Green Fleet Action Plan for the City of Columbus

Issued
January 1, 2008

2009 Mid-year Update
July 2009

Department of Finance and Management
Division of Fleet Management

City of Columbus
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Mayor Michael B. Coleman

Section 1: Introduction

When Mayor Coleman announced the "Get Green Columbus" initiative in January 2005, one of the key policy strategies outlined in his Green Memo was to:

"Stop unnecessary vehicle emissions by conducting a review of our City's on-road and off-road vehicle operation and maintenance procedures to reduce vehicle emissions…"

Other key policy strategies relating to "greening" our City's fleet were outlined in the memo, several of which the Division of Fleet Management has since implemented, including developing and implementing an anti-idling policy, seeking and receiving grant funding to retrofit vehicles with oxidation converters and engine hydraulic and coolant heaters and increasing our use of environmentally friendly bio fuels.

Yet, the need to address outdoor air quality is as great as ever:

- In 2004, U.S. EPA officially designated six central Ohio counties as non-attainment for failing to meet federal standards for either/both ozone and PM 2.5 pollution. Columbus is located in 3 of those counties.
- Air pollution contributes to asthma prevalence and increases asthma episodes.
- According to a news release from the EPA, the average refuse truck emits approximately 8 tons of air pollutants per year through exhaust emissions.
- Retrofitting refuse trucks with oxidation converters will cut particulate matter by 30%, hydrocarbons and toxics by 50% and nitrogen oxides by 40%.

The City of Columbus is establishing this Green Fleet Action Plan to address the management, operation, and procurement of fleet vehicles under the control of the City in order to improve the energy efficiency and reduce emissions of its fleet. The City of Columbus recognizes that energy use associated with the operation of its vehicle fleet is one of the many factors impacting local air quality and the greenhouse gas emissions that contribute to global climate change. Mayor Coleman is directing all departments and divisions to take specific steps toward improving the energy efficiency of its fleets and reducing emissions from fleet operations, especially heavy duty vehicles.

Improving the energy efficiency of the City fleet will also result in significant monetary savings in the long run.

Section 2: Definitions

“Light-duty vehicles” any motor vehicle with a gross vehicle weight less than 14,000 pounds and includes all passenger vehicles (autos), pick-up trucks, vans, sport utility vehicles (SUV) and motorcycles
“Medium-duty vehicles” any vehicle with a gross vehicle weight between 14,001 and 26,000 pounds
“Heavy-duty trucks” any motor vehicle with a gross vehicle weight greater than 26,000 pounds and includes all Fire apparatus, dump trucks, snow plows, street sweepers and Refuse trucks
“Off-Road Construction” any vehicle not licensed for on-road use that is used primarily for construction purposes (backhoes, loaders, mixers, etc.)
“Off-Road Other” are smaller, motorized equipment (mowers, weed eaters, air compressors, etc.)
“Alternative fuel” any fuel that is substantially non-petroleum in nature, is not gasoline or diesel, and is defined as an alternative fuel by the U.S. Department of Energy
“Green Vehicle” refers to any vehicle that employs environmentally friendly technology to reduce either fuel consumption or emissions (i.e. hybrid, flex-fuel, CNG, equipped with after-treatment device, anti-idling device, auxiliary heating device, etc.)
“Diesel Oxidation Catalyst (DOC)” is a device with a honeycomb-like structure that oxidizes pollutants in the exhaust stream, thereby reducing harmful emissions.
“Diesel Particulate Filter (DPF)” is a ceramic device that collects the particulate matter in the exhaust stream and breaks it down into less harmful components.
“Biodiesel” fuel is a clean, renewable fuel, made by refining any fat or oil such as soybean oil. It is typically blended with petroleum diesel to create a biodiesel blend.
“Flex fuel” refers to a vehicle that can use either standard unleaded gasoline or E85, a blend of 15% gasoline and 85% ethanol. E85 comes from renewable, American resources like corn.

Section 3: Fleet Inventory

The City of Columbus Fleet Management Division maintains over 6,100 pieces of equipment, approximately 3,000 of which are on-road vehicles, i.e., cars, trucks, SUVs, etc. and almost 3,100 are off-road, e.g. construction equipment.

Vehicle Inventory (as of July 2009)		
Vehicle Type	**Number Gasoline Powered**	**Number Diesel Powered**
Light Duty Vehicles		
Autos	1137	
Light Duty Trucks	965	
SUVs	142	
Motorcycles	38	
Medium Duty Vehicles	25	140
Heavy Duty Vehicles		
Fire Apparatus		146
Heavy/Dump Trucks		199
Refuse Trucks		194
Street Sweepers		19
Off-Road Construction	127	720
Off-Road Other	2110	165
TOTAL	**4544**	**1583**

Section 4: Goals of the Action Plan

The goals of this action plan are to reduce fleet fuel use and reduce fleet vehicle emissions. The City will manage and operate its fleet so that our vehicles are the most fuel efficient, low emission vehicles possible that still meet the various operational needs of the City. The following are proposed to measure the City's performance toward meeting these goals*:

- **Measure:** Total annual City fuel use
  - Target: Reduce overall City fuel use by 3% by 2010
    - ***2009 Mid-year update**: In 2008, the City exceeded its goal for 2008 and already met its 2010 goal of using **3%** less overall fuel than in 2007 (3,862,523 total gallons in 2008 vs. 3,968,422 total gallons in 2007). As of June 30, 2009, the City has used 1,721,737 gallons of fuel compared with 1,743,528 gallons of fuel used YTD this time last year- a **1.25% reduction** over total fuel use for the same period in 2008.*
- **Measure:** Total annual City petroleum use
  - Target: Reduce annual petroleum use by 2% by the end of 2008
    - *In 2007, the City used 3,898,400 gallons of petroleum fuel, giving us a target of 3,820,432 (2% reduction) for 2008. In 2008, the City used 3,777,460 gallons of petroleum fuel, compared to 3,898,400 gallons in 2007, an almost **3% reduction** over 2007.*
  - Target: Reduce annual petroleum use by 12% by the end of 2010
    - ***2009 Mid-year update**: As of June 30, 2009, the City has used 1,665,056 gallons of petroleum fuel, compared to 1,713,280 as of June 2008, an almost **3% reduction** over the same period last year.*
- **Measure:** Percentage of eligible pre-2002 on-road and off-road diesel vehicles retrofitted with at least DOC technology, with DPF technology being considered for high fuel usage vehicles
  - Target: 25% by 2008
    - ***2009 Mid-year update**: Final approval of the CMAQ grant was received late December 2008, so advertisement to bid began in February and award was made in April 2009. Currently, approximately 10% of the identified vehicles have been retrofitted. Fleet Mgmt. anticipates that all retrofits will be completed by the end of 2010.*
  - Revised Target: 50% by end of 2009
  - Revised Target: 100% by end of 2010
- **Measure:** Percentage of eligible vehicles fitted with engine coolant and hydraulic oil heaters or engine coolant heaters
  - Target: 100% by end of 2009
    - ***2009 Mid-year update**: Heaters are also funded through federal grants. The majority will be funded through the CMAQ grant (awarded in late December), however, one small grant (MCDI) was*

received in 2008 that funded the purchase and installation of 16 hydraulic heaters on Refuse trucks. Fleet anticipates no issues with achieving the 100% target by the end of 2009.

- **Measure:** Percentage of new on-road vehicles and/or equipment purchased each year that are considered green
  - Target: 25% by end of 2008
    - ***2009 Mid-year update:*** *In 2008, the City purchased approximately 388 new on-road vehicles/equipment. Of these, 273, or over **70%**, are considered "green" (flex fuel, hybrid, electric, natural gas, CNG or equipped with DPFs or engine heaters), well exceeding our target of 25%.*
  - Target: 75% by end of 2010
    - **2009 Mid-Year update:** As of July 1, 2009, the City has purchased 72 new on-road vehicles/equipment. Of these, 41, or almost 57%, are considered "green".
- **Measure:** Off-road equipment that is "greened"
  - Target: All new off-road equipment will be non-petroleum, if a non-petroleum version is available and proven to meet operational needs, by end of 2008
    - ***2009 Mid-year update****: When possible, non-petroleum off-road equipment has been purchased- out of 237 off-road purchases in 2008, 40 (17%) were considered green. As of July 1, 2009, the city has purchased 78 off-road units, out of which 3 are considered green. Non-petroleum versions of most equipment are still largely unavailable, making large amounts of purchases difficult. Funding constraints have also severely limited the amount of off-road equipment able to be purchased.*
  - Target: All existing diesel equipment will be fueled on biodiesel
    - ***2009 Mid-year update****: Due to funding and vendor issues involved with cleaning fuel tanks (tanks must be cleaned before diesel can be switched to biodiesel), biodiesel is only available at 9 City fueling sites. Off-road units at these facilities have been utilizing biodiesel- approximately **10,740** gallons of biodiesel fuel has been used YTD in off-road units.*
  - Target: All new portable fueling containers will be low vapor leak.
    - ***2009 Mid-year update****: Fleet has used its consumer panel meetings to emphasize that divisions should only be purchasing low vapor leak fueling containers.*
- **Measure:** Percentage of City bulk diesel purchases that are a biodiesel blend (at least B5 or B20 depending on season)
  - Target: 100% by end of 2008
    - ***2009 Mid-year update****: All diesel fuel tanks must be cleaned before the diesel fuel can be switched to biodiesel. Due to funding constraints and issues with the tank cleaning vendor, cleaning of all tanks has not been possible in the time frame originally planned. As of July 1, 2009, 9 fueling sites are using biodiesel. As of July 1,*

*2009, the City has purchased 467,139 gallons of biodiesel, accounting for approximately **72%** of all bulk diesel purchases. Based on current budget estimates, new targets have been established:*

- ***50% by end of 2009***
- ***75% by end of 2010***
- ***100% by end of 2011***

- **Measure:** Percentage of City employees who drive City vehicles that have completed a green driver education course.
  - Target: 100% by end of 2009
    - ***2009 Mid-year update**: Originally, this course was to be taught by the City's HR department. Due to a lack of resources, an on-line option has been researched by Fleet Management. An on-line course option has been identified, but due to funding constraints, implementation of this course is not possible at this time. This issue has been tabled until the budget situation improves.*

Note: some figures may have changed from 2008 reports due to a more accurate reporting process for 2009, especially for fuel consumption.

Section 5: Action Plan Strategies

In order to accomplish the goals outlined above, the City shall modify procurement procedures, implement policies, conduct reviews and take other actions as outlined in the sections below, with a focus on:

1) Operating cleaner vehicles (cleaner fuels and cleaner engine operation)
2) Operating vehicles more efficiently (more efficient vehicle types and more efficient use of vehicles that result in fuel savings)

(1) Cleaner Vehicles - *Strategies to achieve cleaner operating vehicles:*

- **Technology: Diesel truck retrofits-** Retrofitting diesel vehicles with emission control devices will reduce particulate emissions by 30 to 90%, depending on the device used. Grants have been sought that would allow the city to install diesel oxidation catalysts (DOCs) as well as diesel particulate filters (DPFs) on diesel on-road vehicles. A DOC is a device with a honeycomb-like structure that oxidizes pollutants in the exhaust stream, thereby reducing harmful emissions. Diesel vehicles considered "eligible" for DOCs have pre-2002 engines and must have exhaust systems in good enough condition to accommodate the DOC, and will typically be kept in the fleet for at least 3 more years. A DPF is a ceramic device that collects the particulate matter in the exhaust stream and breaks it down into less harmful components. DPFs reduce emissions of particulate matter by 60-90%. DPFs will be reserved for higher use vehicles that will remain the fleet for at least 4-5 more years and that typically have a higher dollar value. In order to be eligible for a DPF, the vehicle must have an electronically controlled engine that accommodates a DPF.

  Recommended action: Conduct analysis of all City diesel vehicles to determine number eligible for retrofit and complete retrofits of all targeted vehicles; following evaluation of results, conduct pilot of off-road vehicles to determine if retrofits are beneficial for off-road vehicles as well.

  ***2009 Mid-year update**: An analysis was conducted of all City diesel vehicles in conjunction with all affected divisions. It was determined that 78 diesel vehicles are candidates for DOCs and 41 diesel vehicles are candidates for DPFs. All retrofit devices will be funded through federal grants. One grant, through the EPA, funded the purchase and installation of 7 DOCs in 2008. The larger grant (CMAQ), was officially awarded in late December 2008, and advertisement to bid was completed in February and award was made in April 2009. This grant will fund the remaining 112 retrofits. Installations are continuing through 2009. Off-road vehicles have not yet been studied for retrofit benefits.*

- **Alternative fueled vehicles**. Alternative fueled vehicles (AFV) operate on fuels other than petroleum-based gasoline and diesel.

Biodiesel: Biodiesel is a clean, renewable fuel, made by refining any fat or oil such as soybean oil. It behaves and performs much like petroleum diesel but is biodegradable and nontoxic. It's typically blended with petroleum diesel to create a biodiesel blend. Fleet Management conducted two successful bio-diesel pilot programs beginning in December 2006 through early 2007. Two refuse collection vehicles operated using B5 (a blend of 5% biofuel and 95% diesel) and the Sewerage & Drainage compost facility has been using B20 (a blend of 20% biofuel and 80% diesel) in front loaders. The use of biodiesel was expanded citywide in 2007 to include all Refuse fueling locations. Fleet will work with other city divisions to provide information and education on biodiesel fuel and expand the usage to all divisions in 2008. The goal is to switch most of the City's diesel fuel purchases to B20 by mid 2008. If successful, all city diesel vehicles will operate on B20 until early November and then will switch to B5 until early March and then will switch back to B20 for the warmer months.

Recommended action: Expand current efforts to switch all diesel fleet, including off-road diesel vehicles and equipment, to B5 during cold weather months and B20 or greater during warm weather months by the end of 2008. Consider use of B20 year round in situations where fuel is stored underground and vehicles are stored indoors.

***2009 Mid-year update**: As of July 1, 2009, 9 fueling sites around the City are using biodiesel. Additional sites were expected to be added by now; however; limited funding for the cleaning of tanks and issues with the tank cleaning vendor have prevented the switch to biodiesel in all City fuel tanks. Until the tanks can be cleaned, the fuel can not be switched to biodiesel. Fleet will continue scheduling the cleaning of tanks as funding becomes available and issues with the vendor are resolved. As of July 1, 2009, the City has purchased 467,139 gallons of biodiesel, accounting for **72%** of all bulk diesel purchases.*

CNG (Compressed Natural Gas): Compressed Natural Gas (CNG) vehicles emit fewer nitrogen oxides and less particulate matter than gas powered vehicles. CNG typically costs between 25-50% less per mile of operation than gasoline or diesel.

Language was added to the city's 2008 light duty vehicle UTC specifications that listed CNG capability, among other "environmentally preferable" features, as a preferred option. Fleet Management has been working with both the Refuse Collection and Transportation Divisions on specifying CNG vehicles for bid in 2007. Refuse has one CNG rear loader on order and scheduled for delivery in first quarter 2008. Transportation added CNG as an option in their specifications for street sweepers but currently has nothing on order.

The main impediment to the operation of CNG vehicles is the lack of fueling locations. Currently, the City does not operate any CNG fueling locations; however, the County currently operates a fuel site located off Alum Creek

Drive that the City is able to access, and additional CNG stations are expected to be constructed in Franklin County in the near future.

Recommended action: Expand current efforts: Pursue additional grant funding opportunities to assist in CNG purchases as well as building of CNG fueling stations. Consider CNG across a wide range of light, medium and heavy duty applications where practical.

2009 Mid-year update: *The City's first CNG Refuse rear loader was put into service during the first quarter of 2009. The City's current CMAQ grant request includes funding for the purchase of additional CNG Refuse and other heavy duty vehicles in 2010. Fleet Mgmt. also applied for funding through the DOE Clean Cities grant that, if awarded, would fund an additional 3 CNG heavy duty trucks and the construction and operation of a CNG fueling station, to be located at Groves Road. Award announcement is expected in August 2009.*

Flex fuel: Flexible fuel vehicles offer drivers a choice of fuels. They can either use standard unleaded gasoline or E85, a blend of 15% gasoline and 85% ethanol. Flex fuel vehicles cost no more than gas-only vehicles, and E85 is usually less expensive to purchase at the pump. E85 comes from renewable, American resources like corn. The City currently owns approximately 94 flex fuel vehicles, 30 Chevrolet Impalas and 62 Ford Crown Victorias, located in the Police division, and 2 station wagons located in the Fleet vehicle pool. An additional 109 flex fuel Crown Victorias are on order and due to arrive in spring of 2008.

City fueling locations are not currently equipped to dispense E85; however, there are various E-85 retail locations located throughout the area. In addition to purchasing retail, Franklin County has an E85 refueling station off Alum Creek Drive that they have offered to make available to the City flex fuel fleet.

Language was added to the City's 2008 light duty vehicle UTC specifications that listed flex fuel capability, among other "environmentally preferable" features, as a preferred option.

Recommended actions: Expand current efforts. Make flex fuel vehicles available on current City UTCs and encourage the purchase of flex fuel vehicles through the procurement process (see below). Provide an information sheet with each new flex fuel vehicle to educate drivers about the benefits of E85 and list the retail fuel locations where E85 can be purchased, as well as the County location on Alum Creek Drive.

2009 Mid-year update: *Flex fuel vehicles were listed as a "preferred option", along with hybrids and CNG, on the 2009 City UTC for light vehicles. The City currently owns approximately 246 flex fuel vehicles; mainly located in the Police division with the remainder located around the city as F150 pick-ups.*

- **Procurement practices.** One of the policy strategies outlined in the Mayor's Green Memo states: "Purchase better performing vehicles by assuring that as

we get bids for new on-road and off-road vehicles, we seek vehicles that are fuel efficient and reduce emissions, and that we evaluate and pursue vehicles that operate on alternative or renewable fuel sources, when possible and practical." Green language that gives preference to hybrids, flex fuel vehicles and CNG vehicles was included as part of the 2009 light duty vehicle UTC specifications. This "environmentally preferable purchasing" language gives preference to environmentally preferable bidders.

Recommended actions: Implement procurement policies and practices to advance the City's green efforts including:

- *Include a minimum efficiency standard in miles per gallon for each vehicle class for which the City has procurement specifications and include such a standard in any new vehicle procurement specification.*
- *Review all vehicle/equipment specifications and modify as necessary to ensure that:*
  - *The most fuel efficient vehicles possible are being purchased*
  - *The bid specifications are written in a manner flexible enough to allow the purchase of alternative fuel or hybrid vehicles when possible*
  - *Specifications for off-road equipment/vehicles are also written in a way that favors green options when available*
- *Require all passenger vehicles and light duty trucks that are purchased be rated as ultra-low emission or zero emission vehicles, when this option is available.*

2009 Mid-year update: *Fleet Management met with all divisions to approve all 2009 vehicle requests and ensure that vehicles are "right-sized" for the intended use and that the most fuel efficient vehicles possible are being purchased. As vehicle specifications come to Fleet, they are examined and green elements are added when possible. Fleet Mgmt. is working on finalizing a citywide replacement plan and will examine developing formal purchasing guidelines for divisions to go along with the replacement schedule. The next light duty vehicle specifications (2010) are expected to contain minimum MPG standards, to be developed by Fleet Management in conjunction with the Purchasing Office.*

(2) Increased efficiency- more efficient vehicles and more efficient use of vehicles - ***Strategies to achieve increased efficiency:***

- **Driver behavior.** Fleet Management developed a pamphlet on fuel conservation and emissions reduction that was distributed citywide in May 2006. It addresses driver behavior that will help conserve fuel and save money. In addition to the driver pamphlet, Fleet Management developed an anti-idling policy for all city vehicles which was distributed citywide in 2006.

The Citywide Office of Training and Development currently offers a class on defensive driving. It is not mandatory.

Recommended actions: Develop an employee education program designed to achieve the Green Fleet action plan goals and make it mandatory for drivers of city vehicles. Topics could include fuel usage/conservation, maintenance, using alternatives to driving, defensive driving, and education on fleet-related citywide policies (i.e. anti-idling). Target date to have education program implemented: April 1, 2008.

2009 Mid-year update: *The green driving course curriculum was originally intended to be developed and taught by the City's HR department. Due to a lack of resources, this has not been possible. Fleet Management has identified an on-line green driving course that could be implemented citywide; however, due to funding constraints, implementation of this course is not possible at this time. This issue has been tabled until the budget situation improves.*

- **Vehicle Pool.** Fleet Management implemented a pilot vehicle pool in 2007 using underutilized vehicles located in the downtown area. The pool is currently comprised of 11 vehicles, with a rental contract (Enterprise) in place if needed. The objective of the pool is to better utilize city vehicles, reduce maintenance and fuel costs, as well as increase vehicle efficiency and the use of maintenance facilities. The ultimate goal of the pool is to reduce the overall fleet size through better utilization of City vehicles.

  Recommended actions: Continue to expand the size of the vehicle pool and increase marketing efforts to increase usage. Fleet should pursue the purchase of hybrid vehicles to use in the pool, which would offer both vehicles for the pool as well as the opportunity to study and evaluate hybrid technology. Other advanced technology vehicles should also be considered for the pool including plug-in hybrids and low speed dedicated electric vehicles (GEMs) for short distances.

  2009 Mid-year update: *Fleet Mgmt. has greatly reduced the size of the vehicle pool in order to utilize rental contracts. Utilizing rental contracts has proven to be more cost effective than maintaining a pool of City vehicles. Our maintenance costs have been reduced and we are able to utilize more fuel efficient vehicles from the rental vendor. The vehicle pool is currently comprised of 4 City vehicles, and is averaging approximately 56 rentals per month (including utilizing the rental contract).*

- **Hybrid vehicles.** One of the most effective ways to increase the fleet's average fuel economy is the use of hybrid electric vehicles, which combine a highly efficient gas engine with an advanced electric motor. Hybrids are designed to recover energy during braking and gearing down and store it in

the battery pack. Hybrids can achieve up to twice the energy efficiency compared with a conventional vehicle. The City currently owns 2 hybrid vehicles, located in the Department of Public Utilities. Green language that gave preference to hybrids was included as part of the 2008 light duty vehicle UTC specifications, however no bids for hybrids were received.

Recommended actions: A separate hybrid bid should be considered in early 2008. Other advanced technology options should be explored, including plug-in hybrids and the possibility of adding heavy duty hybrids to the fleet.

2009 Mid-year update: *No separate hybrid bid was done in 2008. The City currently owns two Ford hybrid Escapes, one located in the Water Division and the second located in the Sewers and Drains division. Fleet Mgmt. plans to review hybrid availability in late 2009 to assess what to bid for 2010. In our DOE Clean Cities grant application, the City requested funding for 9 hybrid heavy duty vehicles. Award notification is expected by August.*

- **Reduce vehicle idling.** Unnecessary idling wastes fuel and increases emissions. Idling for one hour equates to approximately 33 miles of engine wear on a standard automobile. Columbus has taken several steps to reduce unnecessary idling, including developing and implementing a citywide anti-idling policy that went into effect as a Mayor's Executive Order in December 2005. In addition, all new Refuse trucks have an automatic shut-off when the vehicle idles for more than ten minutes without moving. Hydraulic oil and engine coolant heaters have been installed in five refuse collection trucks which will reduce engine idling during periods of extreme cold. Fifteen new trucks received in 2006 came equipped with similar units and an additional 5 trucks came equipped with the units in 2007. Grant funds will be used to install hydraulic heaters on an additional 21 Refuse trucks located at the Morse Road station.

  Recommended actions: Continue with current efforts and expand efforts to include analyzing fleet to determine number of additional vehicles eligible for hydraulic oil and engine coolant heater installation and complete installation of all targeted vehicles by action plan target date. Launch employee education program (referenced above) to educate employees about anti-idling policy. Consider installing anti-idling signs at City fleet facilities and parking lots.

  2009 Mid-year update: *An analysis of all diesel vehicles determined that an additional 35 Refuse vehicles are candidates for hydraulic heaters and 11 vehicles located in Rec and Parks, Refuse and Transportation are candidates for engine heaters. All heaters will be funded through federal grants. Most of the grant funding is still pending through the CMAQ grant; however, one small grant was received in 2008 that funded the purchase and installation of 16*

hydraulic heaters for Refuse trucks. Fleet anticipates no issues with achieving the 100% target by the end of 2009.

- **"Right-sizing" vehicles**. Ensuring that the duty requirements of a vehicle match the smallest possible vehicle for the task is an effective fuel saving strategy. Fleet Management currently meets with every division to discuss vehicle purchase requests for the year. During this meeting, justifications for purchase requests are required from divisions, including intended use of the vehicle requested. Fleet Management will often recommend a smaller, alternate vehicle that better aligns with the vehicle's intended use.

  Recommended actions: Review every new vehicle purchase request and modify them as necessary to ensure that the vehicle class to which the requesting vehicle belongs is appropriate for the duty requirements that the vehicle will be called upon to perform. Consider creating formal guidelines for divisions.

  ***2009 Mid-year update:** Although formal guidelines have yet to be established, Fleet Management reviewed every new 2009 vehicle purchase request and made modifications when necessary to ensure that every vehicle is right-sized for its intended usage. Through right-sizing, 64 vehicles to date have been replaced with smaller, more fuel efficient ones.*

Section 6: Monitoring of the Green Fleet Action plan

In order to ensure compliance and track progress of the goals outlined in Section 4 above, as well as to monitor the actions outlined in Section 5, some type of oversight process should be implemented. A Green Fleet committee, comprised of representatives from various City divisions, is one option. Another option would be to use a special session of Columbus Stat to review action plan progress once a year, more often if necessary. All department/division fleet coordinators should submit a Green Fleet report to the committee/panel detailing their progress in achieving the goals of the Green Fleet program. The committee/panel should meet at least once a year to review these reports and assess the overall progress of the Green Fleet program. Action plan goals and timelines should be reviewed at least annually so that targets and/or timelines can be re-evaluated and adjusted if needed.

This committee should be given the authority to reward the division that demonstrates the best compliance with the Green Fleet mission. Incentives should be developed that reward the division head and/or appropriate staff.

In addition to tracking the progress of the action plan, data should be collected regarding the various initiatives set forth in the plan. Costs and benefits should be calculated over the life cycles of the various vehicles. Initial purchase costs should be recorded and then fuel and maintenance costs tracked for the life of each vehicle purchased under this action plan. This type of data would aid the City in making life cycle assessments over time. The City should attempt to estimate and assess possible "hidden" costs and savings that accrue over time from the action plan.

> ***2009 Mid-year update:*** *To date, no formal committee has been put in place to oversee compliance with the Green Fleet Action Plan. Compliance is currently being tracked by Fleet Management personnel.*