

Making Sense of Transportation: Past, present and future

Part 1: Mapping a week of your old travel habits

Lesson 1: Thinking Back to “Normal” (Pre- Covid-19)

- 1) Think back to your travel during an “average” week in the fall or early winter of 2019. Where did you travel? Draw on a separate piece of paper a simple map with the locations.

- 2) Now take this information and organize it into the table below. Include: destination, how you traveled (walk, bike, ride in car, ride in bus, carpool, etc), and general purpose of the trip (fun, social, exercise, school, etc.)

- 3) Go onto [Google maps](https://www.google.com/maps) and look up the distances that you travel for each location and add them to the table.

- 4) Then add in the number of trips to that location that week, then calculate the miles per week. Make sure to calculate the round trip total.

- 5) Now, include other members of your household and their travel to the table.

Pre- Covid-19 Table:

Household Member	Destination	Mode of Transportation	General Purpose	Miles/ Round Trip	Trips Per Week	Weekly Miles	Carbon Dioxide Equivalent Emissions (in lbs) Per Week
<i>Ex. self</i>	<i>school</i>	<i>bus</i>	<i>school</i>	5	5	25	$25mi/week \times .667lbs/mi = 16.675 lbs CO_2e/week$
<i>Ex. parent</i>	<i>office</i>	<i>car</i>	<i>work</i>	30	5	150	$150mi/week \times 1.331lb/mis = 199.65 lbs CO_2e/week$
TOTAL	X	X	X	X	X		

Lesson 2: Calculate your household's Carbon Emissions

Use the data from the CO₂ Emissions Table below to calculate your household's total carbon dioxide emissions in a week.

- 1) Find the different modes of transportation and the Carbon Dioxide Emissions per mile.
- 2) For each trip in your table, look at the miles of the trip and do the math to calculate how many lbs. of carbon dioxide are emitted from that trip.
- 3) Record your calculations for each trip, then total the miles and CO₂e emissions for a week in the last row.

CO₂e* Emissions Table

Check out the [VEEP/NHEEP 2019 Poster](#) for a comparison of different ways we get to school. (Note: the Poster measures CO₂ in grams; we have converted it to lbs for the purpose of this table. Also, the emissions here are from the energy to fuel the vehicle, and also the energy to create and maintain the vehicle, extract and transport the fuel, and build and maintain roads for vehicle use.)

Mode of Transportation	CO ₂ e Emissions per person mile
Walk	0.07 lb
Bike	0.07 lb
Diesel School Bus**	0.67 lb
Electric School Bus**	0.41 lb
Gas Car	1.33 lb
Electric Car	0.75 lb
SUV	1.85 lb
<i>Carpooling (only for gas car, electric car, or SUV)</i>	<i>Divide the CO₂ for the vehicle type by # of people carpooling</i>

*CO₂e=other Greenhouse Gases calculated into CO₂ equivalencies

**Assuming the bus transports 20 students and has an average of 10 students on the bus at any one time

Part 2: Mid March-May 2020 travel habits

Lesson 1: A New "Normal"

- 1) This time think back to your average travel during Mid-March to May, when most of New England (including Vermont and New Hampshire) had started the Covid-19 "Stay

At Home” order. Make a second map of that travel on a separate piece of paper or alongside your first map.

- 2) Fill out the table below with your household travel during this time, in the same way that you did in the previous exercise.

March - May 2020 Table

Household Member	Destination	Mode of Transportation	General Purpose	Miles/ Round Trip	Trips Per Week	Weekly Miles	Carbon Dioxide Equivalent Emissions (in lbs) Per Week
<i>Ex. self</i>	<i>Kirschner woods</i>	<i>walk</i>	<i>exercise</i>	<i>2</i>	<i>4</i>	<i>8</i>	<i>8mi/week x .070lb/mi= .56lbs CO₂e/week</i>
<i>Ex. parent</i>	<i>Grocery store</i>	<i>car</i>	<i>food</i>	<i>7</i>	<i>2</i>	<i>14</i>	<i>14 mi/week x 1.331lbs/mi= 18.634lbs CO₂e/week</i>
TOTAL	x	x	x	x	x		

Lesson 2: Calculate your household’s Carbon Emissions

Once again, use the CO₂e Emissions Table from page 2. This time, calculate your household’s total carbon dioxide emissions for each trip, and add it to your table (*like you did in Part 1, Lesson 2*).

Part 3: Reflect: What’s the difference?

Lesson 1: Personal travel

Look at the data you collected and answer the following questions. Share your answers on our social media or with a friend.

1. What do you notice about the difference between the two maps and tables?

2. Where didn't you go in Mar-May (during the Stay at Home order)? And why do you usually go there?

3. What new places were you going to? Why were you going to these new places? Did you discover a new place closer to home that you enjoy?

4. How much carbon dioxide emissions would it save if you did this more local thing every week for a year, rather than the alternative further away option?

Lesson 2: Getting to School

1. Analyze the [VEEP/NHEEP](#) transportation poster and look at how you usually get to school.
2. Now think about your life and talk to your parent/guardian. Are there other options that are available to you to get to and from school?

Current Usual Transportation

Other possible options

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3. Look back at the data you collected about CO₂e emissions per week. Now calculate how much CO₂e is emitted per school year (most schools are 36 weeks per year) to get you to school and back home.

Week

Year

4. How would those emissions change if you chose another option for getting to and from school?

Alternate Option

Emissions/year

<input type="text"/>	<input type="text"/>
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5. Talk to your guardian. What are the reasons you choose to get to and from school the way you do?

Reason 1:

Reason 2:

6. Talk to someone in your class about their options, and why their household chooses what they do. Record the other person's answers below.

Usual Mode of Transportation:	<input type="text"/>
Carbon dioxide equivalent Emissions:	<input type="text"/>
Reason your household chooses this:	<input type="text"/>
Another possible option:	<input type="text"/>
Carbon dioxide equivalent emissions for alternate option:	<input type="text"/>



Part 4: Taking Action

After analyzing your household's transportation habits, where can you make change? Where can you choose to drive less or lower your emissions impact? Talk with your family and design an action plan to help change your habits to reduce transportation impacts on the climate. Check out the "Complete Street" and our [VEEP/NHEEP 2020 poster](#) for ideas.

Actions	When/Timeline	How

For the next month, log any actions daily that are working towards your goal of reducing CO₂ emissions from transportation. Use the table below or a blank calendar.

1)	2)	3)	4)	5)	6)
7)	8)	9)	10)	11)	12)
13)	14)	15)	16)	17)	18)
19)	20)	21)	22)	23)	24)
25)	26)	27)	28)	29)	30)

After 1 month, reflect:

1. Explain how successful you were with your goal. Do you feel like your habits changed?

2. Which actions will you continue to reduce transportation emissions? Explain why.

Extend Your Reach

- Share your emissions-reducing actions, reflections, or ideas on our social media!
 - [facebook.com/NHenergyed](https://www.facebook.com/NHenergyed) or [facebook.com/VTEnergyEducation](https://www.facebook.com/VTEnergyEducation)
 - [instagram.com/vtenergyed](https://www.instagram.com/vtenergyed) or [instagram.com/nhenergyed](https://www.instagram.com/nhenergyed)
- Share what you did to reduce emissions from your transportation habits with others. Talk with friends, classmates, and/or family. Encourage them to make action plans, too.
- Sign up for our Action Programs: [Vermont/New Hampshire](#)

For next steps and ideas on how to take action to reduce transportation emissions in your school, community, or state, check out our website.

Vermont: <https://veep.org/poster-2020>

New Hampshire: <https://nheep.org/poster-2020-21>

For more ideas on how to save money & fuel, and how to drive less, check out [Efficiency Vermont](#)'s Transportation Efficiency page, [Sustainable Transportation Vermont](#) for 10 things you can do to travel greener, or [NH Rideshare](#) program for help carpooling and finding public transit.