

# Bike Shelter Effectiveness

- Eco Effect
    - [2 mile minimum distance from home to school](#)
      - [8 miles if both way 2 times a day]
    - [Average bike speed 9m/h](#)
    - 15 minutes biking (google maps)
      - [ 30 minutes times 2 if both way]
    - [93 calories burned \(estimated\)](#)
      - [ 186 calories times 2 if both way] .
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Gallons used\* 20.4=co2 emissions

23.6 miles per gallon (average gallons per tank)

12 gallons (average # of gallons in a car)

$23.68/8 = 2.96$  trips per gallon

$8/23.68 = 0.337$  gallons per day

$0.337 * 20.4 = 6.78$  co2 emissions per day

$6.78/2000 = .0034$  tons per day per person

$.337 * 5 = 1.685$  gallons per school week

$1.685 * 20.4 = 34.374$  co2 emissions per school week per person

$34.374/2000 = .017187$  tons co2 emissions per school week per person

$.017187 * 4 = 0.068748$  tons of co2 emissions per month per person

$0.068748 * 6 = 0.412488$

These calculations assume that the driver is driving to the school then back to their original position then repeating the process once school is dismissed. Also that the students commute is the maximum distance before a student would take a bus.

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#### Pros for student Health of biking

- Calories burned/exercise
- Brain activity/endorphins levels
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- Traffic
  - Signs
  - Crossroads
- Measuring
  - Survey
  - Data collection