

Division of Fleet Management

Green Fleet Action Plan

2015-2018

2018 mid-year update

THE CITY OF
COLUMBUS
ANDREW J. GINTHER, MAYOR

DEPARTMENT OF FINANCE
AND MANAGEMENT



City of Columbus
Green Fleet Action Plan
2015-2018 Targets
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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:

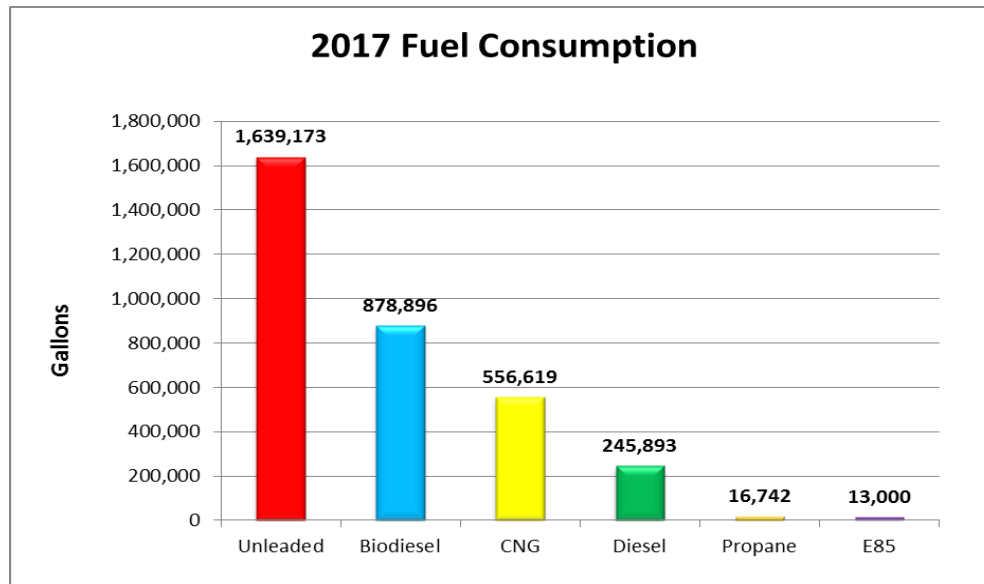
- City of Columbus awarded the 2016 #1 Leading Fleet in the U.S., due largely to our alternative fuel program, especially our CNG initiative - now considered an “elite” fleet and sit on the judging panel for Government Fleet
- City of Columbus awarded the #1 Greenest Fleet in North America by Government Fleet in 2011
- Awarded one of Heavy Duty Trucking’s Top 50 Green Fleets every year from 2013-2018
- 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 6310 pieces of equipment
 - Approximately 3210 are on-road vehicles, i.e., cars, trucks, SUVs, etc.
 - Approximately 3104 are off-road, e.g. construction equipment
- 3,350,323 **total** gallons of fuel were consumed in 2017 (including all alternative fuel). Fuel breakdown in 2017 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, propane, etc.)*)
 - **Target: Reduce annual petroleum use by 25% compared to 2014 levels (3,018,100 gallons) by the end of 2018**

Accomplish through: From 2010-2014, city fleet vehicles 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.

2018 mid-year update: So far in 2018, city vehicles have consumed **1,326,353** gallons of petroleum fuel – 1,195 gallons **less** than mid-year consumption last year. Alternative fuel use (CNG, propane, biodiesel) as well as various green technologies have contributed to our continued reduction of petroleum. The reduction is due largely to our

increased use of gaseous fuels, namely CNG, which increased 20% over this same period last year (see page 7).

Anti-idling technology has also helped drive down our petroleum consumption. Columbus has installed anti-idling technology, known as GRIP units, on approximately 300 new police cruisers since 2015. 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. The cumulative totals include a life-to-date reduction in idle time of approximately 33%, or 346,050 hours, which equates to saving approximately 11,419,719 miles on the cruisers by avoiding wear and tear on the engines. The GRIP system has saved an estimated 152,262 gallons of fuel and reduced carbon emissions by 1,355 metric tons since being installed in 2015, the equivalent of removing 250 passenger vehicles from the road.

Columbus’ efficient management of fuel consumption, and increase in the overall efficiency of the fleet, as well as a shift towards alternative fuel vehicles has driven down not only our petroleum consumption, but our greenhouse gas emissions as well. From 2015-2017, Columbus reduced our fleet emissions by 14%.

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

Total alternative fueled vehicles in Columbus fleet:

Vehicle Type	# of vehicles/equipment End of 2017	# of vehicles/equipment mid-2018
CNG	220	242
Hybrid	33	33
Electric BEV	7	80
PHEV Hybrid	0	20
Flex fuel	1120	1095
Propane	59	60
Total	1439	1532

- **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.

2018 mid-year update: Columbus purchased 203 light duty vehicles so far in 2018. Of these, 202 or 99% have been green vehicles. The majority of green light duty vehicle purchases have been electric BEVs and PHEVs.

- **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.

2018 mid-year update: Columbus has purchased 29 heavy duty vehicles (excluding Safety) so far in 2018. Of these, 22 or **76%** have been green. Green heavy duty purchases include CNG vehicles as well as vehicles equipped with other green technologies such as diesel particulate filters (DPFs) and diesel exhaust fluid (DEF).

- **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.

2018 mid-year update: Columbus added 22 propane mowers to our fleet in 2017, for use mainly at municipal golf courses and parks. Mowers continue to be replaced with propane when available.

Fleet Management tested 5 electric utility vehicles for use around our Groves Road facility in 2017, with the goal to order additional vehicles for other locations to replace



current gasoline powered utility carts. The electric utility vehicles come equipped with flat beds and are able to haul 6,000 pounds of load as well as tow. Fleet anticipates ordering one additional cart later this year for the Communications building on Groves

Road. Fleet will also be purchasing an electric Gator utility vehicle for the Police Mounted Horse Unit, which will replace a gasoline powered unit.

- **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.

2018 mid-year update: Fleet Management continues to implement its portion of the Smart Cities initiative which includes the addition of 200 electric vehicles to our fleet by 2020, along with implementing the necessary charging infrastructure. All Phase 1 EVs have been delivered and are being put in service as charging infrastructure allows. The 93 Phase 1 vehicles include 72 Nissan Leaf vehicles, 20 Fusion Energi vehicles and one Chevrolet Bolt. An additional 32 electric vehicles are expected by 4th quarter this year, to be dispersed between the Police, Fire, Refuse, Communications, Fleet and Recreation and Parks divisions. Fleet has installed eight smart chargers at the Groves Road location, with an additional 86 chargers expected to be installed around the city by third quarter.

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:** West side CNG fueling station open by 1st Q 2018
 - **Target:** Explore option for 4th CNG fueling station downtown in partnership with COTA
 - **Updated target:** COTA CNG station (downtown) open by end of 2017

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.

2018 mid-year update: Both the west side and downtown COTA CNG stations are open and pumping fuel. The COTA station opened in January and represents a partnership between the City and COTA that gives Columbus vehicles access to the McKinley Avenue fuel station, located near downtown. Columbus contributed approximately \$3.7 million to the COTA station construction.

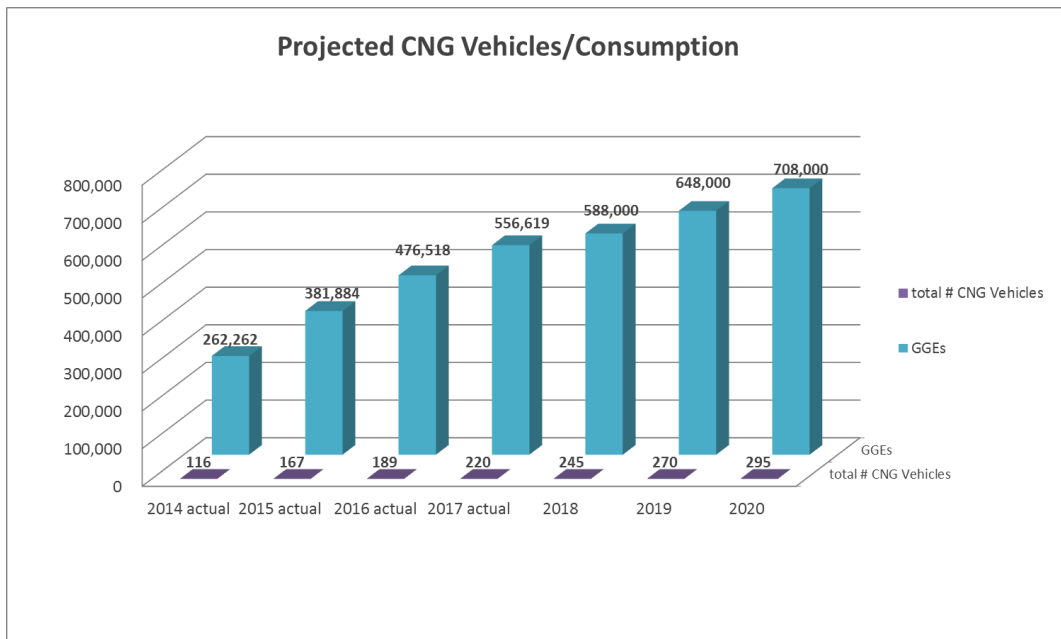
The west side regional fueling center on Krieger court represents Columbus' fourth and largest CNG station. The \$7.8 million station provides not only CNG but also diesel, unleaded and is plumbed for propane autogas. The opening of this station allows the city to close 4 noncompliant, outdated city petroleum fuel sites in the area.

Both stations will offer public access to CNG fuel via credit card and are open to other public and private fleets for CNG fueling.

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:



2018 mid-year update: Columbus has added 21 CNG vehicles to our fleet so far this year, bringing our CNG vehicle total to 242. As of mid-year 2018, city vehicles have consumed 306,276 gges of CNG, which represents more than a 20% increase in CNG use compared to mid-year 2017. The use of CNG has saved Columbus approximately \$247,860 compared to diesel fuel so far this year; and our two CNG fueling stations have pumped over 298,635 gges, with approximately 17% going 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 Director of Finance, will take the lead in implementing these initiatives and will track the progress of the targets. Updates will be provided at mid-year and year end 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.