

Introduction

During the past 40 years, university and college campuses across the United States have experienced an increase in the number of students, staff, and faculty.

In addition to this growth, per capita automobile use and ownership have increased at such a rate that the personal automobile has become the dominant mode of transportation.

As such, "The daily movement of people back and forth to campus in automobiles burning fossil fuels is one of the largest impacts a typical educational institution imposes on the life support systems of the planet." (Toor and Havlick, 2004)

As the following numbers show, that impact at the University of Wisconsin-Green Bay is significant.

By the numbers

6,595

Total university population Fall 2005

7,514

Parking permits issued, 2004/05 most recent data available

10,857,040

Estimated miles driven annually by students, faculty and staff commuting to and from campus

That translates to an environmental impact of

71,494 lbs

Total hydrocarbons emitted annually

540,827 lbs

Total carbon monoxide emitted annually

35,815 lbs

Total oxides of nitrogen emitted annually

10,622,224 lbs

Total carbon dioxide emitted annually

538,623 gallons

Total gasoline consumed annually

The university hopes to increase the student population to 7,500. To accommodate the increased number of students, the campus Master Plan suggests adding

1,815

New parking spaces

The campus Master Plan relies on a traditional approach to transportation management: increasing the supply of parking spaces. A more sustainable approach used at many college and university campuses is:

Transportation Demand Management.

TDM calls for expanded transit access, better bicycle and pedestrian facilities and financial incentives for students, faculty and staff to drive less.

In order to determine which strategies would be most successful on the UW-Green Bay campus, the Transportation subgroup of the capstone class conducted a GIS analysis (see separate poster) to determine where students, faculty, and staff are traveling from and administered an online survey to determine the transportation habits of the university population. (More specific information on the methodology used will be incorporated in a paper to be posted online.)



Green Bay Metro bus, City of Green Bay



Lab Sciences Parking Lot. Seen from the Facilities and Maintenance Building looking north with Lab Sciences and the Coffin Library in the background.

Commuting and Transportation Habits Survey

1. If you commute to campus, what is your primary means of transportation? (Mark one answer for each row.)

| | Never | Very rarely (once or twice a semester) | Sometimes (about once a week or so) | Often (not every day, but several times a week) | Very often (Every day or almost every day) |
|---------------------|-------|--|-------------------------------------|---|--|
| Car | 9.5 | 4.1 | 4.7 | 9.9 | 71.8 |
| Van, SUV or truck | 60.5 | 15.4 | 4.2 | 3.9 | 16.1 |
| Motorcycle, scooter | 94.6 | 2.5 | 1.5 | 0.6 | 0.8 |
| Bicycle, skate | 88.4 | 7.3 | 2.5 | 0.5 | 1.3 |
| Walking | 92.1 | 3.8 | 1.4 | 0.8 | 1.8 |
| Bus | 94.8 | 2.2 | 0.8 | 0.7 | 1.5 |

2. If you are a campus resident, what is your primary means of getting to and from classes? Do not include information about how you travel when you leave campus. (Mark one answer for each row.)

| | Never | Very rarely (once or twice a semester) | Sometimes (about once a week or so) | Often (not every day, but several times a week) | Very often (Every day or almost every day) |
|---------------------|-------|--|-------------------------------------|---|--|
| Car | 61.9 | 22.4 | 7.9 | 3.3 | 4.5 |
| Van, SUV or truck | 96.6 | 2.2 | 1.2 | 0 | 0 |
| Motorcycle, scooter | 99.8 | 0.2 | 0 | 0 | 0 |
| Bicycle, skate | 86.1 | 6.3 | 3.9 | 1.5 | 2.2 |
| Walking | 3 | 0 | 0.8 | 2.4 | 93.7 |
| Bus | 99.5 | 0 | 0.2 | 0 | 0.2 |

3. If your primary means of transportation is by motor vehicle, how often do you commute or travel with another person?

| | Never | Rarely | Occasionally | Most of the time | All of the time |
|--|-------|--------|--------------|------------------|-----------------|
| | 51.2% | 22.4% | 15.3% | 6.5% | 4.6% |

4. If you drive to or on campus now, would you consider any of the following means of transportation? (Please rank in order of consideration, with 1 being the option you would most likely consider and 5 being the option you would be least likely to consider.)

| Transportation | 1 | 2 | 3 | 4 | 5 |
|--------------------------|------|------|------|------|------|
| Bicycle | 10.8 | 21.7 | 13.9 | 41.4 | 12.1 |
| Walking | 16.8 | 8.7 | 9.3 | 11.2 | 53.9 |
| Bus | 6.4 | 14.2 | 39.1 | 15.7 | 24.5 |
| Shuttle from park & ride | 8.7 | 36.1 | 19.2 | 18.5 | 17.4 |
| Car-pooling | 58.2 | 15.3 | 14 | 5.1 | 7.4 |



Shuttle bus photo courtesy of www.hirequalitylimo.com.



Bicycling at Colorado State University

5. If you commute to campus, how many miles ROUNDTRIP is your commute?

| 0-5 miles | 6-10 miles | 11-20 miles | 21-30 miles | 31-40 miles | > 40 miles |
|-----------|------------|-------------|-------------|-------------|------------|
| 20.7% | 15.8% | 18.0% | 14.1% | 7.4% | 24.0% |

6. What barriers, if any, keep you from choosing to bicycle, walk or use public transportation as your form of transportation? (Check all that apply.)

41% Lack of convenience
38.7% Not enough time
49.6% I live too far away from campus
4.5% Not aware or knowledgeable of the options
16.7% Lack of public transportation near my home
21.5% Lack of safe route to bicycle or walk

7. What barriers, if any, keep you from carpooling? (Check all that apply.)

35% Lack of convenience
13% Not enough time
3.8% It's an invasion of my privacy
37.9% Limits my ability to run errands when traveling two and from campus
54% I don't know of anyone near my home with a similar class schedule

8. What is the most you are willing to pay for an annual parking permit to ensure you have a place to park your car on campus? The current permit fee for the year is \$76.

| No Response | \$100-\$125 | \$126-\$150 | \$151-\$175 | \$176-\$200 | \$201-\$225 |
|-------------|-------------|-------------|-------------|-------------|-------------|
| 10.2% | 77.4% | 6.4% | 1.8% | 1.1% | 3.1% |

9. If you live on campus, in an average week, how many days do you leave the university?

| 0 days | 1 day | 2 days | 3 days | 4 days | 5 days | 6 days | 7 days |
|--------|-------|--------|--------|--------|--------|--------|--------|
| 2.8% | 14.7% | 20.3% | 23.5% | 17.5% | 10.7% | 5.3% | 5.3% |

10. What are your most common reasons for leaving campus? (check all that apply)

| Family/Friends | Entertainment | Groceries | Shopping | Work | Errands | Other |
|----------------|---------------|-----------|----------|-------|---------|-------|
| 60.9% | 59.2% | 68.8% | 57.4% | 40.2% | 23.0% | 6.8% |

11. Are you a
82.4% Student
5.9% Faculty member
11.6% Staff member



Car pooling — perhaps the best option at UW-Green Bay. Photo courtesy of www.marbymong.vic.gov.au



Making the campus more pedestrian friendly is also an option. Photo courtesy of Converse College.

Recommendations

Short term and Immediate Options

Promote car pooling

- Develop a car pool database
- Offering reduced-rate parking permits to car-poolers
- Provide daily parking permits for use when car pooling is not practical
- Provide reserved parking spaces for car-poolers

Institute economic incentives to discourage students, faculty and staff from driving vehicles to campus and encourage use of alternative transportation

- Gradually increase parking fees
- Provide a limited packet of daily parking permits for purchase by people who bicycle or walk to campus but occasionally need to drive

Reduce the amount of driving by on-campus residents

- Provide dormitory-lot-only parking permits for on-campus residents.

Longer-term options

- Work with the city of Green Bay to redo the metro bus routes
- Purchase a shuttle or shuttles to be used to provide more direct access
- Provide students with "free" bus permits for use any time.
- Institute graduated parking fees based on vehicle type. Provide better rates for more fuel-efficient vehicles.
- Establish reserved parking spaces closer to buildings for people who drive more fuel-efficient vehicles.
- Provide a guaranteed ride home
- Work with city and county planners to develop more bicycle lanes and pedestrian walkways to and from campus.

The bigger picture

- Develop more amenities on and near campus, reducing the need for students and employees to travel significant distances. This includes retail outlets and affordable housing
- Place a moratorium on the construction of new parking spaces.
- As the campus reduces the need for parking spaces, use existing parking lots to infill with academic buildings.