Washington State Department of Transportation
Interim Sustainability Plan – Annual Progress Report
December 2005

Forward

This report complies with Executive Orders 02-03 and 05-01, as an annual progress report on implementation of our Interim Sustainability Plan. It includes:

- Annual petroleum use, vehicle miles traveled on state business, and number and type of state vehicles owned (by model year).
- Number of exception purchases of four-wheel-drive sport utility vehicles made under Section 2 of Executive Order 05-01
- Amount and type of office paper and janitorial products purchased.
- Quantity of office paper recycled.
- Justification for any virgin office paper purchased.

In addition, this report addresses progress that we have made in increasing the agency's sustainability in areas not specifically identified in the Executive Orders.

With 7,100 full-time employees and over 1,200 buildings statewide, Washington State Department of Transportation (WSDOT) is one of the state's largest agencies. It is important to keep several issues in mind when reviewing this report:

- ***"Our** (WSDOT) **mission is to keep people and business moving by operating and improving the state's transportation systems vital to our taxpayers and communities."*** WSDOT is responsible for approximately 20,000 lane-miles of interstate and state highways and the largest public ferry system in the nation (Washington State Ferries).
- With the advent of the Nickel funding package in 2003 and additional gas taxes approved in 2005 (upheld through defeat of Initiative 912), WSDOT is on the upswing of a very active construction phase. This increases demands for paper (i.e., design documents, plans & specifications, contracts) and vehicles (i.e., monitoring & site inspections).
- Safety is WSDOT's highest priority. We must provide maintenance and operation activities to support traveler safety.
- Severe weather conditions can cause vehicle miles and fuel use to fluctuate significantly from year to year (i.e., snow & ice control).
- WSDOT's Transportation Equipment Fund (TEF) Program provides full support for its fleet inventory through 32 equipment repair facilities, staffed with more than 120 qualified mechanics. It also owns and operates 128 fuel stations scattered throughout the state. These also fully support the Washington State Patrol. Upon request, vehicle repairs and fuel are also provided to other governmental entities for a fee.
- Some of the agency's most significant opportunities to affect sustainability both within the agency and for society as a whole are not required reporting elements under Executive Orders 02-03 and 05-01.

WSDOT is proud of the progress we are making in fostering and supporting sustainability throughout the agency. We realize that there are many challenges and opportunities for continued improvement and look forward to advancement towards this goal.

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SECTION I: AGENCY INFORMATION, POLICY AND GOALS

1. **Agency Contact Information**

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Sustainability Policy Statement

Sustainability – *providing for current needs without sacrificing the needs of future generations* - The Washington State Department of Transportation (WSDOT) concurs with the findings of Executive Order 02-03 that state:

- The State is committed to the mutually compatible goals of economic vitality, a healthy environment, and strong communities;
- Sustainable practices require decisions based on systematic evaluation of the long-term impacts of an activity or product on health, safety, communities, the environment, and the economy of Washington;
- Reversing the steady decline in the natural resources and ecosystems on which people and economic vitality depend is critical to our future;
- Regional and global implications of climate change, loss of biological diversity, and threats to resources such as clean water require us all to examine and change behaviors; and
- State government should model sustainable business practices that contribute to the long-term protection and enhancement of our environment, our economy and the health and quality of life of current and future generations.

Long Range Goals

The 2003 Interim Sustainability Plan states that WSDOT will focus initial implementation of Long Range Environmental Management System goals on three core areas to incorporate Executive Order 03-02 goals into WSDOT operations. These are:

1. Finalizing the environmental management system structure,
2. Increasing employee awareness & identifying training opportunities, and,
3. Collaborating internally to collect baseline data & prioritize success factors.

The intent of the interim plan was that WSDOT's Environmental Management System would identify the agency's goals, objectives and measures to increase the sustainability of the agency. As such, measurable objectives were not included within the interim plan itself. To date, however, the Environmental Management System does

not meet this original intent. As a result, the agency's updated Sustainability Plan will add measurable goals & objectives.

SECTION II: REPORTING ON OBJECTIVES

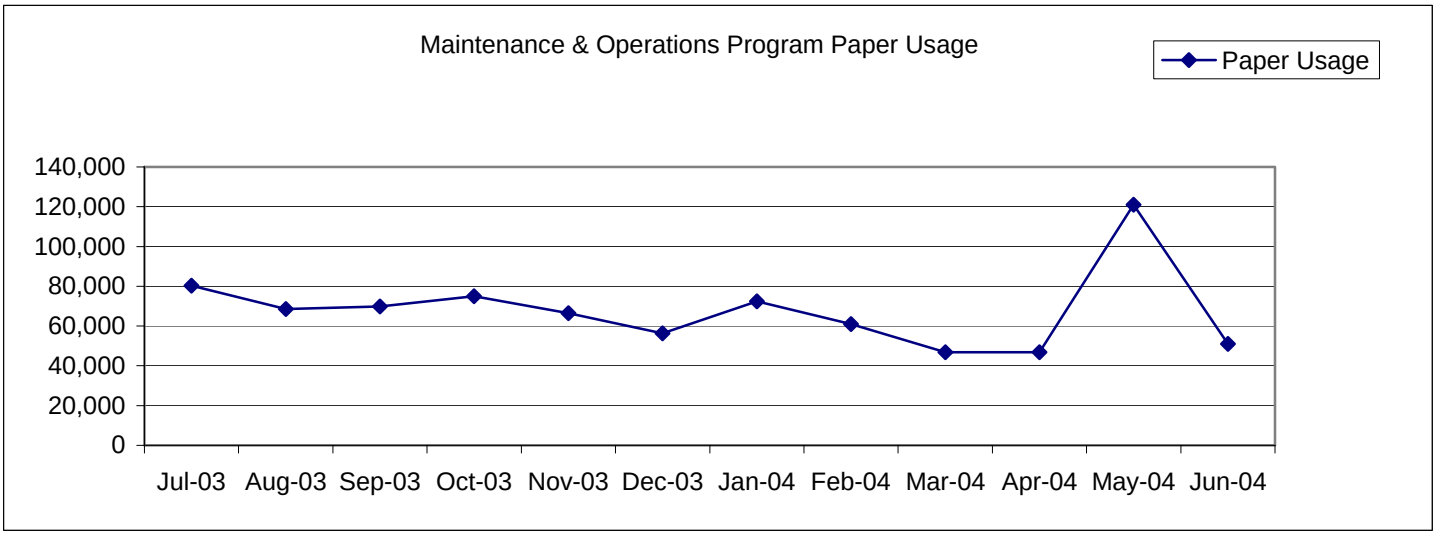
As noted previously, the 2003 Interim Sustainability Plan does not provide measurable objectives. In the absence of these, WSDOT's Maintenance and Operations Program established objectives to address the business functions of maintaining and operating state highways, planning and developing policy and oversight for capital facilities (buildings), and managing the WSDOT vehicle fleet (excluding the ferry system). This section reports on progress that Maintenance & Operations (M&O) is making in meeting these objectives. That is why objectives in this section are labeled "M&O Objective" rather than objectives established and tracked for the entire agency. Changes to 2003 Interim Sustainability Plan's baseline data are found in Section IV of this report.

- **M&O Objective: We will increase the amount of paper stock purchased that is at least 30% recycled content and chlorine free:**

  Goal met – Maintenance & Operations purchased 100% recycled, chlorine-free paper.

- **M&O Objective: We will reduce the amount of paper used:**

  From January 2004 to April 2004 paper usage started to decrease. The agency then started receiving a high volume of public records requests, and its usage increased slightly. The agency has implemented digital imaging for some enforcement, licensing and registration functions. WSDOT's 2005-2007 budget allows the agency to expand imaging to other areas as well. We anticipate that as our use of imaging expands, there will be less demand for paper copies and therefore less paper usage. The agency is in the process of implementing on-line licensing for several licenses and this too should reduce demand for paper.



Source: WSDOT, Maintenance & Operations

- **M&O Objective: We will decrease the amount of energy used:**

  M&O took the following measures to conserve energy:
  - ❖ Set parking lot lights to turn on later at night and turn off earlier in the morning.
  - ❖ Set building lights to automatically turn off earlier at night.
  - ❖ Installed film on the building windows for energy conservation.
  - ❖ Encouraged staff in private offices with windows to rely on natural daylight when feasible.
  - ❖ Turned off lights in rooms/areas that were not being used (private offices, conference rooms, etc.).

- **M&O Objective: We will increase our purchases of environmentally preferable products.**

  A contract custodial service purchases the cleaning and personal paper products for the M&O building. It purchases environmentally friendly products.

  M&O staff order environmentally friendly products whenever possible (i.e., purchasing whiteboard cleaners and other cleaners for use in the office).

SECTION III: COMMUNICATION AND EDUCATION

The agency has taken the following actions to communicate with and educate employees on sustainability and the agency's Interim Sustainability Plan.

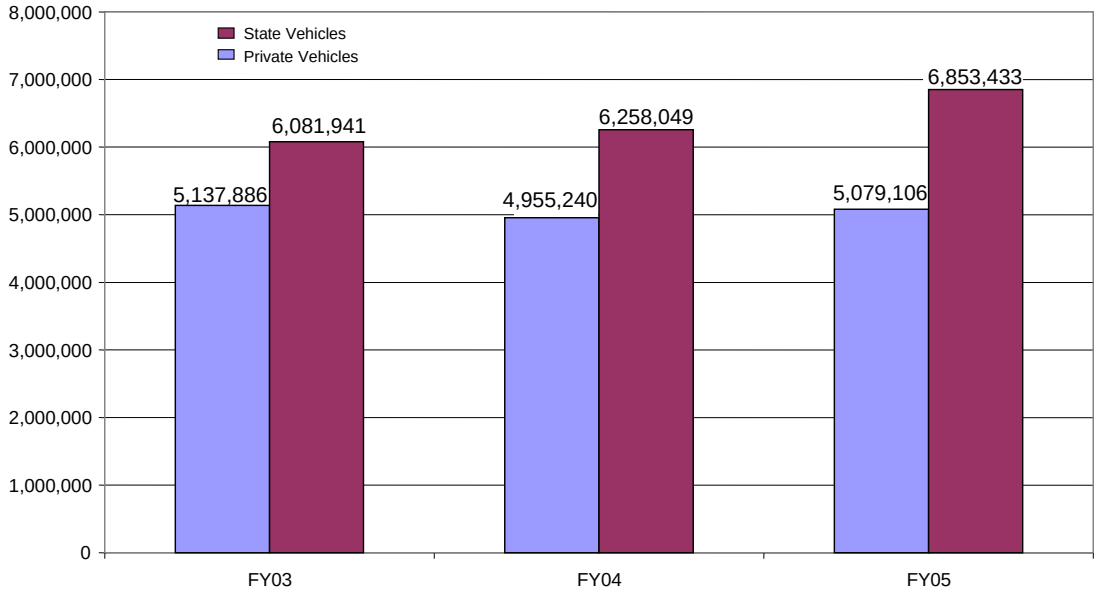
- E-mailed a link to the Interim Sustainability Plan to all staff and put copy of plan on the Intranet.
- Posted information, facts and stories regarding a variety of sustainability topics on the Intranet with occasional supplemental emails on specific topics (i.e., best practices for reducing paper usage).
- Reported performance measures and progress for some sustainability related topics in the agency's public quarterly reporting documents (Gray Notebook, Gray Notebook Lite, and Beige Pages).
- Placed posters near copiers to encourage two-sided copying and directed larger print jobs (more than 20 copies) to WSDOT Printing Services.
- Clearly marked recycling receptacles (paper, plastic, glass, aluminum) were placed in strategic locations.
- Pollution prevention plan training was provided at 4-5 region-wide meetings annually, at periodic workshops, through agency publications, and at regularly scheduled safety meetings.

SECTION IV: STATEWIDE PERFORMANCE MEASURES

A. Annual petroleum use, vehicle miles traveled on state business, and number and type of state vehicles owned (by model year).

The number of WSDOT passenger vehicles (Class I vehicles) and annual miles traveled have grown since FY 2003. This is consistent with increases in vehicular needs to manage the numerous construction projects underway. Privately owned vehicle (POV) use has pretty much held steady despite an increasing number of full time employees. A total of 4 hybrid vehicles were added to the agency fleet in 2003 & 2004. WSDOT currently has 135 pre-1996 vehicles in inventory, to be completely replaced by 2008.

Passenger Carrying Vehicles
Miles Traveled



Source (both): Office of the Transportation Equipment Fund

Pre-1996 Light Vehicle Replacement Schedule				
Fiscal Year	**Qty In-Inventory At Beginning of FY**	**Qty Scheduled For Replacement**	**Replacement Percent**	**Qty Remaining**
FY06	135	112	83%	23
FY07	23	14	61%	9
FY08	9	9	100%	0

WSDOT Vehicles

Equipment Class	Type Units	FY03	FY04	FY05	Total Change Since FY03 Units	Total Change Since FY03 Percent
01	Passenger Carrying Vehicles	518	599	662	144	21.8%
02	Light Cargo Carrying Vehicles	138	144	154	16	10.4%
03	Incident Response Vehicles	51	59	49	(2)	-4.1%
04	Light Vehicles w/Special Bodies	209	238	255	46	18.0%
05	Pickup Trucks	862	993	1,138	276	24.3%
06	Dump / Plow / Sander Trucks	443	473	494	51	10.3%
07	Man lift & Digger / Derrick Trucks	75	92	99	24	24.2%
08	Trucks w/Special Bodies;	215	231	250	35	14.0%
09	Earth Drilling Equipment	20	24	26	6	23.1%
10	Trailers	208	245	264	56	21.2%
11	Motor Graders	43	43	46	3	6.5%
12	Cranes and Shovels	27	27	29	2	6.9%
13	Front End Loaders	172	193	200	28	14.0%
14	Rollers	32	35	35	3	8.6%
15	Sweepers	47	67	69	22	31.9%
16	Bulldozer	1	1	1	0	0.0%
17	Tractors	68	82	92	24	26.1%
19	Asphalt Equipment	44	50	52	8	15.4%
20	Other Self-Propelled Equipment	131	147	151	20	13.2%
21	Other Non-Self-Propelled	569	671	531	(38)	-7.2%
22	Snow Blowers	22	24	25	3	12.0%
25	Power Generation Equipment	185	193	197	12	6.1%
	Total	**4,080**	**4,631**	**4,819**	739	15.3%

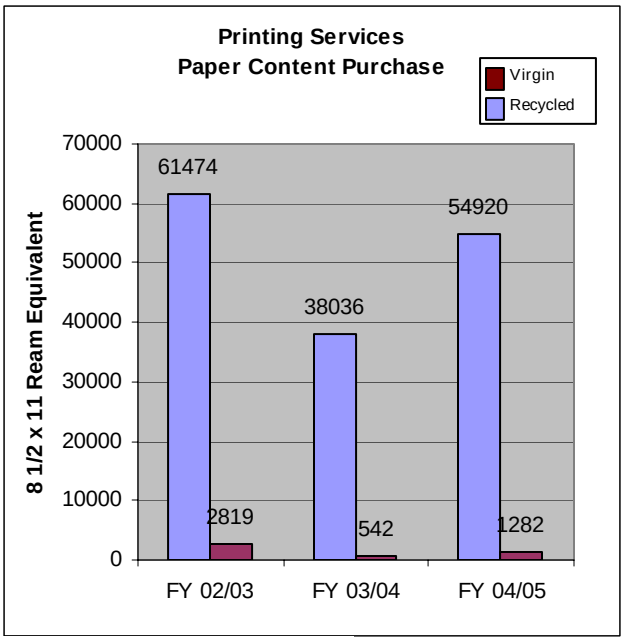
Source: WSDOT, Office of the Transportation Equipment Fund

B. Number of exception purchases of four-wheel-drive sport utility vehicles.

None.

C. Amount and type of office paper and janitorial products purchased.

The baseline established in the 2003 Interim Sustainability Plan was for WSDOT Headquarters only. Therefore, progress reported is also for WSDOT Headquarters. As part of the Sustainability Plan update, WSDOT is working to establish a new baseline for the entire agency.



Source: WSDOT Printing Services

WSDOT experience is that the second fiscal year of a biennium is busier for printing due to highway construction projects, which is why the total paper in FY05 is higher than FY04. Looking at the two ending fiscal years '03 & '05 provides a more realistic comparison of the amount of paper used—both recycled and virgin. .

	FY 03		FY 04		FY 05	
	Total Reams (8 1/2 x 11 equivalent)	Dollars	Total Reams (8 1/2 x 11 equivalent)	Dollars	Total Reams (8 1/2 x 11 equivalent)	Dollars
Recycled Paper (at least 30% Post Consumer)	61474	$187,856.48	38036	$131,652.39	54920	$179,914.66
Virgin Paper **	2819	$15,433.05	542	$7,443.76	1282	$ 11,178.69
Percentage of Virgin Paper	4.59%	8.22%	1.42%	5.65%	2.33%	6.21%

** Several paper types were not available in recycled stock. Recycled color copier paper is currently being tested with equipment for compatibility. *Source: WSDOT Printing Services*

Janitorial paper products: General Administration purchases janitorial products for all buildings on the capital campus, including recycled content paper products. Information on janitorial products in leased and regional facilities is lacking. The Sustainability Plan update will explore using recycled paper product at WSDOT's Safety Rest Areas.

D. Quantity of office paper recycled.

General Administration does not track recycled paper by agency. Quantities for some WSDOT facilities might be determined based upon billing invoices but this information is not available uniformly.

E. Justification for any virgin office paper purchased.

Several types of paper that the department used were not available in recycled stock. In these limited instances, virgin paper was used.

SECTION V: UPDATED OR REVISED GOALS AND OBJECTIVES

(*WSDOT Interim Sustainability Plan is currently being updated*.)

- New Statewide Objective: Reduce the use of equipment, supplies and other products containing persistent toxic chemicals (Executive Order 04-01).

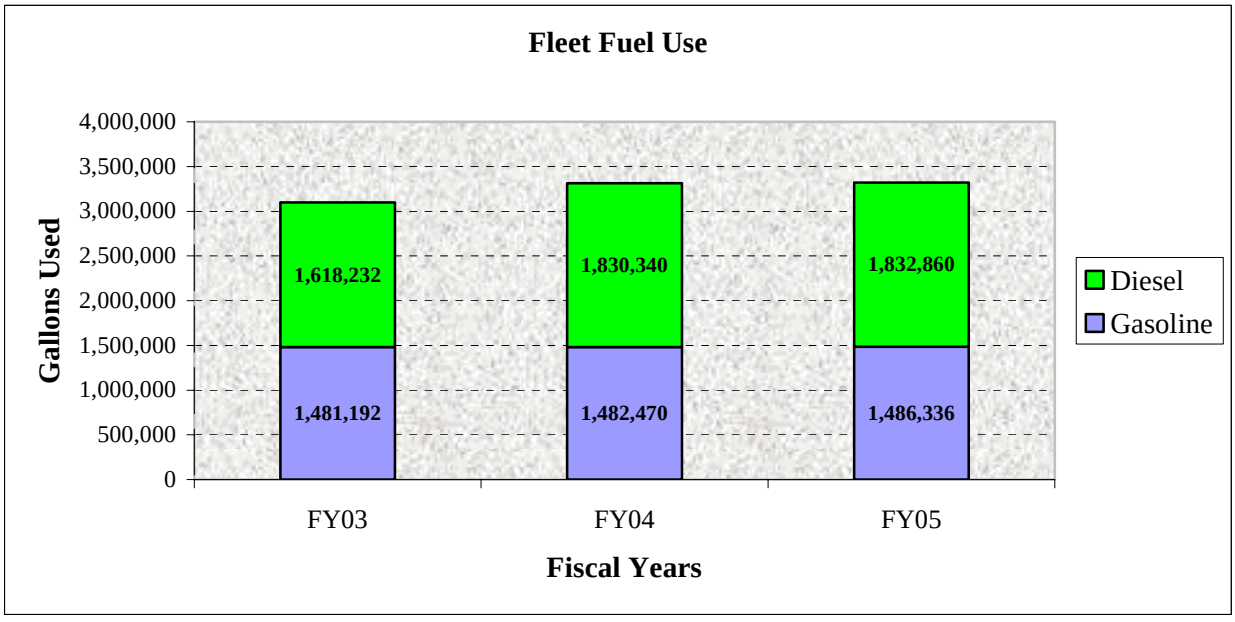
Since June of 2004, WSDOT has used water-based road striping paint rather than the formerly used solvent-based paint. Additionally, road marking (cross walks, directional arrows, etc.) is now done with a non-toxic "Thermoplastic" instead of the previously used hazardous substance, methyl methacrylate. In 2003, these materials comprised approximately 85% of the reoccurring hazardous waste stream generated by WSDOT, so there has been a substantial reduction in WSDOT's hazardous material use.

SECTION VI: PROGRESS IN OTHER AREAS

WSDOT has implemented and continues to implement a number of actions to increase its sustainability within the context of its mission. Some of these actions relate specifically to goals found in Executive Orders 02-03 & 05-01—some do not. Examples are provided below.

<u>Fuel purchases, by gallons and type of fuel</u>

- Beginning in May 2005, WSDOT Northwest Region implemented a 3-month pilot project to utilize a B5 biodiesel blend for fleet use (non-ferry). Based upon the results of the pilot, biodiesel is going to be gradually phased into WSDOT fueling stations across the state. This presents a tremendous opportunity to support Washington's promising biodiesel industry while improving sustainability. *Please note that the chart below does not include Washington State Ferry fuel use*.



Source: WSDOT, Office of the Transportation Equipment Fund

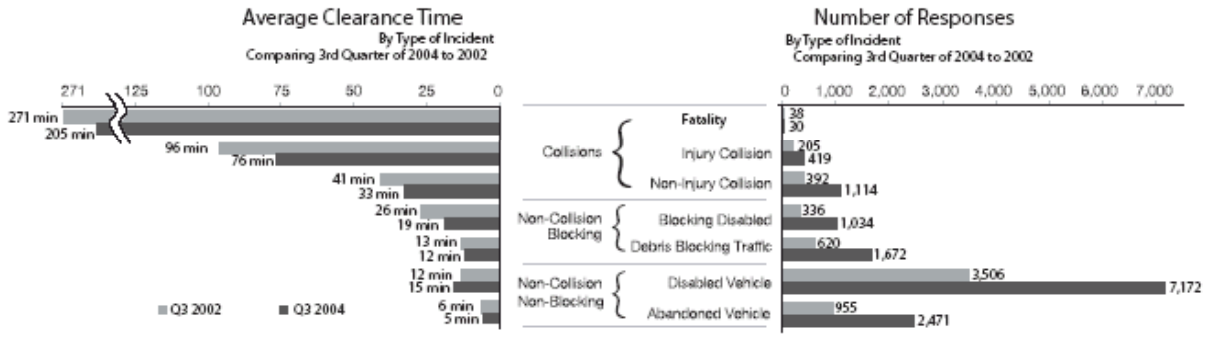
- In 2004 & 2005, Washington State Ferries (WSF) conducted a B20 biodiesel blend pilot project on several ferry runs. Due to engine problems, the pilot project was suspended, although interest in biodiesel remains. In addition, Washington State Ferries implemented an ultra-low sulfur diesel pilot program and has been using low sulfur diesel throughout the fleet since 2004.

Energy Use

- Nearly 4 years ago, the agency started purchasing Liquid Crystal Display (LCD) flat panel monitors to replace Cathode Ray Tube (CRT) monitors, with planned replacement of all monitors on a 4-year life cycle. These flat panel monitors use significantly less power than the old monitors. A 17-inch CRT monitor consumes 80-100 watts, while a LCD flat panel monitor with a similar display area consumes only 20-30 watts. Lower power consumption also means less heat output, reducing the load on the air-conditioning system.
- Over a 3-year period, beginning in 1999, WSDOT Northwest Region installed approximately $1M worth of Light Emitting Diodes (LEDs) for red and green signals. These operate on 13 to 19 watts of power, replacing incandescent lamps that formerly used 135 watts of power each (a 80-90% power reduction). All new construction includes LED signalization as part of the specifications.

Incident Response & Ambient Air Quality

- WSDOT's Incident Response Program has primary goals of improving traveler safety and travel times by clearing accidents, abandoned vehicles and debris more quickly. These incidents are responsible for 25% of congestion on our urban commute routes. However, a secondary benefit of clearing these accidents is improved ambient air quality through reduced idling. In this situation, WSDOT can bring about larger societal sustainability gains at the same time that we may be lowering internal agency gains, due to the addition of somewhat inefficient Incident Response vehicles (trucks) and their increased patrolling mileage. Despite significant growth in the number of incidents requiring response, the incident clearing times have been reduced for the most part.



Source: Gray Notebook Lite, Vol. 19, p.3

Reuse, Reduce & Recycle

WSDOT reuses, reduces, and recycles a variety of resources, including hazardous substances such as cleaning solvents, motor oil, anti freeze, and mercury in fluorescent tubing. In 2003, WSDOT recycled 39,596 linear feet of fluorescent tubing at a cost of $2,686 with an additional 33,677 linear feet recycled at a cost of $2,451 in 2004.

Road system components such as luminaries, signage, landscaping and pavement are also included. Through pavement management and design improvements, WSDOT

extends the life of the state highway's pavements—15+ years of useful life are added to concrete pavement through dowel bar retrofits.

WSDOT and its road construction and re-vegetation contractors use approximately 20 percent of the compost produced and sold commercially in Washington. In December 2003, the Washington Organic Recycling Council awarded WSDOT an award for "fulfilling the vision of innovative application and specification of compost in Washington State roadside development".

Nationally, twice as much asphalt pavement is recycled as paper, glass, plastic and aluminum combined. WSDOT has identified three criteria to help contractors determine when asphalt recycling is appropriate for state highways:

- Must meet specifications (engineering performance measures);
- Must not be environmentally hazardous; and
- Must compete in the open market. WSDOT does not mandate recycling in road projects.

By providing standard specifications for the use of recycled materials (i.e., as pavement or fill), WSDOT has "paved the way" for those projects meeting the three criteria above.

Water Use Reduction

In response to the March 2005 drought emergency declaration, WSDOT assessed agency water use, and developed and implemented a water conservation plan that produced the following results:

- Rest Areas: In the "busy water-use" period of April through September 2004, 65 million gallons of water were used at rest areas. Actual use in April through September 2005 totaled 34 million gallons—a reduction of fifty-two percent.
- Roadside Landscape Areas: During 2004, 89 million gallons of water was used to irrigate landscaped roadside areas. Actual use through August 2005 was 13 million gallons; well ahead of year-end projections.
- Facilities: Water use at WSDOT facilities totaled 99 million gallons in 2004. Actual use through August 2005 was 51 million gallons, which is on track for our year-end projection.

Integrated Vegetation Management

Integrated Vegetation Management (IVM) is a planning, monitoring, treatment and evaluation process that WSDOT has adopted, utilizing a variety of vegetation management approaches in design, construction, and maintenance. WSDOT's goal is to enhance self-sustaining, low-maintenance, native plant communities on the roadside of our state's highways. Healthy, native plants naturally discourage the establishment of unwanted, invasive plant species and promote a higher degree of biodiversity. They also help to reduce long-term costs and minimize herbicide use. IVM plan implementation has reduced herbicide use on state highways and has fostered partnerships with adjacent landowners while increasing public support for roadside maintenance. However, it should be noted that localized weed infestations and weather conditions could cause herbicide demand to vary from year to year.

WSDOT Roadside Herbicide Use (*approximate pound of active ingredients*)

2002 statewide use - 121, 105 lbs. - baseline
2003 statewide use - 124,426 lbs. - 2.7 percent increase
2004 statewide use - 87,111 lbs. – 30 percent decrease
2005 statewide use through Sept. 30 – 72,000 lbs.

SECTION VII: UPCOMING CHALLENGES, BARRIERS & NEEDS

WSDOT has identified a number of areas needing improvement in the Sustainability Plan update. These include more measurable goals and objectives, a better-defined communication plan, expanding baseline data to include the entire agency statewide, and increasing regional involvement and coordination with sustainability efforts.

Some of the upcoming challenges include increasing hybrid purchases and meeting LEED construction standards without additional funding. Although these actions should save funds in the long run, their higher initial costs generally mean a reduction in funding that can be used for other aspects of the vehicle fleet or building.

The department will be looking at water reduction measures implemented in response to the drought declaration that may be suitable on a permanent basis, as well as methods to reduce past practices of over-purchasing hazardous substances.

Between construction, incident response demands, and the fact that varying weather conditions (*something over which WSDOT has no control*) determine vehicle miles traveled for certain maintenance activities, it will be a challenge to meet the Executive Order goal of 20% reduction in petroleum use by 2009. Gearing up to deliver Transportation Partnership Act and Nickel projects may cause fuel use to actually increase but WSDOT will work towards improving per unit fuel efficiency and emission standards.

Finally, sometimes technology and markets need to advance in order to make sustainable actions more feasible. For example, printer problems with recycled cartridges have caused many to abandon their use until these products are more reliable. Likewise, the WSF pilot project with biodiesel did not support system-wide conversion at this time. Nevertheless, WSDOT will continue to focus agency sustainability efforts in areas with the greatest potential for positive impact and success.