Name_____
Date_____
Class _____

How big is your Carbon Shoe? Determining the Carbon Footprint of Your School Commute

Transportation is the primary source of greenhouse gas emissions such as Carbon dioxide (CO_2) in the United States. In this activity, you will determine your "school commute carbon footprint" and investigate how that footprint might change if you used different modes of transportation. Based on the graph, which mode of transportation are on the rise since 2001?

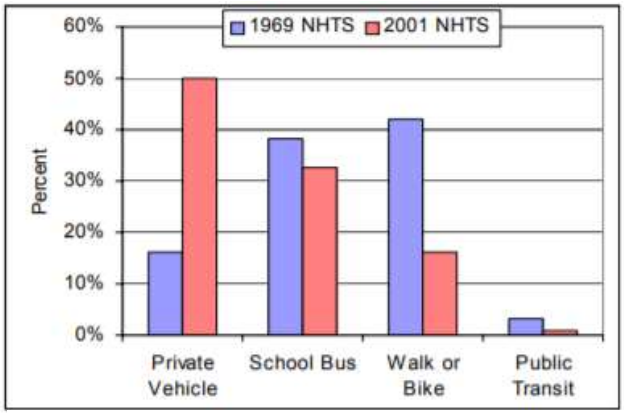

Figure 1. Data and graph provided by the National Household Travel Survey, 2008.

What percent of students nationally who use your same method of transportation to school according to the 2001 survey? _____

How much CO_2 is generated by different modes of transportation?

Mode of transportation	Pounds of Carbon emitted per mile
Bike, walk, or skate	0.02
Bus	0.11
Car or truck, carpool	0.89 divided by # of students in vehicle *For example, if 3 students carpooled, each would be responsible for approximately 0.3 lbs per mile*
Car or truck, one student per vehicle	0.89

1. How many miles do you travel from home to school? _____

2. How many miles per week do you travel to and from school? _____
   Multiply distance by 10 (number of trips per week)

3. Now, let's find out how much CO_2 you would generate with each different mode of transportation.
   Multiply the number of miles traveled per week by lbs. of Carbon emitted per mile for each mode of transportation. For example, if you travel 34 miles per week, you would use the following formula for walk, bike, or skate:

   34 x 0.02 = .68
   miles per week lbs. per mile total carbon footprint

   --- Bike, walk, or skate:

   --- Bus:

   --- Car or truck, 3 students per vehicle:

   --- Car or truck, one student per vehicle:

4. Which mode of transportation do you usually use? Circle your total weekly carbon footprint above.

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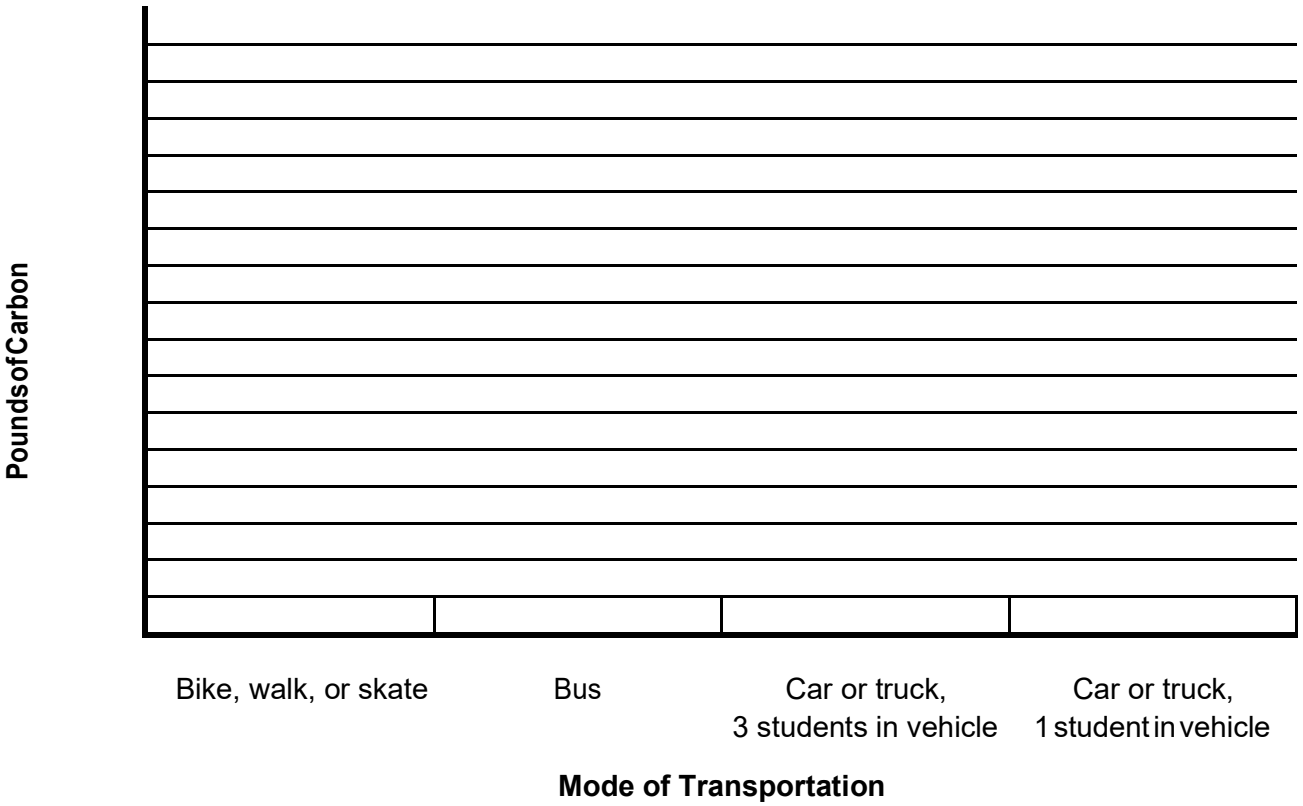
5. Complete the graph below to include each mode of transportation. Be sure to label the y-axis with a range that spans the range of calculated weekly pounds of carbon determined in question 4.



6. Find your commute distance on the x-axis of the graph below. Is your primary mode of transportation to school the same as the most common mode of transportation by all student nationally? _____

7. Multiply your weekly carbon footprint by 35 to calculate your annual school commute carbon footprint.

_____

8. How many students are at your school? What would the student body carbon footprint be if everyone had the same transportation habit as you? Multiply your commute carbon footprint by the number of students in your school.

_____

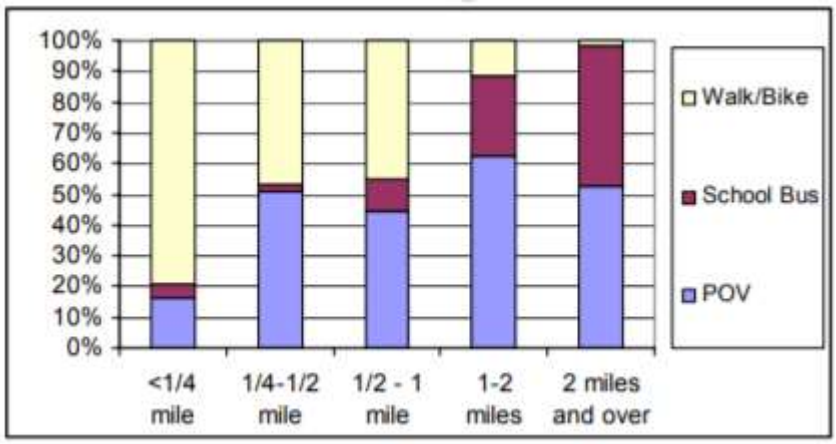


Figure 2. Data and graph provided by the National Household Travel Survey, 2008.

9. What would happen to your footprint if you could carpool, walk or bike more often?

Reference: National Household Travel Survey, 2008. "NHTS Brief." Federal Highways Administration, U.S. Dept of Transportation. Website: https://nhts.ornl.gov/briefs/Travel%20To%20School.pdf

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