



Green Fleet Action Plan

2011-2014

2014 Year-end Update

Department of Finance and Management
Division of Fleet Management

City of Columbus
Green Fleet Action Plan
2011-2014
2014 year-end Update

Mayor Michael B. Coleman

Section 1: Introduction

Columbus 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 #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
- Received the 2012 Sustainability award from Government Green Fleets
- Awarded the “Clean Fuels Champion” statewide award by Clean Fuels Ohio in 2011
- Three Columbus divisions (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, Mayor Coleman issued the City’s first Green Fleet Action Plan (available at www.getgreencolumbus.com). This plan addresses the management, operation and procurement of Columbus fleet vehicles in order to improve vehicle energy efficiency and reduce emissions. This was a plan for greening our city’s fleet and addressed the most pressing issues of the time, with most targets and goals going through 2010. The majority of targets of the original plan were met, necessitating a plan to take us beyond 2010.

This 2011-14 updated plan is intended to guide the City through the next phase of greening our fleet and strengthen our efforts to reduce our carbon footprint. It is largely based on the City’s 2008 original plan and Mayor Coleman’s 2005 Green Memo. The Mayor also updated the Fleet Management Executive Order 2013-01 to include authorization of a Green Fleet Policy. The goals of this plan remain the same – to reduce fleet petroleum use and reduce vehicle emissions, while realizing cost efficiencies when possible. As these targets are met and the timeline for this plan ends, a new plan will be updated for 2015 -18 to build upon our successes and move us into the next phase of our green fleet efforts.

Section 2: City of Columbus Facts

- The City of Columbus Fleet Management Division maintains over 6300 pieces of equipment
 - Approximately 2975 are on-road vehicles, i.e., cars, trucks, SUVs, etc.
 - Approximately 3330 are off-road, e.g. construction equipment
- 3,473,865 gallons of fuel consumed in 2014. Alternative fuel included:
 - Biodiesel – 1,186,838 gallons (99.8% of all bulk diesel purchased was biodiesel)
 - CNG – 262,262 gges (over \$404,215 in fuel savings for the year over average cost of diesel, plus an additional \$216,597 in federal fuel tax credits)
 - E-85 – 12,423 gallons
 - Propane - 6373 gallons

Section 3: Metrics

Immediate/On-going Initiatives:

- **Measure:** Total annual City fuel use (includes **all** fuel used- bio, ethanol, petroleum, CNG, etc.)
 - **Target: Reduce overall City fuel use by 2% compared to 2010 usage by 2014 –**
 - **Goal met– fuel use reduced an average of 2.3% since 2010.**

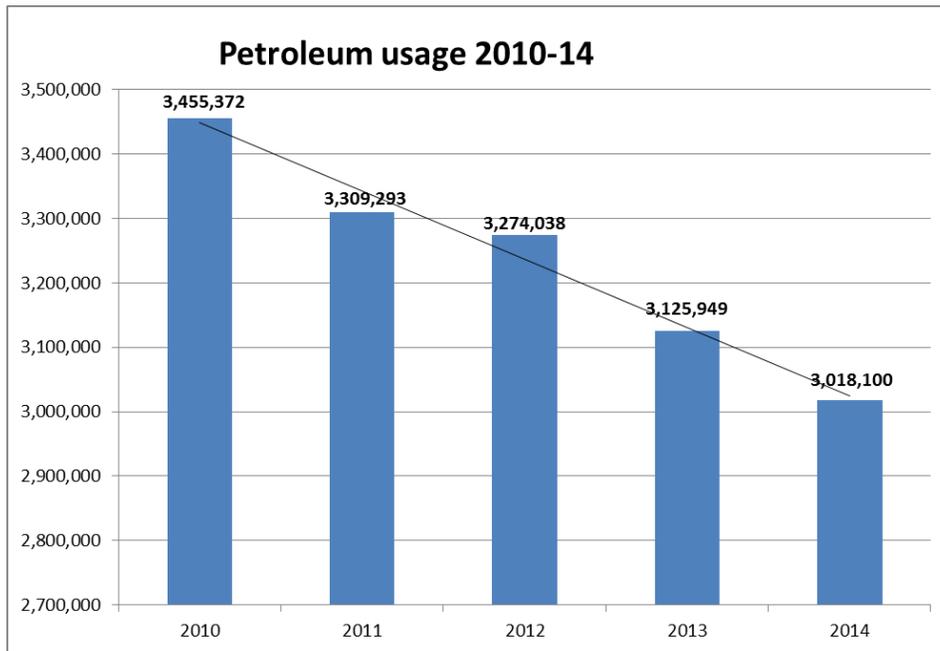
Accomplish through: Working with city agencies to right-size and downsize the fleet, refine and enhance “green” procurement policies, greater promotion of the anti-idling policy, GPS and AVL telematic technologies, and long-range planning and use of vehicle replacement plan

2014 year-end update: 2014 overall fuel consumption was 3,473,865 gallons (including all alternative fuel), slightly higher (1%) than overall fuel consumption in 2013 (3,438,438 gallons). However, from 2011-2014, Columbus fleet reduced overall fuel use an average of **2.3%** compared to our baseline year of 2010. With the continuing growth of our city and increased demand for city services, we expect that future fuel reduction targets and efforts will focus on petroleum reduction, rather than overall fuel reduction.

- **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 5% compared to 2010 levels by the end of 2014**
 - **Goal met and surpassed – as of the end of 2014, petroleum use has been reduced by 12.7% compared to 2010**

Accomplish through: Increased use of alternative-fueled vehicles- hybrids, CNG and flex fuel, and greater use of biodiesel

2014 year-end update: City petroleum fuel consumed in 2014 was 3,018,100 gallons, **3.5% less** than year-end petroleum consumption in 2013. Petroleum use has steadily declined each year since 2010, with an overall reduction of **12.7%** since our baseline year of 2010, far exceeding our 5% reduction goal by 2014.



- **Measure:** Percentage of City bulk diesel purchases that are a biodiesel blend (at least B2 and up to B20 depending on season)
 - **Target: 100% by end of 2013- met**
 - **75% by end of 2011 – 72%, slightly below target**
 - **85% by end of 2012 – 74.5%, below target**
 - **100% by end of 2013 – 81% for year, 100% by year-end**

Accomplish through: Cleaning of diesel tanks so that all tanks can be switched to biodiesel

2014 year-end update: As of year-end 2013, **99.8%** of City bulk diesel purchases were biodiesel, achieving our goal of all city diesel purchases being a biodiesel blend by the end of 2013. All city fueling sites except for 2 locations that use a very small amount of diesel fuel have now been switched to biodiesel. In tanks that use bio-diesel, B5 is used during the colder months and B20 is used during warmer weather. This year the switch to B20 occurred April 1 and then switched back to B5 again on November 18.

- **Measure:** Light duty vehicle purchases that are considered green
 - **Target: 50% each budget year**
 - **2011: target exceeded- 55% green light duty purchases**
 - **2012: 42% green light duty purchases**
 - **2013: target exceeded – 77% green light duty purchases**
 - **2014: target exceeded - 65% green light duty purchases**

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, continue to meet with City divisions to review purchase requests in order to right-size vehicles for their intended purpose

2014 year-end update: In 2014, the City purchased 283 light duty vehicles. Of these, 185 or **65%**, were green vehicles. The majority of green light duty vehicle purchases were flex fuel.

- **Measure:** Heavy-duty truck purchases that are considered green (excluding Safety vehicles)
 - **2012 Target:** Purchase at least 22 heavy duty CNG trucks and 5 heavy duty hybrid trucks through federal grant programs – **met- all vehicles in service**
 - **2013 Target:** 80% of all new heavy duty vehicle purchases will be green (excluding Safety) – **target exceeded – 82% green heavy duty purchases in 2013**
 - **On-going Target: 80% each budget year**

Accomplish through: CNG vehicles will comprise the majority of “green” heavy duty purchases in the next few 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.

2014 year-end update: In 2014 Columbus purchased 49 heavy duty vehicles (excluding Safety). Of these, 45, or **92%**, were green. Of the 49 heavy duty purchases, 39, or **80%** were CNG.

Total “green” vehicles in Columbus fleet as of year-end 2014:

| Vehicle Type | # of vehicles/equipment |
|--------------|-------------------------|
| CNG | 116 |
| Hybrid | 16 |
| Electric | 10 |
| Flex fuel | 834 |
| Propane | 20 |
| Total | 996 |

- **Measure:** Create and expand CNG fueling infrastructure
 - **Target:** Construct and open the first City-owned CNG fueling station at Groves Road by November 1, 2011 – **open for business**
 - **Target:** 2nd CNG station open and pumping fuel by end of 1st Q 2014 - station opened July 15, 2014

Accomplish through: Implementation of Clean Cities grant for construction and operation of a CNG fueling station

2014 year-end update: 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 (no cash as the station is not attended).

The City’s second CNG station on Morse Road near Cleveland Avenue opened in July of this year and is also open to the public via Visa/Mastercard payment.

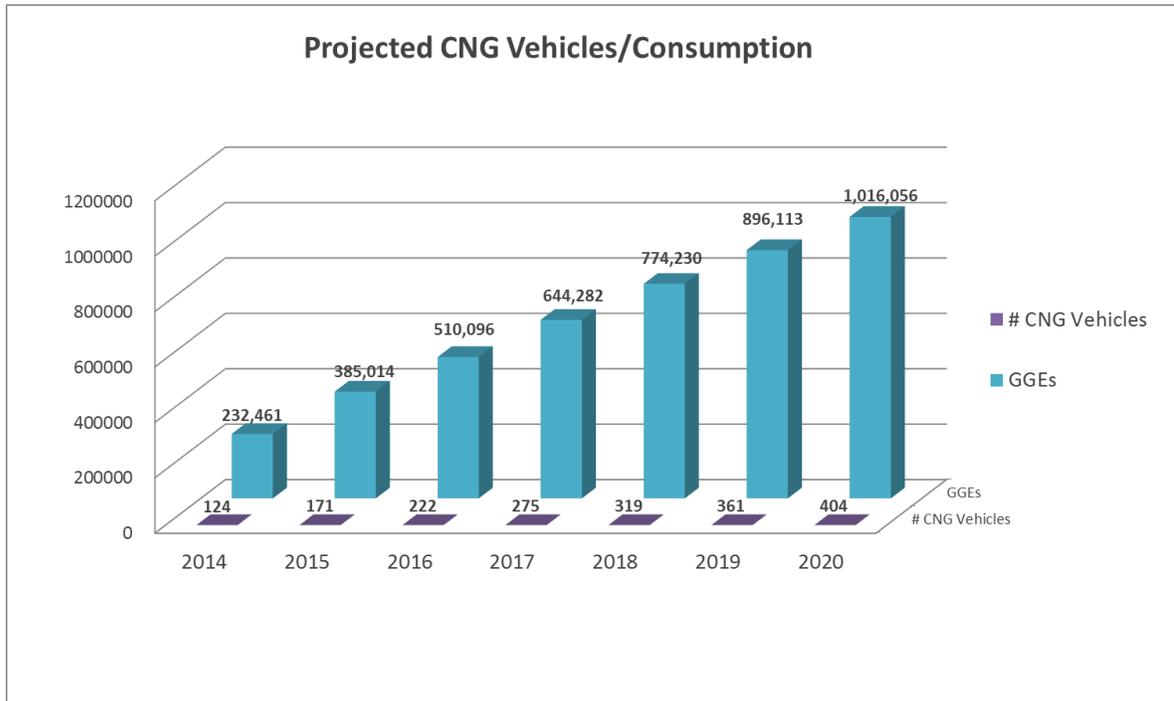
In 2014, these stations pumped 433,196 gge’s (gasoline gallon equivalents) of CNG, 262,262 to city vehicles and 170,934 to public customers. The use of CNG fuel saved Columbus fleet over **\$404,215** in 2014 compared to the average price of diesel and qualifies for **\$216,598** in federal alternative fuel tax credits.

Property for Columbus’ third CNG station has been purchased on the west side of the city and design of the station is underway. Construction is expected to be ready for bid by 2nd quarter of 2015, with a goal of pumping fuel by second quarter 2016.

Long-term Initiatives:

- Expand numbers of CNG vehicle fleet
 - **Target:** As fueling infrastructure grows, create strategy for increasing the number of CNG vehicles to keep pace with infrastructure growth
 - **2014 year-end update:** Fleet Management has been 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:



- **Target:** Establish baseline and reliable measurement tool to calculate GHG emissions from City-owned vehicles; establish target for GHG reduction
 - **2014 year-end update:** Fleet Management has been working with an environmental consulting company to pilot the development of software that will calculate vehicle emissions with the ability to compare alternatively-fueled vehicles with their petroleum counterparts. This software is still in the development phase but the city hopes to utilize this software through our local clean cities coalition to calculate emissions from city-owned vehicles, something that is not currently possible with an acceptable level of accuracy using currently available calculators.
- Electric vehicle use
 - **Target:** Explore electric vehicle options and infrastructure available and viable to the City of Columbus operations; explore cost and funding opportunities
 - **2014 year-end update:** 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. Columbus has seven on-road electric vehicles currently in service- five GEMs, and two all-electric Ford Focuses. The Water division also owns three all-electric off-road utility carts.

- Green Off Road Vehicles
 - **Target:** Explore available “green’ off road options such as propane mowers and electric golf carts at city-owned golf courses, etc.
 - **2014 year-end update:** Columbus purchased its first 14 propane powered mowers in 2013. In 2014, these mowers consumed 6373 gallons of propane, at an average cost of \$3.31/gallon. Compared to the 2014 average cost of diesel, the use of propane saved approximately \$830 for the year and qualifies the city for \$3,187 in federal alternative fuel tax credits. In 2014, the city purchased an additional nine propane mowers, which will be put in service for the spring 2015 mowing season. All mower specifications are now being evaluated for a propane option.
- Help create a green infrastructure
 - **Target:** Cooperate with other Central Ohio private and public fleets in alternative fuel procurement, in refueling station placement and in demonstrating new technologies
 - **2014 year-end update:** Fleet Management is a member of the Mayor’s Green Team, as well as the Green Transportation Committee, thereby affording us the opportunity to confer and collaborate with other Central Ohio private and public fleets. Columbus has had conversations with COTA, Columbus Public Schools, ODOT, other local municipalities and public and private fleets to explore collaboration opportunities regarding CNG including fuel procurement and future station locations.

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 Mayor’s 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 year end that outline the activity that has taken place. The Mayor’s Green Team will be kept informed about the progress of the plan and will have the opportunity to provide input and assist in monitoring progress. 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.