

MEMORANDUM

TO: Mayor and Council

FROM: Sue F. McCormick, Public Services Administrator

DATE: April 17, 2006

SUBJECT: FY 2004-05 Green Fleets Progress Report

This report documents progress achieved through June, 2005 on the City of Ann Arbor's Green Fleets Program adopted by City Council on June 7, 2004 to reduce gasoline and diesel fuel use.

Prepared by: David Konkle, Energy Coordinator
Submitted by: Sue F. McCormick, Public Services Administrator



City of Ann Arbor
GREEN FLEETS ANNUAL REPORT
FISCAL YEAR 2005



INTRODUCTION

The City of Ann Arbor, with a fleet of nearly 400 vehicles, recognized that reducing the use of petroleum based fuels would contribute to national security by reducing our reliance on imported oil, contribute to the local economy by keeping dollars normally spent on imported fuels in the local economy and reduce transportation based emissions that threaten public health and the global climate. On June 7, 2004 City Council adopted a Green Fleets policy to address these problems directly at the local level and to lead by example for other municipalities, local fleets and individual drivers. The policy sets a goal of a **10 percent reduction in total gasoline and diesel use by 2012** and directs the City to purchase the most cost-effective and least polluting vehicles and fuel-using equipment that meet the City's needs. To accomplish this objective, fuel efficiency standards are included in procurement decisions. The Green Fleets review process also includes "right-sizing" the fleet by reducing vehicle size and eliminating old and underused vehicles.

This report is a summary of progress achieved during the first year of the City of Ann Arbor Green Fleets program. The baseline year to measure progress against was defined in the policy as FY2003. Implementation of some fuel saving measures was initiated by City staff in FY 2004, before formal adoption of the policy by City Council. This early start has helped to achieve the impressive progress documented in this first-year report.

GREEN FLEETS OBJECTIVES

Increase the fleet average fuel economy – make miles per gallon (mpg) a critical purchase criterion: The City fleet's average fuel economy improved slightly in FY2005, from 17.5 to 17.6 mpg. The average fuel economy of vehicles added in FY2005 is 20.1 mpg, and the average fuel economy of vehicles replaced was 18.9 mpg.

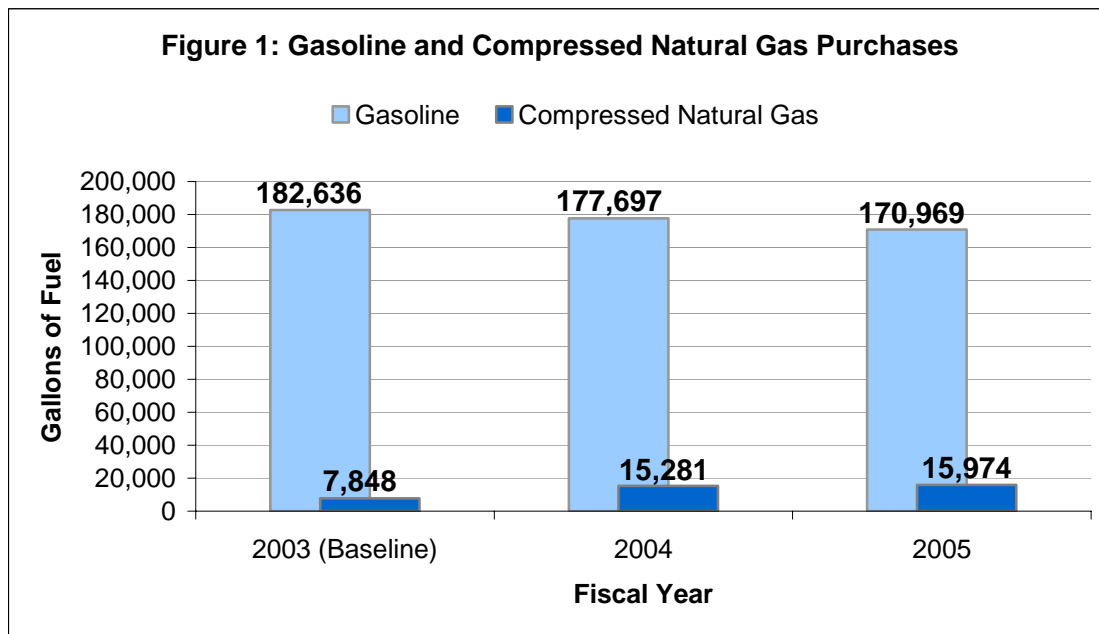
Optimize the fleet size – eliminate unused or underused vehicles: In FY2004, the fleet was slimmed from 420 vehicles to 385. Six additional vehicles were eliminated in FY2005, bringing the fleet down to 379 vehicles, a cumulative reduction of 10 percent.

Increase the use of alternative fuel vehicles and equipment: In FY2003, the City fleet had 150 alternative fuel vehicles (AFVs). This number increased to 178 in FY2005 and is expected to continue to rise with the purchase and use of ethanol (E-85) flex-fuel vehicles in coming years.

GREEN FLEETS MEASURES OF SUCCESS - The primary measure of the City's success in accomplishing the above objectives is the decrease in annual total gallons of gasoline and diesel fuel used.

Gasoline Reduction

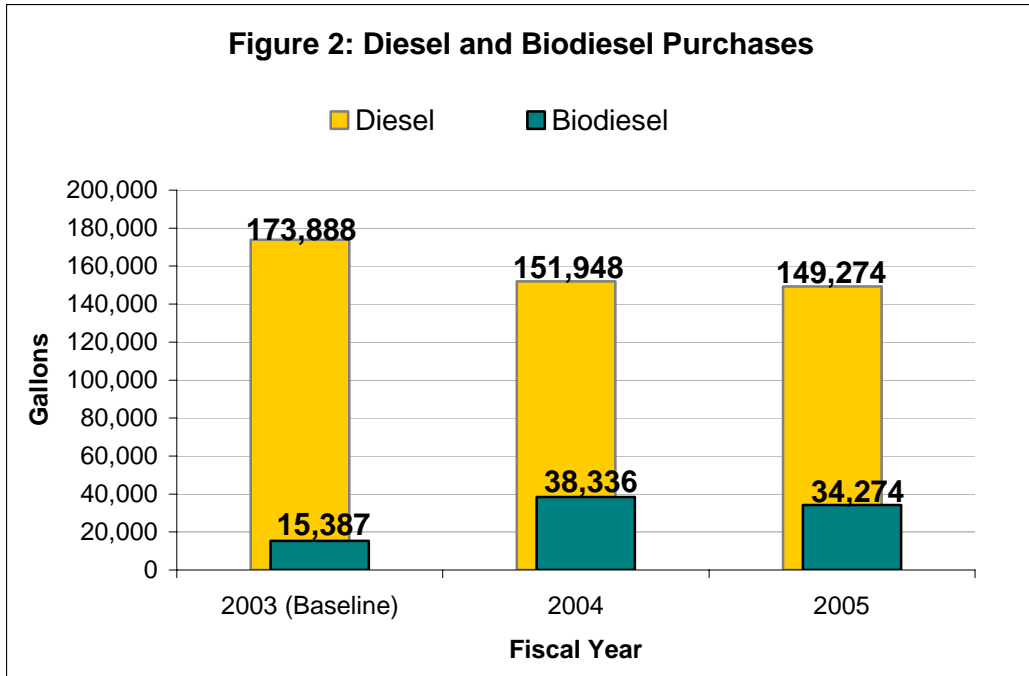
FY2003 is the baseline for measuring change in fuel use. As Figure 1 shows, city gasoline purchases declined each year from FY2003 to FY2005. The city purchased 182,636 gallons of gasoline in FY2003 and 170,969 gallons in FY2005, a decrease of 6 percent. Over this period, compressed natural gas purchases for vehicle use increased from 7,848 to 15,974 gallons, offsetting about 8,000 gallons of gasoline use. The rest of the decrease, about 3,500 gallons is attributed to reduced vehicle miles traveled and increased fuel efficiency.



Diesel Reduction

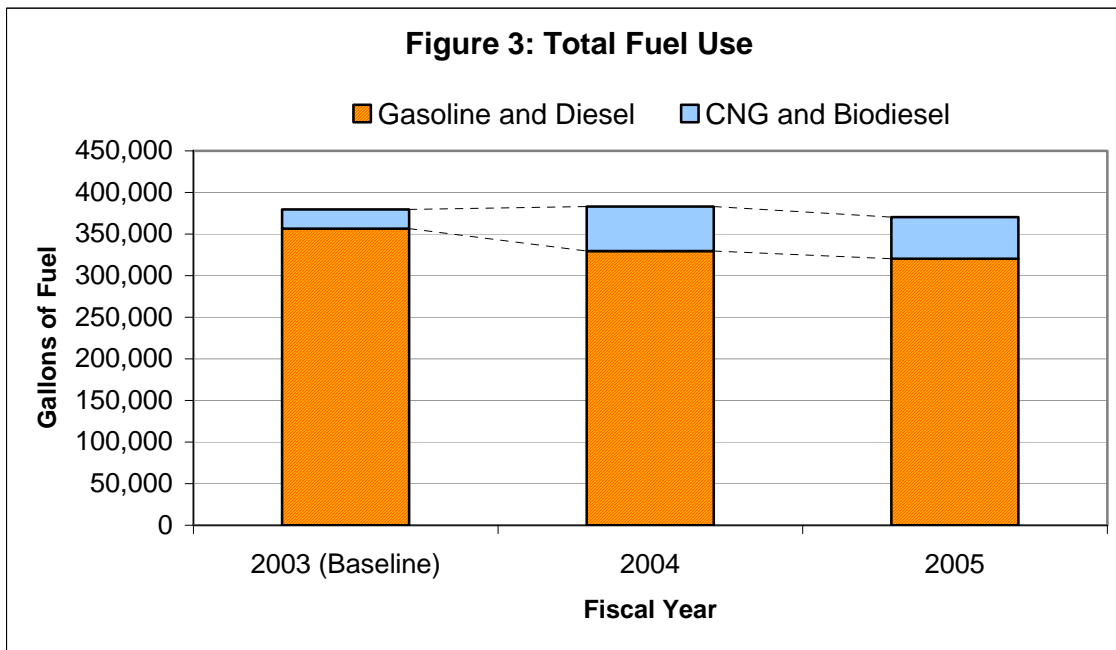
Figure 2 shows diesel and biodiesel purchases since the FY2003 baseline. In 2001 the City began using a biodiesel blend, 20% biodiesel - 80% regular diesel (B-20), in the summer months to reduce pollution and displace imported oil. As acceptable vehicle performance with B-20 was verified, the use of biodiesel was increased and starting in 2004 biodiesel (B-20) was used year round.

City diesel use dropped from 182,636 gallons in FY2003 to 170,969 gallons in FY2005, a 14 percent reduction, due to the increased use of biodiesel. Compared to the FY2003 baseline, the city used 24,615 fewer gallons of diesel and 18,887 more gallons of biodiesel in FY2005. Biodiesel use increased from 8.1% in FY2003 to 18.7% in FY 2005. Plans are in place to continue to increase this percentage of biodiesel in future years by going to a higher blend, perhaps as high as B-50 in the summer months.

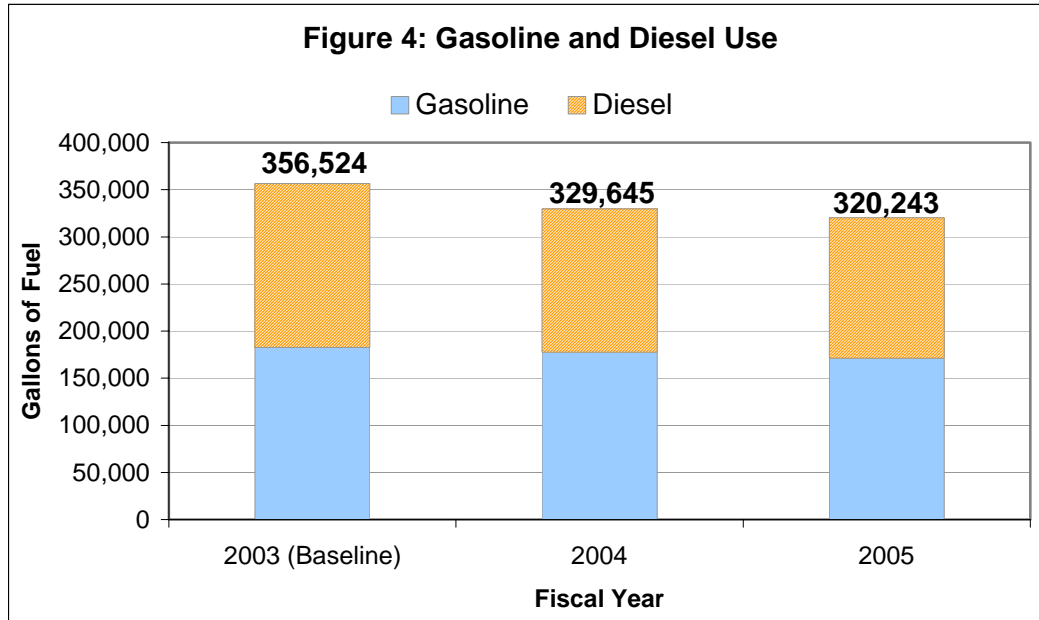


TOTAL FUEL PURCHASE

Adding up all the fuels (gasoline, diesel, biodiesel, and CNG), total fuel purchases are down 9,268 gallons, from 379,759 gallons in FY2003 to 370,491 gallons in FY2005, a 2.4% decrease. (see figure 3)



Most important to the goal of the Green Fleet program, gasoline and diesel use has dropped 36,281 gallons, from 356,524 in FY 2003 to 320,243 gallons in FY 2005. The stated goal was to reduce gasoline and diesel use by 10% by 2012. In the first year of the program we have documented a 10.2% decrease!



CONCLUSIONS

The Green Fleets program is off to a great start. The City has already met its primary goal: gasoline and diesel use are down 10 percent from FY2003. Greenhouse gas and other emissions are decreasing as the City uses less fuel (and substitutes cleaner fuels), and the fleet reductions and efficiency improvements are being implemented. The goal moving forward is to continue reductions in total fuel use and increase use of green, renewable fuels.

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2006 Green Fleets Team:

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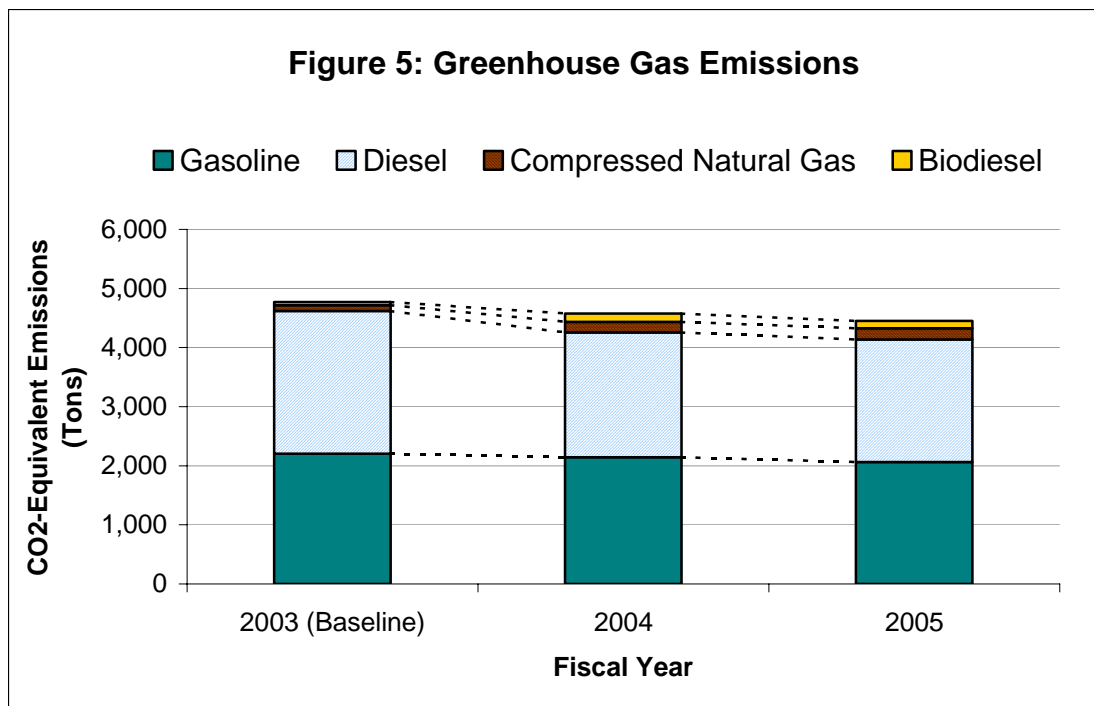
APPENDIX – GREEN FLEETS POLICY – FY05 Report

Air Quality Improvements

The secondary measure of the City's success in accomplishing the above objectives is the reduction of carbon dioxide (CO₂) and other emissions

Reduce emissions of carbon dioxide and other greenhouse gases: Greenhouse gas emissions from City fleet operations have decreased 7 percent from FY2003 to FY2005. This is due to increased use of biodiesel, natural gas, and a slight reduction in overall fuel use.

Figure 5 shows greenhouse gas emissions resulting from the city's fuel use. The chart represents all greenhouse gases as equivalent quantities of CO₂ so they can be compared on the same scale. Greenhouse gas emissions declined from 4,770 tons in the baseline to 4,452 tons in FY2005, a decrease of 7 percent. Three years of data is not quite a trend, but the substitution of biodiesel and compressed natural gas for diesel and gasoline, coupled with the overall decrease in fuel use, is lowering greenhouse gas emissions.



Reduce emissions of air pollutants (CO, NO_x, and particulates): The Energy Office estimated carbon monoxide (CO), oxides of nitrogen (NO_x), and particulate matter emissions based on the City's fuel use (see Figure 6 below). Only NO_x emissions show a slight increase in FY2004, due to our assumption that biodiesel has slightly higher NO_x emissions than conventional diesel. (New research suggests this may not be the

APPENDIX cont.

case, however, so this number may be revised in future reports.) Regardless, pollutants have been reduced between 3 and 7 percent from the FY2003 baseline.

