



City of Glendale Council Sustainability Committee Minutes

November 16, 2010
10:30 a.m. to 11:30 a.m.
Council Chambers Conference Room B-2

Council Sustainability Committee Members:

Present were Councilmember/Chairperson Yvonne Knaack (Barrel District), Vice Mayor Steve Frate (Sahuaro District), and Councilmember David Goulet (Ocotillo District)

City Staff Members:

Becky Benna, Larry Broyles, Jon Froke, Dave Harvey, Stuart Kent, Doug Kukino, Deborah Mazoyer, Jo Miller, Stephen Rot, Pam Wertz, Bob, Manginell, and Marilyn Clark

I. Approval of Minutes - Council Sustainability Committee Meeting of October 19, 2010

Chairperson Knaack called for a motion to approve the minutes for the October 19, 2010 Council Sustainability meeting. Councilmember Goulet made a motion to approve. The motion was seconded by Vice Mayor/Chairperson Frate. The minutes from the October 19, 2010 Council Sustainability Committee meeting were approved as written.

II. Presentation on Green Fleet

Stuart Kent, Field Operations Director, introduced Dave Harvey, Equipment Management Superintendent who gave an informational presentation to the commission regarding some of the efforts being made by the Equipment Management Division in supporting the city's sustainability efforts. Mr. Harvey thanked the commission for allowing him the opportunity to speak. Highlights taken from the presentation are outlined below:

Fleet Inventory / Alternative Fuel Use

The city fleet is currently comprised of 1,340 vehicles or pieces of equipment with almost half the fleet being capable of using bio-diesel (B20), E85, or propane fuels. Bio-diesel fuel in use is twenty percent vegetable oil and eighty percent low sulfur diesel. A hundred percent of the city's on-road diesel vehicles can use the bio-diesel B20 blend.

Bio-diesel costs about the same as conventional diesel fuel, as a result of federal subsidies for the production of a hundred percent bio-diesel. Sixty percent of the city's diesel fuel usage is B20, which is 400,000 gallons annually.

E85 is a mixture of eighty-five percent ethanol and fifteen percent unleaded gasoline. Ethanol is normally produced from corn or grains. E85 costs twenty percent less than regular gasoline, but is also twenty percent less efficient. Although thirty percent of the light and medium duty vehicles are capable of using E85, there is only one fuel site converted to E85 so the use of this fuel is just starting. Vehicle manufacturers are increasing the number of vehicles that come equipped with E85 capable engines as standard equipment, so this will become a growing segment of the city's fleet.

Vehicles cannot use E85 unless they were designed to use this type of fuel. Vehicles that can use E85 are normally identified with a flex fuel label on the vehicle's exterior and typically have a yellow fuel cap. There are still some dual fuel vehicles that can operate on propane or unleaded gasoline. Propane/unleaded fueled vehicles are no longer in production, so the use of propane will begin to decline. Equipment Management has been evaluating the use of hybrid vehicles to determine their cost effectiveness for fleet operations. To date, the city has three hybrid vehicles powered by unleaded gasoline and electricity that are part of the 996 on-road vehicles in the fleet inventory. Forty-eight percent of the on-road vehicles have alternative fuel capabilities. There are 201 vehicles that use bio diesel fuel (B20), 253 vehicles that use E85, and 22 vehicles that run on propane gas.

Each year when selecting vehicles for replacement, the Equipment Management staff looks for opportunities to down size vehicles to save in acquisition and operating costs for the use of new technologies. Of the 194 vehicles that were downsized, the city typically went from a full-size vehicle with an eight-cylinder engine, to a mid-size to compact vehicle with a four-cylinder engine. This cost saving initiative resulted in a \$2,000 to \$4,000 reduction in purchase cost for each vehicle, and a ten percent to twenty percent improvement on fuel economy. Full size vans and pickups were replaced by the Ford Escape. The Ford Fusion replaced full size sedans, and the Ford Ranger replaced full size pickups.

Fleet Development and Specifications

Equipment Management works closely with departments when developing vehicle specifications to look for opportunities to save resources. The Sanitation department had a problem getting trucks into some of the more restricted areas. To meet their needs, staff added two trucks with a retractable third axle to improve performance and maneuverability and to reduce the turning radius. Staff not only solved the maneuverability issues, but there was also a significant tire and fuel savings as well. Since that time, the Equipment Management division adopted this configuration for all future purchases of side-load refuse trucks, which will save up to \$5,000 a year on tires

and fuel. The additional cost for the retractable axle is \$7,000, and with an estimated annual savings value of \$28,000 in the life of each truck in fuel and tire costs.

Operations and Maintenance

With budget reductions over the last few years, Equipment Management has significantly reduced the size of the fleet, which helped decrease future replacement costs and annual operations costs for the city. In May of 2009, Equipment Management implemented and developed the city's first motor pool operation with vehicles that were turned in as part of ongoing budget reductions. Today, there are twenty-two vehicles in the motor pool that provide support to daily operations. There are thirteen vehicles staged at City Hall that are dispatched by the Building Safety workforce, and nine vehicles at the Equipment Management Shop that are scheduled for use through the Equipment Management staff. The pool averages about sixty percent vehicles used on a daily basis, with ninety-five percent in use during peak periods. From this motor pool, over 3,200 vehicles are requested annually.

In the past three years, Equipment Management conducted a review of the city's fleet operation to identify vehicles with low utilization. This resulted in the reduction of over 100 vehicles, which reduced future replacement costs by over \$4,000,000, with a decrease in annual operating costs of over \$370,000.

Because of these efforts, the annual miles driven have been reduced by 1,000,000 miles per year and 70,000 gallons of fuel has been saved annually. The peak fleet usage occurred between fiscal year 2007 and 2008 with approximately 8,638,180 miles driven, and 1,306,163 gallons of fuel consumed annually.

With the reductions in fleet vehicles, and the implementation of the motor pool, staff projects a significant decrease in miles driven, perhaps as much as eleven percent, and a fuel consumption drop at the six percent level for the 2010 and 2011 fiscal year. This equates to 7,651,953 miles, and 1,232,862 gallons of fuel annually.

Equipment Management Operations

The new 70,000 square foot Equipment Management Operation facility was completed in August 2005, and was designed to support a sustainable and environmentally safe operation. The fleet maintenance facility was designed as a "dry shop" and built without floor drains in order to keep spills from going to the sanitary sewer or storm water drains. The procedures and plans in place today will make this facility one of the most environmentally compliant shops in the valley as shown by our selection as one of the 100 Best Fleets in North America by the Government Fleet Magazine. The facility also met the qualifications to be selected as an Arizona Green Business through a program sponsored by AAA of Arizona and ADEQ.

In addition to maintaining city vehicles and specialty equipment, the Equipment Management Facility effectively recycles oil, lubricants, tires, batteries, and scrap metal. On an annual basis technicians will recycle approximately 780 batteries, 1050 heavy recapped truck tires, 2,000 gallons of antifreeze, 2,500 used tires, 3,000 oil filters (which are drained and crushed before they are recycled), and 13,000 gallons of waste oil.

Staff is always looking for opportunities to reduce costs and include policies and procedures in place that are cost effective and environmentally sound. Equipment Management can now sell waste oil for five cents per gallon, where in previous years they had to pay ten cents a gallon to get rid of the product. Another way staff is saving money is through the recapping of heavy duty tires in lieu of purchasing new tires. Tire capping is where the top cap of a worn tire is removed and a new tread cap is applied. This process can enable a used tire to have the life of a new tire, at one third the cost. The cost for a 350/80R22.5 new tire would be \$377. A 350/80R22.5 recap tire would run about \$109. Twenty-two gallons of oil are needed to make a new tire, where only seven gallons of oil is used to recap a tire.

Equipment Management also reduced its shop operating hours by 15 hours a week. This reduction from 18 hours a day to 12 hours a day was to primarily reduce the costs of lighting and cooling. This has been accomplished without one drop in customer service. Staff is proud to say that the reduced schedule not only saved money, but it strengthen customer support and improved employee morale. Since this change, the reduction in utility costs was estimated at \$22,000 per year.

Taking a Look at Equipment Management in the Future

The Equipment Management team will continue to evaluate hybrid vehicles for use in the city's fleet. As stated earlier, the city currently has three hybrid vehicles in service. To date, staff has not encountered any maintenance or operational problems with any of these vehicles. The cost of the hybrid vehicles can be as much as \$4,000 to \$8,000 more than the same vehicle with a conventional engine.

The Equipment Management staff will continue to look for opportunities to add more hybrid units in areas that get higher utilization to increase the payback from fuel savings. Glendale's vehicle fleet is safety conscious, cost effective, and environmentally supportive.

Fully electric vehicles will be introduced and tested in the southwest community in the not too distant future. Both the Chevrolet Volt and the Nissan Leaf will be available in the Phoenix area on a lease basis only. 2011 trucks will have the cleanest burning diesel engine ever produced. All diesel powered vehicles will have to meet new 2010 emissions requirements. To meet these requirements the engine manufactures had to further reduce oxides of nitrogen (NOx) output. The use of diesel exhaust fuel (DEF) is being used by most of the major engine manufacturers to meet 2010 emissions

standards. This product is not flammable and is not considered a hazardous chemical. Diesel exhaust fuel is not a fuel additive, but is injected into the exhaust prior to going through the catalytic converter to reduce NOx output levels.

Mr. Harvey stated that the city's fleet is operating with more alternative fuels, utilizing green technologies, and continues to be cost effective. Mr. Harvey ended by thanking the Commission again for the opportunity to share with them the efforts being made by the Equipment Management Division in support of the city's sustainability efforts.

This concluded Mr. Harvey's presentation. The Commission was fully engaged during the presentation, sharing thoughts and asking questions that resulted in short discussions throughout the presentation. Chairperson Knaack thanked Mr. Harvey for his time, and as no item of discussion required follow up or action on the part of staff, Chairperson Knaack moved to the next agenda item.

III. Staff Updates

Chairperson Knaack gave an update on the "Recycle Your Electronics Day" e-waste event, held on Saturday, November 13, 2010. The event was held in partnership with the Arizona Department of Environmental Quality, Westech Recyclers, and Glendale Community College.

ADJOURNMENT

The meeting was adjourned at approximately 11:03 a.m.

NEXT MEETING: January 18, 2011
10:30 a.m. to 11:30 a.m.
Council Chambers Conference Room B-2

TOPIC: Climate Plan/Green House Gas Inventory

Respectfully Submitted,


Marilyn Clark, Recording Secretary