



Green Fleet Action Plan

2011-2014

2013 Year-end Update

Department of Finance and Management
Division of Fleet Management

City of Columbus
Green Fleet Action Plan
2011-2014
2013 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
- “Environmental Leadership” award received from the Ohio Environmental Council for our 2009 green fleet initiatives

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.

Section 2: City of Columbus Facts

- The City of Columbus Fleet Management Division maintains over 6300 pieces of equipment
 - Approximately 3000 are on-road vehicles, i.e., cars, trucks, SUVs, etc.
 - Approximately 3300 are off-road, e.g. construction equipment
- 3,438,438 gallons of fuel consumed in 2013. Alternative fuel includes:
 - Biodiesel - 989,650 gallons (81% of all bulk diesel purchased in 2013 was biodiesel)
 - CNG – 181,185 gges (over \$297,143 in 2013 in fuel savings over average cost of diesel)
 - E-85 – 25,467 gallons
 - Propane - 7118 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 –**
 - **Trending to surpass goal – fuel use reduced by 2.6% over 2010 at end of 2013.**

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

2013 year-end update: Overall City fuel use for 2013 remained relatively flat, with a slight increase of under 1% compared to year-end 2012 with 3,414,725 gallons consumed in 2012 vs. **3,438,438** gallons in 2013. Compared to our 2010 baseline year, overall city fuel use has been reduced by **2.6%**, already exceeding our 2014 goal of a 2% reduction over 2010 usage.

- **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**
 - **Trending to surpass goal- annual petroleum use was reduced by 9.5% compared to 2010 at the end of 2013, the equivalent of removing 610 passenger vehicles from the road and reducing carbon dioxide by 2929 metric tons**

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

2013 year-end update: As of 2013 year-end, City petroleum use is down by **8.5%** (or 288,776 gallons) compared to year-end 2012 (3,274,038 gallons of petroleum consumed in 2012 vs. 3,125,949 in 2013). This fuel reduction is equivalent to removing **535** passenger vehicles from the road and reduces carbon dioxide by 2567 metric tons. Compared to 2010, petroleum use has been reduced by 329,424 gallons, or **9.5%**, already far exceeding our 2014 goal of a 5% reduction.

- **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- trending to meet**
 - **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

2013 update: In 2013, 81% of our bulk diesel purchases were bio-diesel. As of year-end, all City fueling sites have had tanks cleaned and are now dispensing bio-diesel. In 2014, all bulk diesel purchases will be biodiesel. In tanks that use bio-diesel, B5 was used during the colder months and B20 was used during warmer weather in 2013.

- **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**

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

2013 update: In 2013, the City purchased 299 light duty vehicles. Of these, 231 or **77%**, were “green”. The majority of light duty green purchases were flex fuel vehicles.

- **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**

Accomplish through: Since CNG vehicles will comprise the majority of “green” heavy duty purchases, 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.

2013 year-end update: In 2013, Columbus purchased 82 heavy duty vehicles (excluding Safety). Of these, 67, or **82%, were green**. Of the 82 heavy duty purchases, 26, or **32%, were CNG**. As of the end of 2013, Columbus has 55 CNG vehicles in service, with an additional 33 CNG vehicles on order.

Total “green” vehicles in Columbus fleet as of year-end 2013:

Vehicle Type	# of vehicles
CNG	55
Hybrid	15
Electric	6
Flex fuel	771
Propane	16
Total	863

- **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 – **trending to meet**

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

2013 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 station pumped nearly **240,920** gge’s (gasoline gallon equivalents) in 2013 which equates to removing 446 passenger vehicles from the road. Of this total, approximately 75% has been for city-owned vehicles and 25% has been pumped by non-city (private) vehicles. CNG fuel savings for city vehicles total over **\$297,140** for 2013 compared to the average price of

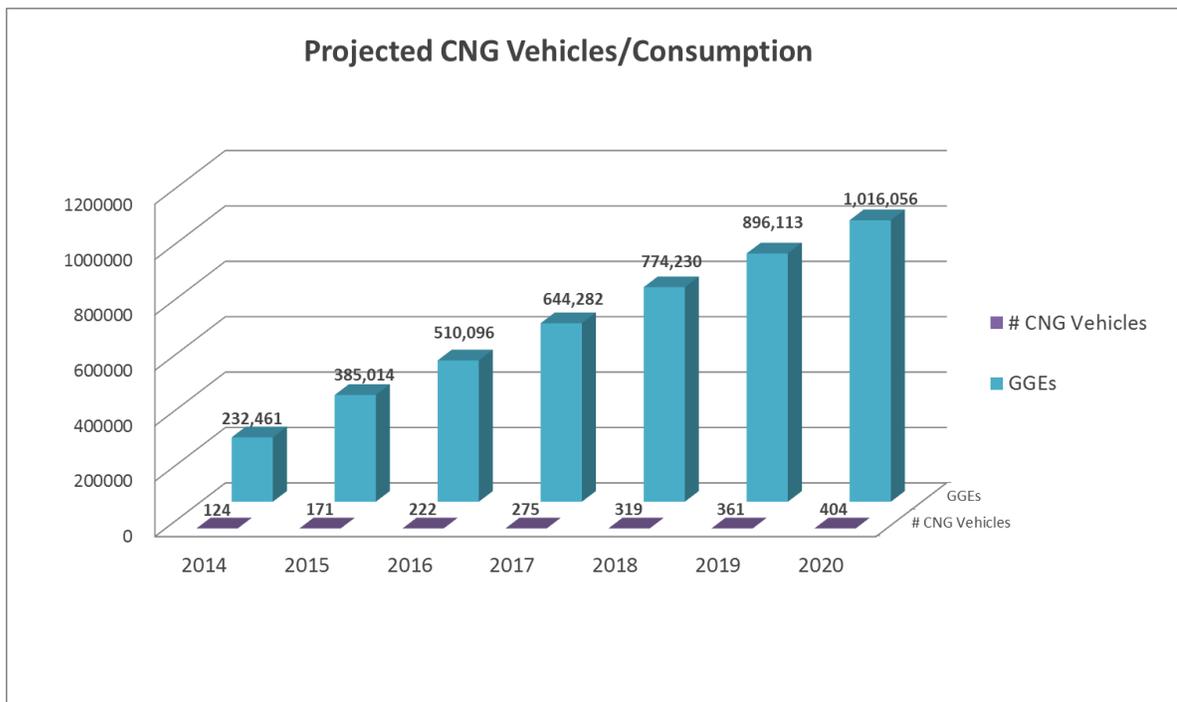
diesel. Columbus is also eligible to receive a tax credit of \$.50/gge for 2013, which totals \$120,459 based on the 240,918 gges pumped in 2013. CNG fuels savings and tax credits combined equals a total of **\$417,602** for 2013.

Property for the second CNG station has been purchased on Morse Road near Cleveland Avenue. The station is currently in the construction phase and is expected to be open and pumping fuel by end of first quarter 2014.

Negotiations are well underway between the City of Columbus and COTA to memorialize an agreement and/or license whereby the City can utilize COTA's CNG fueling station on McKinley Avenue. Hopefully fueling can begin by the beginning of 2015. A third City-owned CNG station targeted for the West side of Columbus is currently in the discussion and budgeting phase.

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
 - **2013 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:



- Reduction of Greenhouse Gas Emissions from City vehicles
 - **Target:** Establish baseline and reliable measurement tool to calculate GHG emissions from City-owned vehicles; establish target for GHG reduction
 - **2013 year-end update:** The new GPS units being installed on city vehicles have the ability to calculate greenhouse gas emissions from vehicles and will allow the city to calculate its carbon footprint from vehicle emissions. Once all units are installed, a baseline GHG emission report can be created and reduction targets can be set. As of year-end, 85% of installations have been completed. Due to various scheduling issues with some divisions, not all installations were able to be completed by year end as originally estimated. All installations (approximately 1,980) are expected to be complete by end of first quarter 2014.
- Electric vehicle use
 - **Target:** Explore electric vehicle options and infrastructure available and viable to the City of Columbus operations; explore cost and funding opportunities
 - **2013 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 six on-road electric vehicles currently in service- 3 GEMs, 1 Ford C-Max (109 MPG) and two all-electric Ford Focuses. The Water division also owns two 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.
 - **2013 year-end update:** This year, Fleet Management worked with Recreation and Parks and Planning and Operations to purchase the City’s first 14 propane powered mowers- 12 for Recreation and Parks and two for Planning and Operations. The mowers were put in service during spring mowing season this year and consumed 7118 gallons of propane, at an average cost of \$3.07/gallon. Compared to the 2013 average cost of diesel, the use of propane saved approximately \$2,634 for the year and equated to removing 13 passenger vehicles from the road. Through a purchase incentive program offered by the Petroleum Education and Research Council (PERC), the City received a \$1000 incentive for each mower purchased (total \$14,000) in exchange for providing one season worth of data to PERC for research purposes. 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
 - **2013 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 and several other local municipalities to explore collaboration opportunities regarding CNG including fuel procurement and future station location. Fleet Management is currently working with the State Fire Marshall on a program to provide statewide first responder CNG safety training.

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. However, each city division should be responsible for calculating and tracking its own carbon footprint. Updates will be provided at mid-year and mid-year 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.