



# Northwestern University Transportation Survey Report

2016





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# Introduction

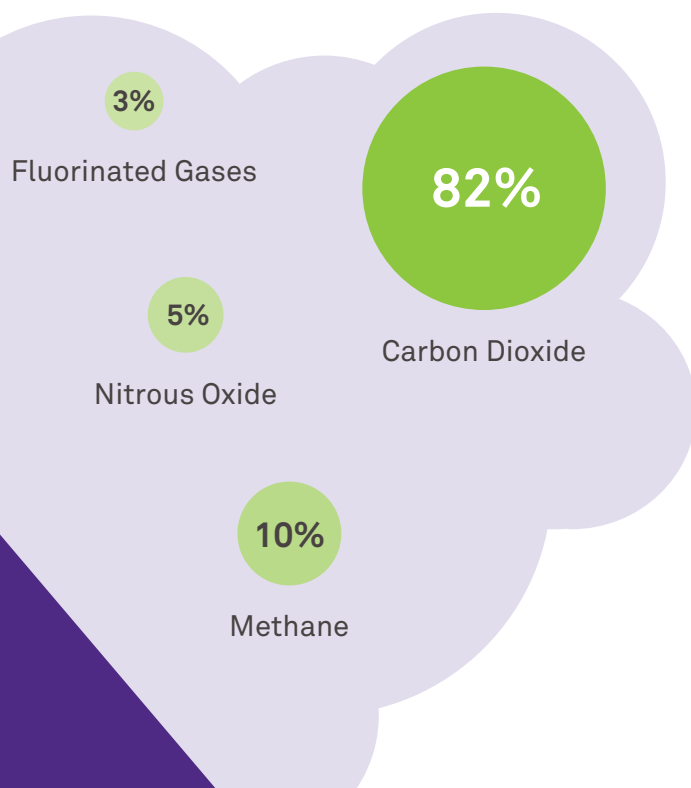
Northwestern University is committed to contributing to solutions for renewable energy and a sustainable environment. sustainNU is a University-wide program aimed at engaging students, faculty, and staff in efforts to reduce Northwestern’s environmental footprint and contribute to a greener, healthier, and more sustainable future.

In November 2016, sustainNU released its inaugural campus-wide Transportation Survey in partnership with Northwestern’s Institutional Research Office to learn about the commuting habits of our students, faculty, and staff, and to assess awareness around University-provided transportation amenities. The survey results will enable the University to be thoughtful in its approach to reducing greenhouse gas emissions and identify opportunities to improve our community’s commuting experience.

This report represents the data compiled upon review and analysis of the survey results. Data points in the report have been rounded to the nearest whole number, therefore some figures noted in percentages may not add up to one hundred percent.

Northwestern would like to thank the students, faculty, and staff members who participated in the survey for providing their valuable feedback.

## US GREENHOUSE GAS EMISSIONS BREAKDOWN IN 2015



## TOTAL US GREENHOUSE EMISSIONS BY ECONOMIC SECTOR IN 2015

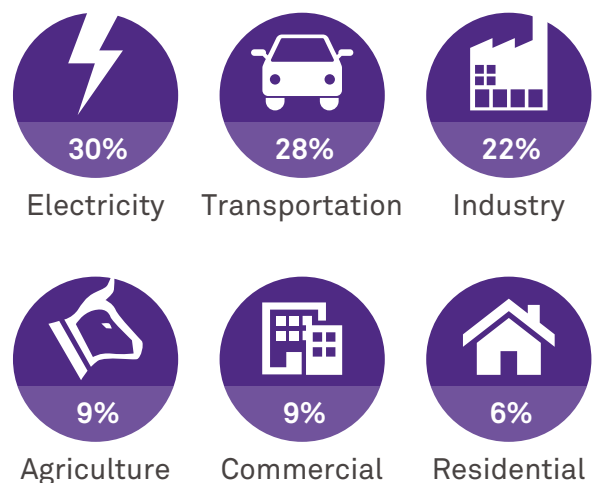


Figure 1 Sourced from the US EPA's Greenhouse Gas Emissions data.

# Executive Summary

In November 2016, the sustainNU program and Institutional Research Office issued the first annual Transportation Survey in order to gather information about the commuting habits of students, faculty, and staff. The purpose of the survey is to identify opportunities to improve transportation options available to the community while reducing greenhouse gas emissions from transportation.

Northwestern has committed to reducing greenhouse gas emissions by 30% below 2010 levels by 2030 and achieving net-zero emissions by 2050. The emissions from transportation and commuting behaviors directly impact the University's ability meet these goals.

According to the US Environmental Protection Agency, transportation accounted for 27.6% of the total US greenhouse gas emissions of 6,587 million metric tons of carbon dioxide equivalents (MTCDE) in 2015. Transportation represents the second largest share of the total US greenhouse gas emissions. Electricity generation surpasses transportation, producing the largest share of emissions at 29.7%. (Figure 1)

The Transportation Survey results indicated that Northwestern's commuting practices represent 4% of the University's total 324,415 MTCDE greenhouse gas emissions as reported in 2016. While transportation accounts for a relatively small portion of the University's total emissions, it is still a significant factor.

The insights gained from the annual Transportation Survey will guide ongoing efforts to improve the commuting experience while reducing the University's environmental footprint, influence Northwestern's Campus Transportation and Parking Master Plan, and help us strategically evolve the University's Strategic Sustainability Plan.

## HIGH-LEVEL OBSERVATIONS

- Most respondents seek the fastest and cheapest commuting option.
- Among students, walking is the most common means of commuting to and from campus, while employees tend to live beyond walking distance and use personal vehicles.
- Both students and staff overwhelmingly use Northwestern's intercampus shuttle to travel between the Evanston and Chicago campuses.
- There is a general lack of awareness of Northwestern's transportation program and its amenities.
- Respondents also reported low levels of familiarity with current sustainability efforts on campus.

Moving forward, we plan to administer the Transportation Survey annually in order to establish a representative baseline. After clear trends become visible, the survey will be conducted every two years.

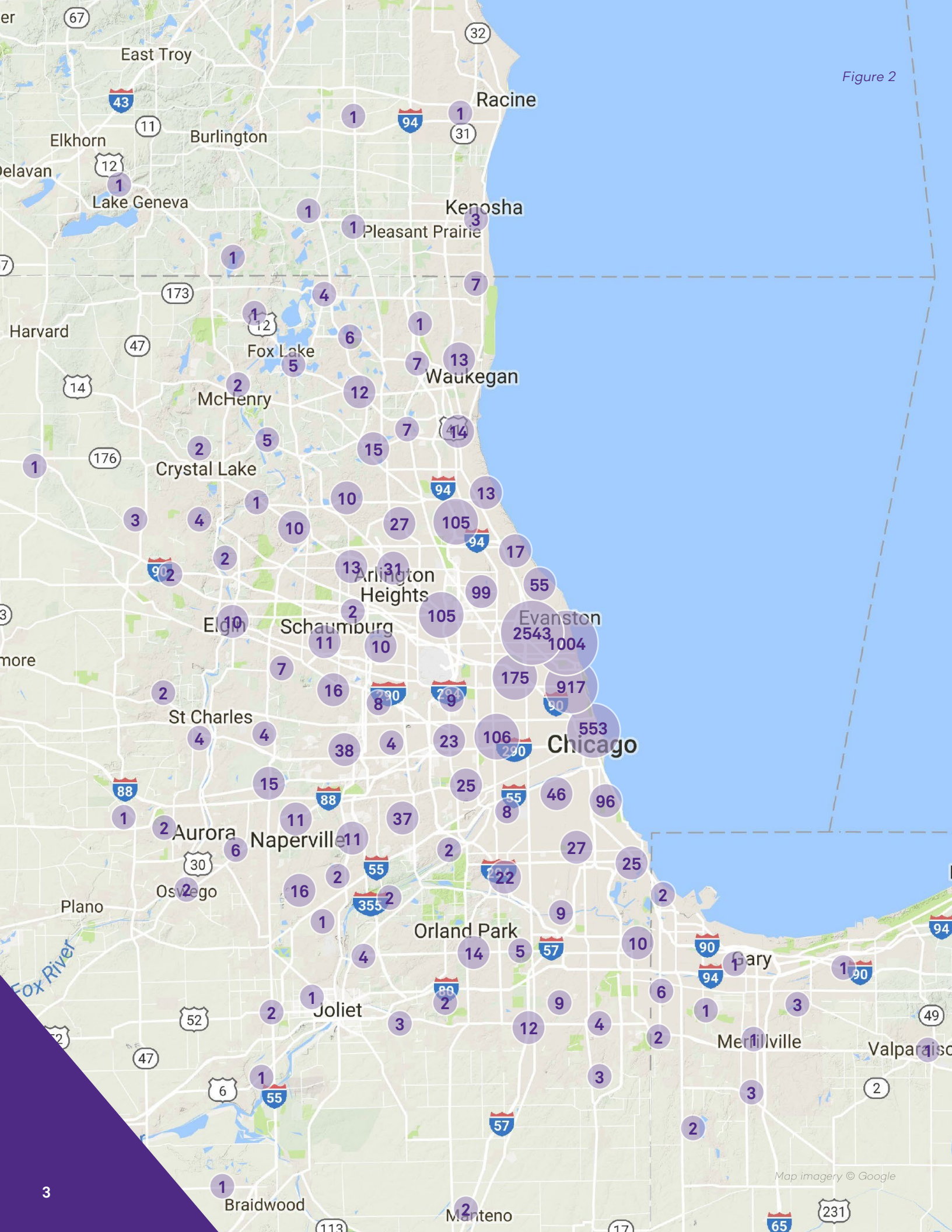


Figure 2



# Methodology

sustainNU partnered with Northwestern’s Institutional Research Office in order to administer the inaugural Transportation Survey. This partnership was vital to the success of the survey as the Institutional Research Office offers expertise in Northwestern-specific data and survey administration.

The survey was distributed via bulk email, no paper or telephone versions of the survey were disseminated. The Transportation Survey was developed and administered using Qualtrics survey software. An initial email was released with two subsequent reminder emails following – one a week after the survey was administered and another the day the survey closed. The survey was accessible online to all email recipients, with an option compatible with mobile devices. The survey remained open for two weeks, from November 14 through November 28, 2016.

## POPULATION AND SAMPLE SIZE

The Transportation Survey was administered to all Northwestern graduate students, faculty, and staff, as well as a sampling of 2,000 undergraduate students. The Northwestern University population is made up of 8,791 undergraduate students, 11,645 graduate students, and 10,187 full-time equivalent faculty and staff. (Table 1)

	INVITED TO THE SURVEY	RESPONDED TO THE SURVEY	RESPONSE RATE
Undergraduate Students	2,000	345	17.3%
Graduate Students	10,364	2,040	19.7%
Faculty and Staff	10,471	4,303	41.1%
Total	22,835	6,688	29.3%

Table 1

## GEOGRAPHIC LOCATION OF NORTHWESTERN COMMUTERS

The survey results demonstrate that many of the students, faculty, and staff who provided their ZIP codes live within the Chicago area, with heavy concentrations in both Evanston and Chicago (Figure 2). Many commuters populate suburban areas beyond the city limits of both Chicago and Evanston, with a slightly higher concentration in the northwest suburbs. Although most Northwestern commuters live fairly close to our campuses, some commuters travel to campus from as far away as Wisconsin and Indiana.

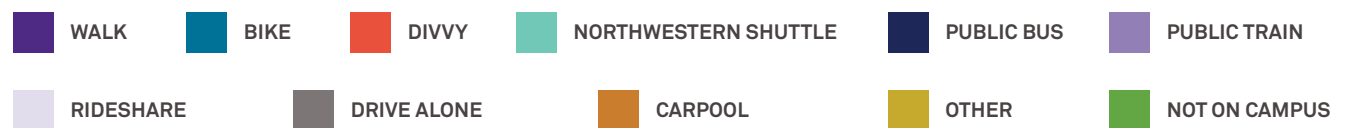
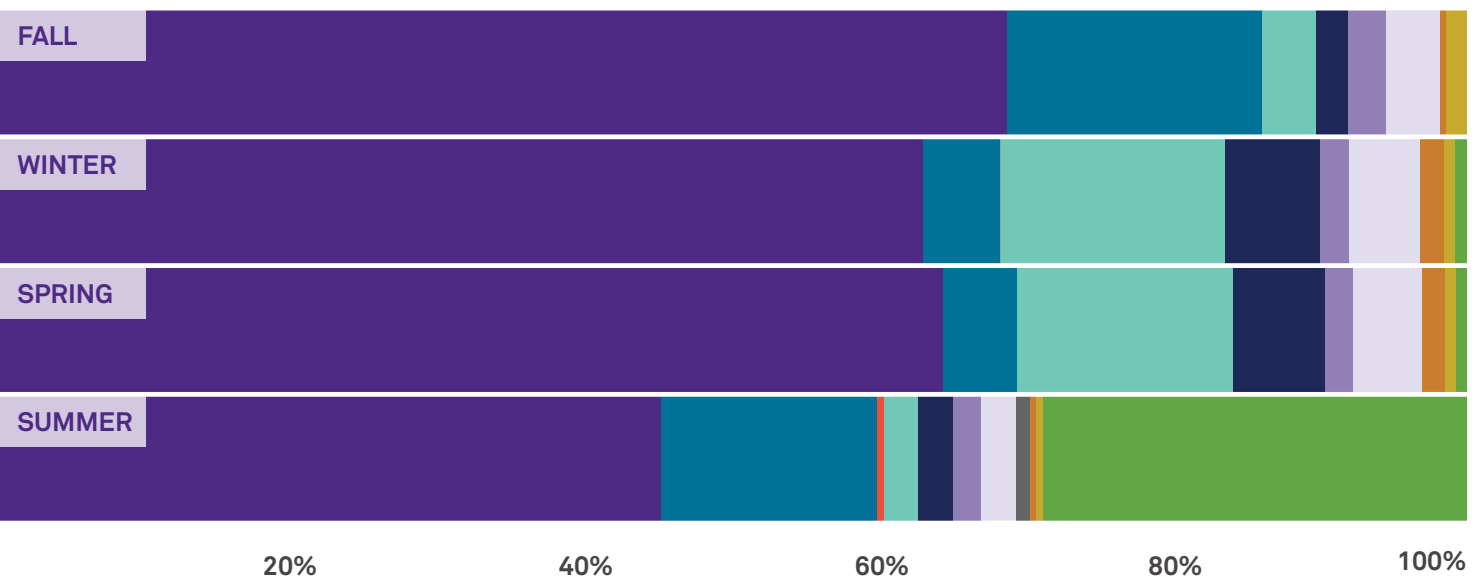
# Transportation Mode Split

The ways in which students, faculty, and staff commute to the University differ, representing two distinct types of commuters. The primary transportation modes of students, faculty, and staff are listed, with a further breakdown by season. The seasonal breakdown was essential for the Evanston region, where extreme weather conditions can often impact commuting habits.

## STUDENT PRIMARY MODES: ON-CAMPUS TRAVEL

Students primarily choose to walk when traveling on campus, with an average of 60% walking throughout the four seasons. Personal bikes are the second most common mode of transport at an average of 11%. (Diagram 1)

Diagram 1

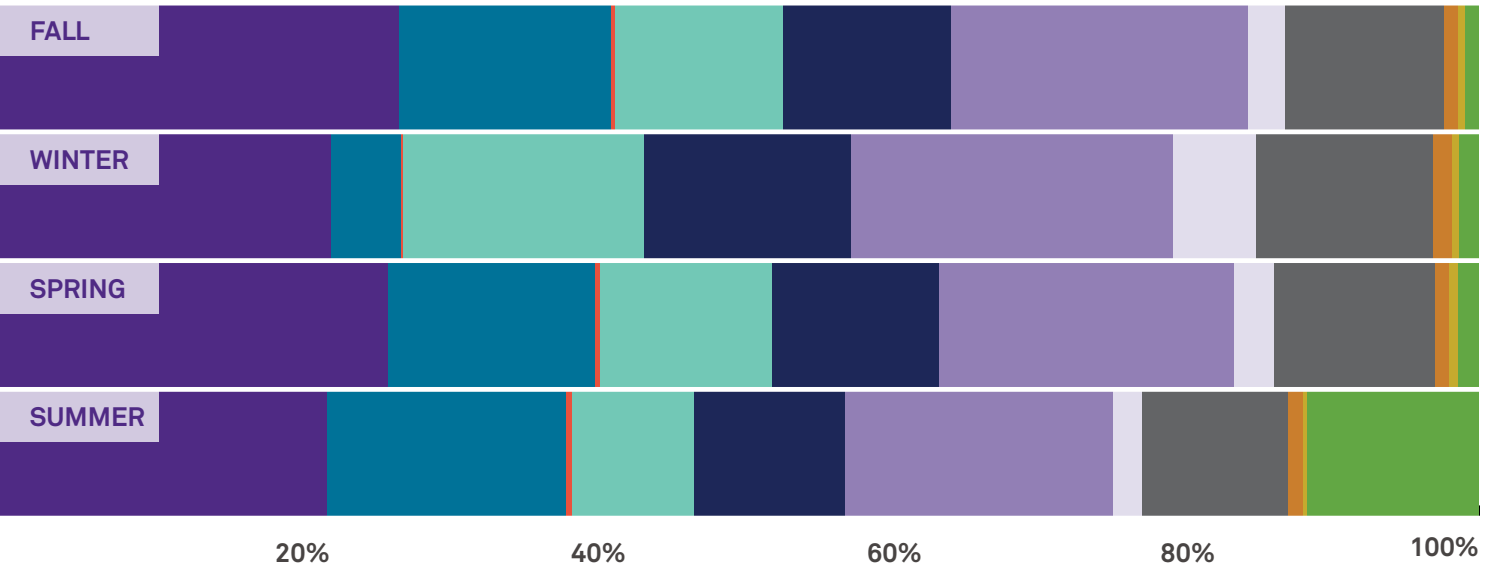




## STUDENT PRIMARY MODES: COMMUTING TO AND FROM CAMPUS

An average of 24% of the student survey participants primarily prefer to walk when traveling to and from campus, except during winter months, when an average of 20% of students use public trains. (Diagram 2)

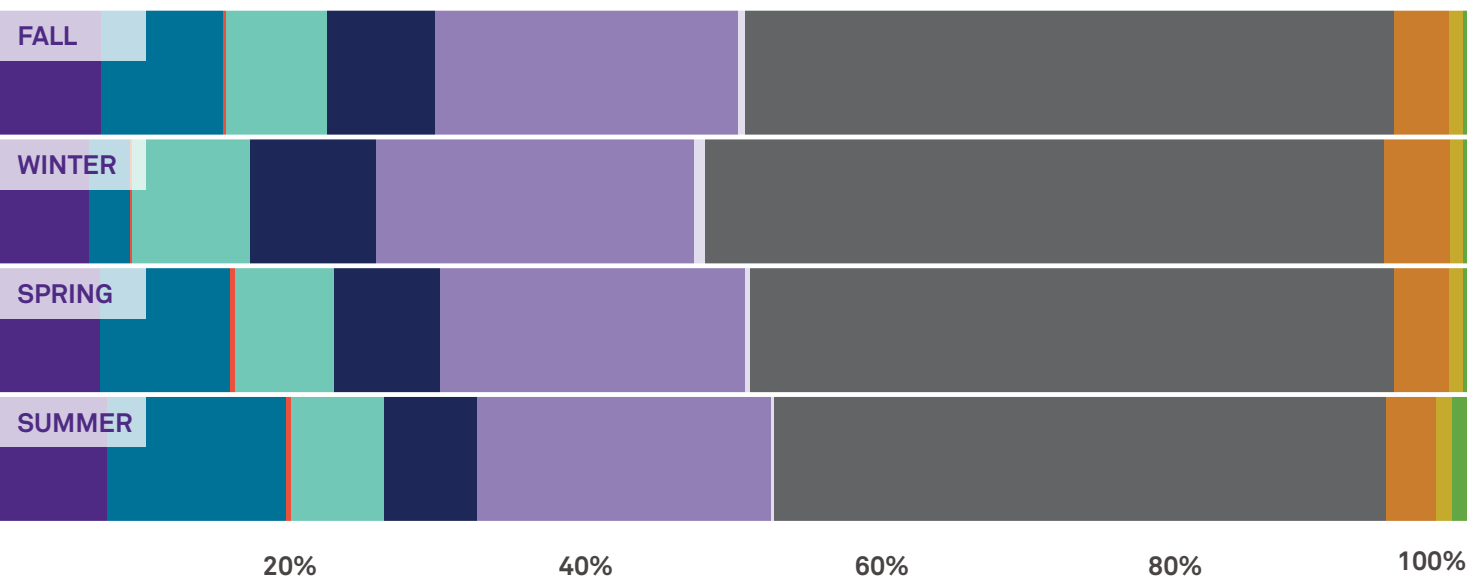
Diagram 2



## FACULTY AND STAFF PRIMARY MODES: COMMUTING TO AND FROM CAMPUS

Regardless of the season, driving is the primary mode of travel to and from campus for an average of 44% of faculty and staff who responded to the survey. The public train is used by an average of 22% of faculty and staff respondents. (Diagram 3)

Diagram 3



# Primary Reasons for Using Different Modes of Travel

Due to its location, Northwestern University is well positioned to provide students, faculty, and staff with access to many different modes of transportation. This means commuters have many options for getting to campus.



## STUDENT PRIMARY REASON FOR DRIVING TO CAMPUS

Among students who drive, 40% reported that their primary reason for driving to campus is a short commute time. The second most common reason is that students need their cars for other obligations following their time on campus. (Diagram 4)

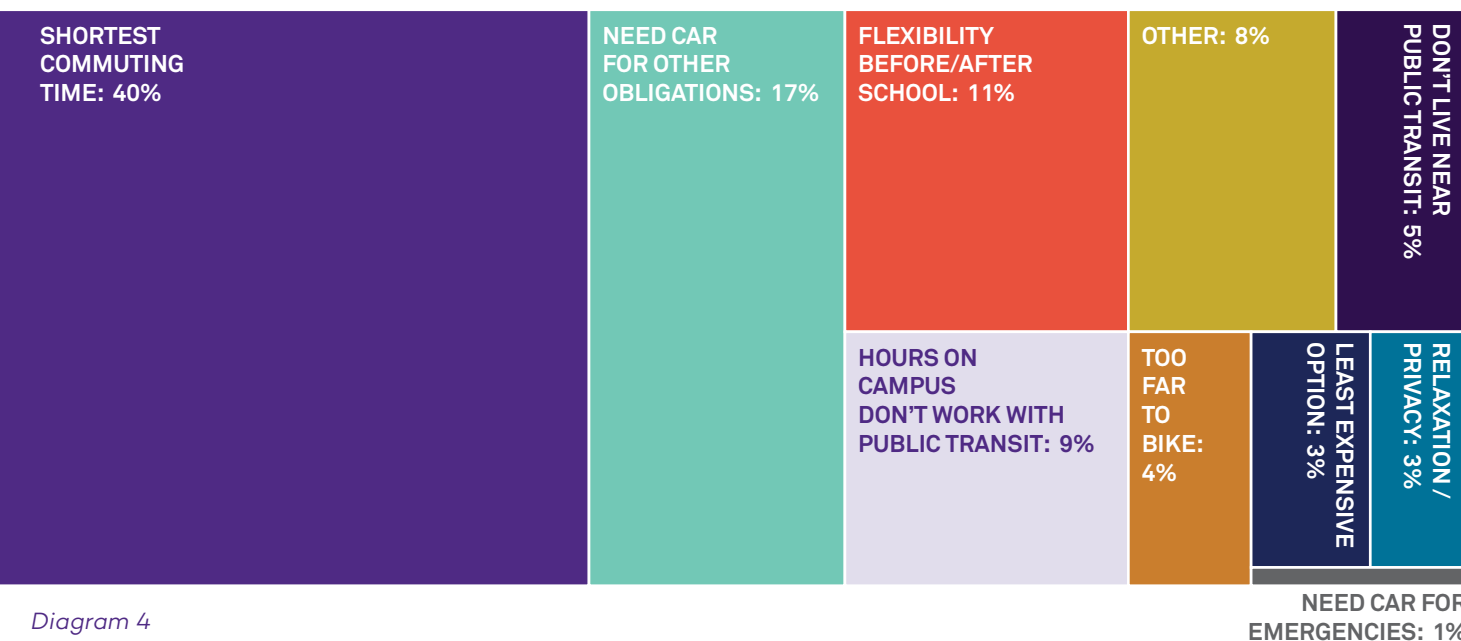


Diagram 4



## STUDENT PRIMARY REASON FOR BIKING TO CAMPUS

Just over half the students who participated in the survey (51%) bike to campus because cycling provides the shortest commute. This suggests that students choose the mode of travel that is fastest, as illustrated in Diagram 5. Exercise and environmental impact play minimal roles in students' selection of transport modes. (Diagram 5)

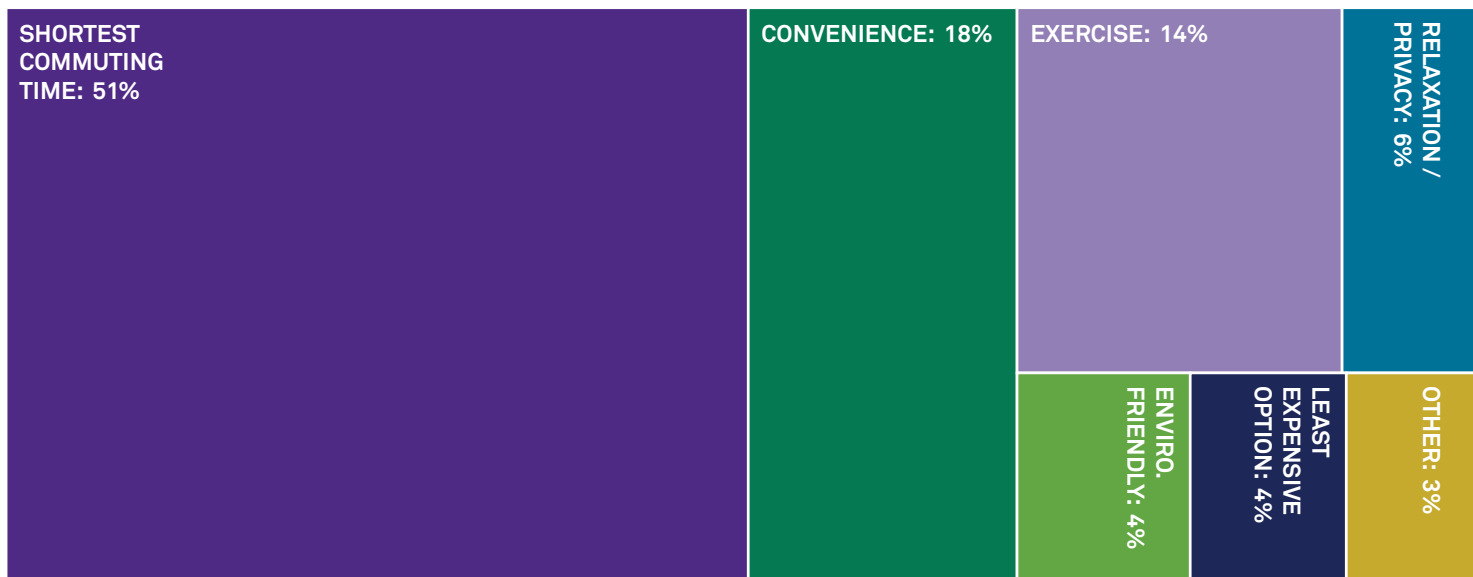


Diagram 5



## STUDENT PRIMARY REASON FOR USING PUBLIC TRANSPORTATION TO AND FROM CAMPUS

Among students who primarily commute by public transportation, cost was the most commonly cited reason, with 37% of student respondents reporting that they use transit because it is the least expensive option available. (Diagram 6)

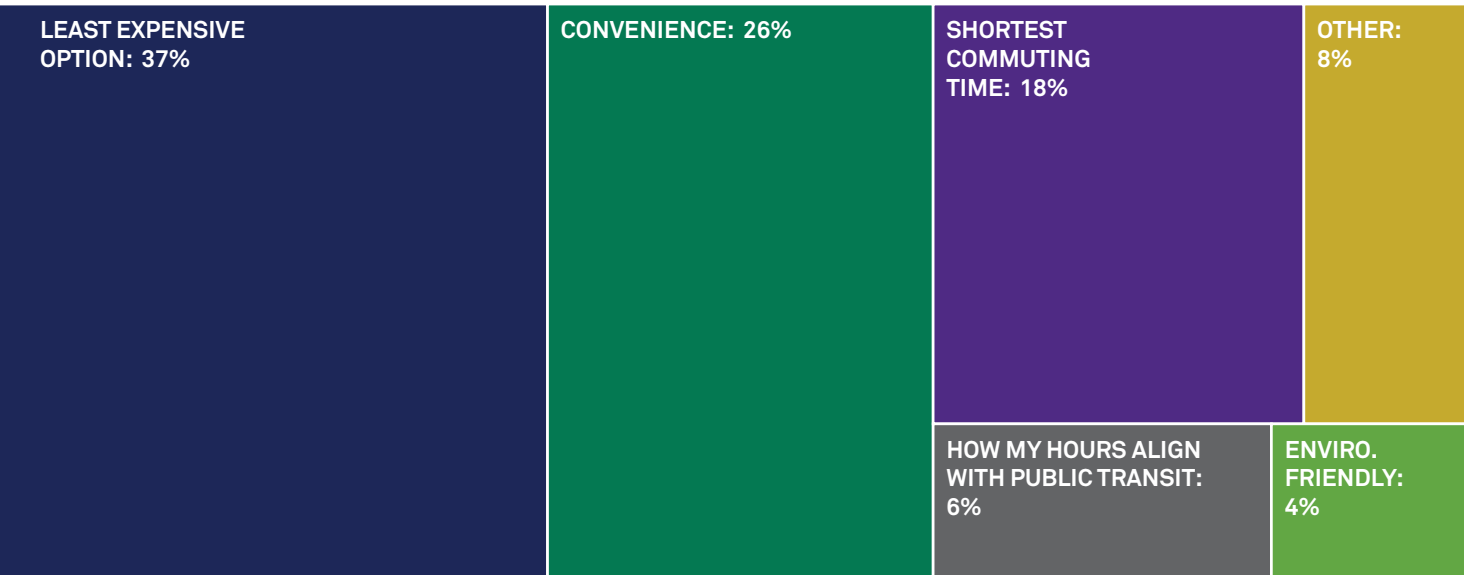


Diagram 6

## FACULTY AND STAFF PRIMARY REASON FOR DRIVING TO CAMPUS

Roughly one-third of faculty and staff respondents who drive to campus (34%) do so because it provides the fastest commuting option. The second most common reason given was that faculty and staff need their cars for other obligations following their time on campus. These reasons are very similar to the reasons that students gave for driving to campus. (Diagram 7)

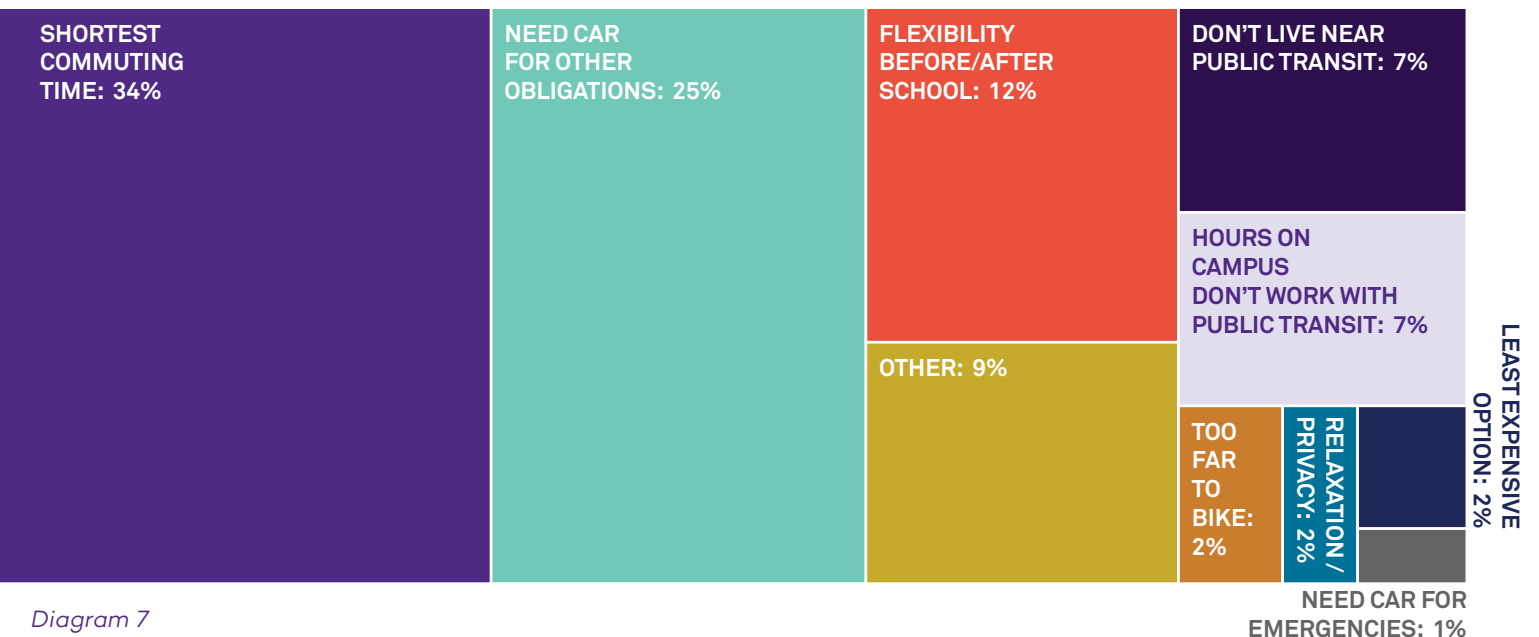


Diagram 7

## FACULTY AND STAFF PRIMARY REASON FOR BIKING TO CAMPUS

Among faculty and staff who bike to campus, 41% said they do so because it provides an opportunity to exercise. The second most frequent answer was that it represents the shortest commute time, with 17% of faculty and staff saying this is why they commute by bike. (Diagram 8)

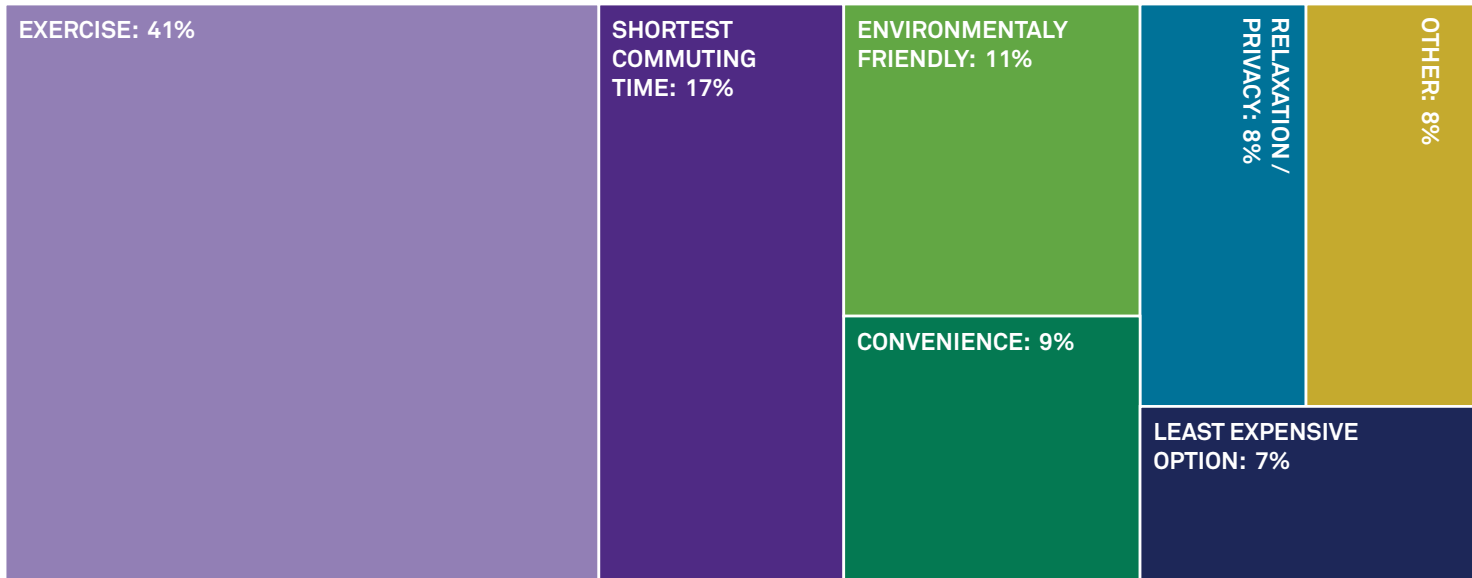


Diagram 8

## FACULTY AND STAFF PRIMARY REASON FOR USING PUBLIC TRANSPORTATION TO AND FROM CAMPUS

Most faculty and staff who commute via public transportation said they do so primarily for convenience (29%) or because it is the least expensive transportation option (24%). (Diagram 9)

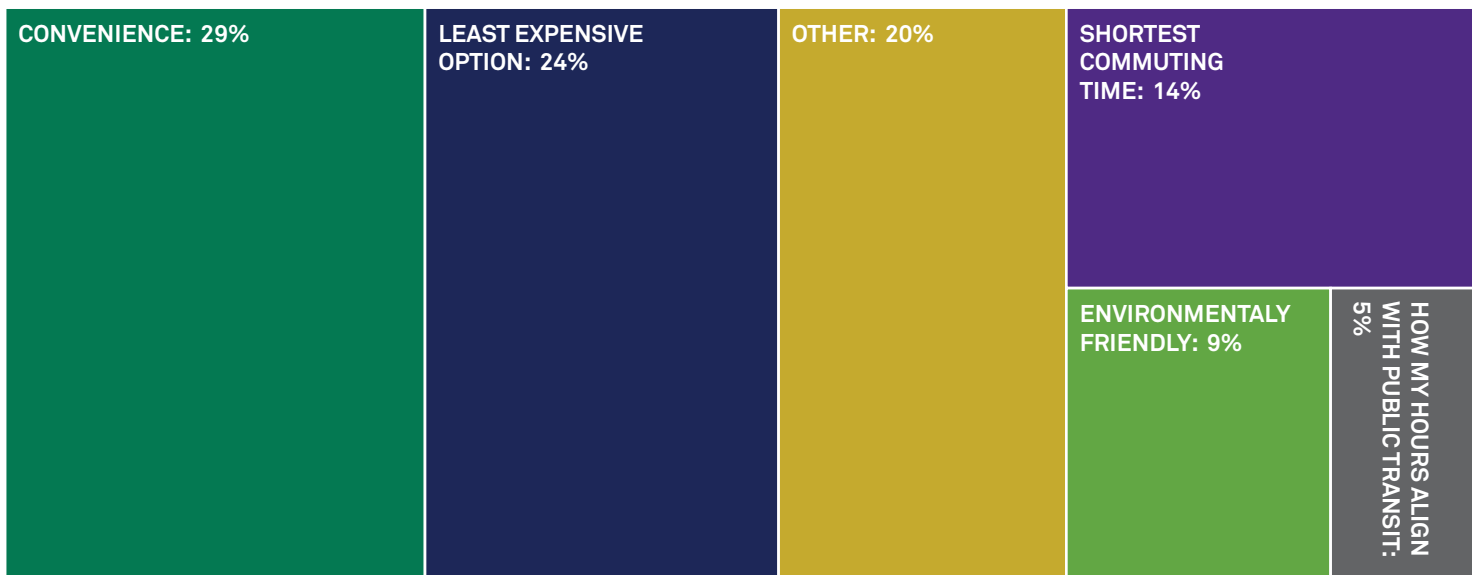


Diagram 9



## Primary Mode of Travel Between Campuses

Northwestern University has campuses in both Evanston and downtown Chicago, making it necessary for some students, faculty, and staff to travel between the two. The Northwestern shuttle is by far most common choice for travel between the two campuses, with 41% saying they use the shuttle. More than a third (37%) of survey respondents said they do not travel between Northwestern’s Evanston and Chicago campuses. (Diagram 10)

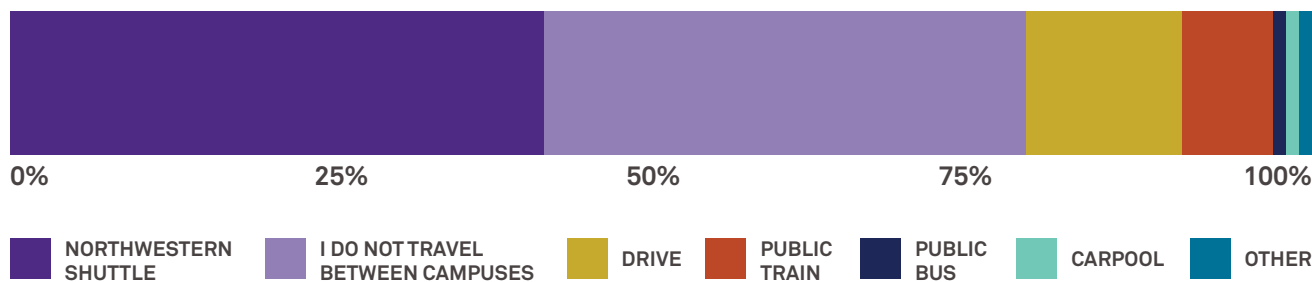


Diagram 10



# Divvy Bike Share Program

## FAMILIARITY WITH THE DIVVY BIKE SHARE PROGRAM

More than half (52%) of the members of Northwestern's campus community are somewhat familiar with the Divvy bike share program. However, when asked about their familiarity with the program's presence on campus, 49% of respondents were not familiar at all. (Diagram 11)

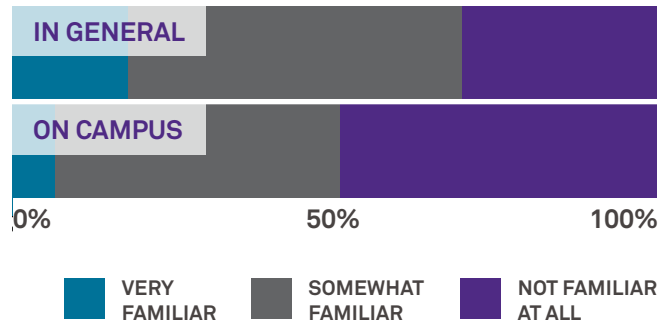


Diagram 11

## SATISFACTION WITH THE DIVVY BIKE SHARE PROGRAM

Most respondents were either extremely satisfied (26%) or somewhat satisfied (52%) with the Divvy bike share program on campus. (Diagram 12)

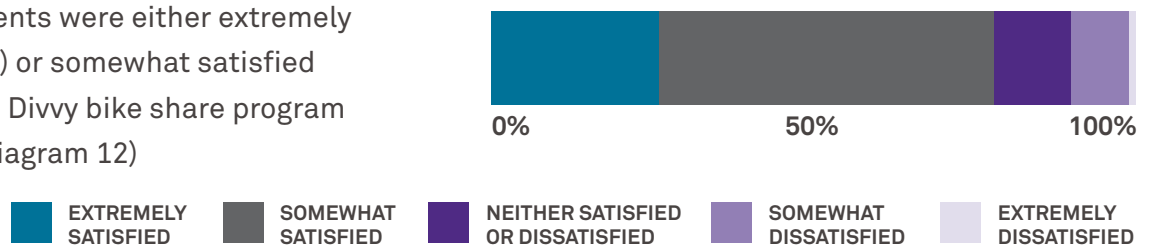


Diagram 12

## USAGE OF THE DIVVY BIKE SHARE PROGRAM

The Divvy bike share program is used by 4% of survey respondents. Because Divvy was new to the Evanston campus at the time of survey administration, the low level of usage is not surprising. (Diagram 13)

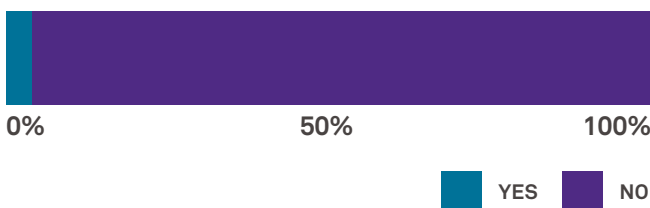


Diagram 13



# Electric Vehicles

## COMMUTERS CONSIDERING THE PURCHASE OF ELECTRIC VEHICLES

Although most respondents do not own and are not planning to own an electric vehicle, the second largest percentage of respondents said that they are considering purchasing an electric vehicle in the near future. (Diagram 14)

*Are you considering purchasing or do you already own an electric vehicle?*

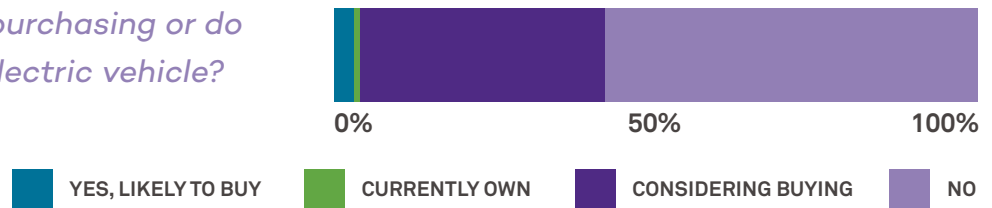


Diagram 14

## COMMUTERS WHO WOULD USE THEIR ELECTRIC VEHICLES TO COMMUTE TO CAMPUS

Over half of the faculty and staff who own an electric vehicle or are considering an electric vehicle said that they would use it to commute to campus. (Diagram 15)

*Do you (or will you) use this electric vehicle to commute to campus?*

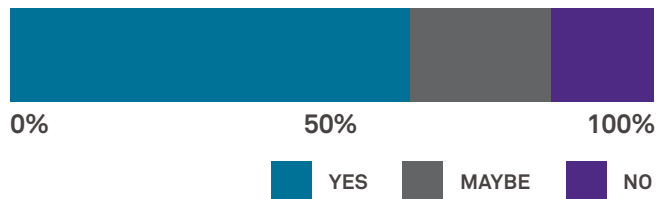


Diagram 15

## AWARENESS OF ELECTRIC VEHICLE CHARGING STATIONS

The majority (69%) of survey respondents said they are not aware of existing electric vehicle charging stations on campus. (Diagram 16)

*Are you aware of the electric vehicle charging stations on campus?*

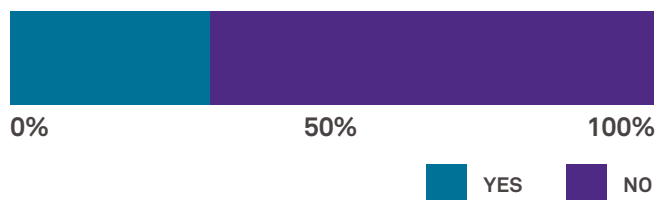


Diagram 16

## AVAILABILITY OF ELECTRIC VEHICLE CHARGING STATIONS

Among Northwestern commuters who drive an electric vehicle to campus, 79% stated that the availability of the electric vehicle charging stations on campus does not influence their decision to commute using their electric vehicle. (Diagram 17)

*How often does the availability of the existing charging stations influence your decision to commute via your electric vehicle?*

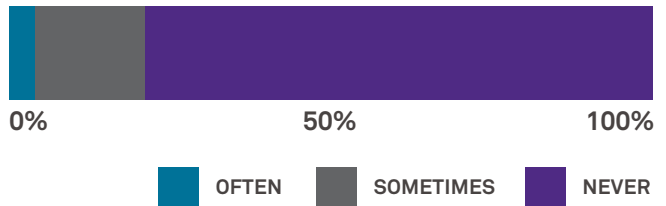


Diagram 17

## INFLUENCE OF A DISCOUNTED PARKING PERMIT FOR COMMUTING VIA ELECTRIC VEHICLE

Most survey respondents (73%) said they would use their electric vehicle to commute more often in exchange for a discounted parking pass. (Diagram 18)

*Would a discounted parking permit cause you to use your electric vehicle to commute?*

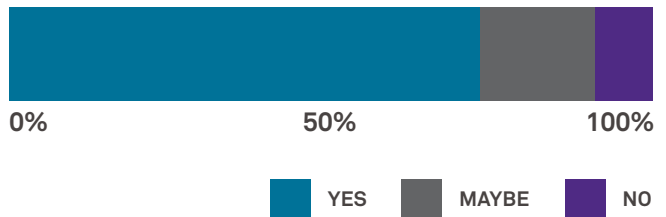


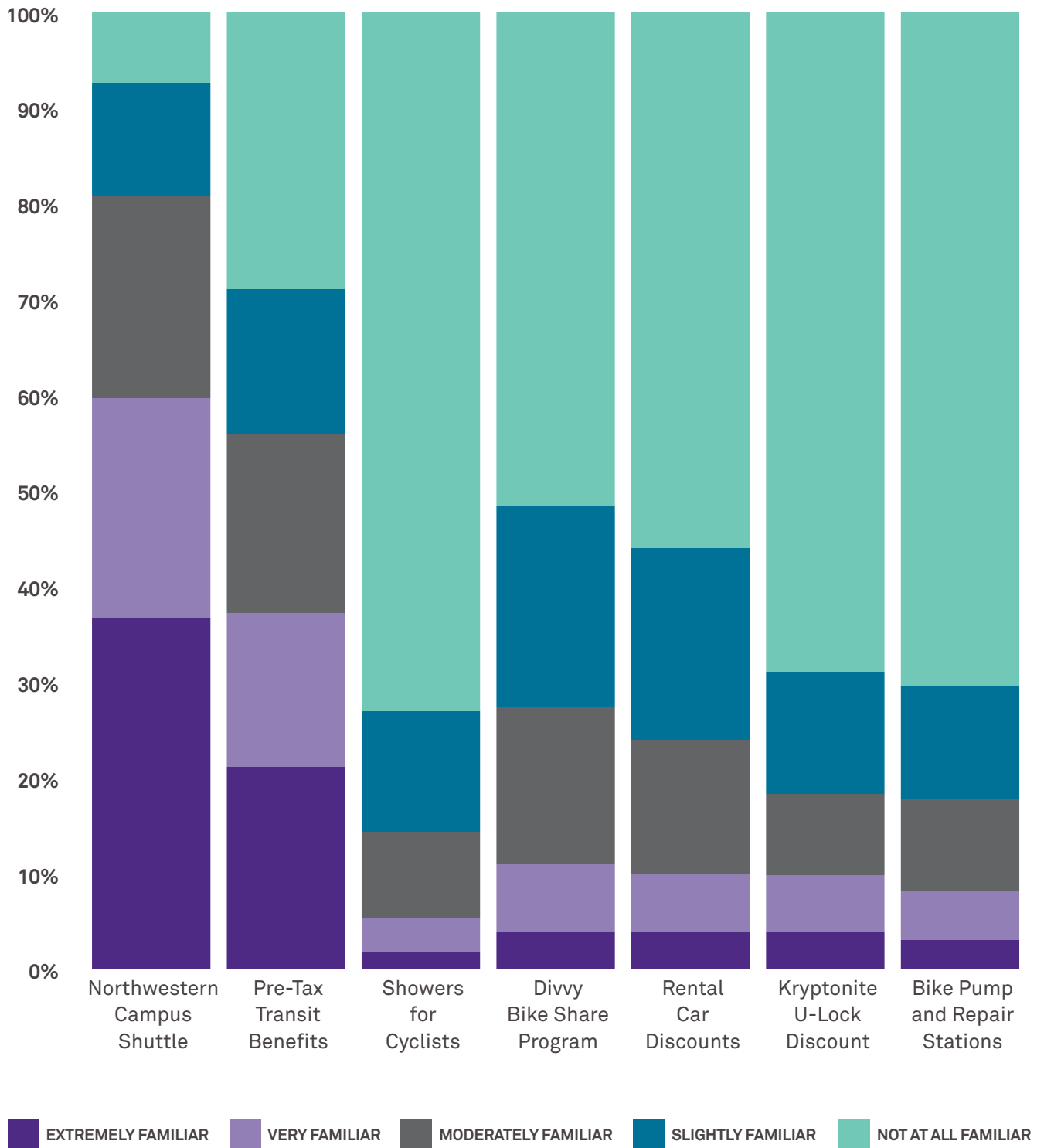
Diagram 18





# Faculty and Staff Familiarity with University-offered Transportation Amenities

Diagram 19

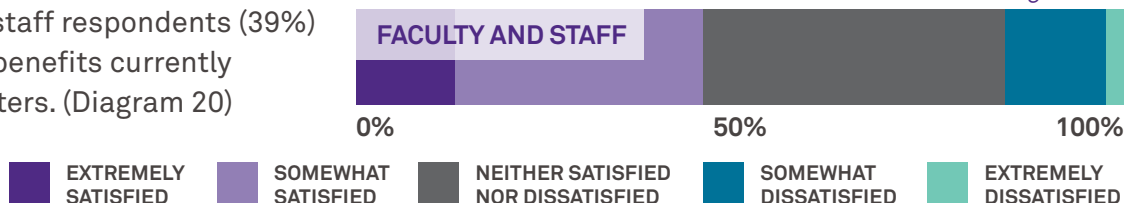


# Transportation and sustainNU Program Awareness

## SATISFACTION WITH NORTHWESTERN'S COMMUTER BENEFITS

Diagram 20

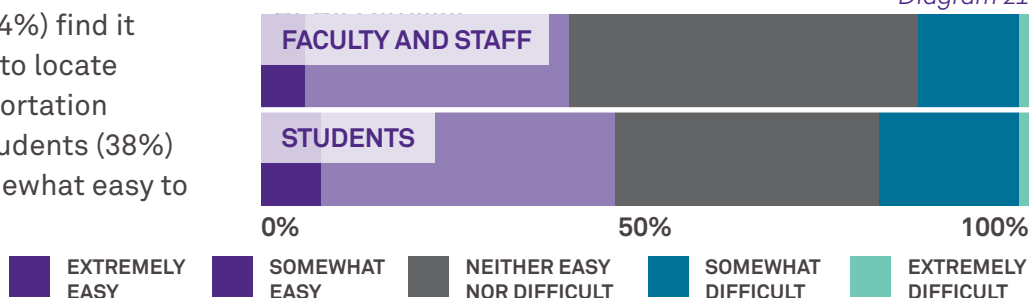
Most faculty and staff respondents (39%) are indifferent to benefits currently offered to commuters. (Diagram 20)



## EASE OF FINDING INFORMATION REGARDING TRANSPORTATION AMENITIES

Diagram 21

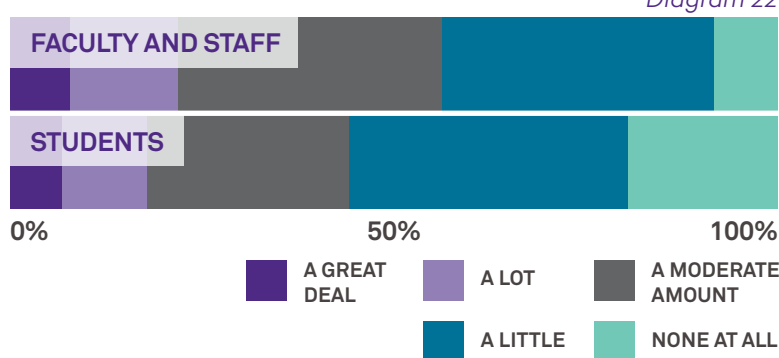
Many faculty and staff (44%) find it neither easy nor difficult to locate information about transportation amenities, while many students (38%) find this information somewhat easy to locate. (Diagram 21)



## IMPACT OF TRAVEL HABITS ON NORTHWESTERN'S ENVIRONMENTAL IMPACT

Diagram 22

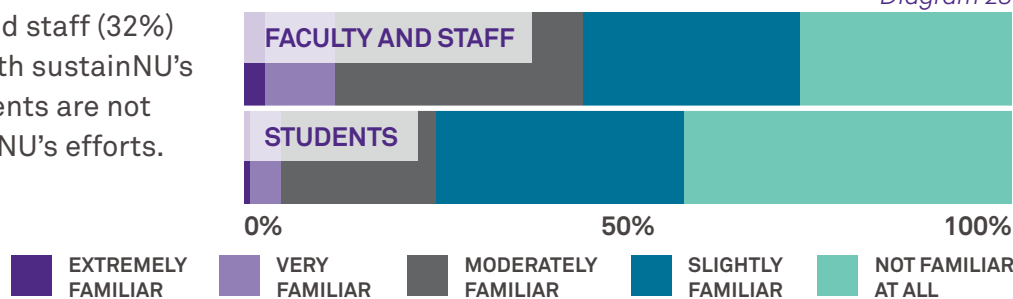
More than one third of both faculty and staff (35%) and students (36%) believe that their commuting habits have little effect on Northwestern's overall environmental impact. Only 8% of faculty and staff and 7% of students believe their commuting habits have a great deal of impact on Northwestern's environmental footprint. (Diagram 22)



## sustainNU PROGRAM AWARENESS

Diagram 23

Nearly a third of faculty and staff (32%) are moderately familiar with sustainNU's efforts, while 43% of students are not at all familiar with sustainNU's efforts. (Diagram 23)



# Conclusion

The results of this survey will help Northwestern develop a strategic approach to improving the transportation amenities available to the Northwestern community. In particular, the results offer insights into how the University could remove barriers that might prevent people from choosing more sustainable forms of transportation. Future strategies might include improving access to electric vehicle charging stations, offering additional amenities for bicycle commuters, or encouraging use of pre-tax transit benefits. In addition, the results highlight the need to increase awareness across the campus community about the transportation services that are available today.

Going forward, sustainNU and its partners throughout the University will work together to improve the transportation options available to the Northwestern community and make it easier for people to choose environmentally friendly forms of transportation. Northwestern's goal is to provide convenient and safe transportation options while working together to decrease our greenhouse gas emissions and reduce our environmental footprint.

*Complete survey data available upon request.*

## SURVEY RESPONDENTS' GENERAL COMMENTS:

*Encourage telecommuting.*

*Encourage bicyclists to use the road instead of biking on the sidewalk as it disrupts pedestrian traffic.*

*More bike lanes! Continuous, dedicated lanes between the two campuses would be an incredible improvement.*

*I think further discounts/subsidies for employees using public transportation or non-emissions methods, such as bikes, would be a significant motivator and help Northwestern's sustainability efforts.*



*Parking can be a challenge; there are not enough spots for the number of passes sold.*

*The shuttles are great, but tend to be very crowded at popular commuting times. Maybe adding trips to the schedule at busy times would help.*

*A car pool pick-up program would be very interesting to launch. Some employees come from far suburbs, and I am sure everyone would benefit from a structured car pool program.*

*I don't take it often, but I love the intercampus shuttle as it's a great way to get downtown from Evanston in a timely manner. I super appreciate that one can use their WildCard to use the 201 CTA bus.*

*The easiest commute is the one you don't have to make!*

*Transportation information should be addressed a little more at New Employee Orientation.*

*Additional Divvy stations would be amazing. Especially more on the east side of Sheridan to make travel between north and south campus easier and faster for faculty and staff.*

*Love the idea of reduced permit pricing for electric vehicles and would appreciate the addition of chargers for those days when I don't have enough of a charge for a round trip.*

*Indoor bike parking would be very helpful.*

# Northwestern University

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**together,  
we will sustainNU**

**Northwestern | sustainNU**

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