



CARBON FOOTPRINT CHALLENGE



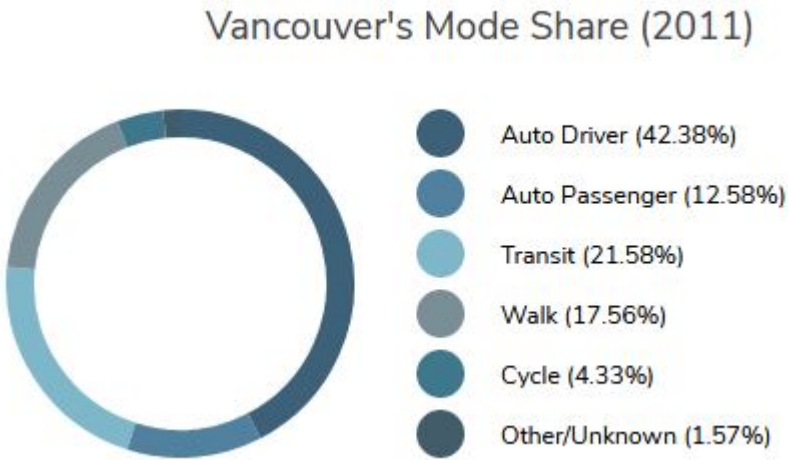
TRANSPORTATION

*How much of an impact does it have on our **carbon footprint**?*

Transportation emissions come from the movement of goods, materials and people, whether by land, air, or sea. Today, there are **1.4 million** cars and trucks operating across the Metro Vancouver region, which emit more than **4.7 million tonnes** of greenhouse gases (2015 data). Heavy duty vehicles, trains, ships, and airplanes accounted for about **1.8 million tonnes** of greenhouse gas emissions.

In Metro Vancouver, transportation is the single largest source of greenhouse gas emissions, accounting for approximately 45% of the regional total. The biggest contributors in the transportation sector are cars and light trucks.¹

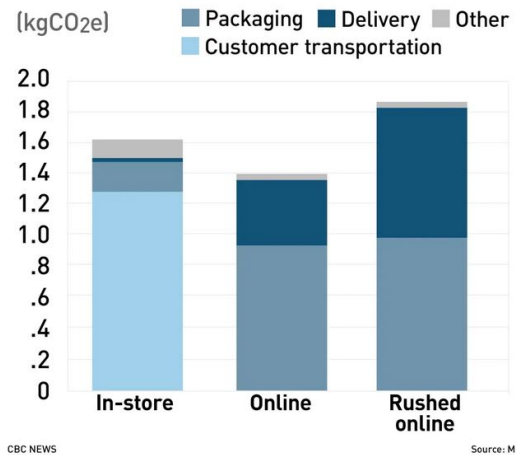
How we move ourselves matters. In Vancouver, 42% of emissions come from on road transportation.²



The average Canadian vehicle, which burns 2,000 L of gasoline every year, releases about **4,600 kg** of CO₂ into the atmosphere.³

How we get our stuff also matters. While many factors affect whether online shopping is greener than in-store shopping, a team at MIT found that online shopping with rush delivery was less environmentally friendly than going to the store.⁴ According to a [UPS study](#), over 60% of Canadians expect orders the same day or next.

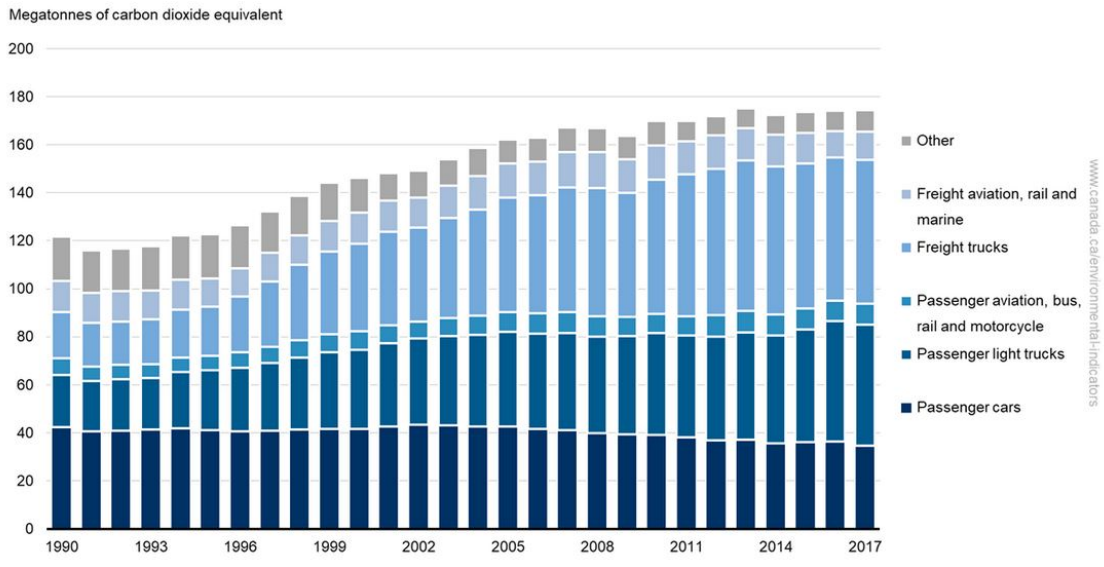
Carbon footprint of in-store shopping vs. online shopping



With free online returns, people also tend to over-order and return unwanted items, leading to more unnecessary transportation, and also colossal waste, as many of those returns [end up in the landfill](#).

While air travel currently represents a smaller proportion overall of greenhouse gas emissions, demand for air travel over the next two decades is set to double.⁵

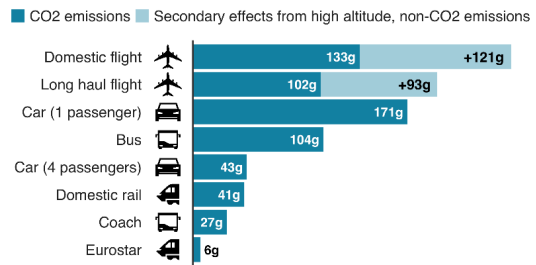
Transportation sector greenhouse gas emissions, Canada, 1990 to 2017



The flight figures in the table are for economy class. For long haul flights, carbon emissions per passenger per kilometre travelled are about three times higher for business class and four times higher for first class, according to the Department for Business, Energy and Industrial Strategy (BEIS).⁶

Emissions from different modes of transport

Emissions per passenger per km travelled



Note: Car refers to average diesel car

Source: BEIS/Defra Greenhouse Gas Conversion Factors 2019

BBE

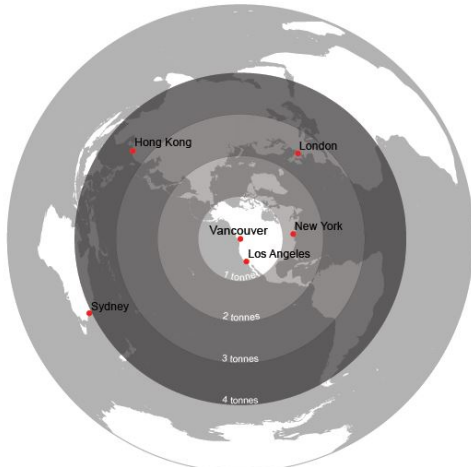


Fig 3. Tonnes of CO₂e emitted by air travel (per passenger economy class) round trip. Emissions factors taken from BES (2018).

Amount of CO₂ emitted per air passenger from Vancouver, BC.

A [recent study](#) found business-related air travel emissions at UBC could be equal to a whopping **63-73%** of the total annual emissions from operating the UBC campus.

*Living car-free is one of the most effective ways to reduce personal emissions, and can save **2.4 tCO₂e** (carbon dioxide equivalent) per year.*

*Reducing air travel is also very important - for each round trip transatlantic flight, an additional **1.6 tCO₂e** is saved.⁷*

UBC & TRAVEL

HOPR bike share

In July 2019, HOPR launched 200 bikes that members can take (almost) anywhere on UBC campus, including academic and neighbourhood areas.

To sign up, visit gohopr.com/ubc for more information about the HOPR bike share program, including pricing and answers to Frequently Asked Questions.

Bike Kitchen

Located in the Llife Building, their mission is to "provide students and the wider community with an accessible environment where they can learn to fix bicycles, share resources, and work together." Visit <https://www.thebikekitchen.ca/> to learn more about their services, programs, and workshops!

Carpooling

There are a couple options for carpooling to campus. Services like [gobyRIDE](#) and [Liftango](#). [Poparide](#) is also good for longer trips in the Fraser Valley and Sunshine coast.

Green Travel at UBC

Visit <https://greentravel.arts.ubc.ca/> to discover how to reduce greenhouse gas emissions due to aviation and other modes of transportation. UBC faculty and staff can find resources that will help them reduce the University's GHG footprint and contribute to addressing the climate emergency.

WAYS TO TAKE ACTION!

- 1 Walk more - organize a step challenge!
- 2 Drive less - bike, carpool or use car-sharing
- 3 Use teleconferencing for short meetings, rather than flying
- 4 Take a pledge to fly less!

Resources and extra sources:

- [Walking at UBC](#)
- [Bicycle parking at UBC](#)
- [Teleconferencing at UBC](#)
- [Canada](#) and [BC](#) Zero emission vehicle rebates
- [Fuel Efficient Driving Techniques](#)
- [Train travel in Canada](#)
- [5 ways to make air travel greener](#)

Citations

1. <http://www.metrovancouver.org/services/air-quality/climate-action/climate2050/regional-priorities/transportation/Pages/default.aspx>
2. <http://www.metrovancouver.org/metro2040/environment/reduce-ghgs/ghg-emissions/Pages/default.aspx>
3. [Learn the facts: Fuel consumption and CO2](#)
4. <https://ctl.mit.edu/pub/thesis/environmental-analysis-us-online-shopping>

5. <https://www.iata.org/en/pressroom/pr/2016-10-18-02>
6. <https://www.bbc.com/news/science-environment-49349566>
7. <http://iopscience.iop.org/article/10.1088/1748-9326/aa7541/pdf>



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