



## Legislation Text

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### Compressed Natural Gas (B)

**This is a request for the City Commission to hear a presentation on the implications of Compressed Natural Gas (CNG) fueling by the Regional Transit System (RTS).**

**\*\*Estimated Staff Presentation 15 Minutes\*\***

On February 11, 2016, Regional Transit System (RTS) staff presented to the Recreation, Cultural Affairs, and Public Works Committee their findings on the impacts of transitioning the RTS fleet to Compressed Natural Gas (CNG). RTS recommended and the Committee agreed that the presentation should be brought before the entire City Commission for review.

Nationwide, the use of alternative fuels in transit buses has increased over 300% in the last 15 years with over 40% of agencies now utilizing alternative fuels. RTS staff was tasked with conducting a comprehensive cost study on alternative fuels options for RTS.

The main findings of this study include:

- \* Compared to the base diesel scenario, the energy costs of CNG are so low that even after accounting for its higher capital and O&M costs the average cost savings per bus per year is more than \$13,000.
- \* The total cost per bus per year for hybrid and electric buses, is \$10,560 and \$4,944 (respectively) higher than the base diesel scenario.
- \* Electric buses offer comparable energy saving as to CNG buses and offer much lower O&M costs than all other fuel sources, but their high capital cost makes them not cost effective.
- \* Initially two CNG implementation scenarios were considered. One explored a procurement scenario where RTS's maximum fleet age remained constant and the other explored a procurement scenario where capital expenditures remained constant.
- \* Under the fixed maximum age scenario, cumulative net savings are over \$43 million constant 2016 dollars by year 2045. At the end of year 2029, which is 13 years into the project, annual savings from employing CNG buses pay off anticipated financing (principal and interest) requirements.
- \* Under the fixed capital scenario, cumulative net savings is approximately \$30 million constant 2016 dollars by year 2045. When financing is accounted for it takes two additional years to fully pay off all costs under this scenario. Using the net savings to purchase additional CNG buses, any bus purchase difference will be rectified by 2034 with the total number of replaced buses the same between the CNG and the base diesel scenarios.
- \* Lastly, a modified fixed capital scenario was developed to rectify deficiencies in the two original scenarios by including an upfront bus loan and using future year savings to purchase additional CNG buses. If a \$5 million

bus loan is acquired and a fixed annual loan payment is set at \$583,000, the internal rate of return (IRR) is 20% and the payback period is 7.9 years.

\* All efforts were made to build results from conservative assumptions but the energy sector is inherently prone to fluctuations and risk that are difficult to fully account for.

There is no fiscal impact associated with the discussion of this item.

The City Commission: 1) hear the presentation; 2) approve RTS to apply for applicable capital grants; and 3) approve RTS to issue a Request for Proposals (RFP) to evaluate implementing CNG fueling through a public-private partnership (P3).