



State of Oregon  
Department of  
Environmental  
Quality

## Employee Commute Options (ECO) Sample Trip Reduction Plan

This is a trip reduction plan written for a fictitious company. This is an example of a plan that would meet the requirements of OAR 340-242-0160 of the ECO rules. This is only a sample and does not represent any indication of a required format. Employers are only required to provide the information listed in OAR 340-242-0160. For a copy of this document in MSWord, e-mail a request to [eco@deq.state.or.us](mailto:eco@deq.state.or.us).

### What should be included in an auto trip reduction plan?

#### 1. The results of the baseline survey (or comparable documentation):

The report of survey findings is attached.

#### 2. Calculation of baseline and target auto trip rates:

The baseline auto trip rate for XYZ Company is .94. The target auto trip rate is .85 (*a 10 percent reduction from the baseline is  $.94 \times .90 = .85$* ). If XYZ Company maintains its current employee size of 129 employees, it will need to reduce 60 auto trips per week (or an average of 12 auto trips per day). (*10 percent reduction from 598 weekly auto trips*)

#### 3. Any employee commute option programs currently in use at the work site:

XYZ Company provides a bicycle rack (not covered) at the entrance to its work site. A supply of Tri-Met bus schedules for the lines serving the site are available in the Human Resources office.

#### 4. New commute options to be implemented at the work site that have the potential to achieve and maintain the target auto trip rate:

##### Bicycling

Will install a covering over the existing bicycle rack to protect employees' bicycles from the elements. The rack is located at the front entrance to the building. This is a highly visible well-traveled location and security has not been a problem. Employees commuting by bicycle will be allowed to use the showers and lockers in the maintenance area of the work site. Bike lanes are being installed by the city on the street in front of our business. Nine percent of the drive alone employees expressed an interest on the survey in showers for bicycle commuters. The goal is a **1 percent** trip reduction through bicycling, or an average of **6 trips per week**.

##### Telework

The Oregon Department of Energy will provide consultation on the design of a telework program. XYZ company will offer teleworking to staff whose work assignments can reasonably be completed at home. Thirty two percent of employees who currently drive alone to work expressed an interest on the survey in teleworking. XYZ Company has determined that 75 percent of these employees would be eligible to participate. The resulting potential participation ( $.75 \times .32$ ) is 24 percent of employees who currently drive to work. XYZ is targeting a trip reduction of **5 percent** or **29 trips** of the total weekly auto trips.

### Transit

XYZ Company is located on two bus lines, which run between the South Transit Center and Downtown Portland. The bus stop is located 1/8 mile from the work site entrance with service about every 20 minutes between 6 a.m. and 8 a.m. and 3 p.m. and 5 p.m. Employees are on flexible schedules, but the majority arrive at work between 7 a.m. and 8 a.m. and leave between 3:30 p.m. and 5 p.m. After meeting with a Tri-Met representative, XYZ Company has decided to begin selling transit passes and tickets at the work site and subsidize the cost of a pass at 50 percent.

An emergency ride home program will also be provided. Twenty five percent of the drive alone employees expressed an interest on the survey in the company paying for part of a Tri-Met pass. The company's goal is to increase ridership by 3 percent. This would represent 18 trips per week, or 3 percent, if employees used transit every day. Assuming some would not ride every day, a four day per week average was assumed, and would result in a trip reduction of **2.3 percent** or **14 trips per week**.

### Carpool

Thirty six percent of the employees surveyed indicated an interest in carpool matching help. XYZ Company distributed the carpool sign-up sheet to employees. Using Tri-Met's carpool matching database, potential matches were found for 95 percent of the 25 employees returning a sign-up sheet. These 25 employees represent a potential auto trip reduction of half of their respective commute trips (assuming 2-person carpools) or 60 trips per week. Assuming that these employees would carpool on average 3 days per week, the potential trip reduction is **6 percent** or **36 trips per week**.

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### 5. Empirical evidence that the commute option(s) to be offered or supported by the employer have the potential to achieve and maintain the target auto trip rate:

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All reductions calculated using Attachment A: Commute Trip Reduction Work Sheet (attached):

**Bicycling 1%**

**Telework 5%**

**Transit 2.3%**

**Carpool 6%** (projected trip reduction is significantly higher than the DEQ 1-2 percent range. This is based on the carpool sign-up participation rate of 25 employees and the 95 percent success rate for finding matches).

**The total projected trip reduction is 14.3 percent or 87 trips per week, exceeding the ECO required target of 10 percent or 60 trips per week.**

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### 6. Any unique aspects of the business or work site influencing the trip reduction strategies selected:

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Strategies were selected based on the employee survey findings. No unique aspects have been identified.

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### 7. A schedule for implementing each of the selected commute option measures:

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**Bicycling:** Employees can begin using the showers and lockers immediately. The covering for the rack will be completed in 30 days.

**Teleworking:** Teleworking opportunities will be advertised to the appropriate employees upon completion of ODOE's study with recommendations. The target implementation is within six months.

**Transit:** The pass subsidy and guaranteed ride home program will be put into place with Tri-Met's assistance. The target implementation is within 2 months.

**Carpooling:** Carpool matching has been completed through Tri-Met's database. Match information has been distributed to the appropriate employees.

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**8. Any alternative emission reduction proposals prepared by the employer according to OAR 340-242-0240:**

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XYZ Company will study the possibility of re-routing its delivery trucks in the area to reduce miles driven. However, no specific proposal is submitted at this time.

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**9. The name, title, telephone number, and business mailing address of the person designated by the employer as the contact for the work site (contact person does not have to be located at the work site); and a signed statement certifying that the documents and information submitted in the plan are true and correct to the best of that person's knowledge.**

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Jane Jones  
Transportation Coordinator  
XYZ Company  
123 Northeast Way  
Portland, OR 97xxx  
(503) 999-9999

I certify that the documents and information submitted in this plan for XYZ Company are true and correct to the best of my knowledge.

Jane Jones

## Attachment A Commute Trip Reduction Work Sheet

ECO Strategy	Potential Trip Reduction	x	Percentage of Employees Who Will Be Offered This Strategy	=	Overall Potential Trip Reduction	Employer's Trip Reduction Target for Strategy
<b>Telecommuting</b> <ul style="list-style-type: none"> <li>• Full Time</li> <li>• 1-2 Days/Week</li> </ul>	82 - 91%		See End Note <sup>i</sup>			
<b>Compressed Work Week</b> <ul style="list-style-type: none"> <li>• 9/80 Schedule</li> <li>• 4/40 Schedule</li> <li>• 3/36 Schedule</li> </ul>	7 - 9%		See End Note <sup>i</sup>			
<b>Transit Pass Subsidy</b> <ul style="list-style-type: none"> <li>• Full Subsidy <ul style="list-style-type: none"> <li>- High Transit Service</li> <li>- Medium Transit Service</li> <li>- Low Transit Service</li> </ul> </li> <li>• 1/2 Subsidy <ul style="list-style-type: none"> <li>- High Transit Service</li> <li>- Medium Transit Service</li> <li>- Low Transit Service</li> </ul> </li> </ul>	19 - 32%				19 - 32%	
	4 - 6%				4 - 6%	
	.5 - 1%				.5 - 1%	
	10 - 16%				10 - 16%	
	2 - 3%				2 - 3%	
	0 - .5%				0 - .5%	
<b>Cash Out Employee Parking</b> <ul style="list-style-type: none"> <li>- High Transit Service</li> <li>- Medium Transit Service</li> <li>- Low Transit Service</li> </ul>	8 - 20%					
	5 - 9%					
	2 - 4%					
<b>Eliminate Parking Subsidies</b> <ul style="list-style-type: none"> <li>- High Transit Service</li> <li>- Medium Transit Service</li> <li>- Low Transit Service</li> </ul>	8 - 20%					
	5 - 9%					
	2 - 4%					
<b>Reduced Cost Parking for HOVs</b>	1 - 3%				1 - 3%	
<b>Alternate Mode Subsidy</b> <ul style="list-style-type: none"> <li>• Full Subsidy <ul style="list-style-type: none"> <li>- High Transit Service</li> <li>- Medium Transit Service</li> <li>- Low Transit Service</li> </ul> </li> <li>• 1/2 Subsidy <ul style="list-style-type: none"> <li>- High Transit Service</li> <li>- Medium Transit Service</li> <li>- Low Transit Service</li> </ul> </li> </ul>	21 - 34%				21 - 34%	
	5 - 7%				5 - 7%	
	1 - 2%				1 - 2%	
	10 - 17%				10 - 17%	
	2 - 4%				2 - 4%	
	.5 - 1%				.5 - 1%	
<b>On-Site Services</b>	1-2%				1-2%	
<b>Bicycling Program</b>	0 - 10%		See End Note <sup>ii</sup>			

ECO Strategy	Potential Trip Reduction	x	Percentage of Employees Who Will Be Offered This Strategy	= Overall Potential Trip Reduction	Employer's Trip Reduction Target for Strategy
<b>On-Site Rideshare Matching for Carpools and Vanpools</b>	1 - 2%		_____	1 - 2%	_____
Without support strategies					
With support strategies	6 - 8%		_____	6 - 8%	_____
<b>Provide Vanpools</b>			See End Note iii		
- Company-Provided Vans	15 - 25%		_____	_____	_____
With a Fee	30 - 40%		_____	_____	_____
- Company-Subsidized Vans			_____		
<b>Gifts/Awards for Alternative Mode Use</b>	0 - 3%		_____	0 - 3%	_____
<b>Provide Buspools</b>	3 - 11%		_____	3 - 11%	_____
<b>Walking Program</b>	0 - 3%		_____	0 - 3%	_____
<b>Time Off with Pay for Alternative Mode Use</b>	1 - 2%		_____	_____	_____
<b>Company Cars for Business Travel</b>	0 - 1%		_____	0 - 1%	_____
<b>Guaranteed Ride Home Program*</b>	1 - 3%		_____	1 - 3%	_____
<b>TOTAL ESTIMATED EFFECTIVENESS</b>					

\* Can only be selected in combination with more effective transit, ridesharing, or parking measures.

### SUPPORT STRATEGIES

In addition to the ECO strategies in the checklist, at least two support strategies must be selected. Please check those support strategies from the list below that you will use at your work site:

- Employee Transportation Coordinator
- Marketing/Education Campaign
- Preferential parking for HOVs
- On-site Transit Pass Sales
- Pre-tax Transit Pass Sales
- Employee Recognition Program
- Shuttles
- Other (please specify) \_\_\_\_\_

### End Notes:

- i. Percentage of employees actually expected to participate.
- ii. Percentage of employees who live within 6 miles of the work site.
- iii. Percentage of employees who live more than 20 miles away from the work site .

## Attachment B

### Glossary for Commute Trip Reduction Work Sheet

<b>9/80 Schedule</b>	Work 80 hours in nine work days during a two-week period. Usually consists of eight nine-hour days and one eight-hour day. One additional day off every two weeks.
<b>4/40 Schedule</b>	Work four ten-hour days during a single work week. One additional day off each week.
<b>3/36 Schedule</b>	Work three twelve hour days during a single work week. Two additional days off each week.
<b>Alternate Mode</b>	Any mode of travel other than a single occupant vehicle. Includes (but not limited to) carpool, vanpool, transit, bicycling and walking.
<b>Employees Affected</b>	The percent of all employees at a site that are eligible for a particular strategy. Eligibility could be determined by the employer (e.g. only certain job employee characteristics (e.g., a bicycling program is only going to affect employees that travel six miles or less).
<b>High Transit Service</b>	Frequent light rail and bus service. (15 minute headways or less in the peak period.) Multiple bus routes serve location.
<b>HOV (High Occupancy Vehicle)</b>	Any vehicles (e.g., automobiles, trucks, vans, motorcycle) that carries more than one person. Also called carpools or vanpools.
<b>Low Transit Service</b>	All locations with some bus service that are not defined as medium or high.
<b>Medium Transit Service</b>	At least two bus routes serve location with headways of 20 minutes or less in the peak period.
<b>TDM Strategies.</b>	Transportation demand management strategies are measures that are implemented to reduce the amount of vehicle travel in an area.
<b>Trip Reduction</b>	The number (or percent) of one-way vehicle trips that are eliminated as a result of a TDM strategy. A round-trip from home to work and back would count as two vehicle trips.

## Attachment B (Cont.)

### **Telecommuting**

Telecommuting - The employee performs regular work duties at home rather than commuting to work. The employee may telecommute full time, or commute to work on some days and telecommute on others.

The range of trip reduction values reflects the possibility that an employee may sometimes need to travel to the office on a regularly scheduled telecommute day (e.g., for an office-wide meeting). The upper end of the range would apply if this is not ever expected to occur, and the lower end of the range would apply if telecommuters would come into the office on ten percent of their telecommute days. A significant influence on whether an employee needs to travel to the office on a telecommute day is the acceptance by supervisors of telecommuting and a willingness to schedule around telecommute days. For the subcategory of 1-2 Days/Week, the range also reflects the frequency of telecommuting between one and two days per week.

### **Compressed Work Week**

Compressed Work Week - Employees work their regularly scheduled number of hours in fewer days per week or over a number of weeks. The most common forms are:

- 9/80 Schedule: Eighty hours are worked over nine days in two weeks. One day off every two weeks.
- 4/40 Schedule: Four ten-hour days worked per week. One day off each week.
- 3/36 Schedule: Three twelve-hour days worked per week. Two days off each week.

The range of trip reduction values reflects the possibility that an employee may sometimes need to travel to the office on a regularly scheduled day off (e.g., to work extra hours to meet an unexpected deadline). The upper end of the range would apply if this is not ever expected to occur, and the lower end of the range would apply if employees would come into the office on ten percent of their days off. The range is wider for those on a 3/12 schedule because it may be more difficult to coordinate schedules for those who only work three days per week.

For the strategies listed below (Transit Pass Subsidy, Cash Out Employee Parking, Eliminate Parking Subsidies, Reduced Cost Parking For HOVs, Alternate Mode Subsidy) individuals will vary in their sensitivity to an increased cost or a subsidy based on their income, and this will impact the effectiveness of a cost-based strategy. Employees with higher incomes are less sensitive to changes in price and are therefore less likely to change their travel behavior in response to a transit pass subsidy. Conversely, employees with lower incomes are more sensitive to changes in price and are therefore more likely to

change their travel behavior in response to a transit pass subsidy. An average response by employees in the region would be the midpoint of each range.

### **Transit Pass Subsidy**

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.

### **Cash Out Employee Parking**

Cash Out Employee Parking - An employer that has been subsidizing parking discontinues the subsidy and charges all employees for parking. An amount equivalent to the previous subsidy is then provided to each employee, who can then decide whether to continue driving (at no net change in travel cost to them) or use an alternate mode (which would presumably cost less). Thus, those who use an alternate mode would realize a monetary increase.

### **Eliminate Parking Subsidies**

Eliminate Parking Subsidies - The portion of the cost of parking that is paid for by the employer is eliminated, and the employee pays an increased cost for parking. The existing subsidy may be in the form of payments for the parking places to a third party (such as the operator of a parking garage) or may be included in the building/office lease.

### **Reduced Cost Parking for HOVs**

Reduced Cost Parking for HOVs - Parking costs charged to employees are reduced for carpools and vanpools.

### **Alternate Mode Subsidy**

Alternate Mode Subsidy - For those employees that commute to work by a mode 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.

### **On-Site Services**

On-Site Services - Provide services at the work site that are frequently used by the employees of that work site. Examples include cafes/restaurants, dry cleaners, day care centers, and bank machines.

The variation and number of on-site services that are provided for employees will influence the amount of trip reduction that can be achieved. If a variety of on-site services are provided a greater trip reduction



can be expected to be achieved. It is also important to provide services that are of interest to the employees located at a particular site.

### **Bicycling Program**

Bicycling Program - Provide support services to those employees that bicycle to work. At a minimum, this would include safe and secure bicycle storage. Shower facilities would provide an additional incentive, as would a direct subsidy towards the purchase of a bicycle.

The range of trip reduction values reflects the willingness of a particular group of employees to bicycle to work, as well as the extent of the bicycle facilities provided. Reasons why employees may not be willing to bicycle to work, no matter how convenient, include a concern about appearance after physical exertion (e.g., crumpled business suits, perspiration), need for a car during the work day or to/from work, and perceived safety concerns. A quick, informal survey of attitudes towards bicycling may be the best approach to determining what point in the range to choose.

### **On-Site Rideshare Matching for Carpools and Vanpools**

On-Site Rideshare Matching - 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 transportation coordinator then matches employees who can reasonably rideshare together, works with neighboring employers to find matches or submits the information to Tri-Met's regional database for matching.

Successfully creating new employee carpools or vanpools requires that employees live close enough to each other (or along the route taken to the work site) and far enough away from work so that the time required for pick up and drop off does not significantly add to the total commute time. In addition, employees who rideshare would need to have similar start and end times at work, with a relatively high level of certainty that their start and end times will be consistent on a day-to-day basis. The variation found among employees for each of these factors will influence whether the lower or higher end of the range should be selected.

### **Provide Vanpools**

Provide Vanpools - Employees that live near each other are organized into a vanpool for their trip to work. A central meeting location is designated where the employees are picked up and dropped off. The employer may subsidize the cost of operating and maintaining the van.

Similar to on-site rideshare matching, the formation of vanpools requires that employees live close enough to each other (or along the route taken to the work site) and far enough away from work so that the time required to meet at a common pick-up point does not significantly add to the total commute time. In addition, employees who vanpool would need to have similar start and end times at work, with a relatively high level of certainty that their start and end times will be consistent on a day-to-day basis. The variation found among employees for each of these factors will influence whether the lower or higher end of the range should be selected.

### **Gifts/Awards for Alternative Mode Use**

Gifts/Awards for Alternative Mode Use - Employees are offered the opportunity to receive a gift or an award for using modes other than driving alone. This strategy could be designed so that employees receive points every time they use an alternate mode, and then accumulated points can be used to "purchase" an award. Another approach is to raffle prizes as part of a marketing campaign (maybe an annual rideshare fair) where the raffle tickets are distributed in proportion to the amount of alternate mode use by each employee.

The opportunity to use alternative modes and the income level of the employees will influence the effectiveness of this measure in reducing vehicle trips. Higher values in the range listed could also be achieved through creative gifts/awards programs that are customized to the characteristics of the employees. For example, if football pools are popular among employees, then a ticket to a sporting event may be an effective incentive to encourage alternative mode use.

### **Walking Program**

Walking Program - Provide support services for those who walk to work. This could include buying walking shoes or providing shower facilities.

The success of a walking program will depend upon the number of employees that live within a reasonable walking distance from work. The greater majority of those who would walk to work live within one mile of the work site. Pedestrian accessibility to the work site is also an important factor. Employees will be more willing to walk to work if there are sidewalks that provide a safe and direct route from their home to the door of their work site.

Deterrents to walking include the need to cross streets with a great deal of traffic, lack of direct access (e.g., a fence that has been erected between a residential area and an office complex), and the presence of safety concerns (e.g., high crime in the neighborhood).

### **Time Off with Pay for Alternative Mode Use**

Time Off with Pay for Alternate Mode Use - Rather than a monetary incentive, a gift, or an award, employees are offered time off with pay as an incentive to use alternate modes. An example may be to offer an extra day off with pay to employees who use a mode other than driving alone over a three-month period.

The opportunity to use alternative modes will influence the effectiveness of this measure in reducing vehicle trips. A greater amount of time off with pay for full time versus part time alternative mode use can also increase the amount of trip reduction achieved.

### **Company Cars for Business Travel**

Company Cars for Business Travel - Employees are allowed to use company cars for business-related travel during the day. This assists to remove the disincentive for using an alternate mode for those people who may need their cars for business purposes during the workday.

The opportunity to use alternative modes will influence the effectiveness of this measure in reducing vehicle trips. In addition, the number of employees who may need a car for business travel during the day, and the level of assurance that a car will be available, will influence the amount of trip reduction that can be achieved.

### **Guaranteed Ride Home Program**

Guaranteed Ride Home Program - A company-owned or leased vehicle or taxi fare is provided in the case of an emergency for employees that carpool, vanpool, use transit, walk, or bicycle.

A guaranteed ride home program supports the effectiveness of other ECO measures that encourage the use of transit or ridesharing. The additional effectiveness from this measure would be relatively small compared to the other measures implemented, therefore, the value selected from the range listed would in part be based upon the percent of trip reduction estimated from transit and ridesharing. This measure also has a greater impact in situations in which employees have expressed a concern about the need for a ride home in the case of an emergency or if the employee is required to work late.

### Attachment C ECO Strategy Applicability

Transportation Strategy	EMPLOYEE TYPE					
	Office/Clerical	Executive	Professional/ Technical	Sales/Service - On-Site	Sales/Service - Travels	Manufacturing/ Assembly
Telecommuting	Yes	Yes	Yes	Yes	No	No
Compressed Work Week	Yes	Yes	Yes	Yes	Yes	Yes
Transit Pass Subsidy	Yes	Yes	Yes	Yes	Yes <sup>1</sup>	Yes
Cash Out Employee Parking	Yes	Yes	Yes	Yes	Yes <sup>1</sup>	Yes
Eliminate Parking Subsidies	Yes	Yes	Yes	Yes	Yes <sup>1</sup>	Yes
Reduced Cost Parking for HOVs	Yes	Yes	Yes	Yes	Yes <sup>1</sup>	Yes
Alternate Mode Subsidy	Yes	Yes	Yes	Yes	Yes <sup>1</sup>	Yes
On-Site Services	Yes	Yes	Yes	Yes	Yes	Yes
Guaranteed Ride Home Program	Yes	Yes	Yes	Yes	Yes <sup>1</sup>	Yes
Bicycling Program	Yes	Yes	Yes	Yes	Yes <sup>1</sup>	Yes
On-Site Rideshare Matching	Yes	Yes	Yes	Yes	Yes <sup>1</sup>	Yes
Shuttle to Light Rail Station	Yes	Yes	Yes	Yes	Yes <sup>1</sup>	Yes
Provide Vanpools	Yes	Yes	Yes	Yes	Yes <sup>1</sup>	Yes
Gifts/Awards for Alternate Mode Use	Yes	Yes	Yes	Yes	Yes <sup>1</sup>	Yes
Provide Buspools	Yes	Yes	Yes	Yes	Yes <sup>1</sup>	Yes
Walking Program	Yes	Yes	Yes	Yes	Yes <sup>1</sup>	Yes
Time Off with Pay for Alternate Mode Use	Yes	Yes	Yes	Yes	Yes <sup>1</sup>	Yes
Noontime Shuttle	Yes	Yes	Yes	Yes	Yes <sup>1</sup>	Yes
Company Cars for Business Travel	Yes	Yes	Yes	No	Yes	No