in conjunction with the 13 truck purchase detailed within the CMAQ grant. Eighty percent of the CNG upgrade charges will be reimbursed through the CMAQ grant;

2. **The City should accelerate the purchase of five trucks, currently planned and scheduled for replacement in 2017. These trucks would actually be purchased in 2016 and temporarily funded by a transfer from the General Fund – Fund Reserves in the amount of \$729,000. The General Fund**
-

would later be reimbursed for the majority of this expense (\$700,200) through the CMAQ grant (\$115,200) and a 2017 transfer from the Capital Projects Fund (\$700,200).

3. **The 2016 Capital Projects Fund budget should provide for the normal planned and scheduled purchase of six CNG trucks in 2016. Eighty percent of the CNG upgrade charges will be reimbursed through the CMAQ grant. Planned and scheduled vehicle replacement costs in 2016 from the Capital Projects fund are \$528,000, while CNG upcharge will increase the cost of those same vehicles to \$656,000, of which \$102,400 will be reimbursed through the CMAQ grant.**
4. **The City should fund approximately \$1,048,030 for the design and construction of the new CNG Fueling Station at the Public Works Facility, through a 2016 fund transfer from the General Fund – Fund Reserves, eighty percent (\$838,424) of which will be reimbursed directly back to the General Fund. The actual net cost of to the City to design and construct the fueling facility will be of \$209,606**

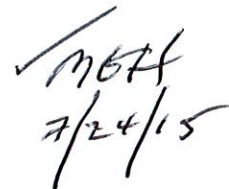
I request and recommend that this information be forwarded to the Planning and Public Works Committee for consideration. If the Planning and Public Works Committee concurs with Staff's recommendation, the CNG Program Agreement will be presented to City Council after the grant is formally approved by East West Gateway.

Attachment – Financial Impact Exhibit A
Questions and Answers

Concurrence:



Craig White, Finance Director


MBH
7/24/15

Cc: Michael O. Geisel, Director of Public Services

EXHIBIT A – FINANCIAL IMPACT OF GRANT

General Fund – Fund Reserves Above the 40% Policy Expenses

Fund Balance of \$2,403,211 as of 6/2/2015

Transfers from the General Fund – Fund Reserves Above the 40% Policy

\$729,000 Forward Funding of 2017 CNG Vehicles

\$1,048,030 Funding for Design & Construction of CNG Fuel Facility

\$1,777,030 Fund Transfer from General Fund - Fund Reserves

Grant reimbursements to the General Fund

\$576,184 Fueling station construction

\$115,200 2017 Vehicle upgrades (80% of \$144,000 for 2017 CNG upgrade expenses)

\$154,960 Engineering

\$107,280 ROW and Contingency

\$953,624 Reimbursed to General Fund – Fund Reserves from Grant

Capital Project Fund reimbursements to the General Fund

\$585,000 – Forward Fund 2017 trucks (*\$729,000 less \$144,000 for CNG upgrades*)

\$1,538,624 Total Reimbursement to the General Fund

\$238,406 Net Project Cost to General Fund – Fund Reserves

Results in General Fund Reserves above 40% - \$2,164,805

Capital Projects Fund Expenses

Total Expenditure from Capital Projects Fund

\$1,036,000 CNG Capital Project Vehicle Expense

Grant reimbursements to Capital Projects Fund

\$166,400 Vehicle upgrades (*\$281,600 less \$115,200 reimbursed directly to GF*)

Planned and scheduled Capital Project Vehicle Expenses (non-grant)

\$828,000 for trucks budgeted for 2015 and 2016

These expenses would have incurred regardless of the CNG Project

Net Project Cost to the Capital Projects Fund - \$41,600

\$ 280,006 NET PROJECT COSTS TO CITY, ALL SOURCES

Note: \$350,000 was identified for CNG conversions in the Capital Replacement Fund list approved by the F&A Committee 7/18/2013

Questions and Answers

Because of the amount of detail contained within the CNG memorandum, City Staff has generated the Questions and Answers below in an attempt to address some of the questions City Council may have regarding the memo.

Question 1: What is the total cost of the project to the City of Chesterfield?

Answer 1: The total cost to the City is \$280,006. \$238,406 will come from the General Fund – Fund Reserves above the 40% policy requirement and \$41,600 will come from the annual proceeds of the Capital Projects fund. This is twenty percent of the estimated cost of the project, which includes the construction of the fueling facility and the upgraded costs of converting 2015, 2016, and 2017 trucks to CNG. The expense for the trucks themselves is already planned / budgeted, and is NOT included in the project costs. The expense of the vehicles is included with the normal anticipated expenses for the Capital Project Fund. The grant pays 80% of the incremental cost to upgrade the vehicles for CNG usage.

Question 2: If the total cost to the City is \$280,006, why does the memo say that the impact to the General Fund – Fund Reserves in excess of the 40% policy is only \$238,406 (Page 1)?

Answer 2: This is the cost to the General Fund – Fund Reserves. The remaining \$41,600 will be funded through the Capital Projects Fund. The General - Fund Reserves are covering all costs for the design and construction of the fueling station, as well as the CNG upgrades for the 2017 trucks. The Capital Projects Fund is covering the CNG upgrades for the 2015 and 2016 trucks.

Question 3: Does the proposed project include the funding of any additional trucks?

Answer 3: No. The Project only includes the costs to upgrade trucks. There are no additional trucks planned, and every truck purchased was planned for replacement in 2015, 2016, or 2017. In order to comply with the terms of the grant, and obtain the best pricing possible, we are proposing that each of these trucks be replaced in one year, likely 2016. This means the purchase of 2015 trucks will be delayed one year, while the 2017 trucks will be “forward funded”. Each of the vehicles proposed to be purchased, are already scheduled and programmed to be replaced. The replacement costs of these vehicles are programmed into the Capital Improvement Project Fund five year budget.

Question 4: Why were these trucks chosen for conversion?

Answer 4: These specific vehicles were already planned and programmed for replacement. We learned from past experience that the way to get this project to qualify for funding was to maximize the truck conversions. We do not want to convert all of our trucks at one time. However, combining three years of trucks allowed us to comply with the terms of the grant, while converting a reasonable portion of our fleet to CNG.

Question 5: What is the total impact to the City’s Budget, for both the General Fund and the Capital Projects Fund?

Answer 5: The breakdown of all costs and reimbursements within both the General Fund and Capital Projects Fund is detailed within the attached Exhibit A – Financial Impact of Grant. The net cost to the General Fund – Fund reserve is \$238,406. It is noteworthy that the list of projects proposed in the Capital Replacement Fund Strategy, accepted by the F&A Committee 7/18/2013 included \$350,000 from the General Fund – Fund Reserve above the 40% policy requirement. The grant actually reduces the amount that was anticipated for the CNG conversion.

Question 6: Does the grant pay for the costs of the project directly?

Answer 6: The CMAQ Grant is a reimbursement. The City must fund all costs, and then we submit for qualifying reimbursements. The Project has been reviewed with the Finance Director, who has confirmed that fronting these costs will not negatively impact the General Fund or the Capital Projects Fund.

Question 7: How does the cost of CNG compare to the cost of diesel fuel?

Answer 7: The cost differential is variable. Conventional diesel and unleaded fuels are much more volatile than the cost of natural gas. Price stability is one of the benefits staff identified in the prior CNG conversion recommendation. However, while the cost of diesel is variable, the national average cost of diesel fuel in April of 2015 was \$3.06 per gallon, while the cost for a gas gallon equivalent of CNG was \$2.09. Fuel efficiency (gas mileage) is similar for both fuel sources.

Question 8: How do we proceed with this project?

Answer 8: We are currently waiting formal notification of receipt of the grant. That is expected to be provided at the end of July or the beginning of August. Included with formal notification will be a Program Agreement. If the Planning and Public Works Committee recommends that we proceed with this project, the Program Agreement will be provided to City Council for execution, likely in late August. If approved, City Staff will then contract with a consulting firm for design of the CNG facility.