

Division of Fleet Management

Green Fleet Action Plan

2015-2018

2016 Mid-year update

THE CITY OF
COLUMBUS
ANDREW J. GINTHER, MAYOR

DEPARTMENT OF FINANCE
AND MANAGEMENT



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Section 1: Introduction

Columbus Fleet Management continues to be a front-runner in the nation in “greening” our environment. The past several years have yielded significant accomplishments toward this end goal, including:

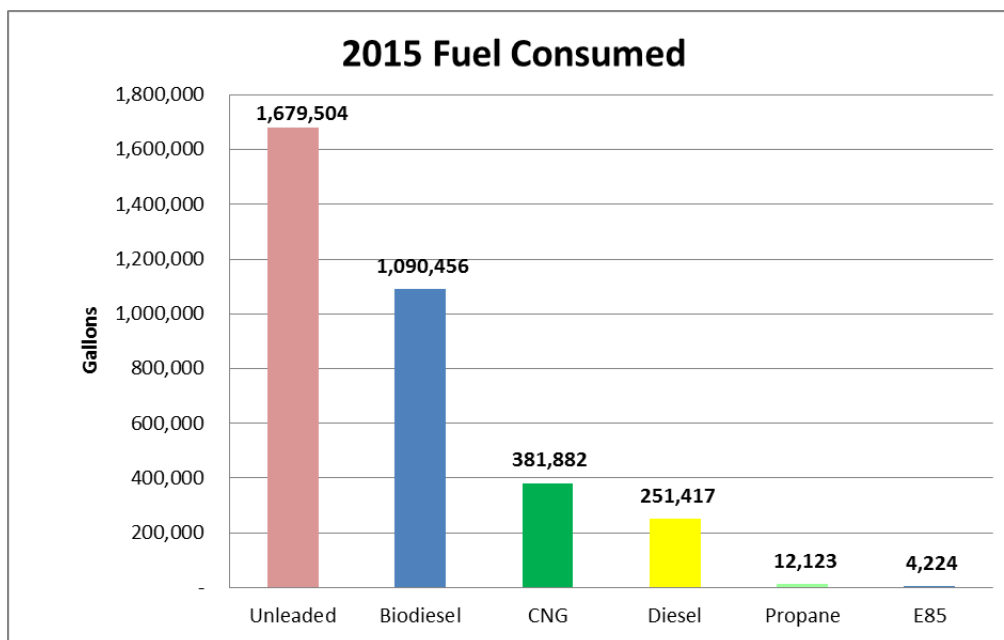
- City of Columbus awarded the 2016 #1 Leading Fleet in the U.S., due largely to our alternative fuel program, especially our CNG initiative
- City of Columbus awarded the #1 Greenest Fleet in North America by Government Fleet in 2011- now considered an “elite” fleet and sit on the judging panel for Government Fleet
- Awarded one of Heavy Duty Trucking’s Top 50 Green Fleets for 2013, 2014 and 2015
- Received the 2012 Sustainability award from Government Green Fleets
- Awarded the “Clean Fuels Champion” statewide award by Clean Fuels Ohio in 2008 and again in 2011
- Four Columbus divisions (Fleet Management, Public Service’s Planning and Operations Division and the Refuse Division, as well as Public Utilities’ Sewerages and Drainages Division) are all certified as Ohio Green Fleets
- Environmental Stewardship Award (2009) presented to Mayor Coleman by Government Fleet Magazine, Bobbitt Publishing for public sector fleets in the USA

In 2008, Columbus issued the City’s first Green Fleet Action Plan (available at www.getgreencolumbus.com). This plan addressed the management, operation and procurement of Columbus fleet vehicles in order to improve vehicle energy efficiency and reduce emissions. Since its’ implementation, Columbus has realized multiple green fleet successes including significant petroleum reductions, an increase in green vehicles in our fleet and the implementation of a CNG initiative including creating and building a CNG infrastructure. Mayor Ginther now continues the vision for a green fleet through the third update of this plan, with new targets going through 2018.

This 2015-18 updated plan is a continuation of the original plan and builds upon our successes while strengthening our efforts to reduce our carbon footprint. This document supports the vision for a Green Columbus: Beautiful. Healthy. Prosperous.

Section 2: City of Columbus Facts

- The City of Columbus Fleet Management Division maintains over 6270 pieces of equipment
 - Approximately 3050 are on-road vehicles, i.e., cars, trucks, SUVs, etc.
 - Approximately 3224 are off-road, e.g. construction equipment
- 3,419,607 gallons of fuel were consumed in 2015. Fuel breakdown in 2015 includes:



Section 3: Green Objectives 2015-2018

1. Reduce petroleum use by Columbus fleet vehicles

- **Measure:** Total annual City petroleum use (includes **only** petroleum fuel- does not include “green” fuels - bio fuels, ethanol, CNG, etc.)
 - **Target: Reduce annual petroleum use by 25% compared to 2014 levels by the end of 2018**

Accomplish through: Since 2010, city fleet vehicles have reduced petroleum use by almost 13%. We expect this trend to continue with the yearly addition of CNG vehicles to our fleet and our continued and increased use of flex fuel, hybrid and electric vehicles as well as our increased use of CNG, biodiesel and propane fuels. We also continue to refine and enhance “green” procurement policies; to work with city agencies to right-size and downsize their fleets; promote the anti-idle policy and install anti-idle technology where possible, and utilize GPS and AVL telematic technologies.

2016 Mid-year update: As of mid-year, city vehicles have consumed 1,369,142 gallons of petroleum fuel, **1.4% less** than mid-year petroleum consumption in 2015.

Alternative fuel use (CNG, propane, biodiesel) as well as various green technologies have contributed to the continued reduction of petroleum. Columbus installed anti-idling technology on 94 new police cruisers in 2015 and an additional 68 so far in 2016. These devices allow the cruisers to reduce idling, thereby significantly reducing fuel consumption. The technology stops and restarts a cruiser automatically without affecting the on-board power needs that are essential to operate computers and radio communications. As of the end of 2015, cruisers demonstrated a 26% reduction in idle time, or 23,000 hours, which equates to saving approximately 758,200 miles on the cruisers by avoiding wear and tear on the engines. 2016 data will be available at year end.

2. Increase the number of green vehicles in Columbus' fleet

Total "green" vehicles in Columbus fleet:

Vehicle Type	# of vehicles/equipment Beginning 2016	# of vehicles/equipment mid-year 2016
CNG	167	179
Hybrid	17	19
Electric	7	7
Flex fuel	1011	1068
Propane	35	35
Total	1237	1308

- **Measure:** Light duty vehicle purchases that are considered green
 - **On-going Target: 50% each budget year**

Accomplish through: Continue to enforce "environmentally preferable purchasing" policy, continue to review all vehicle specifications in conjunction with the end user agency and the Purchasing Office to ensure the most "green" vehicles possible are being specified and continue to meet with City divisions to review purchase requests in order to right-size vehicles for their intended purpose.

2016 mid-year update: As of mid-year, Columbus has purchased 120 light duty vehicles. Of these, 102 or **85%**, have been green vehicles. The majority of green light duty vehicle purchases have been flex fuel vehicles for Police.

- **Measure:** Heavy-duty truck purchases that are considered green (excluding Safety vehicles)

- **On-going Target: 80% each budget year**

Accomplish through: Continue to enforce “environmentally preferable purchasing” policy and continue to review all vehicle specifications to ensure that green options are included where feasible. CNG vehicles will likely comprise the majority of “green” heavy duty purchases in the coming years. Fleet Management will work closely with divisions to purchase CNG vehicles that will keep pace with fueling infrastructure while continuing to meet operational need. All heavy duty purchases will be targeted for CNG when possible as heavy duty vehicles are the largest consumers of fuel and therefore yield the greatest return on fuel savings and reduced emissions.

2016 mid-year update: As of mid-year, Columbus has purchased 33 heavy duty vehicles (excluding Safety). Of these, 27 or **82%**, have been green. The majority of the green heavy duty purchases have been CNG, with other green technologies such as diesel particulate filters (DPFs) and diesel exhaust fluid (DEF) making up the rest.

- **Measure:** Off-road equipment that is considered “green”
 - **Target:** Implement “green” off road options where equipment is available as the application fits.
 - **Target:** Convert gasoline powered carts to electric where feasible. Explore funding options to install electric charging stations

Accomplish through: Fleet Management will work with divisions to explore available green off-road options such as propane mowers and electric golf carts at city-owned golf courses and implement where operationally effective. Fleet will explore the possibility of funding the capital needs to install electric cart charging stations. Fleet will also work with Purchasing to include green options in off-road equipment specifications.

2016 mid-year update: Columbus has been participating in a propane golf equipment research program with R & R Products and the Propane Education and Research Council (PERC). For the past year, R & R has provided four pieces of new propane mowing equipment at no cost to the City for use at the Airport Golf Course. In exchange for data provided by the city, Columbus has the option to purchase the equipment at a depreciated 55% discount rate at the end of the program. The program concluded after one full mowing season in July 2016. Based on the overall results of the equipment testing and the feedback from the operators of the equipment, Fleet Management has recommended that Recreation and Parks purchase three of the propane test mowers. Fleet will continue to explore other possible propane applications around the city.

- **Measure:** Electric vehicle use
 - **Target:** Explore electric vehicle options and infrastructure available and viable to the City of Columbus operations; explore cost and funding opportunities

Accomplish through: The City of Columbus developed an electric vehicle readiness plan with help from the *Project Get Ready* community network. The plan outlines the ideal locations for vehicle charging stations. A Department of Energy grant obtained through project partner Clean Fuels Ohio allowed the city to install two of these stations for use by the public that are currently operational. Fleet Management will continue to work with divisions to identify opportunities for electric vehicle use that fit the vehicle's operational requirements.

2016 mid-year update: In June of this year, Columbus was announced as the winner of the U.S. Department of Transportation's (DOT) Smart City Challenge, earning up to \$40 million from the DOT and another \$10 million from Vulcan, Inc. to implement its plan to reshape our transportation system. Initiatives include electrification of the city's fleet, developing electric vehicle charging infrastructure, smart lighting and traffic signals, self-driving technology, connected vehicles and numerous other plans to modernize all things transportation related. Fleet Management's portion of the initiative includes the addition of 200 electric vehicles to our fleet, along with implementing the necessary charging infrastructure. The vehicles must be deployed within three years according to the grant requirements. Fleet will work with our customers along with reviewing GPS data to help determine where EVs will work best in our fleet.

3. Expand CNG fueling infrastructure

- **Measure:** Increase the number of city-owned CNG fueling stations
 - **Target:** 3rd CNG fueling station open and pumping fuel by 2nd Q 2016
 - **Updated target:** 3rd CNG fueling station (west side) open by 3rd Q 2017
 - **Target:** Explore option for 4th CNG fueling station downtown in partnership with COTA

Accomplish through: The City's first CNG station has been open and operating on Groves Road since April 2012. In addition to City agencies, this station is accessible to the public via Visa/MasterCard payment. Phase 3 of this station is planned for 2015/16 with the addition of another set of compressors, which will double the current pumping ability. The City's second CNG station on Morse Road near Cleveland Avenue opened in July of 2014 and is also open to the public via Visa/Mastercard payment.

Property for Columbus' third CNG station was purchased on the west side of the city in 2014, and a partnership with COTA for a fourth CNG station downtown was finalized in 2015.

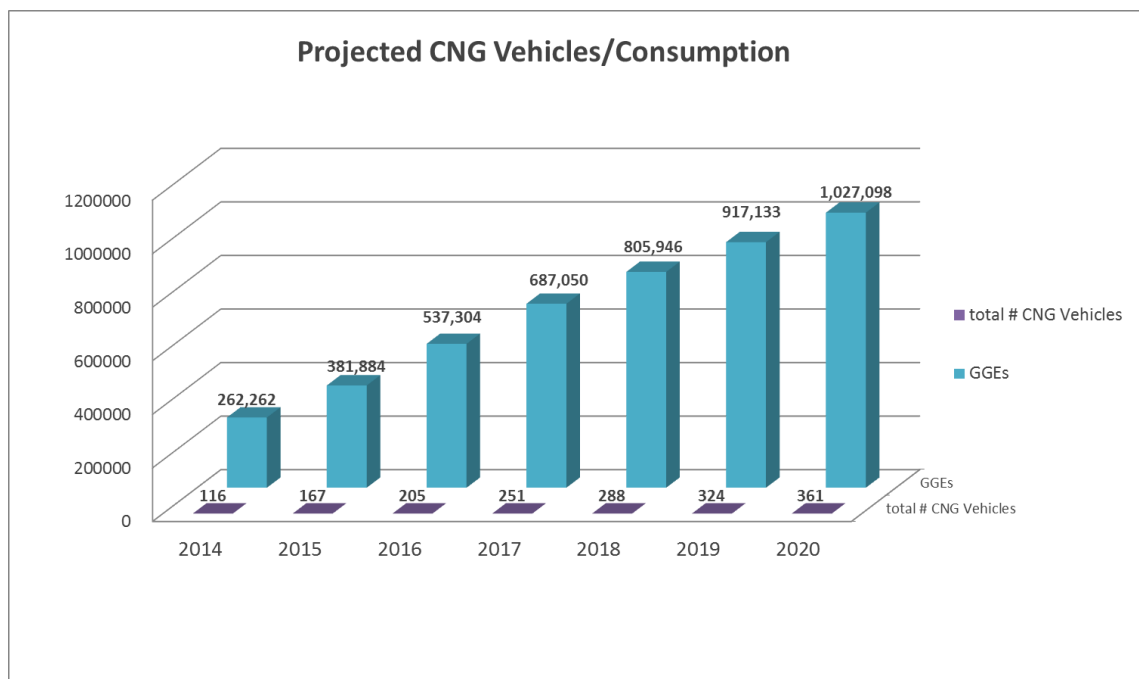
2016 mid-year update: Design is complete for the west side CNG station on Krieger Court. Construction bids were received this spring but all exceeded the planned station budget. Fleet is currently awaiting additional funding allocation before construction can begin. Ground breaking is expected by fourth quarter this year with an anticipated station opening date by the end of 2017.

Design is also complete on COTA's CNG fueling station located in the downtown area (4th CNG station). In 2015, Columbus finalized its partnership with COTA to expand their current CNG fueling facility to give Columbus vehicles access at the McKinley Avenue fuel station and has committed funding of approximately \$3.7 million (bid pending). Columbus is currently awaiting further updates as construction bids are received by COTA.

4. Expand numbers of CNG vehicle fleet

- **Measure:** Increase the number of CNG vehicles in the City's fleet
 - **Target:** As fueling infrastructure grows, implement strategy for increasing the number of CNG vehicles to keep pace with infrastructure growth

Accomplish through: Fleet Management has been and will continue working with City Departments to project CNG vehicle purchases through 2020 that will keep pace with fueling infrastructure. Based on replacement criteria and the availability of future CNG fuel, prospective projections for CNG vehicles and fuel consumption are as follows:



2016 mid-year update: Columbus has added 14 CNG vehicles to our fleet so far in 2016, bringing our mid-year CNG vehicle total to 179. We expect to add approximately 12-16 additional CNG units to the fleet this year, for a total of approximately 195 CNG vehicles by year end. As of mid-year, city vehicles have consumed 223,738 gges of CNG and our two CNG fueling stations have pumped over 373,000 gges, nearly half of which was to public retail customers.

Section 4: Next Steps

Achievement of these goals and targets will require the cooperation and participation of all City department and divisions. The Fleet Management Division, with support from the Environmental Steward's Office, will take the lead in implementing these initiatives and will track the progress of the targets. Updates will be provided at mid-year and mid-year to outline the activity that has taken place. We expect this document to be fluid- new technology, new grant opportunities, funding challenges, etc. are constantly happening. Every effort will be made to take advantage of the best options available to green our fleet, while minimally impacting City operations.