



Transportation is the second biggest source of greenhouse gases in the U.S., and emissions from transportation are greatly increasing as Americans drive more and purchase larger vehicles. In addition to contributing to human-induced climate change, vehicles are one of the biggest sources of air pollutants such as hydrocarbons, nitrogen oxides, and carbon monoxide. Luckily for us, Chicago offers its citizens many alternatives to driving, ranging from trains and buses to paths for bicycling and walking.

In this project, take advantage of Chicago's alternative transportation options by organizing a group of your neighbors or colleagues to carpool, walk or bike together to work, church, school, the grocery store, etc. Keep track of the number of people participating and the miles carpooled, walked, or biked in order to estimate how much fuel your group saves and how much pollution you prevent by avoiding driving alone.

Timeline:

Project Proposal due online: 2 weeks after the Community Organizing class

Part I: Set up Car/Bike/Walk pool: 2-3 weeks

Part II: Tracking Environmental Benefits: 1-2 hours (2-3 weeks after car/bike/walk pooling starts)

Part III: Final Report due online: 1 month after car/bike/walk pooling starts

Part IV: Follow up: Continue pooling (optional)

Materials:

- CTA one-day transit cards
- Bicycle equipment such as helmets, air pumps, or patch kits
- Bicycle lights (front and rear)
- I-Go gift certificate
- **\$800 Savings Challenge** cards

Part I: Set up a Car/Bike/Walk Pool

2-3 weeks

1. **Become an expert.** Read through the following guide, including the **Transportation Fact Sheet** attached. Check out the **Additional Resources** that interest you.
2. **Define your project vision and goals.** What do you hope to achieve by doing this project? How many community members do you hope will participate? How much gas will your project save, and how much pollution will you prevent?
3. **Gather potential car/bike/walk pool partners.** Refer to your **Asset Map** and **Building Your Project Team** worksheets in your **Project Development Workbook**. For example, you might recruit . . .
 - Colleagues to carpool to work.
 - Neighbors who work in the same area (e.g., the Loop) to carpool or bike together.
 - Friends and neighbors to walk, bike, or carpool together to the grocery store, school, church, etc. Depending on your destination, your group could take turns going (e.g., rotate who drops the kids off at school), or all go together (e.g., share rides to the grocery store).
4. **Meet with your potential participants over coffee or lunch to work out details and make sure you are well-suited to car/bike/walk pool with each other.** Make sure to discuss the following issues, compiled from www.commuterpage.com/tenttips.htm. If you are setting up a group to walk or bike, you will not need to address all of these issues.
 - Explain the importance of reducing driving (refer to the **Transportation Fact Sheet**).
 - Determine your route and schedule. Establish the morning pickup point(s) and designate a place(s) to meet for the trip home.
 - Draw up a schedule for driving responsibilities. Decide if carpool members want to alternate driving on a daily, weekly, or monthly basis.



- Establish a method for reimbursing driving expenses. If all members of your carpool do not share the driving equally, come to an understanding of how the costs will be shared and agree on payment dates. To calculate payments: multiply the average cost of gas per mile by the round-trip mileage, then divide that amount by the total number of carpoolers. AAA has calculated average costs for small to large cars: www.aaaexchange.com/Main/Default.asp?CategoryID=16&SubCategoryID=76&ContentID=353.
 - Decide how long the driver is expected to wait (usually 2-3 minutes). If you pick up people from their homes, do not disturb everyone in the neighborhood by honking if a rider is running a few minutes late.
 - Discuss the duties of the driver, such as keeping the car clean and filling up the gas tank before pick up.
 - Establish policies for everyone's comfort (smoking or nonsmoking; music and volume; food and drinks). Your carpool will have a better chance of success if you discuss possible irritants early on.
 - Discuss what purposes the carpool will serve. For example, if the carpool is for commuting to and from work, do not let it become a shopping or errand service.
 - Establish a chain of communication. If a driver is ill or will not be going to work one day, an alternate driver should be notified to ensure that other members of the carpool will have a ride. If a member is ill or will not be working, the driver must be contacted as soon as possible.
 - Drive carefully and keep the vehicle in good repair. This includes keeping the vehicle clean and safe. As there are others involved, there is no excuse for excessive speed, use of alcohol, or reckless maneuvers.
 - Respect your fellow carpooler's wishes, especially in the morning when some people prefer quiet.
 - You may wish to set up a trial period – that is, try carpooling for several weeks and see if it works out, then meet again and decide whether to continue and/or whether to change any of the rules.
5. If you are looking to inspire participants in your car/bike/walk pool to take it a step further, have a discussion about alternative transportation options in Chicago. Talk about potential membership in car-sharing services such as I-Go or ZipCar (www.igocars.org; www.zipcar.com), provide one day CTA passes as an incentive for participants to leave their cars at home, or distribute bicycle riding information and tools to get more of your participants to ride to their destinations.
6. **Start car/bike/walk pooling!**

Part II: Tracking Environmental Benefits

1-2 hours (2-3 weeks after car/bike/walk pooling starts)

1. **Estimate how much fuel and pollution your carpool (or walking/biking group) is saving.** Ask each participant to fill out a short survey. For example, you could ask:
- How many miles of driving per week they are avoiding by car/bike/walk pooling
 - What type of car they normally drive (this will help you calculate fuel and pollution savings; see below)
 - How much they spend on gas now versus before the carpool started
 - What other benefits they have noticed (i.e. improved health from walking/biking, reduced car maintenance, making new friends)

Alternatively, ask each participant to use the Travel Matters website (www.travelmatters.org/calculator/individual/) to track their travel habits both before and after the carpool starts. Ask participants to report their results (e.g., pounds of emissions) to you.

2. **Based on your survey responses, calculate environmental benefits.** Use the table on the following page to help you carry out your calculations.



| Vehicle Size (check one) | Average Fuel Economy (miles/gallon) | Price of Fuel (\$/gallon) | Average Greenhouse Gas (GHG) Emissions Rate (lb/gallon) |
|---------------------------------------|-------------------------------------|---|---|
| Compact or midsize car | 22.1 | Check the current price at www.fuelgaugereport.com/ILmetro.asp | 19.4 |
| Sports utility vehicle or light truck | 17.6 | Check the current price at www.fuelgaugereport.com/ILmetro.asp | 19.4 |

For example, a carpool participant who usually drives a compact car, and has eliminated 50 miles a week of driving alone because of your carpool, would save:

- 2.26 gallons of gas/week (= 50 miles/week ÷ 22.1 gallons/mile)
- \$9.13 per week (= 2.26 gallons/week x \$4.04/gallon [average price of gas in Chicago, 08/2008])
- 43.9 pounds of GHG/week (= 2.26 gallons/week x 19.4 lbs/gallon)

Add up all your participants' savings to calculate the overall environmental benefits of your project.

Part III: Turn in Final Report Worksheet

1 month after car/bike/walk pooling starts

As soon as you've calculated environmental benefits, please fill out your **Final Report** online. Corresponding materials such as digital photographs, outreach flyers or posters, press releases, or news clippings should be emailed to conservation@cityofchicago.org. Please also enter the information from your **\$800 Savings Challenge** cards on www.chicagoclimatereaction.org.

Part IV: Continue Carpooling (optional)

If your carpool is successful, we hope you will continue even after you graduate from C3!

Additional Resources

- **Fueleconomy.gov:** www.fueleconomy.gov. Created by the US Environmental Protection Agency and Department of Energy, this website provides detailed profiles of vehicles' fuel use and emissions. Also includes information about alternative fuel vehicles and driving efficiently.
- **Chicago Department of Transportation's Bike Program:** <http://www.chicagobikes.org/>. Includes links to bike trail maps, information about bike safety, listings of bike shops, information about the benefits of biking, and more!
- **Chicago Bicycle Federation:** www.biketraffic.org. Find bicycle shops and clubs, great deals, and upcoming bicycling events.
- **Chicago Department of Transportation's Pedestrian Program:** <http://www.cityofchicago.org/Transportation/>. Everything you ever wanted to know about walking in Chicago, including information about walking and health, pedestrian safety, safe routes to school, maps and tours, city programs, and pedestrian-friendly transportation options.
- **Chicago Transit Authority:** <http://rtchicago.com>. Find your way around Chicago by using the CTA's trip planner and system maps. You can also find information about the CTA's history, operations and service area, revenue, and other interesting facts.
- **Metra:** <http://metrarail.com>. Find schedules, maps, and other logistical information, as well information about Metra's history and current operations.
- **Pace:** www.pacebus.com. Pace serves 130,000 daily riders in the Chicagoland suburbs. Find out about riding Pace, as well as information about its history and operations. Be sure to check out Pace's Vanpool Program at www.pacebus.com/sub/vanpool/default.asp, which includes a "Costs of Driving" fact sheet.
- **E-Ride Share :** <http://www.erideshare.com/carpool.php?city=Chicago>. A free service that allows members to list and search for carpools in the Chicagoland area.
- **Walk Score.com:** www.walkscore.com Assess the walkability of your neighborhood or work environment.



Transportation and Global Climate Change:

- 5% of the world's population lives in the United States, but we produce almost 25% of the world's greenhouse gas emissions, which are responsible for global warming.
- Transportation contributes about 30% of the greenhouse gas emissions in the US, making it the second largest source of greenhouse gases next to industry. Transportation is the largest source of carbon dioxide, the most prevalent greenhouse gas.
- Transportation is the fastest-growing source of greenhouse gas emissions. Emissions from vehicles increased by 24% between 1990 and 2003.

Source: *The U.S. Environmental Protection Agency*

(<http://yosemite.epa.gov/oar/globalwarming.nsf/content/ActionsTransportation.html>)

Transportation and Air Quality:

- Highway vehicles are a major contributor to air pollution in the U.S., producing 29-63% of key chemicals that cause smog and health problems. Nationwide, vehicle emissions account for:
 - 63% carbon monoxide (CO)
 - 36% Nitrogen oxides (NOx)
 - 29% Hydrocarbons
 - 10% of particulate matter emissions
- Air pollution from vehicles can cause respiratory problems, aggravate asthma, and increase the risk of a variety of other diseases, including lung cancer and leukemia.

Source: *The U.S. Environmental Protection Agency* (www.epa.gov/otaq/inventory/overview/pollutants/index.htm)

What Can You Do?

- For short trips, walk or ride your bicycle to work, home or school.
- Take public transportation to get you where you need to go.
- Start a carpool with classmates who live nearby – or a “walking school bus” for those who live close enough to walk to school.
- If your family only needs a car (or a second car) occasionally, look into joining a car sharing service. Check out <http://igocars.org> com for more information.
- When you do need to drive, make sure you do it efficiently! Here are some ways to improve fuel efficiency:
 - If you are buying a new car, purchase a fuel efficient and low emissions vehicle.
 - Combine errands and plan out the shortest route possible. The heaviest car emissions occur during the first two miles that a car is driven (while the engine is still cold).
 - Minimize use of your air conditioner and improve your fuel efficiency by 5-20%.
 - Drive the speed limit - you can save 15-20% by driving 65 instead of 75. To get optimum mpg, drive between 35-45 MPH.
- Avoid idling your car for more than 30 seconds.
- Keep your tires inflated at the maximum recommended pressure (check once a month) and properly aligned (get your alignment checked every 5,000 miles).

Did You Know?

- In 2007, there were 232 million registered cars in the U.S..
- The average U.S. auto uses 600 gallons of gasoline per year.
- On average, a car in the U.S. emits 12, 000 pounds of carbon dioxide per year.
- It would take 240 trees to absorb the carbon dioxide produced by one U.S. car each year.

Source: *"Cars buy the Numbers" Dec., 3, 2007, Environmental Defense Fund; <http://www.edf.org/article.cfm?ContentID=6083>*

Did You Know?

Alternative Transportation in Chicago

- The Chicago Transit Authority (CTA) is the nation's second largest public transportation system, providing more than 1.5 million rides every day.
- The Metra train system serves 230 stations in Cook, DuPage, Lake, Will, McHenry and Kane counties.
- The Chicago Department of Transportation (CDOT) has identified 425 miles of bicycle-friendly streets and paths in the city, including the 18-mile lakefront trail.
- 25% of Chicago's workers report taking public transportation. 16% of workers living in Cook County (including Chicago) take public transportation. The figure drops to 3.9% in McHenry County.

Sources: *The Chicago Tribune, "Our Long Commute Just Gets Longer," August 30, 2006; the CTA, Metra, and DOT websites*