

# Stoney Compressed Natural Gas (CNG) Bus Storage and Transit Facility

## Project Profile

### About the project

The new Stoney Compressed Natural Gas (CNG) Bus Storage and Transit Facility will provide storage and maintenance space for Calgary Transit's new fleet of CNG buses as well as diesel buses that are currently stored outside the City's other bus garages.



The new 44,300 square metre Stoney Transit Facility will be capable of housing a minimum of 424 buses, with 36 maintenance bays, two steam bays, and on-site compressed natural gas fuelling infrastructure and associated staff facilities. It will also provide diesel bus fuelling and operations, recognizing the transition period needed to introduce CNG buses into Transit's fleet.

The facility is to be certified LEED Gold, efficient in energy consumption and providing a safe and healthy work environment for staff that use the facility.

### Construction of the project

This project represents the first time that a major transportation project has been delivered for Calgarians using a P3 process. P3's or Public-Private-Partnerships are a project delivery method which is designed to foster private sector innovation and reduce the municipalities' risk of cost, schedule and performance risk.

The City has signed a fixed price agreement with Plenary Infrastructure Calgary LP to design, build, finance and maintain (DBFM) the Stoney Transit Facility.

Plenary Infrastructure was chosen after extensive evaluations following an open, fair and competitive procurement process. Plenary Infrastructure Calgary LP is a consortium of Plenary Group (Canada) Ltd. and PCL Investments Canada Inc. Other team members include PCL Construction Management Inc. (design – builder), AECOM Canada Ltd. (lead designer), and Johnson Controls Canada LP (facilities management).

### Project timeline

Fall 2016 – Construction begins  
 Early 2019 – Anticipated completion and facility operation

### Project capital costs

Estimated capital cost is \$174 million.

### Value for Money

The value for money assessment entails the comparison of the net present value of the risk-adjusted project cost estimate for the traditional design-bid-build delivery model with that for the DBFM delivery model. Plenary Infrastructure Calgary LP was able to achieve great value with competitive pricing. This was mainly due to the competitive procurement process that focused the three bidders on delivering the best value based on the City's requirements and the general slowdown in the Alberta construction.

## Operation and Maintenance

Facility operations for this P3 project will differ from Calgary Transit's typical process. Once the facility has been constructed and is operational, Plenary Infrastructure Calgary LP will receive a substantial completion payment, followed by a series of monthly payments from the City over a 30-year period. The monthly payments will cover janitorial services, routine facility and landscape maintenance, as well as major maintenance and rehabilitation of the facility for the duration of the 30-year contract. City staff will continue to service and maintain the buses.

The City plans on purchasing CNG powered buses for lifecycle replacement over the first few years of the facility becoming operational.

## Project background

As a result of the existing shortfall of indoor bus storage capacity and projected growth in the next 30 years (from approximately 1,000 buses to over 2,000 buses), Calgary Transit determined that it would be best to expand the capacity of the existing Spring Gardens and to construct a new bus facility.

- In 2011, City Council endorsed Calgary Transit's recommendation to incorporate CNG vehicles into the regular transit bus fleet on the basis of operational cost savings and environmental benefits. A critical requirement for a CNG powered fleet is the infrastructure is to store, fuel, and maintain the buses. CNG fuelled buses are not compatible with existing facilities.
- In March 2013, City Council approved the delivery of the Stoney CNG Bus Storage and Transit Facility by way of a public-private partnership (P3) DBFM model, depending on the provision of funding from PPP Canada.
- The City of Calgary applied for grant funding under a federal government program designed to foster infrastructure delivery via P3 project methodology. In July 2014, The City hosted the announcement of a funding agreement between The City and the Federal Government, through PPP Canada, of a federal investment of up to \$48.4 million towards the construction of the new facility.



## CNG bus pilot

In March 2013, Calgary Transit launched a pilot project incorporating four CNG vehicles into the transit bus fleet. In 2015, the pilot concluded that the City would see upwards of \$3 million in annual savings on the cost of fuel based on a fleet of 400 CNG buses. The cost savings is expected to have a positive impact on the transit fares.

By planning for the future, Calgary Transit would be able to meet its commitment to provide safe, reliable, easy to use and affordable mode of transportation.

## Environment and Infrastructure

Concerns with operating reliability of current generation diesel engines, increasing reserves of low

cost natural gas and opportunities for reducing corporate greenhouse gas emissions motivated Calgary Transit to reconsider the feasibility of adopting natural gas as its fuel of choice. CNG fuelled buses provide operational cost savings and environmental benefits — **reduced greenhouse gas emissions and reduced noise levels.**

Compressed natural gas is lighter than air and at normal atmospheric conditions will disperse quickly rather than pooling as a liquid. In contrast, diesel fuel can be spilled in transport, bulk transfer, during storage and during vehicle fuelling resulting in soil and water contamination.

## Economy

The use of natural gas as a fuel provides benefit to Calgary and Alberta's economy. Additionally, longer-term contracts can be secured with natural gas and the City would be less impacted by the volatility in fuel prices.

Investments in transit are amongst the best investments any city can make — they are investments in the environment, reducing congestion, and improving social mobility. Infrastructure is one of the key elements of the economy and this transit infrastructure will assist with job creation.

Plenary Infrastructure Calgary LP anticipates up to 500 workers to be employed during the construction of the facility.

Project webpage: [www.calgary.ca/stoneybusgarage](http://www.calgary.ca/stoneybusgarage)