



## CITY OF KIRKLAND

### Department of Public Works

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## MEMORANDUM

**To:** David Ramsay, City Manager

**From:** Daryl Grigsby, Public Works Director  
John Hopfauf, Street Manager  
Tim Llewellyn, Fleet Supervisor

**Date:** September 18, 2008

**Subject:** **Fuel Cost Impacts and Conservation Strategies**

### Background

During the last 4 years, gasoline and diesel fuel prices have tripled, and have had a corresponding impact on the City's Fleet budget for vehicle fuel.

- Local fuel prices last peaked in July, 2008 with regular unleaded gasoline at \$4.39 per gallon, and low sulfur diesel at \$4.99 per gallon. The City does not use mid-grade or super unleaded gasoline.
- Industry analysts believe that fuel prices will remain in the vicinity of these levels, and that the average price levels in the aggregate will not decline significantly over the next 2 to 3 years.
- For 2009-2010 budgeting purposes, the staff has assumed a price per gallon of \$4.50 for unleaded, and \$5.00 for diesel. The price levels are very close to the most recent historical peak.
- Historically the City uses twice the amount of gasoline as diesel. The amounts of 45,000 gallons of diesel and 90,000 gallons of gasoline were used for 2009-2010 budgeting purposes.
- The proposed line item budget for fuel is \$630,450 in each year of the 2009-2010 budget. \$420,000 was budgeted for each year of the 2007-2008, or \$3.11 per gallon for either unleaded or diesel as the cost for either fuel was nearly identical at the time.

### Conservation Strategies

The 218 vehicles owned by the City are predominantly utilized for delivering services directly to its citizens by the Public Works, Police, Fire & Building, and Parks Departments. There are very few vehicle used by staff for business meetings etc., and these vehicles are shared by many individuals. Given that a reduction in vehicles would adversely impact service levels, the highest impact conservation strategies of scores of possibilities are:

- Continue scheduled vehicle replacements according to current guidelines. Today's engines are up to 40% more efficient than older vehicles currently in the City's Fleet.
- Continue to replace City vehicles with hybrids, which will often double the MPG of the replaced vehicle.
- Adopt, implement, and provide continuing emphasis on an Anti-Idling Program. An hour of idling is the equivalent of driving 35 miles.
- Keep tires properly inflated. 4 to 5 psi under recommended tire pressure increases fuel consumption 10%.
- Monitor unneeded weight carried in the back of trucks and reduce loads carried. A reduction of 200 lbs. of weight will increase miles per gallon by 1 mile.
- Don't use air conditioner if you really don't need it. A/C reduces fuel economy by 5%-20%.
- Conduct on-going employee training on fuel efficient driving practices, and provide departments comparative data showing their fuel usage from current to the same period last year.

- Follow Evergreen Fleets Standard for Recommendations for Public Fleets (August 2008), and achieve a Gold rating of "greenness" from the ratings board. The "Evergreen" Fleets Standards were voluntary developed by an advisory committee composed of various governmental entities around Puget Sound, including 20 cities, 3 counties, 4 state agencies, the Puget Sound Clean Air Agency, and the Puget Sound Clean Cities Coalition. The achievement of a Gold rating would involve the adoption of all the conservation strategies listed about plus other all additional efforts.

## Summary

While fuel prices have risen dramatically during the last few years, there has been a broad effort by the City to implement fuel conservation strategies. It appears that these efforts have been successful to date. While the City fleet of vehicles and equipment increased 6.3% (205 in year 2004, to 218 in year 2007), the total gallons of fuel consumed has decreased 6.5% (139,307 gallons in year 2003, to 130,290 gallons in year 2007). This is largely due to the replacement of 14 vehicles with hybrids, and the more efficient engines found in newer vehicle replacement models.

Fuel usage by department within Kirkland does not tend to vary. Percentage use by department is:

- Public Works 37.2%
- Police 30.4%
- Fire & Building 15.9%
- Parks 14.8%
- Planning 0.4%
- Finance & Admin 0.2%
- Info Technology 0.1%

The top 5 vehicle types for annual average fuel consumption in 2007 are:

- Street Sweeper 2,982 Gallons
- Eductor Truck 2,387 Gallons
- Public Standby/Locate Truck 2,323 Gallons
- Community Center Bus 2,227 Gallons
- Police Patrol Car 2,125 Gallons

More detail can be found in the attached (1) Vehicle Fuel Use for 2007, and (2) Vehicle Fuel Notes for 2004 to 2007.

In the 2009-2010 biennium, the aforementioned conservation strategies will be targeted at the 4 primary fuel using departments. These strategies will not impact the delivery of services to the public.



Fleet Size

	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>
Number of Vehicles	205	209	211	218

Fleet size increased 6.3% from 2004 to 2007, due to approved service packages for vehicles or equipment.

Gallons of Fuel Used

	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>
Unleaded	96,122	92,884	88,407	87,947
Diesel	43,185	37,839	41,739	42,342
<b>Total</b>	<b>139,307</b>	<b>130,723</b>	<b>130,146</b>	<b>130,290</b>

>> Total gallons of fuel used decreased 6.5% or 9017 gallons from 2004 to 2007 despite an increase in fleet size of 6.3% or 13 vehicles.  
 >> This is a decrease of 108 Tons of CO2 Emissions annually in 2007 as compared to 2004.

Percentage Fuel Use By Department

	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>
Finance & Admin	0.2%	0.3%	0.5%	0.4%
Fire & Building	15.5%	15.6%	15.8%	15.9%
Info Technology	0.1%	<0.1%	<0.1%	0.1%
Parks	14.8%	14.4%	14.0%	15.7%
Planning	0.4%	0.4%	0.3%	0.3%
Police	32.9%	34.5%	29.5%	30.4%
Public Works	<u>36.1%</u>	<u>34.8%</u>	<u>39.9%</u>	<u>37.2%</u>
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Highest Average Gallons of Annual Fuel Use By Vehicle Type

<u>Vehicle</u>	<u>Annual Gal.</u>	<u># in Fleet</u>	<u>Dept</u>
Street Sweeper	2,982	2	Public Works
Eductor Truck	2,387	2	Public Works
PW Standby/Locate	2,323	1	Public Works
Community Ctr. Bus	2,227	1	Parks
Patrol Car	2,125	12	Police
Dump Truck	1,199	4	Public Works
Fire Pumper	1,096	7	Fire
Bucket Aerial Truck	1,071	1	Public Works
Pipeline Video Truck	1,004	1	Public Works

