

## How do we calculate estimated savings on cost, fuel and emissions?

The savings represent the difference between driving alone and other modes. Savings calculations are performed using trips logged in the calendar, trip distance and other data.

### Step 1: Calculate miles not driven alone

This is the total distance of all non-drive-alone trips you logged in your calendar. One exception: passenger ferries. For passenger ferries we use a factor that approximates the distance riders would travel by driving around a body of water to their destination instead of taking a ferry.

### Step 2: Calculate the cost of your non-drive-alone trips

We then calculate the cost of your non-drive-alone trips in dollars, fuel and pounds of greenhouse gas emissions. We multiply miles of non-drive-alone trips (from step 1) with the factors in the table below. We obtained most of our factors for non-drive-alone modes from [Public Transportation's Role in Responding to Climate Change](#) USDOT Federal Transit Administration (FTA) and [Transportation Cost and Benefit Analysis II](#), Victoria Transport Policy Institute (VTPI)

### Step 3: Calculate the cost of your trips if you had driven alone

We multiply miles of non-drive-alone trips (from step 1) with the drive alone factors in the table below. We obtained our factors from [2013 Your Driving Costs](#) (pdf), American Automobile Association (AAA).

### Step 4: Calculate your savings

We then subtract your travel costs (step 2) from drive-alone costs (step 3) to determine savings. This is our estimate of the amount you saved. Note that greenhouse gas emissions are represented by pounds of [carbon dioxide equivalent](#) (CO<sub>2</sub>e). This represents carbon dioxide (CO<sub>2</sub>), the most prevalent greenhouse gas, factored up to account for other, less prevalent greenhouse gases (e.g., methane and nitrous oxide).

mode	fuel	greenhouse gas emissions	cost	comments
	gallons	lbs CO <sub>2</sub> e	U.S. \$	All measurements are per passenger mile
drive alone	0.049	0.983	0.37	Cost per mile based on AAA for medium sedan. Includes fuel, maintenance, tires, insurance, license, registration, and taxes. Excludes depreciation, finance and parking costs. Based on 10,000 annual miles per vehicle.
carpool	0.025	0.492	0.185	Assumes two people per vehicle. Equals drive alone costs divided by two.
vanpool	0.0086	0.175	0.0469	Based on seven people per van. Cost per passenger mile based on King County Metro Transit vanpool data.
bus	0.0286	0.66	0.22	Emissions from FTA. Greenhouse gas emissions equal CO <sub>2</sub> e. Fuel based on emissions. Cost based on fare revenue per passenger mile from VTPI table 5.1.8.
train	0.0148	0.34	0.18	Emissions from FTA. Greenhouse gas emissions equal CO <sub>2</sub> e. Fuel based on emissions. Cost based on fare revenue per passenger mile from VTPI Table
light rail	0	0.37	0.19	Emissions from FTA. Greenhouse gas emissions equal CO <sub>2</sub> e. Zero fuel consumption assigned to electric modes. Cost based on fare revenue per passenger mile from VTPI table 5.1.8.
streetcar trolleybus	0	0.37	0.19	Emissions from FTA. Greenhouse gas emissions equal CO <sub>2</sub> e. Zero fuel consumption assigned to electric modes. Cost based on fare revenue per passenger mile from VTPI Table 5.1.8.
bike	0	0	0	Human-powered mode. Nominal costs.
walk	0	0	0	Human-powered mode. Nominal costs.
passenger ferry	0.0949	2.187	0.51	Based on Washington State Ferries. Emissions on all ferry passenger miles and total fuel consumption for all WSDOT ferries. Ratio for miles not driven alone based on weighted drive around distance for ferry routes serving commuter markets. Cost is one-way weighted fare average for passengers.
telework	0	0	0	Eliminates trips entirely. Nominal costs.
compressed work week	0	0	0	Eliminates trips entirely. Nominal costs.
other	0	0	0	Zero fuel, emissions and cost attributed because we can't know what modes users choose to include in this category.