
Transportation-Focused Generic Environmental Impact Statement (t-GEIS)

Travel Survey Results

EXECUTIVE SUMMARY

Prepared for

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Ithaca, NY 14850**

Prepared by



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Introduction

Cornell University, with the Town of Ithaca Planning Board as Lead Agency, is preparing a transportation-focused Generic Environmental Impact Statement (t-GEIS) to identify and evaluate the transportation-related impacts, on transportation systems and neighborhoods, of hypothetical university population growth scenarios over the next decade and identify potential mitigation strategies for those impacts. This will result in a set of strategies intended to improve transportation options for the entire Cornell community and reduce adverse transportation impacts on the community. The primary emphasis will be on identifying ways to reduce the number of motor vehicle trips traveling through residential neighborhoods to and from Cornell. It will identify ways of getting people, not vehicles, to campus, and will include recommendations for transportation demand management, multi-modal transportation strategies including pedestrian, bicycle, transit and parking, safety, access and circulation modifications, such as traffic calming, zoning changes and other measures.

In April 2006, as part of the transportation-focused Generic Environmental Impact Statement (t-GEIS), Cornell University embarked on a travel survey of the entire campus community: faculty, staff, undergraduates, and graduate and professional students.¹ The survey served not only to provide a baseline for current travel habits and patterns; it also attempted to gauge the community's interests in and preferences for an array of transportation programs and options with the ultimate goal of reducing single-occupancy vehicle trips to and from the Ithaca campus.

The summary below provides highlights of the survey data, focusing on key trends and results (see "Cornell University Transportation Focused Generic Environmental Impact Statement – Travel Survey Results" volumes 1 to 6 for full report). It aims to frame the current travel situation and to highlight areas which are central to the t-GEIS, and to assess any potential mitigations that the t-GEIS may recommend. The overall response rate for the survey was quite high: in excess of 46 percent across all groups; faculty and staff had the highest response rate at over 56 percent; undergraduates were the lowest with an overall rate of about 36 percent; approximately 50 percent of all graduate and professional students responded to the survey.

Spatial Distribution of Cornell Population

Approximately one in three faculty and staff ("employees") respondents report living outside Tompkins County while more than half report living more than 5 miles from campus. Almost none of the employee respondents live on the campus. Essentially all of the student respondents live within the county and 84 percent of graduate student respondents and 97 percent of undergraduate respondents live within 5 miles of the campus. Among graduate student respondents, some 16 percent report living on or immediately adjacent to campus in university-affiliated housing, while nearly 60 percent of undergraduate respondents report living there.

Typical travel times follow similar patterns as commute distance. Approximately half of faculty and staff respondents report that it typically takes them less than 15 minutes to reach campus; the overall average time is about 19 minutes, noticeably less than the national average of over 25 minutes. About 57 percent of graduate student respondents typically take less than 15 minutes while 79 percent of undergraduate respondents report they can normally reach campus in that amount of time.

¹ Surveys were sent to a random sample of 1,400 faculty, 1,400 staff, and 1,400 of each undergraduate class (5,600 total). In addition, surveys were sent to all 5,647 graduate and professional students.

Means of Travel

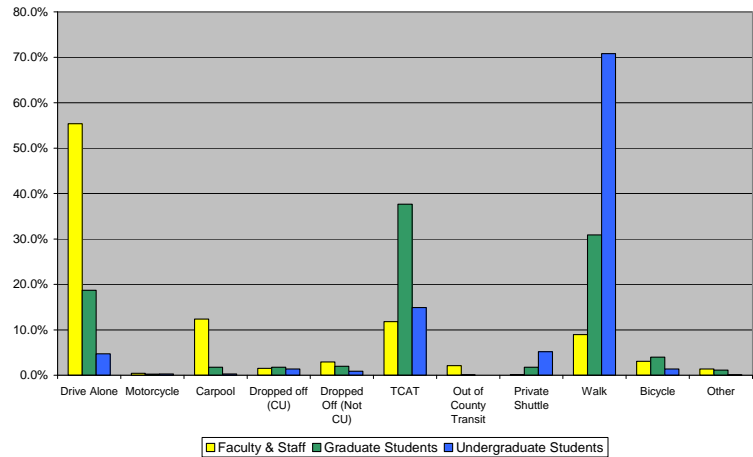
Approximately 55 percent of employee respondents regularly drive alone to campus. Another 17 percent carpool or otherwise share a ride. Approximately 14 percent normally use some form of public transit to reach campus. Nearly 9 percent walk and just over 3 percent bike to work. Just over 4 percent of employee respondents report normally using a park and ride lot on their way to campus. Of those who regularly drive alone, less than 15 percent typically use an “alternative” mode one or more days per week. Two-thirds never use an alternative mode.

Not surprisingly, the mode split for student respondents living off-campus is much different than that of employee respondents. Just 19 percent of graduate student respondents typically drive alone to campus while another 5.5 percent share a ride. Nearly 38 percent ride the bus and 31 percent normally walk to campus. Nearly 4 percent of graduate student respondents normally bike to campus. Only 5 percent of undergraduate respondents typically drive alone to campus and another 2.5 percent share a ride or are dropped off.

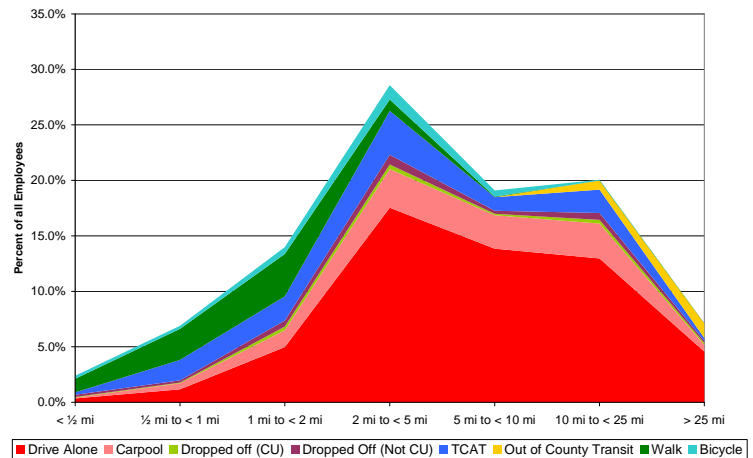
Approximately 15 percent of undergraduate respondents ride TCAT to campus and just over 5 percent rely on private shuttles to reach campus; only 1.4 percent report biking. The vast majority living off-campus – nearly 71 percent – normally walk to campus.

Overall, about 75 percent of all respondents vehicle commute trips on a typical day are made by faculty and staff. The bulk of these trips are several miles in length with nearly a third of all employee respondents driving 5 or more miles each way by themselves each day on their way to and from campus.

Typical Mode to Reach Campus During the Day



Faculty & Staff Mode by Distance from Campus



Frequency and Time of Travel

While 95 percent of employee respondents make at least one trip to campus during the day (with 14 percent making multiple trips) just 14 percent come to campus after 7 p.m. Of those who make evening trips, most arrive between 7 p.m. and 8 p.m. and leave between 10 p.m. and 11 p.m.²

The characteristics of the student respondents are noticeably different, however. While nearly all graduate student respondents (98 percent) make at least one trip, nearly 30 percent make two or more trips to campus on a typical day. Nearly half of all graduate student respondents (49 percent) return to campus one or more times during the evening. The timing of their trips is much more spread out than employee respondents, though. Only 19 percent arrive during the a.m. traffic peak hour (7:30-8:30 a.m.). The most common hour for arrival, however, is 8:30-9:30 a.m. when 35 percent travel to campus. Similarly, only 18 percent leave during the p.m. traffic peak hour (4:15-5:15 p.m.). The most common hour for leaving campus is between 6 and 7 p.m. when 23 percent depart campus. Most who return do so between 7 and 8 p.m. and leave around 10 or 11 p.m., although a substantial number stay as late as 2 a.m.

Undergraduate student respondents' travel patterns are relatively similar to those of graduate student respondents: 98 percent make at least one trip during the day and 57 percent make multiple trips; 61 percent report traveling to campus at least once during the evening. Less than 6 percent arrive during the a.m. traffic peak hour (7:30-8:30 a.m.). Nearly 2 in 5 (39 percent) arrive between 9:15-10:15 a.m. Just over ¼ (28 percent) leave campus during the p.m. traffic peak hour (4:15-5:15 p.m.). The majority returns to campus around 7 or 8 p.m. and nearly 40 percent stay until after midnight.

There are noticeable mode shifts for evening travel as more people drive to campus. Over 80 percent of employee respondents drive alone and nearly 7 percent share a ride with equal amounts (just under 5 percent) taking the bus and walking. Approximately 3 in 5 graduate student respondents drive alone to campus in the evenings with about 11 percent reporting that they take the bus and over 22 percent walking to campus. Similar shifts are noticeable for the undergraduate respondents as well with 35 percent driving alone to campus 7 percent sharing a ride and only 5 percent riding the bus; approximately half report walking to campus.

Reasons for Driving to Campus

The survey included several questions to identify current impediments to using alternative modes to driving alone and the improvements necessary to entice respondents to use those modes. Over half of employee respondents cite the need to run errands on the way to or from campus for why they drive; 37 percent have to run work-related errands on or off campus; and one third want to have a vehicle available in case of an emergency.

The most common reason cited by graduate student respondents for driving is that they “already own a car so it makes sense to use it”: nearly half feel this way. Over 40 percent report needing to make stops to or from campus while 30 percent report needing to make “work-related” trips that require a car and 29 percent report needing to run personal errands during the day.

² Employees were not asked about their time of arrival for this survey. Based on the 2005 “Tompkins County/Cornell Employee Commuter Survey”, however, approximately 50 percent of employees report arriving during the morning traffic peak hour (7:30-8:30 a.m.) while 45 percent report leaving during the afternoon traffic peak (4:15-5:15 p.m.).

Student respondents were also asked why they need a car. Nearly 70 percent of graduate student respondents reported they have one in order to go shopping or run other personal errands; some 38 percent cite the need to come to campus in the evenings; some 17 percent report that they do not have a car in Ithaca.

Preferred Improvements to Alternatives Modes

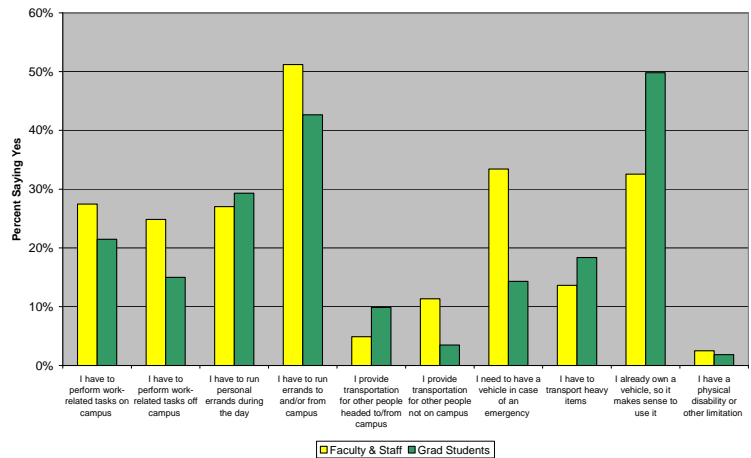
Bus

The primary improvement required to get those employee respondents who currently drive alone to switch to the bus is simply access to the bus (a stop close to their home).³ Second to that – and most frequently cited overall – is an increase in the frequency of the service. The demand for an increase in frequency is representative of the primary reasons cited for not taking the bus to work: the time it takes and the bus schedule not meeting their needs.

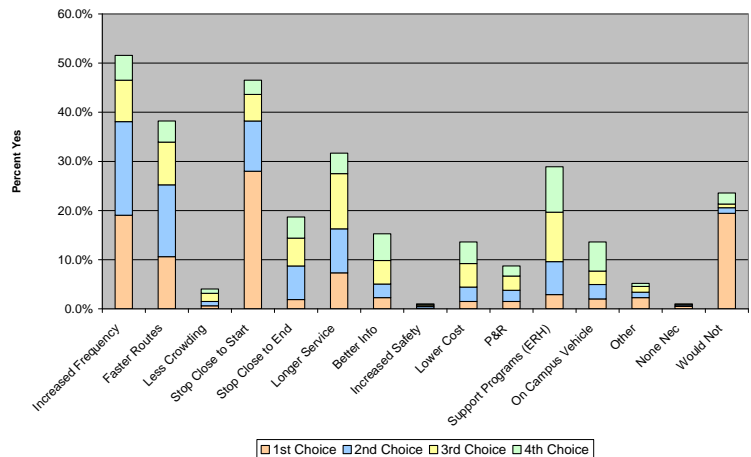
For graduate student respondents who drive alone, an increase in frequency of bus service is the most important improvement to get them to take the bus to campus: over 2/3 of those surveyed cited this as a necessary improvement. Hours of operation are also important as approximately 56 percent identified longer service as key; nearly 43 percent would like faster routes to campus. For all graduate student respondents, the current bus schedule is the primary reason cited for not using the bus; also important are travel time and cost.

Of the few undergraduate respondents who currently drive alone to campus, access to transit is the most important improvement to get them to take the bus with nearly half indicating this need. Nearly equally important, though, are increased frequency, faster routes, improved information and a lower cost than driving and parking on campus. For all undergraduate respondents, the primary impediment to using the bus is cost, followed by schedule and travel time.

Employee & Grad Student Reasons Cited for Driving to Campus



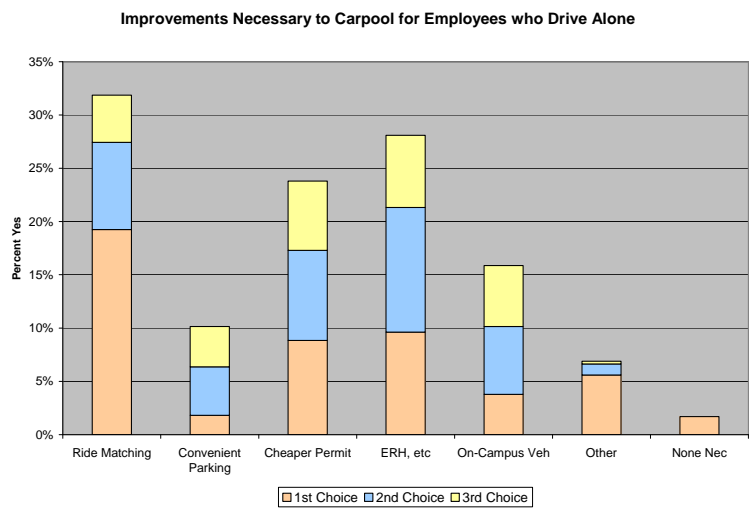
Improvements Necessary to Ride the Bus for Employees Driving Alone



³ Based on the geocoding, this may also indicate a need for education: some 40 percent of all employees live within walking distance in normal conditions (1/4 mile) of a bus route. Similarly, nearly 40 percent of graduate student respondents cite the need for a stop near their home, but over 90 percent of all graduate students live within walking distance of a route.

Carpool

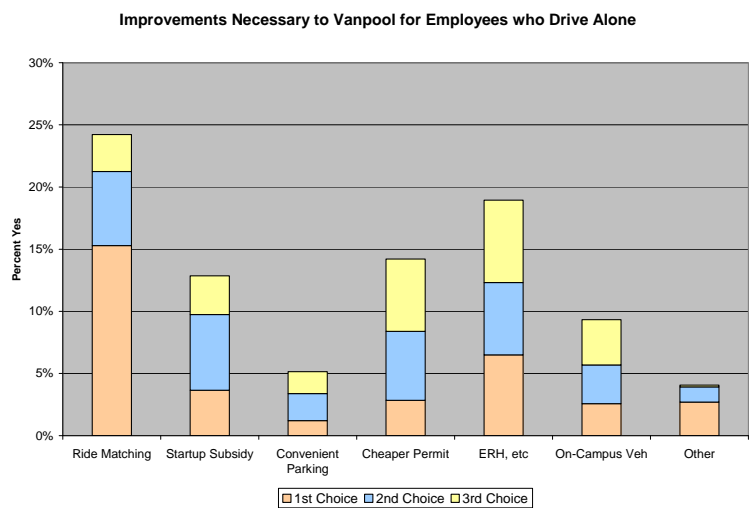
Even more than the bus, faculty and staff respondents cite schedule incompatibility as the primary impediment to carpooling to campus. The only other reason cited with any frequency is a “lack of access” to a carpool. Although nearly half of those employee respondents who currently drive alone indicated that they would not carpool under any condition, the remainder identified one or more improvements required to get them to carpool to campus. By far the most frequently cited improvement is a ride-matching service, identified by 19 percent of these respondents. Nearly 10 percent would require emergency ride home (ERH) and other support services while close to 9 percent would need a cheaper permit.⁴



The primary impediment to graduate student respondents carpooling to campus is a lack of access. Also important is schedule incompatibility. Undergraduate respondents cite the same difficulties.

Vanpool

Although formal vanpool programs do not currently exist at Cornell, their creation is of interest to the university. Respondents were asked about their potential requirements for participating in such a program. In general, employee respondents’ feelings towards vanpool are similar to those toward carpooling. While nearly two-thirds of those currently driving alone would not consider it a viable alternative, the rest would consider the program. Overwhelmingly, the primary incentive cited was a ride-matching program (15 percent); while nearly 7 percent would need strong support programs (i.e. ERH) and about 4 percent indicate a need for a startup subsidy.

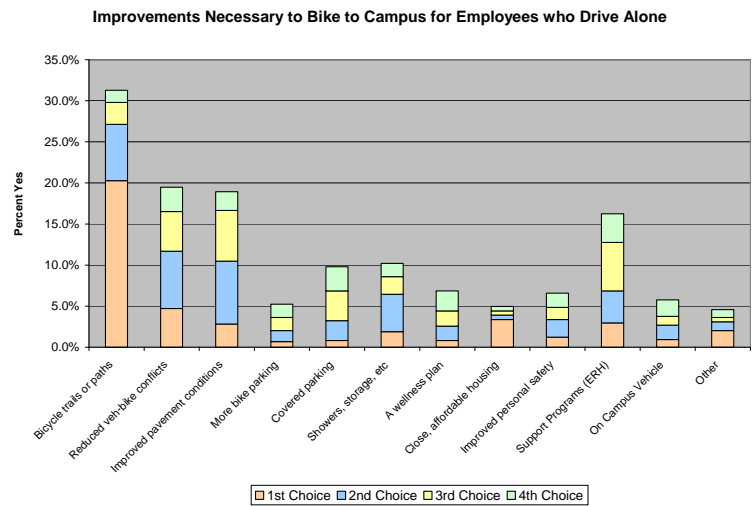


As with employee respondents, graduate student respondents would need a ride-matching program to consider vanpooling. Also important are reduced permit fees for the van and a startup subsidy. For undergraduate respondents as well, a ride-matching program would be important. Nearly as important, though, are more convenient parking, reduced permits costs and startup subsidies.

⁴ Again, education and information appears to be critical as all three features currently exist for faculty and staff.

Bicycle

Not surprisingly, faculty and staff respondents cite a need for bicycle lanes, paths, etc. to campus as the most important improvement necessary for them to bike to work. Although about 60 percent of those who currently drive alone to campus would not bike, the remainder say they would under the right conditions – a rather impressive total given the impediments to cycling in Ithaca. Also important are improved conditions, including a reduction in vehicle-bicycle conflicts and improved pavement conditions. Support programs such as ERH are also critical for employee respondents wanting to bicycle.

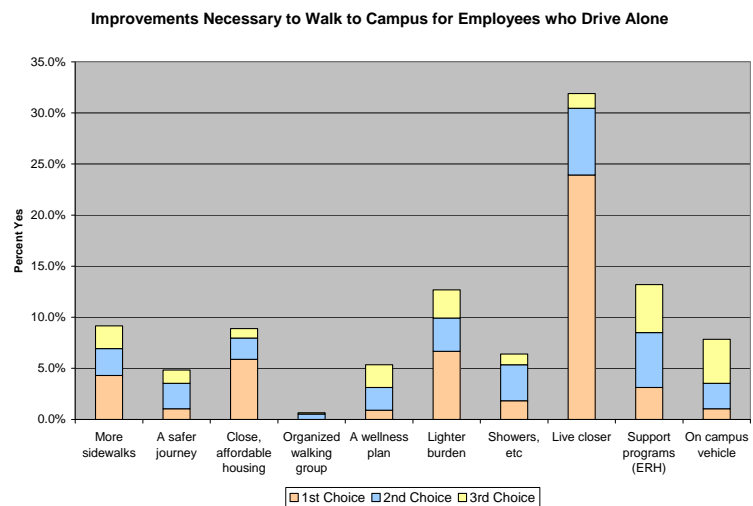


Both graduate and undergraduate student respondents are most concerned with the existence of paths to campus. Also important are pavement condition, reduced conflicts and covered bicycle parking.

Walk

Key to increasing walk mode share is the opportunity to live closer: over 30 percent of those who currently drive alone say they would walk if they lived closer to campus.⁵ Also important – and less easy to change – is the need to carry a less heavy or cumbersome burden to campus; support programs are also critical.

For graduate student respondents proximity to campus is key, but nearly as important is amount of books, etc. they regularly have to bring to campus. Also critical is affordable housing close to campus. Undergraduate respondents' primary concern is the burden they typically have to transport to and from campus. Also central are proximity to campus and affordable housing close to campus.



⁵ It is interesting to note that in addition to the “live closer” option, respondents could have selected “closer, more affordable housing.” The “live closer” option was selected by a 4:1 margin as a first choice improvement and 3.6:1 for all choices.

Opinions on Other Options

As part of the survey, several additions or modifications to the TDM program were posed to the respondents. They were also queried about future directions for growth of the campus. This section summarizes those responses.

Just over 70 percent of graduate student respondents and $\frac{2}{3}$ of undergraduate respondents feel that new students should be granted a free bus pass, although there is little agreement on how it should be funded: whether from increased tuition and fees, parking prices, or general funds. The third of the undergraduate respondents who did not think that new students should receive free passes could be symptomatic of the bitterness that many of the upperclassmen respondents feel at their ineligibility for the free passes (as was thoroughly expressed in the free response section of the survey). Faculty and staff respondents feel that new students should receive a free bus pass as well, and that its cost should be paid for by an increase in tuition/fees for all students. All groups strongly agree that new students should only be eligible for such a pass if they do not purchase a parking permit.

Students were asked to identify what incentives would be necessary to give up (i.e. not renew) their parking pass. For both undergraduate and graduate student respondents the most common response (significantly so) was a free transit pass. For graduate student respondents, better transit service is the second most important improvement with the offer of free or reduced rate daily parking permits also important. Undergraduate respondents identified both incentives as well, although the access to daily permits is more important than improved transit service. Just over 10 percent of graduate student respondents and 6 percent of undergraduate respondents who sometimes drive to campus indicated that they would not give up their permit under any circumstances.

If parking prices were to increase dramatically (to approximately \$1,000), nearly $\frac{1}{3}$ of faculty and staff respondents who currently have a permit say they would not purchase a permit, while just over $\frac{1}{4}$ say they would elect to buy a cheaper permit. Among graduate student respondents, just over half say they would continue to purchase the permit at full price while the remainder would abandon their permit. Just over 3 in 5 undergraduate respondents would abandon their permit if faced with such an increase.

If the parking subsidy were to change, graduate student respondents favor a decrease for undergrads; 45 percent favor an increase in their subsidy while 37 percent say to leave it alone; they favor no change for faculty and staff although if there were one, they would lean toward a decrease for faculty and an increase for staff. Undergraduate respondents, on the other hand, feel that subsidies should generally remain unchanged, although lean toward an increase for all groups except faculty. Over $\frac{2}{3}$ of employee respondents feel that the undergraduate parking subsidy should decrease. For all other groups they feel that it should remain unchanged, though were it to change, it should decrease for graduate students and increase for staff.

Just under half of faculty and staff respondents would favor some sort of permit restrictions limiting parkers to one parking zone (essentially eliminating cross-parking or the tiered privileges). Support was strongest among those who do not drive alone. A majority of graduate student respondents would support such a policy.

There is general support across all student respondents for some level of restriction on undergraduate students' access to parking, particularly for freshman. Two thirds of undergraduate student respondents (including over half of the freshman) and 88 percent of graduate student respondents feel there should be some restriction on freshman parking (requiring that they live at

least a certain distance from campus to be eligible to purchase a permit) with 40 percent and 55 percent, respectively, supporting a total ban on freshman parking. This support drops off for increasing class year, with only 35 percent of undergraduate respondents and 73 percent of graduate student respondents supporting restrictions on parking for seniors. Over 90 percent of faculty respondents believe there should be some restriction for first year students and nearly 80 percent feel there should be a restriction for seniors. Only 44 percent support a restriction for graduate and professional students and less than 18 percent support restrictions on their own parking availability. More graduate respondents (35 percent) support some restriction for graduate student access to parking than do undergraduate respondents (27 percent). Similar numbers support restrictions for employee parking (25 percent and 27 percent, respectively).

Parking Ratio and Location

Just over $\frac{1}{3}$ of faculty and staff respondents feel the university provides the right amount of parking, while just over half feel there should be some increase in parking. Nearly 30 percent of graduate respondents feel there is enough parking on campus, while just over half feel there should be more parking. Approximately 20 percent of undergraduate respondents feel parking levels are about right while some $\frac{2}{3}$ feel there should be an increase. Of all who favored an increase (for all groups), most favored an increase of 10-15 percent over current levels.

For all groups, about half favor the incorporation of new parking spaces in new buildings where feasible as the preferred location for new parking. Just over 40 percent favor constructing parking garages on existing surface spaces. As to the location of new parking, employee and graduate student respondents have nearly identical opinions, with approximately 55 percent favoring locations evenly distributed on the periphery of campus with shuttle service to the center of campus and approximately 27 percent favoring spaces at the center of campus. Undergraduate respondents as well would prefer spaces distributed around the periphery of campus (46 percent), but almost as many would prefer new spaces at the center of campus (40 percent). Additionally just over 20 percent of all groups feel that the university should work to close all non-visitor lots in the center of campus.

Conclusions

While this document does not try to presuppose the conclusions of the t-GEIS, many interesting conclusions can be drawn from the survey data:

- Cornell and its employees continue to be a national leader in the use of alternative modes. Whereas, nationally, 75% of workers drive alone to work, only 55% of Cornell faculty and staff do. Similarly, less than 5% of workers nationwide use public transportation compared with 14% of Cornell employees. The use of alternative modes is even higher among Cornell graduate and undergraduate students.
- Employees, though, have the greatest impact on the Ithaca area transportation system (compared with graduate or undergraduate students): 75% of all Cornell commuting vehicle trips today are made by employees. Their proportion of the vehicle trips increases noticeably in the peak hours – when congestion of the roadway system is worst –, as they account for over 90% of all Cornell vehicle trips in the AM peak hour and about 85% in the PM peak hour.
- There is generally a high level of interest in and potential for increase in usage of alternative modes: approximately 80% of all employee respondents who currently drive alone say they

would consider using the bus; about 50% say they would consider carpooling; about 1/3 say they would consider using a vanpool; 40% say they would consider biking; and about 50% say they would walk.

- There is an array of reasons why individuals feel the need to drive or why alternative modes do not meet their needs. While some of these can be addressed, others are more difficult or impossible to change. Thus it is critical that future TDM programs be comprehensive and provide an array of options to faculty, staff and students.