

UCLA Extension – Data Science and Visualization

COM SCI X 450.2

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How do people cross the Mexican and
Canadian borders when entering the United
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Abstract:

The United States shares two borders with two countries – Canada and Mexico. The US-Mexican border has the most crossings annually of any border in the world, with 990 million people crossing annually¹. On the other side, the US-Canada border is 8,891 kilometers long, making it the longest border between two countries in the world².

People get over the border in multiple ways – they take cars, buses, and trains, and can also cross as pedestrians.

Questions:

What is the distribution of ways people have of crossing the border into the United States?

Data:

We took one main dataset, from the Bureau of Transportation Statistics (BTS). It showed Border Crossing Data from 2009-2014³. This dataset has over 340,000 points of data, and it primarily shows how many people crossed the Mexican and Canadian border into the United States, and what their modes of transportation were.

¹ https://en.m.wikipedia.org/wiki/Mexico%E2%80%93United_States_border

² https://en.m.wikipedia.org/wiki/Canada%E2%80%93United_States_border

³ This dataset can be found here – <https://www.kaggle.com/akhilv11/border-crossing-entry-data>

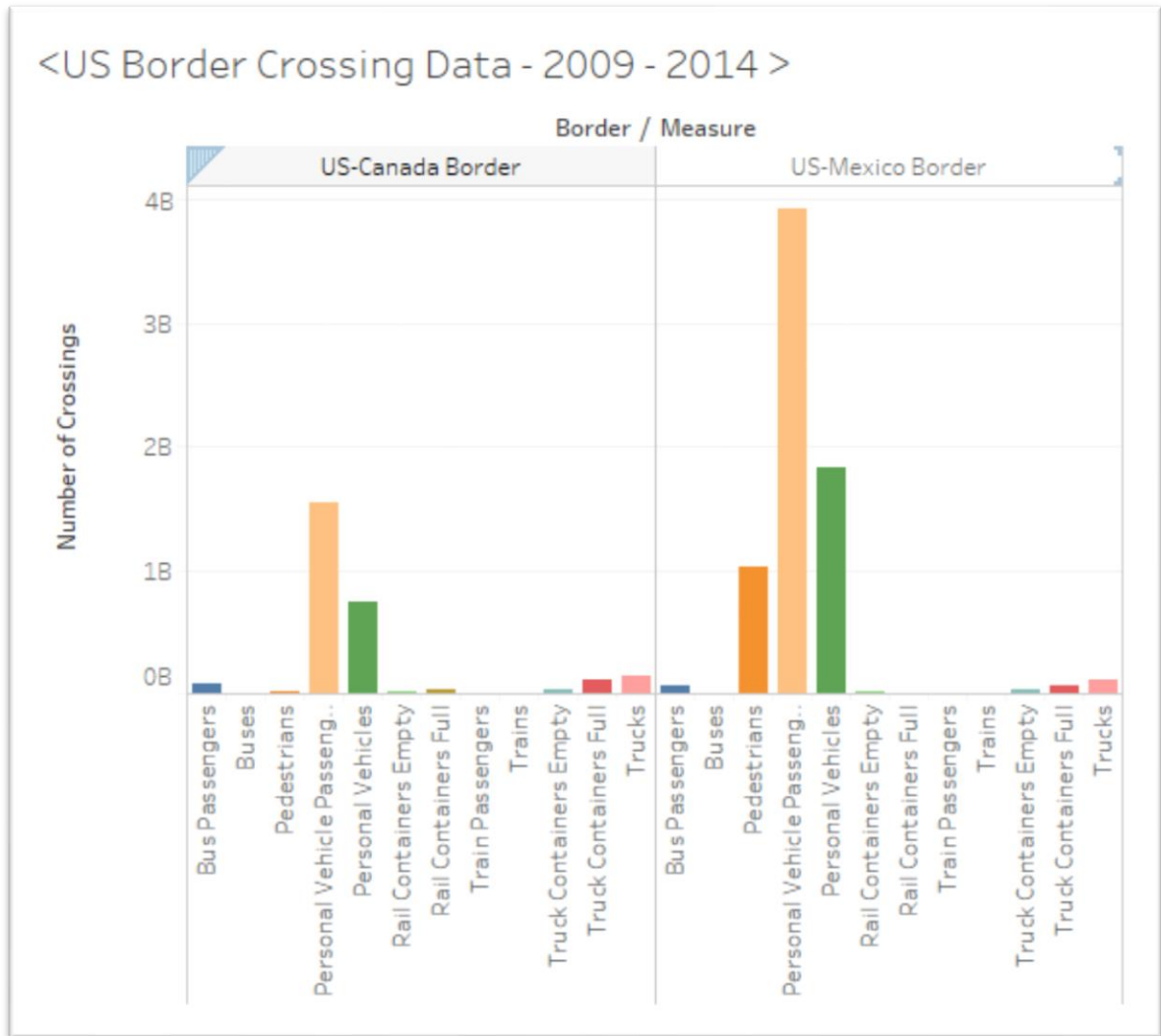
Figure 1: Sample of Border Crossing Data from 2009-2014

	A	B	C	D	E	F	G	H
1	Port Name	State	Port Code	Border	Date	Measure	Value	Location
2	Calexico East	California	2507	US-Mexico Border	3/1/2019 0:00	Trucks	34447	POINT (-115.48433000000001 32.67524)
3	Van Buren	Maine	108	US-Canada Border	3/1/2019 0:00	Rail Containers Full	428	POINT (-67.94271 47.16207)
4	Otay Mesa	California	2506	US-Mexico Border	3/1/2019 0:00	Trucks	81217	POINT (-117.05333 32.57333)
5	Nogales	Arizona	2604	US-Mexico Border	3/1/2019 0:00	Trains	62	POINT (-110.93361 31.340279999999996)
6	Trout River	New York	715	US-Canada Border	3/1/2019 0:00	Personal Vehicle Passengers	16377	POINT (-73.44253 44.990010000000005)
7	Madawaska	Maine	109	US-Canada Border	3/1/2019 0:00	Trucks	179	POINT (-68.3271 47.35446)
8	Pembina	North Dakota	3401	US-Canada Border	3/1/2019 0:00	Bus Passengers	1054	POINT (-97.24333 48.96639)
9	Progreso	Texas	2309	US-Mexico Border	3/1/2019 0:00	Truck Containers Empty	1808	POINT (-97.94889 26.061670000000003)
10	Portal	North Dakota	3403	US-Canada Border	3/1/2019 0:00	Rail Containers Empty	6685	POINT (-102.54917 48.99583)
11	Champlain-Rouses Point	New York	712	US-Canada Border	3/1/2019 0:00	Trucks	24759	POINT (-73.44694 44.98639)
12	Opheim	Montana	3317	US-Canada Border	3/1/2019 0:00	Personal Vehicles	235	POINT (-106.40265 48.85574)
13	Neche	North Dakota	3404	US-Canada Border	3/1/2019 0:00	Trucks	584	POINT (-97.55444 48.98611)
14	Lancaster	Minnesota	3430	US-Canada Border	3/1/2019 0:00	Personal Vehicles	1612	POINT (-96.82024 48.84911000000001)
15	Derby Line	Vermont	209	US-Canada Border	3/1/2019 0:00	Buses	80	POINT (-72.09944 45.005)
16	Sarles	North Dakota	3409	US-Canada Border	3/1/2019 0:00	Personal Vehicle Passengers	509	POINT (-98.99457 48.941050000000004)
17	Wildhorse	Montana	3323	US-Canada Border	3/1/2019 0:00	Truck Containers Full	122	POINT (-109.67761 48.54863)

Methodology:

We took the data, and analyzed it with Tableau software – a business intelligence visualization tool. We placed the data in Tableau, and then made an on-hover state in the graph to allow the data to be shown by state as well.

Results:



Conclusion:

As it turns out, the vast majority of border crossing arrive by car.

- At the Canada border, 736 million people crossed into the United States by driving from 2009-2014, and they brought 1.538 billion people as passengers. Out of 2.688 billion crossing total at this time, this means that car travel accounted for 84.6% of all Canada crossings into the United States.

- At the Canada border, 12.97 million people crossed as pedestrians during this time, meaning less than .5% crossed as pedestrians.
- At the Mexico border, 1.824 billion people crossed into the United States by driving from 2009-2014, and they brought 3.919 billion people as passengers. Out of 7.085 billion crossing total at this time, this means that car travel accounted for 81.1% of all Mexico crossings into the United States.
- At the Mexico border, 1.031 billion people crossed as pedestrians during this time, meaning 14.6 % crossed as pedestrians.

It should be noted of course that this is only official data. Many migrants travel into the United States and are not registered by the Bureau of Transportation Statistics.

But of those who cross the official points of entry, the vast majority of entrants arrive into the United States by car, either as a driver or a passenger.