

Examples of Short Term Strategies to Increase Travel Efficiency and Reduce Greenhouse Gas Emissions

1) Travel Demand Management (TDM): Strategies that reduce single occupancy vehicle use

Comprehensive, Statewide Travel Demand Management Programs¹

- In two years, the Washington State Commute Trip Reduction Program avoided 1.3 million vehicle trips, cutting 34 million vehicle miles traveled (VMT), exceeding initial goals by 41 percent.
- Washington State's Regional Mobility Grant Program supports improved transit mobility and reduced congestion, saving 6.7 million vehicle trips and 130 million VMT since 2006.

Telecommuting/Teleworking (working from home)

- Companies like AT&T find that telecommuting increases productivity and job satisfaction among telecommuters, and for AT&T, reducing vehicle emissions by approximately 44,000 metric tons.
- WorldatWork estimates that 8 percent of workers telecommute; the Consumer Electronics Association estimates that they emit 17-23 kg CO₂ less per day; saving 55-78 MMTCO₂ per year.²
- If 10 percent more workers telecommuted, the US could reduce emissions 42 MMTCO₂ per year.³

Compressed Work Week (working 40 hours in 4 days or 80 hours in 9 days)

- Utah's state employee 4 day workweek pilot reduced building energy use by 13 percent, saved \$5 million in fuel, cut 12,000 metric tons of GHG, and reduced absenteeism within nine months.⁴

Carpooling (commuting with others)

- Incentives reduce commute VMT 20 percent and adding a rider per trip reduces VMT 14 percent.⁵
- The DC Commuter Connections ridematching program reduces 82,000 tons of CO₂ annually.⁶

Parking Cash-out/Parking Pricing (removing the subsidies for parking)

- When offering parking cash out to their employees, firms reduced commute VMT by 12 percent.⁷
- Raising employee parking fees to market rates decreases solo driving 26-81 percent.⁸

Public Information Campaigns (publicizing alternate behaviors)

- OECD estimates a TDM campaign can save the US 523,000 barrels of oil a day at minimal cost.
- OECD estimates an "eco-driving" campaign could reduce global emissions by 3 percent in a year.
- Portland's SmartTrips campaign reduces drive alone trips in target areas by 9 percent or more, eliminating 19.4 million VMT and 8,400 tons CO₂ in 2007.⁹

Pay as You Drive (PAYD) Insurance (setting car insurance rates based on amount of travel)

- PAYD can save \$60 billion annually, cut VMT 8 percent, and lower crash rates.¹⁰
- Making 1 percent of policies PAYD could reduce VMT by 1.8 billion and CO₂ by 770,000 tons.

Congestion Pricing (charging fees for travel in specific areas)

- London's fee reduced vehicles in the original zone by 16% and reduced CO₂ by 6.5 percent.¹¹
- Stockholm's pilot fee brought a 22 percent reduction in vehicles, reduced injuries 10 percent, increased transit use 6-9 percent, and reduced carbon emissions by 14% in the central city within months.¹²
- New York City's proposed fee would reduce VMT 6.8 percent and stop+go traffic 34.3 percent.¹³

¹ WSDOT Commute Trip Reduction Performance Grant Program, 2003-2005 Program Report

² World Wildlife Federation, *From Workplace to Anyplace*. 2009

³ Fuhr and Pociask. "Broadband services: economic and environmental benefits," The American Consumer Institute, October, 2007

⁴ Vergakis, Brock. "Utah's 4-day workweek cuts energy use 13 percent," Associated Press, August 5, 2009

⁵ OECD/IEA *Saving Oil in a Hurry*. 2005.

⁶ National Capital Region Commuter Connections Program, Transportation Emission Reduction Measure Analysis Report, FY2006-2008

⁷ Donald C. Shoup, "The High Cost of Free Parking," Journal of Planning Education and Research, Vol. 17, No. 1, 1997

⁸ Federal Highway Administration. *Strategies to Reduce Greenhouse Gas Emissions from Transportation Sources*. pg. 45. 1998

⁹ Portland Office of Transportation, *SmartTrips Southeast Final Report*. December 2007

¹⁰ Bordoff, Jason E. and Pascal J. Noel. "Pay-As-You-Drive Auto Insurance." Brookings Institution. July 2008

¹¹ Transport for London. *Central London Congestion Charging: Impacts Monitoring, Sixth Annual Report*. July 2008

¹² Leslie Abboud and Jenny Clevstrom, "Stockholm's Syndrome," August 29, 2006, Wall Street Journal,

VMT-based Fees (charging fees based on the amount of travel)¹⁴

- EPA estimates that charging VMT-based registration fees would reduce VMT by up to 3.6 percent.
- EPA estimates that a VMT fee of \$0.02 per mile would reduce overall VMT by up to 5.6 percent.

2) Immediate Infrastructure Projects Can Reduce Travel Demand

Complete Streets, Safe Routes to Schools, and Other Bike/Ped Improvement Programs

- Making streets safer reduces trips taken, increases transit use and reduces GHG emissions.
- In one year, the Las Cruces, New Mexico Safe Routes to School Program reduced GHG by 2 tons at one school - if all city schools joined, emissions would decline by 77 tons per year.¹⁵

Building Bicycle Networks, Mixed Use Trails and Encouraging Active Transportation

- Portland, Oregon, eliminated 26,500 tons CO₂ in 5 years by investing in bicycle infrastructure.¹⁶
- In 3 years, New York City completed a 200 mile bike network and cycling jumped 45 percent.¹⁷

High Occupancy Toll (HOT) and HOV (High Occupancy Vehicle) Lanes

- Converting existing lanes to carpool lanes (e.g., HOV or HOT), reduces VMT by 0.2-1.4 percent.¹⁸

Improving Transit and Making Transit More Accessible

- From 2003 and 2007, New York City's population grew 2 percent, employment grew 6 percent, but traffic decreased 1 percent, transit use increased 8 percent and bike commuting rose 70 percent.¹⁹

Bus Rapid Transit (BRT) and Dedicated Bus Lanes

- In 2007, Eugene, Oregon launched a BRT route and corridor ridership jumped by 50 percent.²⁰
- When Kansas City Metro Area Express (MAX) opened in 2005, ridership increased 100 percent.²¹
- The Los Angeles BRT opened in 2005 and exceeded 2020 ridership estimates within 7 months.²²

Reforming Parking Requirements at the Local Level

- Local governments can “unbundle” parking spaces from housing units to ensure market rates.
- Remove parking minimums, preventing the over-provision and undervaluation of parking.

3) Intelligent Transportation Systems: Managing traffic on existing roads to improve efficiency

Traffic Efficiency and Flow Smoothing (reducing stop and go traffic)

- McKinsey and Co. estimates that smart navigation could save 3 MMTCO₂ by 2030 and highway smart routing could save 12 MMTCO₂ by 2030, both at a net savings to society.²³
- UC-Riverside estimates that congestion mitigation (e.g., ramp metering, incident management), speed management, and flow smoothing techniques can reduce CO₂ by 5-12 percent each.²⁴

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¹³ Recommendation of the Traffic Congestion Mitigation Commission, 2008

¹⁴ OECD/IEA, *op cit*.

¹⁵ “Safe Routes to School Steps to a Greener Future” Dec 2008. http://www.saferoutespartnership.org/media/file/SRTS_GHG_lo_res.pdf

¹⁶ Thomas Gotschi, Rails to Trails, personal communications, July 2009.

¹⁷ Jon Orcutt, NYC Department of Transportation, personal communication, July 2009.

¹⁸ OECD/IEA, *op cit*.

¹⁹ New York City Department of Transportation Sustainable Streets Index 2008

²⁰ Lane Transit District 2009

²¹ Kansas City Area Transportation Authority

²² William Vincent and Lisa Callahan, A Preliminary Evaluation of the Metro Orange Line Bus Rapid Transit Project, 2007

²³ McKinsey & Company, *op cit*.

²⁴ Professor Matthew Barth, University of California Riverside