

Council Meeting of
March 21, 2006

Honorable Mayor and Members
of the City Council
City Hall
Torrance, California

Members of the Council:

SUBJECT: Staff Report; City of Torrance Alternative Fuels Strategy

RECOMMENDATION

The Alternative Fuels Strategy Committee recommends that the City Council approve the recommendations made herein pursuant to ensuring the City's compliance with clean air mandates issued by the California Air Resources Board (CARB) and the South Coast Air Quality Management District (AQMD).

BACKGROUND

There are a number of clean air mandates issued by CARB and AQMD that require the City to take certain actions aimed at reducing harmful exhaust emissions produced by our diesel vehicle fleet. A summary of these mandates is incorporated into attachment (a). The subject mandates have a direct impact on the types of vehicles that the City can and cannot purchase when replacing existing vehicles. Within certain vehicle categories, conversion to an alternative fuel is a requirement when replacing the vehicle. It should be noted that all Public Safety vehicles (e.g., Fire, Police) are exempt from these mandates.

Recently, an Alternative Fuels Strategy Committee was formed for the purpose of evaluating various short and long-term strategies that would ensure the City's compliance with the clean air mandates. The Committee, whose membership is listed at the conclusion of this report, consists of Department and Division Heads most affected by these mandates. As a result of that meeting, and after studying the potential impact of the various CARB and AQMD regulations on the City's fleet and evaluating the pros and cons of various alternative fuel technologies, staff (the Committee) submits their findings and recommendations as follows.

AQMD's "Fleet Rules" prohibit public agencies from purchasing diesel powered vehicles when replacing existing fleet assets. As a result, many agencies within AQMD jurisdiction have chosen to purchase natural gas powered vehicles as an alternative to diesel. Although natural gas is a widely used clean-burning fuel, it is a costly technology in terms of the infrastructure required to refuel and maintain the natural gas powered vehicles. Recent estimates for design and installation of natural gas refueling equipment and related facility upgrades at the Torrance City Yard are in the range of several million dollars. Also, the initial vehicle acquisition expense and increased cost of routine

maintenance associated with natural gas powered vehicles averages at least 30% more than their diesel counterparts.

In addition to natural gas, CARB and AQMD have also approved other alternative fuels for vehicle use including propane, electricity, hydrogen fuel cells, gasoline, methanol, and gasoline/electric hybrids. However, with the exception of gasoline, propane, and some hybrids - not all of these technologies are commercially available, operationally feasible, and/or reasonably affordable at this time. On a related note, although Torrance Transit currently needs no new buses, they are closely monitoring experiences that Long Beach Transit is having with their recent purchases of gasoline/electric hybrid buses.

In addition to other mandates, CARB also requires that existing ("in-use") diesel powered Transit Buses and Solid Waste Collection Vehicles (Refuse Trucks) be outfitted with diesel Particulate Matter (PM) exhaust filters. These highly specialized filters, which essentially replace the existing muffler on the vehicle, when used in conjunction with ultra-low sulfur diesel fuel are designed to eliminate the majority of diesel soot from the exhaust. Torrance Transit Buses are already 100% compliant with this rule. The rule for Refuse Trucks (CARB Executive Order G-04-050) is a phased-in program that requires the City to be 100% compliant by December 31, 2007. The City is currently 30% compliant, with more PM filter installations scheduled for our Refuse Trucks this year (2006).

CARB is currently developing similar PM filter rules for all other categories of diesel powered vehicles operated by public agencies. These rules are due out in the first half of 2006, with implementation schedules to be announced when the rules are published. Expectations are that these rules will be phased-in over a number of years, as is the case with the Transit Bus and Refuse Truck rules.

ANALYSIS

When it comes to replacing the City's diesel powered vehicles, staff believes that the City's long-term clean air strategy should be one that achieves *optimum vehicle emissions at the lowest possible cost*. At present, the most cost-effective strategy appears to be one that would have the City postponing the majority of diesel vehicle replacements until such time as cleaner diesel engine technology is available. CARB, AQMD and the Engine Manufacturer's Association of America (EMA) have all projected that diesel engine emissions technology will be equal to natural gas engine technology by the year 2010.

In order to mitigate the effects of postponing diesel vehicle replacements, staff is exploring the viability of having major refurbishments performed on a number of Refuse Trucks in the City's fleet. The trucks currently being evaluated for refurbishment are those most heavily used by the Sanitation Division, many of them considered "high maintenance" due to the substantial level of wear and tear accumulated as a result of very demanding operational requirements. Refurbishment of these trucks would extend their service life an additional eight (8) years and ensure the mechanical reliability of the sanitation fleet until cleaner diesel technologies are approved which will clear the way to

resume purchases of new diesel powered vehicles. Budget pricing for the proposed refurbishments is included in attachment (a).

The City is currently in need of at least two (2) new Street Sweepers. At this time, the only approved Street Sweepers that are commercially available for sale in the South Coast (AQMD) region are Natural Gas and Propane powered units. Propane refueling can be accomplished through the use of a self-contained stationary fuel storage tank that could be located at the City Yard. These portable storage tanks are typically provided by Propane vendors at little to no cost to the customer, depending on the volume of fuel purchased. Staff recommends that the City consider purchase of at least two (2) Propane powered Sweepers and refurbishment of one (1) existing Sweeper. Budget pricing for both of these proposals is included in attachment (a).

When considering the significant cost of converting the City's fleet and facilities to natural gas versus finding alternative ways in which to extend the life of our current fleet assets while waiting for cleaner diesel technology to become available, staff believes the latter to be the most reasonable and cost-effective choice. It's also possible that between now and 2010, advancements occurring in other alternate fuel technologies may present the City with even more options.

As indicated in attachment (a), the City's gasoline powered vehicles do not fall under the same strict mandates applicable to diesel powered vehicles. In fact, virtually all gasoline powered vehicles now available for purchase in California are classified by the U.S. EPA, CARB and AQMD as low-emission vehicles (LEV). However, staff recognizes the environmental advantages of replacing certain traditional gasoline powered vehicles in the City's fleet with even cleaner hybrid vehicles.

The acquisition cost of hybrids is somewhat higher than traditional gasoline powered vehicles, but acquiring a number of these more fuel efficient and cleaner-burning vehicles would clearly demonstrate the City's commitment to not only meeting, but exceeding the requirements of clean air mandates. Staff therefore recommends that at least twenty percent (20%) of the sedans currently eligible for replacement be replaced with hybrids. Per attachment (b), there are twenty-seven (27) sedans currently eligible for replacement. As indicated on the attachment, staff have identified six (6) of these sedans as potential candidates for hybrid replacements. This equates to twenty-two percent (22%) of the eligible sedans.

SUMMARY

In summary, staff recommends that the below actions be taken to ensure the City's compliance with CARB and AQMD clean air mandates;

1. Purchase Hybrid Sedans where practical – initial purchase of six (6) sedans out of the 27 currently eligible for replacement (attachments a & b apply).
2. Replace existing Medium-duty Gasoline powered trucks with Propane powered replacements where practical. Replace others in-kind with gasoline powered replacements (attachment a).

3. To the extent possible, postpone replacement of Diesel powered vehicles covered under applicable CARB and AQMD rules until diesel emissions technology catches up with natural gas (year 2010).
4. If Medium-duty Diesel vehicle replacements are absolutely necessary, consider Propane or Gasoline powered replacements. Postpone other replacements wherever possible (attachment a).
5. Continue to install Diesel Particulate Matter (PM) filters on existing vehicles as directed by CARB.
6. Consider limited use of Propane as an alternative fuel in the City's Street Sweeper fleet. Purchase two (2) new Propane powered Sweepers and refurbish one (1) existing Sweeper (attachment a).
7. Refurbish six (6) Refuse Collection Trucks to mitigate postponement of other truck replacements until 2010 (attachment a).
8. Continue to monitor the success of Gasoline/Electric Hybrid Buses operated by Long Beach Transit and other transit agencies. Consider purchasing three (3) of these buses during FY 2007/08 (attachment a).
9. If Gasoline/Electric Hybrid Buses are purchased, convert one (1) existing underground diesel storage tank to accommodate gasoline (attachment a).

Attachments:

- (a) Alternative Fuel Recommendations for Replacement or Refurbishment of Existing Vehicles (Gas, Diesel).
- (b) Proposed Hybrid Vehicle Replacement Candidates.
- (c) Listing of City's Diesel Powered Equipment (minus exempt Public Safety vehicles)

* Alternative Fuels Strategy Committee Members:

Sheryl Ballew, General Services Director
Kim Turner, Transit Director
Robert Beste, Public Works Director
John Hall, Transit Service Manager
Dave Winnett, Fleet Services Manager
Bob Brewer, Sanitation Services Manager

CONCUR:



LeRoy J. Jackson
City Manager

City of Torrance

Alternative Fuel Recommendations for Replacement or Refurbishment of Existing Vehicles

| Vehicle Category | Current Fuel Type | Applicable Mandate(s) | Recommended Alternative Fuel Contingency | Anticipated Cost/Differential |
|----------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Light-Duty (e.g., Sedans, Pickups) | Gasoline | None | Lease or Purchase Gasoline/Electric Hybrid Sedans Where Practical - See Attached Recommendations. Continue to Lease or Purchase Gasoline Powered Light-Duty Pickups. | Hybrid Sedans Approximately \$22,000 (Honda Civic, Toyota Prias) versus Average \$17,000 for Gasoline Sedan |
| Medium and Heavy-Duty On-Road (e.g., Dump Trucks, Lift Trucks) | Gasoline | None | Purchase Propane Powered Trucks if Practical. Otherwise Continue to Purchase Gasoline Powered Units. Evaluate Gasoline/Electric Hybrid when Commercially Available. . | Propane = 40% Cost Premium Over Gasoline Version |
| Medium-Duty (e.g., Dump Trucks) | Diesel | AQMD Rule 1191 & CARB Rule | Gasoline or Propane, or Gasoline/Electric Hybrid when they become commercially available (until 2010 when Clean Diesel engine technology is expected to be on par with alternative fuels). Install CARB-mandated particulate matter (PM) exhaust filters on existing trucks. | Propane = 40% Cost Premium Over Diesel Version. PM filters approximately \$8,000 Each |
| Heavy-Duty On-Road (e.g., Dump Trucks, Lift Trucks) | Diesel | AQMD Rule 1196 & CARB Rule | Postpone replacements where possible until 2010. If replacement unavoidable - purchase Gasoline or Propane, or Gasoline/Electric Hybrid when they become commercially available (until 2010 when Clean Diesel engine technology is expected to be on par with alternative fuels). Install CARB-mandated particulate matter (PM) exhaust filters on existing trucks. | Propane = 40% Cost Premium Over Diesel Version. PM filters approximately \$8,000 Each |
| Sweepers | Diesel | AQMD Rule 1186.1 & CARB Rule | Purchase two (2) Propane powered units, Refurbish one (1) unit (Postpone remainder until 2010 when Clean Diesel engine technology is expected to be on par with alternative fuels). Install CARB-mandated particulate matter (PM) exhaust filters on existing trucks. | New Propane Sweeper = \$220,000 versus \$150,000 for Diesel version. Refurbish Existing Diesel Sweeper = \$99,000 Per Truck. PM filters approximately \$8,000 Each |
| Refuse Trucks | Diesel | AQMD Rule 1193 and CARB Executive Order G-04-050 Solid Waste Collection Vehicles | Refurbish six (6) existing trucks. Postpone replacements until 2010. Continue to install CARB-mandated particulate matter (PM) exhaust filters on existing trucks (until 2010 when Clean Diesel engine technology is expected to be on par with alternative fuels) | Refurbishment = Approximately \$77,000 Per Truck. PM filters approximately \$8,000 Each. |
| Transit Buses | Diesel | AQMD Rule 1192 | Three (3) Bus replacements due in FY 2007/2008. If replacement unavoidable - purchase Gasoline/Electric Hybrids | Gas/Electric Hybrid Bus Cost Approximate \$480,000 Per Bus |
| Underground Fuel Tanks | Diesel | N/A | If Gasoline/Electric Hybrid Bus is Purchased, Convert One (1) Transit Diesel Tank to Gasoline | \$10,000 Per Tank Conversion Cost |

Proposed Hybrid Vehicle Replacement Candidates

(List includes all sedans currently eligible for replacement)

| | Vehicle # | Vehicle Type | User Department | Type of Use | Recommend Gasoline/Electric Hybrid? |
|----|------------------|---------------------|---------------------------|---------------------|--------------------------------------------|
| 1 | 221 | Full-Size Sedan | FD - Fire Prevention | Administration | |
| 2 | 222 | Full-Size Sedan | FD - Fire Prevention | Admin/Inspection | ✓ |
| 3 | 226 | Intermediate Sedan | FD - Fire Prevention | Arson Investigation | |
| 4 | 227 | Intermediate Sedan | FD - Fire Prevention | Admin/Inspection | |
| 5 | 228 | Intermediate Sedan | FD - Fire Prevention | Administration | |
| 6 | 229 | Intermediate Sedan | FD - Fire Prevention | Admin/Inspection | |
| 7 | 230 | Intermediate Sedan | FD - Fire Prevention | Admin/Inspection | |
| 8 | 7052 | Intermediate Sedan | CD - Building Regulation | Inspection | |
| 9 | 7063 | Intermediate Sedan | Police | Administration | |
| 10 | 7069 | Intermediate Sedan | PW - Traffic & Lighting | Supervisor | |
| 11 | 7560 | Compact Sedan | CS - Park Services | Supervisor | ✓ |
| 12 | 7561 | Compact Sedan | PW - Water | Supervisor | |
| 13 | 7563 | Compact Sedan | PW - Administration | Administration | ✓ |
| 14 | 7564 | Compact Sedan | PW - Water | Supervisor | ✓ |
| 15 | 7565 | Compact Sedan | CD - Building Regulation | Inspection | |
| 16 | 7566 | Compact Sedan | GS - HVAC | Supervisor | |
| 17 | 7567 | Compact Sedan | Finance - Revenue | Inspection | |
| 18 | 7568 | Compact Sedan | CD - Code Enforcement | Inspection | |
| 19 | 7569 | Compact Sedan | GS - Custodial | Supervisor | |
| 20 | 7570 | Intermediate Sedan | CD - Code Enforcement | Inspection | ✓ |
| 21 | 7571 | Intermediate Sedan | CD - Code Enforcement | Inspection | |
| 22 | 7572 | Intermediate Sedan | CD - Bldg. Regulation | Inspection | |
| 23 | 7573 | Intermediate Sedan | CD - Sec. 8 Housing | Inspection | |
| 24 | 7574 | Intermediate Sedan | PW - Project Design | Administration | |
| 25 | 7575 | Intermediate Sedan | PW - Street Maintenance | Supervisor | |
| 26 | 7576 | Intermediate Sedan | GS - Building Maintenance | Supervisor | ✓ |
| 27 | 7577 | Intermediate Sedan | CD - Building Regulation | Inspection | |

DIESEL POWERED FLEET EQUIPMENT (Non-Public Safety Vehicles)
Sorted by USER

| VEH # | YEAR | MAKE | MODEL | Type of Vehicle | ORIGINAL IN-SERVICE DATE | USER | LIFE EXPECTANCY | Replacement Date (Eligible) | Alternative Fuel Replacement Strategy |
|-------|------|------|---------------|-----------------|--------------------------|--------|-----------------|-----------------------------|---------------------------------------|
| 1 | 8971 | 1988 | INTERNATIONAL | S1600 | Dump Truck | Nov-87 | PKSVCS | 10 | Nov-97 |
| 2 | 8972 | 1988 | INTERNATIONAL | S1600 | Dump Truck | Nov-87 | PKSVCS | 10 | Nov-97 |
| 3 | 8979 | 1988 | GMC | 7000 | Dump Truck | Apr-89 | PKSVCS | 10 | Apr-99 |
| 4 | 8991 | 1992 | INTERNATIONAL | 4700 | Dump Truck | Mar-92 | PKSVCS | 10 | Mar-02 |
| 5 | 8992 | 1992 | INTERNATIONAL | 4700 | Dump Truck | Mar-92 | PKSVCS | 10 | Mar-02 |
| 6 | 8910 | 2003 | INTERNATIONAL | 4300 | Dump Truck | Mar-03 | PKSVCS | 10 | N/A |
| 7 | 9085 | 1992 | PETERBILT | 320 | Refuse Truck | Oct-92 | REFUSE | 8 | Oct-00 |
| 8 | 9086 | 1992 | PETERBILT | 320 | Refuse Truck | Oct-92 | REFUSE | 8 | Oct-00 |
| 9 | 9094 | 1997 | PETERBILT | 320 | Refuse Truck | Jun-97 | REFUSE | 8 | Jun-05 |
| 10 | 9093 | 1997 | PETERBILT | 320 | Refuse Truck | Jun-97 | REFUSE | 8 | Jun-05 |
| 11 | 9090 | 1997 | PETERBILT | 320 | Refuse Truck | Jul-97 | REFUSE | 8 | Jul-05 |
| 12 | 9095 | 1997 | PETERBILT | 320 | Refuse Truck | Jul-97 | REFUSE | 8 | Jul-05 |
| 13 | 9091 | 1997 | PETERBILT | 320 | Refuse Truck | Aug-97 | REFUSE | 8 | Aug-05 |
| 14 | 9092 | 1997 | PETERBILT | 320 | Refuse Truck | Sep-97 | REFUSE | 8 | Sep-05 |
| 15 | 9096 | 1999 | PETERBILT | 320 | Refuse Truck | May-99 | REFUSE | 8 | May-07 |
| 16 | 9097 | 1999 | PETERBILT | 320 | Refuse Truck | Jun-99 | REFUSE | 8 | Jun-07 |
| 17 | 9098 | 1999 | PETERBILT | 320 | Refuse Truck | Jul-99 | REFUSE | 8 | Jul-07 |
| 18 | 9099 | 1999 | PETERBILT | 320 | Refuse Truck | Jul-99 | REFUSE | 8 | Jul-07 |
| 19 | 9000 | 1999 | PETERBILT | 320 | Refuse Truck | Jul-99 | REFUSE | 8 | Jul-07 |
| 20 | 9001 | 1999 | PETERBILT | 320 | Refuse Truck | Sep-99 | REFUSE | 8 | Sep-07 |
| 21 | 9005 | 2001 | PETERBILT | 320 | Refuse Truck | Feb-01 | REFUSE | 8 | Feb-09 |
| 22 | 9009 | 2001 | PETERBILT | 320 | Refuse Truck | Feb-01 | REFUSE | 8 | Feb-09 |
| 23 | 9006 | 2001 | PETERBILT | 320 | Refuse Truck | Feb-01 | REFUSE | 8 | Feb-09 |
| 24 | 9008 | 2001 | PETERBILT | 320 | Refuse Truck | Feb-01 | REFUSE | 8 | Feb-09 |
| 25 | 9010 | 2001 | PETERBILT | 320 | Refuse Truck | Feb-01 | REFUSE | 8 | Feb-09 |
| 26 | 9002 | 2001 | PETERBILT | 320 | Refuse Truck | Mar-01 | REFUSE | 8 | Mar-09 |
| 27 | 9007 | 2001 | PETERBILT | 320 | Refuse Truck | Mar-01 | REFUSE | 8 | Mar-09 |
| 28 | 9003 | 2001 | PETERBILT | 320 | Refuse Truck | Mar-01 | REFUSE | 8 | Mar-09 |
| 29 | 9004 | 2001 | PETERBILT | 320 | Refuse Truck | Mar-01 | REFUSE | 8 | Mar-09 |
| 30 | 9087 | 1994 | PETERBILT | 320 | Refuse Truck | Apr-94 | REFUSE | 15 | Apr-09 |
| 31 | 9088 | 1994 | PETERBILT | 320 | Refuse Truck | May-94 | REFUSE | 15 | May-09 |
| 32 | 9089 | 1994 | PETERBILT | 320 | Refuse Truck | Jun-94 | REFUSE | 15 | Jun-09 |
| 33 | 9078 | 1991 | PETERBILT | 320 | Refuse Truck | Jun-91 | REFUSE | #N/A | N/A (Spare) |
| 34 | 9079 | 1991 | PETERBILT | 320 | Refuse Truck | Jun-91 | REFUSE | #N/A | N/A (Spare) |
| 35 | 9084 | 1992 | PETERBILT | 320 | Refuse Truck | Oct-92 | REFUSE | #N/A | N/A (Spare) |
| 36 | 9083 | 1992 | PETERBILT | 320 | Refuse Truck | Sep-92 | REFUSE | #N/A | N/A (Spare) |
| 37 | 9071 | 1987 | PETERBILT | 320 | Refuse Truck | May-87 | REFUSE | #N/A | N/A (Spare) |
| 38 | 9067 | 1987 | PETERBILT | 310 | Refuse Truck | Dec-86 | REFUSE | #N/A | N/A (Spare) |
| 39 | 8958 | 1985 | GMC | 7000 | Dump Truck | Jul-85 | SDWLKS | 9 | Jul-94 |

DIESEL POWERED FLEET EQUIPMENT (Non-Public Safety Vehicles)
Sorted by USER

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| VEH # | YEAR | MAKE | MODEL | Type of Vehicle | ORIGINAL IN-SERVICE DATE | USER | LIFE EXPECTANCY | Replacement Date (Eligible) | Alternative Fuel Replacement Strategy |
|-------|------|------|---------------|-----------------|--------------------------|--------|-----------------|-----------------------------|---------------------------------------|
| 40 | 8964 | 1986 | GMC | 7000 | Knuckle Boom Truck | Dec-86 | SDWLKS | 10 | Nov-96 Postpone to 2010 |
| 41 | 8975 | 1988 | GMC | 7000 | Dump Truck | Jan-89 | SDWLKS | 9 | Jan-98 Downsize Truck |
| 42 | 8983 | 1991 | INTERNATIONAL | 4700 | Dump Truck | Feb-91 | SDWLKS | 9 | Feb-00 Postpone to 2010 |
| 43 | 8900 | 2001 | INTERNATIONAL | 4700 | Dump Truck | Nov-00 | SDWLKS | 9 | Nov-09 Postpone to 2010 |
| 44 | 8903 | 2001 | INTERNATIONAL | 4700 | Dump Truck | Apr-01 | SDWLKS | 9 | Apr-10 N/A |
| 45 | 8902 | 2001 | STERLING | ACTERRA M7500 | Knuckle Boom Truck | Mar-01 | SDWLKS | 10 | Mar-11 N/A |
| 46 | 8997 | 1997 | FORD | LTS8000 | Vactor Truck | Sep-96 | SEWER | 10 | Sep-06 Postpone to 2010 |
| 47 | 8905 | 2001 | INTERNATIONAL | 2554 | Jet Rodder Truck | Oct-01 | SEWER | 9 | Oct-10 N/A |
| 48 | 8912 | 2003 | STERLING | LT7501 | Vactor Truck | Nov-02 | SEWER | 10 | Nov-12 N/A |
| 49 | 8963 | 1986 | GMC | 7000 | Dump Truck | Oct-86 | STREETS | 9 | Oct-95 Postpone to 2010 |
| 50 | 8970 | 1987 | GMC | 7000 | Dump Truck | Oct-87 | STREETS | 9 | Oct-96 Postpone to 2010 |
| 51 | 8981 | 1990 | INTERNATIONAL | 4600 | Dump Truck | Oct-89 | STREETS | 9 | Oct-98 Postpone to 2010 |
| 52 | 8982 | 1990 | GMC | 7000 | Dump Truck | Dec-89 | STREETS | 10 | Dec-99 Postpone to 2010 |
| 53 | 8984 | 1991 | INTERNATIONAL | 4700 | Dump Truck | Feb-91 | STREETS | 9 | Feb-00 Postpone to 2010 |
| 54 | 8986 | 1991 | INTERNATIONAL | 4700 | Patch Truck | Apr-91 | STREETS | 9 | Apr-00 Postpone to 2010 |
| 55 | 8985 | 1991 | INTERNATIONAL | 4600 | Patch Truck | May-91 | STREETS | 9 | May-00 Postpone to 2010 |
| 56 | 8993 | 1992 | INTERNATIONAL | 3YD DUMP | Patch Truck | Jan-92 | STREETS | 9 | Jan-01 Postpone to 2010 |
| 57 | 8994 | 1992 | CHEVROLET | 2.5T | Dump Truck | Jan-92 | STREETS | 9 | Jan-01 Postpone to 2010 |
| 58 | 8998 | 1998 | INTERNATIONAL | 4900 | Patch Truck | Sep-98 | STREETS | 9 | Sep-07 Postpone to 2010 |
| 59 | 8901 | 2001 | INTERNATIONAL | 4900 | Dump Truck | Nov-00 | STREETS | 10 | Nov-10 N/A |
| 60 | 8904 | 2001 | INTERNATIONAL | 4900 | Dump Truck | May-01 | STREETS | 10 | May-11 N/A |
| 61 | 9128 | 1990 | JOHNSTON | 7000 | Sweeper | Jul-90 | SWEEP | 8 | Jul-98 Propane |
| 62 | 9129 | 1991 | MOBIL | ABD-2A | Sweeper | Oct-91 | SWEEP | 8 | Oct-99 Refurbish |
| 63 | 8996 | 1995 | FORD | L800 | Sweeper | Sep-95 | SWEEP | 9 | Sep-04 Propane |
| 64 | 9134 | 2000 | JOHNSTON | 7000 | Sweeper | Oct-99 | SWEEP | 8 | Oct-07 Postpone to 2010 |
| 65 | 9135 | 2000 | JOHNSTON | 7000 | Sweeper | Oct-99 | SWEEP | 8 | Oct-07 Postpone to 2010 |
| 66 | 9136 | 2000 | JOHNSTON | 7000 | Sweeper | Oct-99 | SWEEP | 8 | Oct-07 Postpone to 2010 |
| 67 | 9138 | 2002 | JOHNSTON | FL70 | Sweeper | Aug-02 | SWEEP | 8 | Aug-10 N/A |
| 68 | 9137 | 2002 | JOHNSTON | FL70 | Sweeper | Aug-02 | SWEEP | 8 | Aug-10 N/A |
| 69 | 8624 | 2001 | CHEVROLET | W550 | Striper (Paint) | Jun-01 | TRAFF. PAINT | 9 | Jun-10 N/A |
| 70 | 8961 | 1985 | GMC | 7000 | Dump Truck | Oct-85 | TREES | 10 | Oct-95 Postpone to 2010 |
| 71 | 8965 | 1986 | GMC | 7000 | Dump Truck | Nov-86 | TREES | 10 | Nov-96 Postpone to 2010 |
| 72 | 8967 | 1986 | GMC | 7000 | Chipper Truck | Dec-86 | TREES | 10 | Nov-96 Postpone to 2010 |
| 73 | 8974 | 1988 | INTERNATIONAL | S1600 | Chipper Truck | Mar-88 | TREES | 10 | Mar-98 Postpone to 2010 |
| 74 | 8976 | 1988 | GMC | 7000 | Dump Truck | Oct-88 | TREES | 10 | Oct-98 Postpone to 2010 |
| 75 | 8977 | 1988 | GMC | 7000 | Chipper Truck | Mar-89 | TREES | 10 | Mar-99 Postpone to 2010 |
| 76 | 8978 | 1988 | GMC | 7000 | Chipper Truck | Apr-89 | TREES | 10 | Apr-99 Postpone to 2010 |
| 77 | 8987 | 1991 | INTERNATIONAL | 4700 | Chipper Truck | Mar-91 | TREES | 10 | Mar-01 Postpone to 2010 |
| 78 | 8620 | 1992 | FORD | F450 SUPERDUTY | Aerial Lift Truck | May-92 | TREES | 9 | May-01 Postpone to 2010 |

DIESEL POWERED FLEET EQUIPMENT (Non-Public Safety Vehicles)
Sorted by USER

| VEH # | YEAR | MAKE | MODEL | Type of Vehicle | ORIGINAL IN-SERVICE DATE | USER | LIFE EXPECTANCY | Replacement Date (Eligible) | Alternative Fuel Replacement Strategy |
|-------|------|------|---------------|-----------------|--------------------------|--------|-----------------|-----------------------------|---------------------------------------|
| 79 | 8990 | 1992 | INTERNATIONAL | 4700 | Dump Truck | Mar-92 | TREES | 10 | Mar-02 |
| 80 | 8999 | 2001 | INTERNATIONAL | 4700 4X2 | Hi-Ranger Lift Truck | May-01 | TREES | 9 | May-10 |
| 81 | 8913 | 2003 | FORD | F750 | Hi-Ranger Lift Truck | Feb-03 | TREES | 9 | Feb-12 |
| 82 | 8911 | 2003 | INTERNATIONAL | 4300 | Dump Truck | Mar-03 | TREES | 10 | Mar-13 |
| 83 | 8909 | 2003 | INTERNATIONAL | 4300 | Chipper Truck | May-03 | TREES | 10 | May-13 |
| 84 | 8969 | 1987 | GMC | 7000 | Dump Truck | Oct-87 | WATER | 9 | Oct-96 |
| 85 | 8980 | 1990 | INTERNATIONAL | 4600 | Dump Truck | Oct-89 | WATER | 9 | Oct-98 |
| 86 | 8907 | 2003 | INTERNATIONAL | 4300 | Dump Truck | Apr-03 | WATER | 9 | Apr-12 |
| 87 | 8908 | 2003 | INTERNATIONAL | 4300 | Dump Truck | Apr-03 | WATER | 9 | Apr-12 |
| 88 | 400 | 2000 | ORION | IV | BUS | Jun-01 | TRANSIT | 12 | Jun-13 |
| 89 | 401 | 2000 | ORION | IV | BUS | Jul-01 | TRANSIT | 12 | Jul-13 |
| 90 | 442 | 1991 | GILLIG | PHANTOM | BUS | Jul-91 | TRANSIT | 12 | Jul-09 |
| 91 | 443 | 1991 | GILLIG | PHANTOM | BUS | Jul-91 | TRANSIT | 12 | Jul-09 |
| 92 | 444 | 1992 | GILLIG | PHANTOM | BUS | Jan-93 | TRANSIT | 12 | Jan-11 |
| 93 | 445 | 1992 | GILLIG | PHANTOM | BUS | Jan-93 | TRANSIT | 12 | Jan-11 |
| 94 | 446 | 1992 | GILLIG | PHANTOM | BUS | Jan-93 | TRANSIT | 12 | Jan-11 |
| 95 | 447 | 1992 | GILLIG | PHANTOM | BUS | Jan-93 | TRANSIT | 12 | Jan-11 |
| 96 | 448 | 1992 | GILLIG | PHANTOM | BUS | Feb-93 | TRANSIT | 12 | Feb-11 |
| 97 | 449 | 1992 | GILLIG | PHANTOM | BUS | Feb-93 | TRANSIT | 12 | Feb-11 |
| 98 | 450 | 1992 | GILLIG | PHANTOM | BUS | Feb-93 | TRANSIT | 12 | Feb-11 |
| 99 | 451 | 1992 | GILLIG | PHANTOM | BUS | Feb-93 | TRANSIT | 12 | Feb-11 |
| 100 | 452 | 1992 | GILLIG | PHANTOM | BUS | Feb-93 | TRANSIT | 12 | Feb-11 |
| 101 | 453 | 1992 | GILLIG | PHANTOM | BUS | Feb-93 | TRANSIT | 12 | Feb-11 |
| 102 | 454 | 1992 | GILLIG | PHANTOM | BUS | Feb-93 | TRANSIT | 12 | Feb-11 |
| 103 | 455 | 1992 | GILLIG | PHANTOM | BUS | Mar-93 | TRANSIT | 12 | Mar-11 |
| 104 | 456 | 1992 | GILLIG | PHANTOM | BUS | Mar-93 | TRANSIT | 12 | Mar-11 |
| 105 | 457 | 1992 | GILLIG | PHANTOM | BUS | Mar-93 | TRANSIT | 12 | Mar-11 |
| 106 | 458 | 1992 | GILLIG | PHANTOM | BUS | Mar-93 | TRANSIT | 12 | Mar-11 |
| 107 | 459 | 1992 | GILLIG | PHANTOM | BUS | Mar-93 | TRANSIT | 12 | Mar-11 |
| 108 | 460 | 1992 | GILLIG | PHANTOM | BUS | Mar-93 | TRANSIT | 12 | Mar-11 |
| 109 | 461 | 1992 | GILLIG | PHANTOM | BUS | Mar-93 | TRANSIT | 12 | Mar-11 |
| 110 | 462 | 1992 | GILLIG | PHANTOM | BUS | Mar-93 | TRANSIT | 12 | Mar-11 |
| 111 | 463 | 1992 | GILLIG | PHANTOM | BUS | Apr-93 | TRANSIT | 12 | Apr-11 |
| 112 | 464 | 1992 | GILLIG | PHANTOM | BUS | Jul-93 | TRANSIT | 12 | Jul-11 |
| 113 | 465 | 1996 | GILLIG | PHANTOM | BUS | Apr-96 | TRANSIT | 12 | Apr-08 |
| 114 | 466 | 1996 | GILLIG | PHANTOM | BUS | Apr-96 | TRANSIT | 12 | Apr-08 |
| 115 | 467 | 1996 | GILLIG | PHANTOM | BUS | May-96 | TRANSIT | 12 | May-08 |
| 116 | 468 | 1997 | GILLIG | PHANTOM | BUS | Jan-98 | TRANSIT | 12 | Jan-10 |
| 117 | 469 | 1997 | GILLIG | PHANTOM | BUS | Jan-98 | TRANSIT | 12 | Jan-10 |

DIESEL POWERED FLEET EQUIPMENT (Non-Public Safety Vehicles)
Sorted by USER

| VEH # | YEAR | MAKE | MODEL | Type of Vehicle | ORIGINAL IN-SERVICE DATE | USER | LIFE EXPECTANCY | Replacement Date (Eligible) | Alternative Fuel Replacement Strategy |
|---------|------|--------|-----------|-----------------|--------------------------|---------|-----------------|-----------------------------|---------------------------------------|
| 118 470 | 1997 | GILLIG | PHANTOM | BUS | Jan-98 | TRANSIT | 12 | Jan-10 | Gasoline hybrid |
| 119 471 | 1997 | GILLIG | PHANTOM | BUS | Feb-98 | TRANSIT | 12 | Feb-10 | Gasoline hybrid |
| 120 472 | 1997 | GILLIG | PHANTOM | BUS | Feb-98 | TRANSIT | 12 | Feb-10 | Gasoline hybrid |
| 121 473 | 1997 | GILLIG | PHANTOM | BUS | Feb-98 | TRANSIT | 12 | Feb-10 | Gasoline hybrid |
| 122 474 | 2000 | GILLIG | LOW-FLOOR | BUS | Jun-00 | TRANSIT | 12 | Jun-12 | N/A |
| 123 475 | 2000 | GILLIG | LOW-FLOOR | BUS | Jun-00 | TRANSIT | 12 | Jun-12 | N/A |
| 124 476 | 2000 | GILLIG | LOW-FLOOR | BUS | Jun-00 | TRANSIT | 12 | Jun-12 | N/A |
| 125 477 | 2000 | GILLIG | LOW-FLOOR | BUS | Jun-00 | TRANSIT | 12 | Jun-12 | N/A |
| 126 478 | 2000 | GILLIG | LOW-FLOOR | BUS | Jul-00 | TRANSIT | 12 | Jul-12 | N/A |
| 127 479 | 2000 | GILLIG | LOW-FLOOR | BUS | Aug-00 | TRANSIT | 12 | Aug-12 | N/A |
| 128 480 | 2000 | GILLIG | LOW-FLOOR | BUS | Jul-00 | TRANSIT | 12 | Jul-12 | N/A |
| 129 481 | 2000 | GILLIG | LOW-FLOOR | BUS | Jul-00 | TRANSIT | 12 | Jul-12 | N/A |
| 130 482 | 2002 | GILLIG | LOW-FLOOR | BUS | Jul-02 | TRANSIT | 12 | Jul-14 | N/A |
| 131 483 | 2002 | GILLIG | LOW-FLOOR | BUS | Jul-02 | TRANSIT | 12 | Jul-14 | N/A |
| 132 484 | 2002 | GILLIG | LOW-FLOOR | BUS | Aug-02 | TRANSIT | 12 | Aug-14 | N/A |
| 133 485 | 2002 | GILLIG | LOW-FLOOR | BUS | Aug-02 | TRANSIT | 12 | Aug-14 | N/A |
| 134 486 | 2002 | GILLIG | LOW-FLOOR | BUS | Aug-02 | TRANSIT | 12 | Aug-14 | N/A |
| 135 487 | 2002 | GILLIG | LOW-FLOOR | BUS | Aug-02 | TRANSIT | 12 | Aug-14 | N/A |
| 136 488 | 2002 | GILLIG | LOW-FLOOR | BUS | Aug-02 | TRANSIT | 12 | Aug-14 | N/A |
| 137 489 | 2002 | GILLIG | LOW-FLOOR | BUS | Aug-02 | TRANSIT | 12 | Aug-14 | N/A |
| 138 490 | 2002 | GILLIG | LOW-FLOOR | BUS | Aug-02 | TRANSIT | 12 | Aug-14 | N/A |
| 139 491 | 2002 | GILLIG | LOW-FLOOR | BUS | Aug-02 | TRANSIT | 12 | Aug-14 | N/A |
| 140 492 | 2002 | GILLIG | LOW-FLOOR | BUS | Aug-02 | TRANSIT | 12 | Aug-14 | N/A |