

## 10: TRANSPORTATION DEMAND MANAGEMENT

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### Background

Washington State Law requires all counties with a population over 151,600 and each city or town within those counties containing a major employer (more than 100 full-time employees) to adopt and implement a commute trip reduction (CTR) plan by October 1, 1992. The law states that the number of commuter vehicle miles to employers with more than 100 full-time employees in those counties should drop by 15% in 1995, 25% in 1997 and 35% in 1999. The CTR Law may also be required, at the discretion of the Department of Ecology and Department of Energy, in areas that do not attain the national ambient air quality standards for carbon monoxide or ozone. All other counties, and cities and towns in those counties may voluntarily adopt and implement a commute trip reduction plan.

Based on the 2000 Census, Benton County has reached the above identified population threshold and is in the process of developing a CTR program, which the City of Richland will participate in. This chapter describes some of the mechanisms that can be used to encourage CTR.

- Transportation Demand Management (TDM) is the general term used to describe any action that removes single occupant vehicle trips from the roadway network during peak travel demand periods. TDM measures applied on a regional basis can be an effective tool in reducing vehicle miles traveled. Samples include: Employers installing bicycle racks
- Work with property owners to place parking stalls for carpoolers near building entrances
- Provide information regarding commute options to larger employers
- Encourage linkage of housing, retail and employment centers
- Encourage flexible working hours
- Encourage telecommuting
- Provide incentives to take transit and use other modes (i.e. free transit pass)
- Schedule deliveries outside of peak hours

TDM can include a wide variety of actions tailored to the individual needs of employers to achieve trip reduction. Table 10-1 provides a list of several strategies identified in past research on TDM<sup>1</sup>. Research has indicated that a comprehensive set of complementary policies implemented over a large geographic area can have an effect on vehicle miles

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<sup>1</sup> Oregon's Employee Commute Option (ECO) program.

traveled<sup>2</sup>. However, the emphasis of much of the research indicates that these policies must go well beyond the low-cost, uncontroversial measures commonly attributed to TDM (such as carpooling, transportation coordinators/associations, priority parking spaces) to be effective. Elements including parking and congestion pricing, improved services for alternative modes and other market-based measures are needed for TDM to have significant impact on reducing overall vehicle miles traveled.

**Table 10-1: Transportation Demand Management Strategies**

<b>Strategy</b>	<b>Description</b>	<b>Potential Trip Reduction</b>	
Telecommuting	Employees perform regular work duties at home or at a work center closer to home, rather than commuting from home to work. This can be full time or on selected work days. This can require computer equipment to be most effective.	82-91%	(Full Time)
		14-36%	(1-2 day/wk)
Compressed Work Week	Schedule where employees work their regular scheduled number of hours in fewer days per week (for example, a 40 hour week in 4 days or 36 hours in 3 days)	7-9%	(9 day/80 hr)
		16-18%	(4/40)
		32-36%	(3/36)
Transit Pass Subsidy	For employees who take transit to work on a regular basis, the employer pays for all or part of the cost of a monthly transit pass.	19-32%	(full subsidy, high transit service)
		2-3%	(half subsidy, medium transit service)
Cash Out Employee Parking	An employer that has been subsidizing parking (free parking) discontinues the subsidy and charges all employees for parking. An amount equivalent to the previous subsidy is then provided to each employee, who then can decide which mode of travel to use (with subsidy above the cost of a monthly transit pass, those employees would realize monetary gain for using transit).	8-20 %	(high transit service available)
		5-9 %	(medium transit services available)
		2-4%	(low transit services available)
Reduced Parking Cost for HOVs	Parking costs charged to employees are reduced for high occupancy vehicles (HOV) such as carpools and vanpools.	1-3 %	
Alternative Mode Subsidy	For employees that commute to work by modes other than driving alone, the employer provides a monetary bonus to the employee. Most often, the bonus is provided monthly in the employee's paycheck.	21-34%	(full subsidy of cost, high alt. modes)
		2-4%	(half subsidy of cost, medium alt. modes)
On-Site Services	Provide services at the worksite that are frequently used by the employees of	1-2 %	

<sup>2</sup>The Potential for Land Use Demand Management Policies to Reduce Automobile Trips, ODOT, by ECO Northwest, June 1992.

Strategy	Description	Potential Trip Reduction	
	that worksite. Examples include cafes, restaurants, dry cleaners, day care and bank machines.		
Bicycle Program	Provides support services to those employees that bicycle to work. Examples include: safe/secure bicycle storage, shower facilities and subsidy of commute bicycle purchase.	0-10 %	
On-site Rideshare Matching for HOVs	Employees who are interested in carpooling or vanpooling provide information to a transportation coordinator regarding their work hours, availability of a vehicle and place of residence. The coordinator then matches employees who can reasonably rideshare together.	1-2 %	
Provide Vanpools	Employees that live near each other are organized into a vanpool for their trip to work. The employer may subsidize the cost of operation and maintaining the van.	15-25% 30-40%	(company provided van with fee) (company subsidized van)
Gift/Awards for Alternative Mode Use	Employees are offered the opportunity to receive a gift or an award for using modes other than driving alone.	0-3 %	
Provide Buspools	Employees that live near each other or along a specified route are organized into a buspool for their trip to work	3-11 %	
Walking Program	Provide support services for those who walk to work. This could include buying walking shoes or providing showers.	0-3 %	
Company Cars for Business Travel	Employees are allowed to use company cars for business-related travel during the day.	0-1 %	
Guaranteed Ride Home Program	A company owned or leased vehicle or taxi fare is provided in the case of an emergency for employees that use alternative modes.	1-3 %	
Time off with Pay for Alternative Mode Use	Employees are offered time off with pay as an incentive to use alternative modes (rather than monetary, bonus, gift or awards)	1-2 %	

SOURCE: *Guidance for Estimating Trip Reductions From Commute Options*, Oregon Department of Environmental Quality, August 1996.

At the same time, the same research indicates that employee trip reduction programs can be an effective instrument of localized congestion relief<sup>3</sup>. For example, employers can

<sup>3</sup>*Evaluation of Employee Trip Reduction Programs Based upon California's Experience with Regulation XV*, Institute of Transportation Engineers, Technical Council Committee 6Y-51, January 1994.

substantially reduce peak hour trips by shifting work schedules, which may not reduce VMT but can effectively manage congestion. In Wilsonville, Oregon, a Nike warehouse/distribution site generates 80% less vehicle trips than standard similar uses in the evening peak hour by using employee shifts that are outside the peak period (4 - 6 PM)<sup>4</sup>. This type of congestion management technique can extend the capacity of transportation facilities.

## Criteria

The Richland Transportation Plan Steering Committee and Technical Advisory Committee (TAC) created/refined a set of goals and policies to guide transportation system development in Richland (see Chapter 2). Goal 2 directly addresses reduction in travel, forming the basis for TDM.

Goal 2, Policy 2:       The City will maximize the operating efficiency of its transportation system through the use of Transportation Demand Management strategies.

## Strategies

Several strategies were evaluated by the Steering Committee and TAC for transportation demand management in Richland. These strategies are aimed at providing the City with priorities toward implementing transportation demand management projects that meet the goals and policies of the City. The ranking of the strategies follows from most important to least important:

- Focus programs on high demand districts (ie. Downtown Richland, Hanford and Horn Rapids employment areas)
- Telecommuting/Fiber Optic to all residents and businesses
- Require larger employers to meet CTR requirements
- Encourage linkage of housing with retail and employment centers
- Mandate TDM through development review
- Limiting Parking (establish maximum parking ratios)
- City funded program to provide information regarding commute options to larger employers (possibly via web page and email)
- Support regional pricing policies/strategies
- Provide business association support for TDM coordination
- Do nothing related to TDM

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<sup>4</sup> Nike Parking Lot Expansion Trip Generation Study, City of Wilsonville, by DKS Associates, May 1997.

## Recommended Plan

State and regional policy<sup>5</sup> both call for encouraging and promoting transportation demand management. The proposed policy of this plan calls for the city to support TDM. Collectively, the implementation of the modal plans in this TSP, along with the TDM plan, will contribute to the regional commuter vehicle mile reduction goal. Unlike bicycles, pedestrians and motor vehicles, implementation of this policy does not necessarily require capital infrastructure. In fact, much more of TDM is policy and management rather than concrete and asphalt. Because of this, the recommended TDM plan for Richland consists of the following:

- Support continued efforts by Benton County, BFCG and WSDOT to develop productive TDM measures that reduce commuter vehicle miles and peak hour trips. Focus attention in downtown Richland, Hanford and Horn Rapids employment areas.
- Encourage the development of high speed communication in all parts of the city (fiber optic, digital cable, DSL, etc.). The objective would be to allow employers and residents the maximum opportunity to rely upon other systems for conducting business and activities than the transportation system during peak periods.
- Encourage developments that effectively mix land uses to reduce vehicle trip generation. These plans may include development of linkages (particularly non-auto) that support greater use of alternative modes.
- Mixed land use projects have demonstrated the ability to reduce vehicle trips by capturing internal trips between land use types, encouraging walk/bike trips and producing shorter vehicle trips<sup>6</sup>.
- As vehicle traffic levels increase with the build out of land uses within Richland, it may become necessary to go beyond the coordination with the regional CTR program. This may include developing localized TDM programs for the city or subareas of the city to address vehicle trip reduction. For example, measures which are appropriate for site planning such as close-in parking for carpools, bicycle parking and convenient transit stops could be included as part of the Community Development Code

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<sup>5</sup> Washington's 1991 Commute Trip Reduction Law (CTR) (RCW 70.94.521-551); Regional Transportation Plan for the Tri-Cities Metropolitan Area and the Benton-Franklin-Walla Walla RTPO, Benton-Franklin Council of Governments, 2001-2020, pages 2-6 and 2-7.

<sup>6</sup> *Trip Generation*, 5th edition, Institute of Transportation Engineers, 1991, Chapter VII, indicates potential for PM peak hour capture of between 27% and 66%.