IMPACTS OF TRANSPORTATION DEMAND MANAGEMENT POLICIES AND TEMPORARY CAMPUS TRANSIT USE ON THE PERMANENT TRANSIT HABITS AND ATTITUDES OF UNIVERSITY OF FLORIDA ALUMNI

By

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In Memory of Andrew Factor, Christopher Zeiss and Premal Dagly

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The University of Florida began financially supporting the Regional Transit System in 1998, allowing students to ride busses without paying a fare and substantially improving service characteristics such as frequency and hours of operation. Students have responded by shifting their commuting patterns away from single occupant automobiles, and have played the pivotal role in boosting RTS' ridership by 284% in the first six years of the program.

Students at the University of Florida are provided with high-quality, free-fare transit during their period of attendance. Students are also subjected to a comprehensive set of transportation demand management (TDM) policies intended to curb their use of automobiles and shift their commutes toward alternative modes of transportation. After graduation, most move away from the City of Gainesville to find employment. Alumni must make new transportation choices, based on their new environs. The purpose of this

project is to understand how temporary exposure to TDM policies and high-quality transit impacts permanent transit habits and attitudes.

Two mail surveys were administered, mimicking a time-series survey. Incoming freshmen to the University were surveyed prior to their arrival at UF. Recent alumni were surveyed as well, and the alumni responses can be compared to the freshmen responses. Respondents were asked questions about transit use, transit system knowledge, attitudes toward transportation policies, and attitudes toward TDM policies.

Survey results show a slight increase in transit ridership among alumni. Despite the increase in ridership, alumni indicate they are less willing to ride transit than freshmen. Upon deeper investigation, two "self-selection" factors for transit use were identified: non-Florida residency and living in multifamily housing. The most important factors for influencing transit use were fare cost and parking restriction.

This project concludes that people of all ages and backgrounds will ride transit under certain circumstances. Those circumstances are parking pricing or restriction and high-frequency transit. Low cost or free-fare transit may also be valuable if target users are low-income or otherwise transportation disadvantaged. Prior automobile use does not preclude the user from riding transit. Similarly, temporary transit use does not translate into permanent habits once the users' life circumstances change. The decision on whether to use transit is based on the transportation environment, which is largely shaped by transportation demand management policies. This study concludes that TDM systems in most cities—particularly those in Florida—are not comprehensive enough to influence automobile users to change modes to transit.

CHAPTER 1
INTRODUCTION

The bulk of communities throughout the nation have failed to create a modal shift toward transit because they have failed to implement a variety of complementary transportation demand management (TDM) policies. TDM policies are those that discourage single occupant automobile use and promote the use of alternative modes. Universities are better equipped and more motivated than their surrounding communities to implement comprehensive TDM programs. For many universities, increasing public transit's mode share is the primary goal of their TDM programs.

Universities across the country are partnering with their communities' public transit agencies to provide enhanced transit service to their campuses (Brown et al. 2003). Schools hope to increase the number of students and staff that commute to campus by bus, thus reducing the demand for parking on campus. Some schools offer unlimited access, which allows users to board the bus without paying a fare. Many universities improve the frequency, amenities and operating hours of transit routes serving the campus.

The University of Florida is one university that has partnered with its local transit agency to provide unlimited access, high frequency service. The partnership has been very successful, increasing the system-wide number of transit riders 284% since its inception in 1998. In 2004, the Gainesville Regional Transit System (RTS) carried 8.2 million riders per year, the majority of whom are students. RTS is now the 4th largest

transit system in the State of Florida despite serving the 17th largest county. Alachua County now has the highest ratio of riders per capita of any county in Florida (NTD 2003/Census 2000)

The high rate of transit use in Gainesville (and Alachua County) stands in stark contrast to the rest of the state. Florida is one of the most automobile dependent states in the nation (Census 2000). Most of Florida was developed using suburban urban design, the least transit-supportive pattern. Eighty five percent of the student population at the University of Florida are in-state students, and as such have been raised in an environment where private automobiles are the mode of choice for all trips. Since the University of Florida has adopted a variety of TDM policies—including enhanced transit service—students have been prompted to break their pre-conceived notions about using alternative modes. Some students choose to walk or bike. Some choose to ride the bus. Many students that persist in driving use busses to reach the core of campus from parking facilities.

For many students riding the bus to, from and around the University of Florida campus will represent their first sustained experience with bus transit. Seventy eight percent of alumni report that they used RTS busses during their time at UF. It is clear that students are amenable to riding the bus while in attendance at UF. But what happens after they graduate? Most students will leave Gainesville, and most of those who stay will no longer commute to campus. Will alumni continue to ride public transit in their new communities? The purpose of this project is to explore how temporary transit use impacts permanent transit habits and attitudes.

To answer questions about transit use after graduation, two mail surveys were administered. The first survey was sent to incoming freshmen to establish "baseline" data about transit habits and attitudes before arriving at the University. The second survey was sent to alumni and asked many of the same questions. Data from the alumni survey can be compared to the freshman survey, exposing any changes in transit habits or attitudes toward public transportation.

Research questions. Three principal research questions are asked during this project. The research questions are

1) Do alumni of the University of Florida ride public transit more frequently than before they attended UF?

2) Do attitudes and perceptions about bus transit change after using busses on and around the University of Florida Campus?

3) Which, if any, Transportation Demand Management policies are perceived as being most effective by freshmen and alumni?

There are also some subsidiary research questions. These questions are:

1) What characteristics of bus transit and ancillary TDM policies at the University of Florida make busses an attractive commuting option?

2) How educated are students and alumni on transit options?

3) Do students and alumni take transportation factors into consideration when choosing where to live before and after graduation?

4) Which TDM policies are supported by students/alumni?

CHAPTER 2
LITERATURE REVIEW

This section contains a review of the existing literature on a variety of topics that relate to public transportation, building bus ridership, and university transportation. Public transit has many benefits for its community including lower traffic congestion, lower air pollution, increased transportation equity and lower cost of living. Increasing transit's share of passenger trips is an important goal of many metropolitan areas.

This section begins with a discussion of Transportation Demand Management (TDM), which uses a variety of policy measures to create a more balanced transportation system. A summary of current trends in transit ridership and administration follow. An important component of TDM strategies is the enhancement of transit services, and a section is included that discusses various service enhancements that have been proven to build ridership. Transit systems that serve universities are covered in depth in the final part.

Transportation Demand Management

Transportation Demand Management (TDM) is a package term for a variety of planning strategies that promote the more efficient use of transportation resources. Efficient use of the transportation system is becoming increasingly important as widespread automobile use strains the existing road infrastructure, and available government monetary resources cannot keep up with the demand for new roadway

capacity. The broad use of automobiles also has negative impacts on air quality, urban design, and creates hardships to transportation disadvantaged persons such as the elderly, poor or handicapped.

TDM strategies seek to reduce or mitigate the negative aspects of automobile travel including congestion, air quality, and transportation inequity. They also seek to build upon positive aspects of a balanced transportation system including economic development, expanded housing choices, and a reduction in capital expenditure on transportation infrastructure. Some TDM strategies include: more transportation mode choices, improved convenience of alternative modes, efficient pricing and other financial incentives, marketing of alternative modes, and land use changes that improve access and reduce automobile dependency (Litman 2003).

TDM policies fall into three broad categories- positive, mixed and negative. Positive TDM policies expand transportation options and access for all users and include: Transit service improvements, flextime work hour scheduling, and carpool/vanpool programs. Mixed TDM strategies expand options and access for only one segment of the population, but do not adversely impact those who are not in the target group. Mixed TDM strategies include: high occupant vehicle lanes, fare-free transit programs, and traffic calming. Negative TDM strategies reduce options or increase costs. Negative TDM strategies include: fuel tax increases, parking pricing, or auto-free zones (Victoria Transportation Policy Institute [VTPI] 2004).

Erik Ferguson (1990) identifies TDM as a complementary strategy to Transportation Supply Management (TSM). TSM strives to increase transportation system capacity on all modes by forecasting infrastructure needs. TDM complements

TSM because it maximizes the use of all built transportation infrastructure. Ferguson identifies five aspects of travel that can be altered to maximize the efficiency of the existing transportation system: 1) Trip Generation, 2) Trip Distribution, 3) Mode Choice, 4) Route Selection (spatial), and 5) Route Selection (temporal). The five aspects of travel and proven strategies to alter that aspect are summarized in Table 1 below:

Table 1–TDM Strategies Organized by Aspect

Aspect of Travel	TDM Objective	Selected Strategies
Trip Generation	Eliminate trips	-Growth management -Telecomuting
Trip Distribution	Move trips to less congested destination	-Increased density -Promote trip chaining
Mode Choice	Move trips to higher occupancy modes	-Bike/Ped amenities -Parking pricing -Ridesharing -Transit enhancement
Route Selection (spatial)	Move trips to a less congested route	-Traffic calming -Intelligent transportation systems
Route Selection (temporal)	Move trips to less congested time period	-Alternative work schedules -Jobs/Housing mix

Source: Ferguson (1990)

Individual TDM strategies have a modest impact on the transportation system as a whole. However when multiple strategies are applied in concert, the impact on the system can be substantial. When multiple strategies are applied at the same time, the negative impacts on individual users are mitigated (Litman 1999). For example, if parking pricing is instituted it may reduce vehicle travel by 3%. The increase in prices will likely cause lower income users to end their automobile commutes, impacting them substantially. If parking prices are increased, AND transit service is improved, vehicle travel could be reduced by 8-10%. Lower income users who were priced out of parking will find the transit system meets their needs, and higher income users will choose to ride the transit system because it is more cost-effective.

TDM has been criticized for "forcing" people into using alternative modes, particularly individuals with low income or educational attainment levels. These criticisms view modes other than the automobile as inferior (Pisarksi 1999). Proponents counter that TDM is in fact a market-based system that provides additional options and price points to users. TDM balances accessibility with mobility. Few TDM strategies actually force people to change their transportation habits. Most strategies create financial, convenience or time incentives to reduce automobile use (Litman 1999).

Comprehensive TDM programs have gained their broadest support in Europe, particularly the United Kingdom, the Netherlands, and Belgium. TDM policies are built into the national transportation policies of these European nations. This stands in stark contrast to the United States, where TDM policies vary from locality to locality (Cleland and Cooper 2003). There are three themes of European TDM that deserve particular attention when discussing TDM in a college/university setting. First, utilizing TDM transportation alternatives is marketed as the socially responsible norm in European countries. In the United States, TDM-friendly behavior is marketed as an alternative to the automobile-dependent culture. Second, many European cities were founded and substantially built prior to widespread automobile ownership. The opposite is true of many US cities, but many universities were established prior to the automobile-era (including the University of Florida). Last, recent European TDM programs have been negative TDM programs that increase costs or reduce automobile accessibility. Road pricing has recently been instituted in inner London, Singapore and Rome. These "negative" TDM strategies have not been given serious consideration by most American cities, however they have been employed by some universities. Colleges and

universities—like dense urban areas—must reduce single occupant vehicle use, promote an alternative mode oriented environment, and employ negative TDM policies as the norm, more closely resembling a European TDM model.

Published literature focuses mostly on decreasing automobile dependence (Hodgson and Tight 1999) and best practice discussions (Vuchic 2001). The literature does not fully address the unique transportation environment found on a university campus. Universities have a mixed population who commute on irregular schedules–classes and other activities are scheduled throughout the day. They also function as a distinct community, and value interpersonal contact. Universities often have written TDM policies promoting bicycle and pedestrian trips over automobiles (Balsas 2002). Balsas does not go into much detail about transit-promoting TDM measures; however he found that universities value a pedestrian environment–often having written bicycle and pedestrian capital improvement plans and education programs.

An important component of any TDM plan is the control, restriction and pricing of parking resources. Restricting the unlimited supply of parking creates a disincentive for travel by single occupant car, thus reducing congestion. Universities have a dual need for controlling the parking supply on campus. Beyond the obvious benefit of lower congestion, universities have limited space and financial resources to dedicate to parking infrastructure. By implementing TDM parking policies, universities can save substantial amount of already scarce space and money–and apply those resources to its mission of education.

Parking regulation and pricing is a powerful TDM strategy. Charging fees for parking where public transit is available would cause a rise in ridership. If no public

transit is available, parking pricing would stimulate more ridesharing (Downs 1992).

The parking situation on university campuses stands in strong contrast to their surrounding communities. Keniry (1995) joking states that a "University is a group of faculty, students and administrators held together by a common grievance over parking." This jesting comment underscores how conditioned the American population is to the suburban parking environment, and how university students (and faculty) must adapt their travel behavior to the university setting. Suburban automobile users expect a free, reserved parking space close to, or at, their destination (Beyard et al. 2003).

Contemporary urban planning mandates dedicated parking spaces for each land use. Minimum parking requirements are a form of government intervention that circumvents what would otherwise be a market system of paid parking. Ninety nine percent of American automobile trips terminate in a free parking space (Shoup 1999). Richard Willson (1995) surveyed planning directors in 144 cities and found that the minimum parking requirements were based on either a) the parking standards of neighboring cities or b) the Institute of Transportation Engineers' *Parking Generation Handbook*. Most, if not all, minimum parking requirements are thus based on ITE standards. In practice, peak parking demand has very little correlation with the standards listed in the ITE handbook.[1]

Parking requirements in cities throughout the United States inflate the supply and virtually eliminate the price of parking. But minimum parking requirements do not eliminate the *cost* of parking. The cost of parking is built into the total expense of the

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[1] Shoup (1999) cites an example from the ITE *Parking Generation Handbook*. ITE studies on fast food restaurants show a range from 3.55 to 15.92 spaces per 1,000 square feet of floor space. The majority of localities use the standard of 9.95 spaces per 1,000 square feet, even though the ITE handbook shows that only 4% of the peak parking demand is attributable to floor square footage variance.

development. The cost of the free parking is then absorbed by the landowner or passed along to consumers (Shoup 1999). Constructing parking spaces can be quite expensive, and the cost varies greatly based on the value of the land it is built on. Above or below grade (structured) parking spaces cost between $10,000 and $25,000 per space. Surface spaces cost $2,000-$3,000 each. Universities are in a peculiar position when it comes to parking facility construction. They are non-profit entities, and cannot "mark up" the price of goods to cover parking facility costs. Universities must charge students and faculty who use parking spaces to recover at least a portion of the costs associated with facility construction and maintenance (Shoup 1999). Since universities are unable or unwilling to provide free parking, it follows that universities should incorporate parking pricing into their TDM plans. By applying ancillary TDM programs- such as ridesharing, enhanced transit services, and bike/ped capital improvements – universities can capitalize on the necessary parking pricing to create a comprehensive TDM program. The multiple TDM strategies applied in concert could have the effect of stimulating substantial transportation behavioral changes.

Morrall and Bolger (1996) found a strong inverse correlation between the available proportion of parking spaces and transit's share of peak-hour commuters. In places with fewer available parking spaces (and presumably priced parking), transit use was high. In places with an excess of parking spaces, transit use was low. The correlation is weaker in United States cities and stronger in Canada. This study also found that more people used transit when the ratio of jobs to the number of parking spaces was lower.

A TCRP study (Kuzmayak et al. 2003) found that transit tends to be competitive in dense areas such as central business districts [or university campuses] for several reasons. First, motorists face long walks after parking their vehicles. After parking in a CBD, motorists were found to walk between 500 and 950 feet to their end destination. The walking leg of the trip is shorter or equal if transit is used instead of an automobile. Second, travelers must decide on a cost/convenience tradeoff. Riding public transit costs less money than operating and parking a vehicle. However travelers are bound by the transit provider's schedule and route network. Third, dense areas possess multiple potential destinations within one area. This reduces the necessity of an automobile for midday trips and promotes trip chaining. Fourth, at the extreme parking is simply not available, legal, or its price point is too high for most users.

One study conducted in The Hague, Netherlands looked at the users of a 200 space high-demand CBD parking lot before and after its closure. The number of transit trips taken during the week after lot closure went from 22 to 80, a 224% increase. Transit's mode share increased from 5% to 19%. Previously, all 200 cars were single occupant vehicles. After the lot closure, 4% of the displaced persons chose to carpool. The bicycle/pedestrian modal share did not change, remaining at 4%. Despite the shift toward public transit, single occupant vehicle commuting remained the overwhelming majority at 74% (Gantvoort 1984). Automobile commuters chose to park at a more distant location. The finding of this study has some mitigating factors. All of the 'before' trips taken were single occupant vehicular commuters. Work commuters have very little choice as to the timing of their trip, and cannot choose whether or not to make the trip. Public transit was already in place, yet the subjects of the study were choosing

not to avail themselves of it. Universities are somewhat different in that students have a moderate amount of control over the timing of their trip, and often whether or not to make the trip. Students also have a more limited budget than commuters to a major European urban center.

Public Transit In America

Transit Ridership

Public transit has been experiencing a moderate resurgence in recent years. The decade from 1985-1995 was one of ridership stagnation or decline. Public transit ridership has been growing since, rising 18.7% between 1995 and 2001. In 2001, 9.5 billion riders took public transit. Since 2001, transit gave up a small percentage of its gains, dropping to 9.2 billion riders in 2003.[2] The number of bus riders has increased every year since 1996, rising by 12.2% to 5.2 billion bus riders per year in 2001 (APTA 2003). Despite the ridership gains, busses carry less than 2% of all trips nationwide, and most of those trips are work-related (Brown, et al. 2001).

Modal Split

Busses have been declining in their share of the transit rides. The reason for the decrease in busses' share of trips is that other modes have been adding more route miles to their systems or attracting new riders. Demand response/paratransit, heavy rail and vanpool systems have each added significant amounts of route miles since 1995. Figure 1 demonstrates the national modal split in 2001.

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[2] Data from 2002 and 2003 are preliminary. The term 'public transit' covers several modes of intra-city travel including bus, light rail, subway, trolley, heavy rail, commuter rail, vanpool, demand response/paratransit, ferries and other motorized alternative modes.

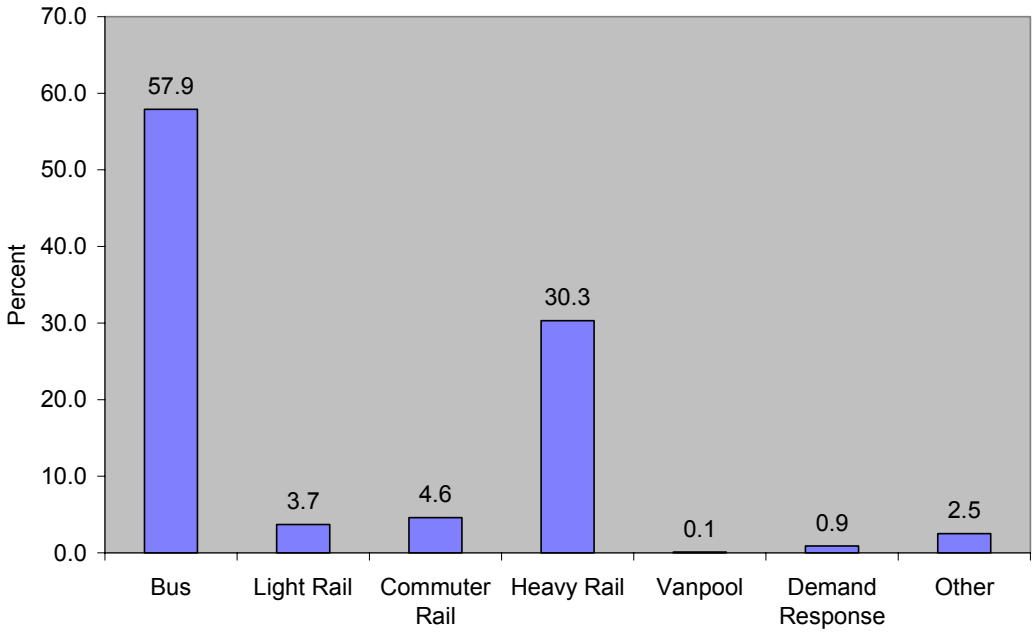


Figure 1–Percent of Transit Trips Taken (Transit Modal Split)
Source: 2001 National Transit Summaries and Trends

Busses remain the "workhorse" of the public transit system, carrying 57.9% of all transit riders. Busses carry nearly all of the able-bodied transit riders in small and medium-sized communities, where rail modes generally do not exist. Heavy rail has the second largest ridership share with 30.3%. Other modes carry a very small share of public transport riders (NTD/FTA 2002).

All of the discussion to this point has been growth and modal split *within* the broad category of transit. Cars remain by far the most dominant mode of travel, particularly for travel to work. Transit accounts for a small portion of the total transportation system. Table 2 shows the modal split for travel to work from the 2000 Census.

Table 2–United States, Means of Transport to Work 2000

Mode	USA Users	Percent of US Total	Florida Users	Percent of FL Total
Single Occupant Car	97,102,050	75.7%	5,445,527	78.8%
Carpool	15,634,051	12.2%	893,766	12.9%
Home Work	4,184,223	3.3%	207,089	3.0%
Walk	3,758,982	2.9%	118,386	1.7%
Bus	3,206,682	2.5%	108,340	1.6%
Subway/Elevated	1,885,961	1.5%	6,851	0.1%
Commuter Rail	658,097	0.5%	3,638	0.05%
Bicycle	488,497	0.38%	14,967	0.2%
Taxicab	200,144	0.16%	8,708	0.1%
Motorcycle	142,424	0.11%	14,967	0.2%
Streetcar[3]	72,713	0.0005%	954	0.01%
Ferry	44,106	0.0003%	629	0.009%
Other	901,298	0.70%	207,089	3.0%
Total	12,8279,228			

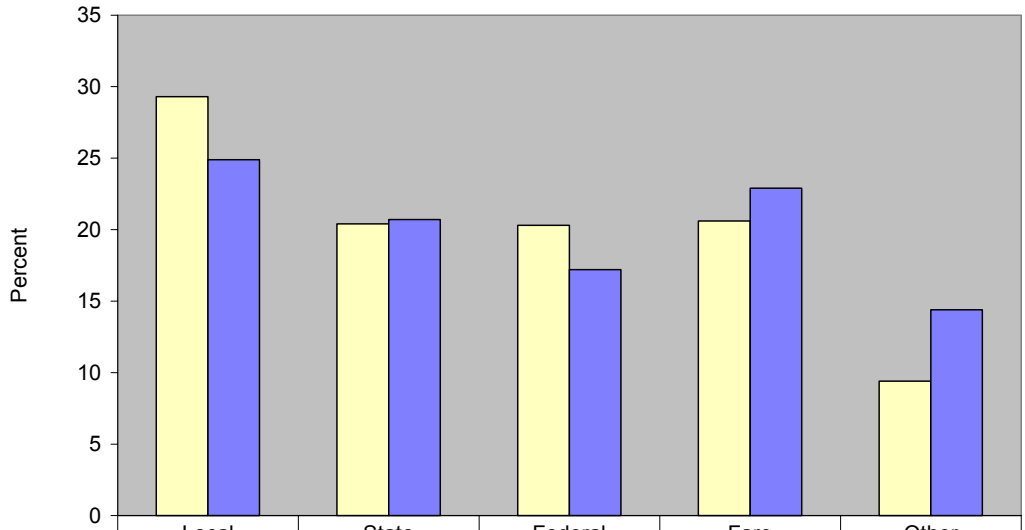
Source: 2000 US Census with calculation

Automobiles have an 87.9% modal share for travel to work. This figure is even higher in small communities where transit options are limited or simply unavailable. The share of commuters that travel by bus is 2.5%, and that share is even eclipsed by walkers. Florida's commuters use automobiles at a 3.1% higher rate. Walking and bus riding are less common in Florida than nationwide. In fact, Florida commuters use all alternative modes at a lower rate than nationwide commuters. Long commutes occupy valuable time that could be devoted to work, family or civic activities. Long commutes also drive up personal transportation costs because of increased expenditures on fuel and depreciation of automobiles. The average American takes 25.5 minutes each way to get to work, while Floridians spend an average of 26.2 minutes (Census 2002).

[3] The choices presented on the census form do not contain a clear choice for light rail or vanpool. Light rail users could think they should enter Streetcar or Subway/Elevated. Vanpool users could think they should enter Bus or Carpool.

Transit Funding

With little demand for public transit, agencies have had to subsidize their operation with outside sources of money. Transit agencies across the nation depend on a variety of sources to subsidize their operation. Figure 2 below shows the sources of transit agency operating expenses in 2001. The largest source of transit funding remains local government subsidy. However the local government contribution to public transit has been decreasing, falling from 29.3% in 1991 to 24.9% in 2001. Federal assistance also fell by more than 3%.[4] The finance of public transit has shifted toward farebox recovery and "other" sources of funds. Those categories rose 2.3% and 5% respectively between 1991 and 2001. The rise in receipts from the farebox is attributable to the rise in the total number of riders. "Other" sources of funding include advertising sales, development partnerships and employer-based subsidy.



	Local	State	Federal	Fare	Other
1991	29.3	20.4	20.3	20.6	9.4
2001	24.9	20.7	17.2	22.9	14.4

Figure 2–Nationwide Total of Transit Agency Funding 1991-2001
Source: National Transit Summary and Trends, 2002

[4] The Federal government's role in funding transit operations is relatively small, however the Federal government plays the largest role in providing start-up capital for fleet acquisition and infrastructure construction, particularly for rail projects.

The amount subsidized per passenger has also been increasing, but only at or near the rate of inflation. Subsidy per ride was $1.55 in 2001, up 27% over the previous decade. Inflation over that period was approximately 30%. However, small and medium urban areas subsidized riders at a higher rate. Small urban areas subsidize up to $2.42 for each ride (NTD 2002).

Florida Transit Funding

The State of Florida contributes less than comparably sized states toward transit operation. In 2001 the state appropriated $92 million to fund transit operation and capital improvement. This ranks Florida as the twelfth largest supporter of public transit in terms of dollars spent. Florida is the fourth largest state in the union with about 17 million residents. In terms of per capita spending on transit, Florida ranks eighteenth of the fifty states (Cambridge Systematics 2003).

Florida collects approximately $2.2 billion annually from fuel taxes, license/title/registration fees, and rental car taxes. Eighty five percent of this amount is spent on road construction and maintenance. The remaining fifteen percent is divided among other modes, with public transit receiving approximately four percent of the total. Of the $92 million spent on public transit, $64.2 million is allocated to local transit agencies through formula-based State Transit Bloc Grants. Local governments may spend this money on public transit however they see fit.[5] Another $9 million is allocated to the Urban Transit Capital program, which is earmarked to address the backlog of planned transit capital improvements in major urban areas. The Transit Corridor

[5] Fifteen percent of the State Transit Bloc Grant funds are earmarked for the Transportation Disadvantaged Trust Fund (Cambridge Systematics, 2003).

Program allocates $7.1 million for state-designated corridors. The Public Transit Service Development Program spends $5.1 million a year on short-term pilot and trial programs.[6] Another $6.2 million is spent through 3 programs to fund research, development and special projects (Cambridge Systematics 2003). Most of the Federal and State transit operational assistance goes to support bus transit.

Bus Transit

As discussed in the transit ridership section, busses continue to carry the majority of public transit passengers in the United States. Public transit riders can be divided into two broad categories- Transportation Disadvantaged and Choice Riders. Transportation Disadvantaged riders are dependent on public transit for mobility because they do not have ready access to an automobile. Transportation disadvantaged persons account for the majority of riders on busses, particularly in small urban areas. Choice riders have access to automobiles, but choose to ride transit for certain trips because of time, cost or other advantages that the mode offers.

Among Florida transit users, sixty two percent are female. Ridership is highest among people of prime working age (30-49). When more automobiles are available to the household, fewer transit trips are taken. Households that do not own automobiles account for twenty percent of riders in Florida, below the national figure of thirty one percent. Households with lower income also tend to ride transit more often than higher income individuals. People with an annual income of less than $15,000 account for 40% of transit riders in Florida. Nationwide the figure is much smaller (12%). This is likely due to high-income transit users in large metropolitan areas nationwide. Transit

[6] RTS received $150,000 between 2000 and 2001 under the Public Transit Service Development Program. These funds helped with the start-up of the Later Gator program.

users–particularly in Florida–are likely to be minorities. Nationwide, white users account for forty three percent of all riders. In Florida this percentage drops to nineteen percent. Florida's black riders account for thirty one percent, close to the national average. The disparity in ethnic makeup of riders in Florida can be attributed to Hispanic and two-race riders (Thompson et al. 2002).

Bus Fare Elasticity and Free-Fare Transit

Fare elasticity is the concept that ridership will change according to the fare charged. The industry standard – known as the Simpson-Curtain rule – sets fare/ridership elasticity at -0.3. The rule states that if fares are increased 10%, ridership will decline by 3%. According to the Simpson-Curtain rule, if fares are reduced 100%, ridership should increase by 30%. In practice, systems that institute free-fare transit experience ridership gains closer to 50% (Hodge et al. 1994).

Theoretically, there are advantages to instituting a fare-free policy. Automobile riders could be enticed to use transit, thereby reducing traffic congestion and emissions. Transit systems would experience lower costs because there would be no need to collect and account for fare funds. Busses would load and unload faster because fares would not be collected and paper transfers would not need to be printed. The system would be easier to use because users could not be confused over fares and passes. For small agencies, collecting fares may be a revenue neutral exercise, because the farebox recovery rate[7] is sometimes less than 10%. Accounting, equipment and security costs can easily exceed farebox receipts. However large transit agencies could suffer

[7] Farebox recovery rate refers to the percentage of annual operations that are paid for through income generated by fare-paying customers. Cash fares and bus pass sales are both included in the dollar figure of income produced at the "Fare box."

substantial losses of revenue. In large agencies, farebox recovery can be as high as 35 percent.

Jennifer Perone (2000) claims that fare-free policies could be advantageous for small systems, but not for large ones. Small systems such as Logan, UT and Commerce, CA have had success with fare-free transit programs, and continue to offer it to their communities. Amherst, MA, is a medium sized system that carries 6 million passengers a year. All riders board fare-free, in part because the system's budget is supplemented by funds from 5 local colleges and universities. There have been three attempts at eliminating fares on an entire transit system in a large city. Denver, CO and Trenton, NJ instituted a fare-free policy throughout their systems in the late 1970s. Austin, TX attempted the same in 1989/1990. All three programs were discontinued within one year, despite a dramatic rise in ridership. After the programs were discontinued, ridership returned to its previous levels. These systems found that they were not attracting choice riders and were having little impact on overall traffic congestion. Instead of taking people out of cars, more trips were being taken by transportation disadvantaged riders. Vandalism, vagrancy and rowdiness skyrocketed. The costs to maintain and repair transit vehicles and bus stop infrastructure went up dramatically. The savings promised by removing the farebox paled in comparison to the costs being expended on maintenance. Additional busses were needed to meet peak demand (Perone 2002).

The key to increasing transit ridership is not necessarily tied to the fare. One study found service frequency was valued nearly twice as much as the cost (Perone 2000 citing Cervero 1990). The Center for Urban Transportation Research (CUTR) found that customer satisfaction of riders in Florida depended more on "frequency, routing and on-

time performance" (24%) than cost (10%). Eliminating fares is not enough to attract and satisfy riders of public transit. Service characteristics must be improved as well (Cleland and Thompson 2000).

Other Service Characteristics to Build Transit Ridership

Every time a person makes a trip, he or she must make decisions about which mode best suits the trip. Each mode offers advantages over others. Users must decide on tradeoffs between cost, convenience, comfort and time amongst other factors. Automobiles offer distinctive advantages over busses under the prevailing transportation system. However, certain attributes of bus transit can be changed to close the gap between bus and car, thus helping busses gain modal share. Making transit more attractive will help recruit "choice riders"—those with access to an automobile.

The scheduling of busses is the most often-cited factor for improving ridership. Scheduling consists of the hours of operation, frequency of busses, and ease of transfer. Choice transit riders take into consideration the time needed to complete their trip, and compare the time savings to using an automobile. Since wait time is a component of total travel time, transit is already at a substantial disadvantage. Improvements to bus frequency reduce the wait time of patrons. Patrons arriving randomly to board a bus that runs on 30 minute frequencies can expect to wait an average of 15 minutes but no more than 30. As frequencies are shortened, the convenience of bus transit improves. A patron arriving at random for a 10 minute frequency bus can expect to wait an average of 5 minutes or a maximum of 10 (Li 2003). Travelers tend to feel their total travel time is longer than the actual travel time, particularly if there is an idle waiting period. Agnes Moreau (1992) blamed travel "time drag" on several factors including transit users being

unoccupied, alone, anxious, and their travel delay being unexplained. Hess, Brown and Shoup (2003) found that persons waiting for transit perceived their wait time to be nearly twice as along as the actual wait time.

Increased frequency of busses causes a rise in ridership (and vice versa). The ridership to service frequency elasticity averages +0.5. For every 10% reduction in frequency, ridership increases by 5%. Ridership increases the most when routes change from low frequency (30 minutes or more) to high frequency (less than 20 minutes). When frequency is already medium or high, shortening the frequency has less of an impact on ridership. For example, when a bus changes its frequency from 60 minutes to 20 minutes, ridership elasticity can improve by a factor exceeding +1.0. Patrons may shift from other low-frequency routes to the new high frequency route. Walkers may be attracted to very high frequency transit. However for a bus changing its frequency from 20 minutes to 10 minutes, the ridership elasticity will be far lower, and in some cases negligible (Evans IV 2004).

Fare cost and bus frequency are the two most commonly cited service characteristics that attract choice riders. The literature does not conclude which is more effective at building ridership. Ridership gains are maximized when the two strategies are applied in concert. A study in Dallas, TX found that inner city residents are more sensitive to the cost of transit, while suburban residents are more sensitive toward bus frequency. Presumably inner city residents were poor or transportation disadvantaged, and preferred low-cost mobility. Suburban residents were choice transit riders who desired convenient service. A fare decrease in Dallas of 29 percent along with a 16

percent increase in frequency yielded a 50 percent increase in ridership system-wide over a three year period (Allen 1991).

Students riding the bus from graduate student apartments to the UCLA campus have two transit options- one free bus and one that costs 75 cents. Both busses operate on 10-12 minute frequencies. Eighty six percent of students bypass the bus requiring a fare, preferring to wait for the next free bus. The average wait time for those who chose to wait was 5.3 minutes. This translates to the subjects valuing their time at a rate equal to $8.50 per hour. Most people value their commute time at up to half of their hourly wage. The bus requiring a fare payment was considered the most comfortable, yet the cost was the overwhelming concern for students (Hess et al. 2003).

Flexibility (or convenience) is an important factor when deciding whether to use transit. Automobile users value two flexible aspects of car travel. Temporal flexibility allows drivers to depart at the time of day they choose without regard to schedules. Spatial flexibility allows drivers to choose their path and arrive at destinations not served by transit (Evans IV 2004). Abdel-Aty et al. (1996) found that California commuters who needed to make multiple trips during work hours or those who worked in multiple locations were far less likely to take transit. A study in Oslo, Norway found that transit riders are willing to wait an extra 8-10 minutes or pay 33 cents [currency conversion calculated] to avoid a bus transfer. Patrons were concerned about service reliability, weather and a confusion of the procedures and costs of transferring busses (Evans IV 2004 citing Stangeby 1993). Transit can improve its flexibility by lengthening service hours, reducing frequencies and adding new route miles. Transit systems can also offer

jitney busses and "guaranteed rides home" on taxis. However transit's ability to compete with automobiles in terms of flexibility/convenience is limited (Evans IV 2004).

Safety associated with transit use can be a concern for some riders. Bus Rapid Transit (a type of express bus service that runs in segregated right-of-way) riders in Florida reported that after travel time, personal safety was the most important reason for choosing private automobiles over public transit (Baites 2003). Most of the concern over personal safety stems from waiting at stops. Evans et al. (1997) found that one aspect of safety dealt with the transit patron's (now a pedestrian) interaction with street traffic and the elements. High speed vehicular traffic, poor intersection design and the lack of sidewalks contributed to the perception of danger. Bus stops that had sidewalks, shelters and seating helped mitigate the sense of danger— and actual danger—of patrons waiting for busses. Another aspect of safety deals with violent crime while waiting for the bus. In some circumstances the perceived risk of violent crime is very real. In the urban core of Los Angeles, one third of transit users reported being the victim of violent or property crime while making a transit trip. The risk of crime was highly focused in the inner city and at stops with hiding places (Loukaitou-Sideris and Liggett 2000). Suburban users have a somewhat different experience. Reed et al. (1999) found that transit users generally feel safe using transit, but their perceived fear of crime increased with longer wait times. Reed also found that non-users think that transit is more dangerous than users do.

Every transit trip begins and ends with a pedestrian trip. The origin and destination points of a person's trip must both be within reasonable walking distance of the transit route. There is a growing movement to develop high-density land uses in

proximity to transit routes. This movement—commonly known at Transit Oriented Development (TOD)—seeks to place land uses close to transit routes. The urban design of the area around the transit stop is also important. The urban environment must be appealing and pedestrian-friendly (Cervero 2001). Potential users must be within one quarter mile of the transit stop to be realistically expected to walk to the transit stop. Some users will walk (or bike) a longer distance, but choice riders generally will not walk more than ¼ mile (Johnson 2003). Longer walks add considerably to the user's out of vehicle wait time (Li 2003).

Social acceptability can also be an important factor when deciding whether to drive or take transit. Reese et al. (1980, cited in Thompson et al. 2002) found that social stigmas exist toward users of public transit. People expressed concerns about the social acceptability of busses. The perceived bias stigmatized transit users as being from a lower socio-economic class. Reese's study also found that busses were the least acceptable for evening activities. Users felt that transit was more socially acceptable than non-users.

Improving transit's amenities can help attract and retain choice riders or infrequent riders. Additional amenities can also help raise the level of customer satisfaction. A transit system with amenities generally has a better public image. Bus stop amenities include infrastructure such as seating, lighting and even retail such as newsstands. On-board amenities include low floor busses, courteous drivers, bike racks and comfortable seats. Cleanliness both on-board and at stops is essential (PPS 1999).

A common perception is that consumers prefer rail transit to bus transit. The social stigma holds that white-collar workers use rail transit, whereas blue-collar workers

frequent bus transit. Moshe Ben-Akiva (2002) refutes this perception using mathematical models that prove bus rapid transit has an equal preference to rail transit. People slightly preferred rail over bus transit that operates in the same right of way as automobiles because busses realized no time savings over driving.

One aspect of transit amenities is the ease of information dissemination. The availability of information is critical in attracting new riders. The public is generally uneducated about transit. Bus routes are difficult to recognize and wait times are very uncertain (Ben-Akiva 2002). Abdel-Aty et al. (1996) found that transit non-users are one third more likely to use transit if they are given advanced information such as point-to-point routing instructions, travel time estimates and single-route maps. Many people do not intuitively understand transit and are unable to choose the correct routes, estimate travel time, or decipher fare structures (Thompson et al. 2002 citing Hardin 2001).

Non-User Studies

Studies that focus on non-users of public transit are often very valuable to transit researchers and planners. The goal is to build ridership, and non-users are the market that transit seeks to attract. In a study of non-users in seventeen US cities, the relative attractiveness of the automobile was cited as the reason for not using public transit. Transit was viewed as having no clear advantage, while cars were viewed as having flexibility and travel time advantages. However when non-users were presented with a set of hypothetical service changes, 50% said they would ride transit under those circumstances. The most popular hypothetical service changes were: dedicated bus lanes, direct transit routes from home to work, and increased frequency (Thompson et al. 2002 citing Mierzejewski and Ball 1990).

Employer-based programs can help build transit ridership among non-users. Oram and Stark (1996) found that employers who provided free or discounted individual ride tickets showed a moderate increase in ridership among employees. Employees did not generally switch their daily commute to transit. Instead they rode transit relatively infrequently. Employees found it easier to use transit without committing to it entirely, and employers saved considerable amounts of money by not purchasing monthly passes. Employer-based programs have the effect of making transit non-users into infrequent users. Employer-based programs can add 8-9% to the total number of riders on a transit system (Conklin et al. 2001).

Employer-based transit programs are very similar to programs offered by colleges and universities. Both employers and universities seek to reduce their costs associated with parking, and give their constituents additional fringe benefits of attendance or employment. Employers that reduce or eliminate their subsidy of free parking will be able to use those funds to increase profits or reinvest in the company. Universities that discontinue subsidized parking are able to use those funds to support the school's primary missions of academic instruction and research. From the transit agency's point of view, large employment sites and universities are substantial trip generators that need transit service and have the potential to increase total ridership on the system.

University Transportation

Universities have a different set of transportation needs than their surrounding communities. Universities value a walkable, green campus where buildings are in close proximity to foster academic collaboration. Parking takes up valuable space that could be devoted to classrooms or laboratories. Universities are major trip attractors. Students

commute on irregular schedules, since classes begin throughout the day. Cities expect spikes in transportation demand during rush hours, while universities can expect a fairly steady flow throughout the day. Finally, universities are experiencing rising costs for constructing and administering transportation infrastructure, which detracts from the university's primary mission of academics (Balsas, 2002). Universities are in an excellent position to experiment with and implement transportation policy changes. Universities have complete control over the road network, parking facilities and land uses on their campus. Cities do not possess absolute power over these factors (Miller 2001).

Universities have begun to address their transportation needs in ways similar to their municipal counterparts. A study by Gutkowski and Daggett (2003) found that 91 percent of surveyed universities maintained a campus master plan, and that 70 percent of schools had a dedicated transportation section. But only 57 percent of universities incorporate public transit into their campus plans.

Exposing students to alternative modes could have lasting impacts on the nation's transportation system. Rodney Tolley (1996) makes the claim that creating a "green", sustainable and multimodal transportation system on a university campus could make lasting impacts on the travel behavior of graduates. His claim depends heavily on students being environmentally conscious, and argues that graduates will keep the earth in mind when deciding how to commute to their first jobs.

Campus Parking

The parking situation on campuses varies, but restricting parking is always an integral part in effecting a modal shift. Universities usually have fewer parking spaces (supply) than the number of commuters who wish to park on campus (demand).

Universities usually track the demand for parking by the number of requests received for parking passes each year. The demand to supply ratio of parking spaces at sampled universities varied from 0.70 to 4.00 with a mean of 1.70. To help fund parking facility construction, operation and maintenance, all universities charge for parking passes. This process—known as "parking pricing"—also serves to discourage commuters from parking on campus, and to encourage them to carpool or utilize alternative modes. The cost of parking passes in a recent sample ranged from $14 to $300 per semester, with a mean of $83.43 (Gutkowski and Daggett, 2003).

The pricing of parking is an essential step in promoting transit use. Even though the University of Florida prices its parking, the price point remains below other comparable schools. The annual price of decals for students is cheaper at UF ($94/yr) than other comparable universities such as the University of Wisconsin–Madison ($200-834), the University of California–Davis ($204), and the University of Minnesota ($537) (Siegel 2000). Even at schools with more expensive parking, universities are not pricing parking to recover 100 percent of its costs. The monetary costs of parking to a university include salaries for parking personnel, accounting, construction costs, and loss of available land- which at some point in the future could necessitate the purchase of campus annexes (Tolley 1996). A discussion of parking on the University of Florida campus can be found in Chapter 4 of this report.

Peripheral parking lots (sometimes known as 'park-and-ride' lots) have not been shown to increase transit's modal share. In general, periphery parking is not intended to induce travelers to change their modal choice. They are intended to capture vehicular traffic before it enters the congested central core. However if priority parking spaces

within the core are awarded for carpools, peripheral lots can help increase ridesharing. Peripheral parking is commonly used by major employers, hospitals and universities that are unwilling or unable to supply on-site parking (Kuzmayak 2003).

Universities have adopted parking management policies to promote transit use and alleviate parking demands in the center of campus. The University of Maryland at College Park operates peripheral parking lots linked by shuttle busses. UM's park-and-ride service moves 750,000 people annually from the parking lots to the center of campus by shuttle bus. The Massachusetts Institute of Technology does not sell parking passes to students who live within the transit system's operating area. Similarly, UCLA prices its parking passes based on the student's address and its proximity to campus and the transit system (Kuzmayak 2003)

In an interesting side observation it was noted that in eight US cities with periphery lots, many users chose to walk the last leg of their trip instead of using busses. Unfortunately this phenomenon was not studied in depth, and the pedestrian's reasoning for choosing walking over transit is not known (Kuzmayak, 2003 citing Pratt and Copple, 1981).

Campus Transit

Transit service on university campuses varies from school to school. Among colleges with 10 or more transit vehicles serving the campus, roughly half of the systems are operated under contract by the local community transit provider (Gutkowski and Daggett 2003 and Miller 2001). The rest are operated by the university administration. Campus transit services are targeted toward four types of service: 1) Home to school

trips; 2) Intra-campus trips; 3) Remote parking shuttles; and 4) General service routes that treat the campus as a special generator of trips (Gutkowski and Daggett 2003).

The mission of the transit system dictates the ownership and financial situation of the transit provider. Table 3 below summarizes the prevailing ownership, financial, and targeted trips of all four types of campus transit systems. Systems on small campuses (less than 8,000 students) are generally university-owned. University-owned systems are cheaper to operate because of non-unionized employees (often students) and smaller, more efficient vehicles. Small transit systems tend to target intra-campus trips and remote parking facilities. Schools in larger communities usually enter into contractual service agreements with local transit providers. Local agency transit service is more expensive, but the more complex route system allows busses serving the campus to extend far into the surrounding community. This opens up housing options to students (Miller 2001). Even though the annual cost is more expensive for larger systems, smaller systems are usually more expensive on a per-ride basis.

Table 3–Transit System Characteristics by University and City Size

Large University / Small City Owner/Operator: City Target Users: Intra-Campus and Home to School Finances: Expensive	**Large University / Large City** Owner/Operator: City Target Users: Home to School Trips Finances: Very Expensive
Small University / Small City Ownership: University Target Users: Intra-Campus and Parking Shuttles Finances: Inexpensive	**Small University / Large City** Ownership: University Target Users: Intra-Campus and Parking Shuttles Finances: Inexpensive

Source: Gutkowsky and Daggett (2003) and Miller (2001)

About 40 percent of contractual service agreements allow the university administration or student leadership to dictate service changes. The remainder of systems depend on the transit agency's judgment (Gutkowski and Daggett, 2003). An

increasingly popular service change is the implementation a free-fare system, where students do not pay cash fares each time they board the bus.

Unlimited Access and Fare Structure

The idea of unlimited access transit (also known as fare-free transit) has been practiced on university campuses since the late 1970s (Miller 2001). As of 1998, thirty five universities offered unlimited access transit. That year, total of 875,000 students receive unlimited access benefits from their universities (Brown et al. 2001). The number of schools offering unlimited access has grown since 1998, but no literature was located that cited a precise number.

Unlimited access transit is not free transit. It is a different way of paying for transit service. A third party pre-pays the transit provider to carry members of a constituent group without charging them a fare. The transit provider usually receives an annual lump sum payment from the university (Brown et al. 2001). Through a method similar to group health insurance, fares are substantially discounted because so many fares are being purchased (Miller 2001). Transit passes are distributed, or identification cards double as passes. Users are allowed to ride free on all transit system routes, irregardless if they connect with the university.[8]

Currently, passengers occupy only 27% of available seats on busses nationwide. The enormous number of empty seats drives up the needed operating subsidy. Transit systems want riders to fill those seats, and universities want to discourage automobile commuters to campus. Through university payments to transit systems, new riders can

[8] Some universities provide free-fare transit only on routes that intersect with campus (Brown et al. 2003). This model is more typical of employer-based transit programs.

be brought to the transit system while at the same time relieving the parking demand on campus (Brown et al. 2001).

Unlimited access programs offer multiple advantages to the university and its students: 1) Unlimited access reduces demand for parking on campus. Consequently the university divests itself of the capital expenditure costs of constructing new parking. 2) Unlimited access transit reduces the cost of attendance for students, while at the same time increasing mobility options. Students do not need to buy and maintain a car, which can save an individual up to $4,000 a year. For students who continue to own cars, slower depreciation and gas expenses can save the owner $800-1,000 a year. 3) Students have better access to housing and employment. Students living on campus do not need a car for off campus social or shopping trips. Students off campus do not need a car to commute to campus, and can also use transit for social and shopping trips – although their options may be limited. 4) Unlimited access can help a university attract and retain students (Brown et al. 2001).

There are substantial advantages for the transit agency as well. Unused seats are occupied, optimizing the bus' operation. The agency also receives a stable source of income less subject to political whims. State and Federal assistance is often based on formulas that take into account ridership. Simply by putting people in seats, the transit agency can garner a larger share of state and federal assistance (Brown et al. 2003).

Among schools that have a fare-free transit system, approximately 20 percent have an unlimited access fare structure similar to the University of Florida. Students, faculty and staff ride without paying a fare because the university administration or student fees have prepaid their fares. Fifty three percent of schools have systems where

the general public rides fare-free, however the bulk of those are campus-only systems. The remainder of free transit systems are park-and-ride shuttles only.

Both the local transit agency and the university can reap benefits from contractual service agreements. Universities are able to divest themselves of the administrative and fiscal burden of operating on-campus busses, even if the school makes substantial payments to the transit provider. Schools that choose to use student fees can further reduce the school's contribution. University-operated transit systems are not eligible to receive most types of Federal and State matching funds. Thus partnering with the local transit provider makes the system eligible for operating assistance and start-up funds. For local transit agencies, partnering with local universities also provides a reliable revenue stream in a period of declining government subsidy (Miller 2001).

Campus Transit Case Studies

Each university pursues the goal of building transit ridership differently. This section presents three case studies of enhanced transit service on university campuses. Each school used a different model to approach the issue of bringing about a mode shift toward public transit. These three case studies are selected to demonstrate principles of college/city joint transit service that are not embodied at the University of Florida. An in-depth case study of the University of Florida transit program can be found in Chapter Four of this report.

Clemson University- Clemson, SC. Clemson, SC is located in Pickens County (pop. 105,000). Until the mid-1990s, there was no municipal transit system in Clemson. Partnering with the city and county, Clemson University pledged $350,000 toward the joint project that had previously funded on-campus parking shuttles. The new source of

funding allowed the city/county to create a transit agency and avail itself of state and federal matching funds that were previously unavailable to the university. The small, efficient system operates on a fare-free basis for all riders, student or otherwise. As ridership increased, the transit agency was able to secure additional operating assistance from federal rural transit assistance funds (also known as Section 5311 funds). The State of South Carolina also pledged additional operating assistance, in part due to Clemson Area Transit's (CAT) contribution to state ridership totals which boosted South Carolina's share of federal block grants. Thus the city/county added a transit system where one had been lacking, and the university was able to shift people from single occupant cars to public transit. In 1999/2000, CAT operated 10 routes carrying 666,000 passengers annually at a cost of $782,000. CAT also operates late evening busses to shuttle patrons to bars and other evening activities. (TCRP 2003)

Clemson's experience is an example of how small college towns can partner with the university to create a transit system where there previously was none. A small community benefits by creating transportation options, lowering traffic congestion, and opening access to housing. All transit systems can learn from CAT's example how to leverage state and federal funding sources to maximize operating assistance. Funding arrangements vary from state to state, and South Carolina's local assistance framework is what made the CAT system possible. One drawback of instituting a no-fare system is that the cost of expanding route miles is prohibitive, since there is no dedicated source of funding for capital improvements (Miller 2001).

University of California at Berkeley- Berkeley, CA. AC Transit, the bus service provider in Alameda (Oakland) and Contra Costa Counties, California operates

154 routes, seventeen of which intersect the University of California campus. The University of California has only 4,000 parking spaces for 32,000 students. The impetus for change came in 1998 when the City of Berkeley relaxed its rent control laws, creating a market for student housing outside of walking distance to campus. In 1998—the year before the program began—one thousand eight hundred students purchased transit passes at a cost of $60 per semester. A rider study found approximately 700 other students who paid cash fares on a regular basis. Student leadership wanted to increase access to additional housing stock, and the university wanted to ease its parking demand. In April of 1999, UC students voted by an 89 percent margin to establish a student fee of $10 per semester to create the "TransitClass" program. The transit agency receives at least $320,000 each semester to provide unlimited access service, more if the number of passes requested was high. Through a process known as distributive cost pricing, the individual cost of a transit pass is much lower since the total cost is spread across the whole constituency of students attending the university. The concept of distributive cost pricing is similar to group insurance rates or taxation, where the cost per person of the program is very small, yet the benefits to individuals who utilize the program is substantial.

Under the TransitClass program, students receive unlimited access on AC Transit routes. Students must sign up to receive a transit pass. Over 23,000 of the 32,000 eligible students signed up to receive one during the first semester the program was offered, twelve times the number who purchased passes before the start of the program. The large number of student passes distributed and the approval rate of the referendum were the result of a successful marketing program. The marketing program exposed students to the financial, environmental, and institutional benefits of transit use.

There are several attributes of the UC-Berkeley program that demonstrate models of campus transit. The University of California/AC Transit partnership is a successful example of a university unlimited access program integrating into a large urban transit system. It is also an example of utilizing student fees in the partnership- the university administration does not contribute any funds to the transit system. Even though all students are entitled to a free transit pass, each student who wants to ride must interact with a third party to receive benefits. This is one variant of a distributive cost pricing model. All students must pay the fee, but not all students will sign up for a pass. Students must decide to sign up for the unlimited access program *before* arriving at the bus stop. By requiring students to sign up, it creates a roadblock to infrequent or occasional riders. However, the fee is being utilized to pay for the number of passes requested, not unlimited access for all students. Some students will not sign up for a pass. From the transit agency's perspective this is a more efficient model to implement (Levin 2000).

University of California at Los Angeles (UCLA)- Los Angeles, CA. The University of California at Los Angeles is served by 5 routes of the Santa Monica Municipal Bus Lines. Students, faculty and staff are allowed to ride fare-free on those 5 routes. Passengers must swipe their university ID card to board. UCLA's administration pays Santa Monica Bus Lines 45 cents per ride. The University pays about $80,000 monthly.

There has been a marked modal shift among student commuters. Student commutes by transit increased 43%. Twenty nine percent of the student riders were new

to using public transit. The number of drivers fell by 33%. The rise in student ridership increased further during subsequent years of the program (Brown et al. 2003).

UCLA's transit agreement is a good example of a university administration paying for transit service. UCLA's administration pays for the entire cost of providing unlimited access transit. The university is divesting itself of the expense of constructing parking infrastructure, but more institutional money could be saved by instituting student fees. Instead of applying a distributive cost pricing model, the school pays for each individual ride. From the transit provider's perspective this is advantageous, since a ridership increase will result in increased revenue. Under a fixed-payment scheme, ridership gain does not cause an increase in revenue.

Permanent Effects of Temporary Transit Use

What happens to people's behavior once they have been exposed to transit? It is clear that people will use transit under certain circumstances (Crane 1999). The decision to use transit is in part based on the level of service in each mode (Hensher and Button 2000). The decision to use transit is also based on the habits, attitudes and beliefs of the user. Experience with high level of service transit may influence future behavior, since psychologically the experience was a positive one (Verplanken et al. 1994).

The existing literature is largely lacking for experiments that examine the lasting effects of temporary transit use. One experiment performed by Fujii and Kitamura (2002) gave automobile users in Japan a free bus pass for one month. People who received transit passes continued to use the bus after the one month period ended. Ridership within the experimental group rose by 20 percent. The study also concluded that automobile users had a general negative perception of public transit which was

refuted after using transit temporarily. This important concept indicates that a temporary change in transportation habits can alter a person's permanent routine. The authors suggest a temporary period of free-fare transit may help increase ridership in the long term.

The literature is lacking in studies that ask if users of high frequency, unlimited access transit continue their transit use after they move to a new city. In fact, there is a lack of studies asking questions about the overall reasoning of choice riders who use transit. Further, there is no previous record of studies that focus on whether the transportation system at a university has any lasting effects on the habits or attitudes of former students.

CHAPTER 3
METHODOLOGY

A natural experiment exists for evaluating the lasting effects of using bus transit while at the University of Florida. The experiment involves sampling students before they arrive on campus (incoming freshmen), and then sampling students soon after graduation (recent alumni). Responses can be compared between the two groups to uncover changes in habits and attitudes toward alternative modes. It is assumed that any changes observed are attributed to the respondents' common experience of commuting to and from the University of Florida campus.

Time constraints prohibited the administration of a true time-series survey to the incoming freshman of 2003 and surveying the cohort again in 2008 after graduation. It was necessary to survey the 2003 incoming freshmen class and a group of alumni during the same year. This research project assumes that the responses given by the alumni surveyed would be substantially similar to responses that would be collected in 2008 if time constraints did not apply.

Survey Administration

To analyze the impact that multimodal transportation to campus has changed the habits and attitudes of University of Florida students, two surveys were taken. Both surveys were administered by mail using address lists maintained by the University. The data collection period ran from July through November of 2003.

Survey Scope

Both surveys asked questions in the following general areas, although questions were not grouped together in consecutive order:

Demographics- Questions about gender, race, marital status and zip code. These questions were asked so that other responses could be put into social and spatial context.

Transportation Habits- This section included questions concerning commute time, automobile ownership, modal choice and maximum preferred walking/biking distance. Some questions were asked twice, with one question asking about habits while at the University and the other asking about habits in their current location. These questions were asked to determine the respondents' actual transportation habits. Their responses can be compared to other groups within the survey or to state and national datasets.

Housing- This question set asked about housing choice and desirable attributes of housing. These questions were asked in an attempt to determine how important transportation factors were considered in the respondents' decision-making process when choosing where to live. Some of these questions were asked twice, with one question asking about college housing and one asking about current housing. In the case of the alumni group, respondents were directed to answer questions about their collegiate housing choice based upon where they lived during their senior year only.

Alternative Mode Use- These questions were asked to gauge the willingness of respondents to use alternative modes. Additional questions were asked to gauge

the level of education the respondent possesses about public transit in their current city. Some questions asked about the usage of public transportation during all four years of undergraduate work.

Public Policy- These questions ask respondents to rate their level of agreement with transportation public policy measures. These questions asked participants to rate their level of agreement with statements on a scale from 1 to 5 (or Strongly Disagree to Strongly Agree).

Freshman Survey

The first survey consisted of 45 closed response questions. It was randomly mailed to 697 incoming freshmen during the summer of 2003. These incoming freshmen were not yet enrolled at the University. Addresses were obtained from a list of admitted fall-semester students maintained by the University of Florida Office of Admissions. Only addresses from the 50 United States and the District of Columbia were included. The size of the admitted freshman population was 7,296.

Of the 697 surveys mailed, it was expected that up to 34% of the recipients were ineligible to take the survey. This was due to two factors. Persons under the age of 18 (approximately 17% of the incoming class) were not allowed to take the survey due to concerns over parental consent. Recipients under the age of 18 were instructed not to complete the survey. The mailing list also included persons who had been admitted to UF but were not planning to enroll–approximately 20 percent of the sample. [1]

[1] The Office of Admissions reported 7,296 admitted freshmen. The University Registrar reported 5,830 enrolled freshmen for the Fall 2003 semester. The difference between the two figures is 20.1%.

One hundred and twenty three valid freshman surveys were returned. This is a raw response rate of 17.6%. Taking into account the recipients who were not permitted to respond, the response rate was 30.4%. A copy of the freshman survey can be found in Appendix B. Raw data from the freshman survey can be found in Appendix D.

Alumni Survey

A second survey was taken to determine the multimodal behaviors and attitudes of recent alumni of the University. Responses on the alumni survey can be compared to the freshman survey to determine if the multimodal environment of the university campus had caused any changes. Six hundred and fifteen surveys were mailed to randomly selected addresses from a database maintained by the University of Florida Alumni Association. Only students who graduated with their bachelors degree in 2001 and 2002 were selected. Alumni who received only graduate degrees or who were still enrolled were not included. The total potential population represented 12,376 people.[2] These limiting factors were chosen because: a) Alumni who graduated in 2000 or before would have limited exposure to enhanced transit services; b) Alumni would have at least one full year to settle into a transportation routine post-graduation; c) Alumni holding only graduate degrees have an unknown background since high school graduation, and d) Alumni who hold a bachelors degree but were still enrolled at the University are still commuting to the same multimodal environment found during their undergraduate years.

The survey that was mailed to alumni had 49 closed response questions. Of those, 24 questions were exact duplicates of questions asked of the freshmen. An

[2] The alumni population 12,376 represents the number of addresses that are on file with the University of Florida Alumni Association minus the percentage of graduate and professional degrees awarded each year by the University. The Alumni Association is a membership organization, and some alumni choose not to join.

additional 11 questions were substantially similar, and to a varying degree they can be compared using statistical tests. One hundred and fifty four valid alumni surveys were returned. This represents a 25 percent response rate. A copy of the alumni survey can be found in Appendix C. Raw data from the alumni survey can be found in Appendix E.

Limitations

Both surveys qualify as large samples, and it can be assumed that the confidence level of sampling error is p = 0.05 or 95%. Using this confidence level, the margins of error for scalar data can be calculated. For the Freshmen, the margin of error is +/- 8.74. For the Alumni, the margin of error is +/- 7.85.

Other limitations exist on the survey data. The alumni surveyed graduated in 2001 and 2002. Since 2002, expenditure on bus transit by UF has more than doubled. The alumni sample did not experience the same transit environment that the incoming freshmen will. Further, some alumni will have experience with high-quality transit outside of Gainesville. Alumni may have moved to or visited cities with high quality transit (including rail transit) or comprehensive TDM policies. Any changes found in habits or attitudes can be attributed to temporary transit use.

Other Research Methods

Interviews were conducted with several key informants. An interview was conducted in April 2003 with the UF Campus Master Planner Linda Dixon to investigate the scope and intent of the campus' TDM policies. Bob Miller, UF Vice President for Finance and Administration was interviewed in July of 2004 to discuss University

funding of the RTS system. Finally, Doug Robinson, transit planner with the Regional Transit System was interviewed by email and telephone.

Other research methods were employed during this project. The author of this project was appointed a voting member of the 2004/05 Transportation Access Fee Committee. Through membership on the committee, the author gained familiarity with the process and the responsible parties. Documents were reviewed from the UF Division of Finance and Administration (publicly available) to compile information on monetary payments for bus service. The Division of Finance and Student Government records were obtained. These documents show the agreements, funding, and service agreements between the University and RTS. The Regional Transit System provided ridership data dating back to 1996. The UF Campus Master Plan was reviewed. Finally, the policies of the Transportation and Parking Division were analyzed to establish the campus TDM parking policies.

CHAPTER 4
BACKGROUND

This section contains an in-depth discussion of the transit-oriented environment at the University of Florida and the City of Gainesville. In order to understand any changes in habits and attitudes found in the survey, it is important to have a full understanding of the transportation environment and TDM policies at the University. This section also serves as a case study of bus transit at UF.

The University of Florida

The University of Florida had a total enrollment of 47,373 students in 2003/04. Of that number, 28 percent are graduate or professional students and 72 percent are undergraduates. UF is a residential school. Most of the student body moved to Gainesville to attend classes, as relatively few students are native to Alachua County. In addition to the student body, there are over 4,000 faculty and 8,000 other staff members. Founded at its present site in 1905, the oldest part of campus is dense and is best navigated on foot or bicycle. The core part of the campus is largely a pedestrian-only zone during daylight hours and lacks parking resources. The core part of the campus and Shands Hospital occupy roughly 600 acres, with the other 1050 acres devoted to less dense uses such as agricultural research and conservation. At least some coursework is

required on the Gainesville campus to satisfy the requirements for all but a few[1] of the 100+ undergraduate and 242 graduate programs. Accommodating the needs of 58,000+ regular commuters to the core of campus requires balancing the needs of diverse groups and maintaining a comprehensive transportation demand management plan. University of Florida Transportation Demand Management

Multiple TDM policies are maintained by the University of Florida. However, the University does not maintain a stand-alone Transportation Demand Management plan. TDM policies are distributed throughout the Campus Master Plan and in the regulations of the Transportation and Parking Services Division.

The Campus Master Plan outlays the following major goals related to transportation:

1) Build future parking facilities near campus gateways and other remote areas

2) Maintain a transportation fee that covers the costs of parking, circulation, transit and non-vehicular transportation infrastructure

3) Build bike lanes and off-road trails to promote bicycle use

4) Provide fare-free transit to students, faculty and staff

5) Promote pedestrian behavior in the "Pedestrian Enhancement Zone" by removing vehicle parking, restricting automobile access, and constructing pedestrian infrastructure.

6) Enhance the service characteristics of bus transit, including on-campus circulators

The campus plan seeks to increase the mode share of transit and non-motorized modes for commuting to campus. The plan recognizes that not all students have the

[1] Some degree programs in the fine arts can be obtained by taking classes only at the New World School of the Arts in Miami. At least some Instruction in residence in at the Gainesville campus is required for all undergraduate degree programs except those offered at the New World School of the Arts.

option of using alternative modes, so parking facilities construction is provided at remote facilities. Automobile commuters would then transfer to alternative modes such as on-campus busses, bicycles or walking. The plan puts heavy emphasis on capturing automobile traffic in park-and-ride lots to lessen the impact on campus roadways and entice cars to enter the campus at several different locations to mitigate their impact on city roads. The plan also provides for a carpool program, with carpools receiving preferential parking.

The core of the campus is designated a "Pedestrian Enhancement Zone". In effect this is an auto-free zone, except it is accessible by busses, official business vehicles and handicapped persons. One positive impact of the auto-free zone is that bus riders debark close to classrooms, while automobile drivers face a long walk, bike ride or bus ride of their own to reach the same point on campus.

The Transportation and Parking Services Division (TAPS) implements several TDM policies. That office determines the requirements for different classes of parking passes. They also issue parking decals and collect fees for their purchase. Stringent parking enforcement is coordinated through the TAPS office. Thus the Transportation and Parking Services Division implements the parking restriction and parking pricing portion of the "TDM plan". The office also operates the University's carpool program, which has been marginally successful (Siegel 2000).

Even without a formal TDM plan, the University is employing several TDM strategies to foster a modal shift among students, faculty and staff. Below, UF's TDM strategies are summarized according to the broad categories defined by Littman (1999).

> <u>Positive-</u> Unlimited access transit, transit service characteristic improvements, pedestrian/bicycle capital improvements

Mixed- Carpooling program with preferential space assignment, park-and-ride facility construction, traffic calming

Negative- Parking pricing, parking restriction, auto-free zones, transportation fees

TDM seeks to reduce automobile dependence and its harmful impacts. The positive, mixed and negative TDM policies work in concert to discourage the use of single-occupant automobiles. Viable alternatives are presented to commuters. Unlimited access, high quality transit is presented as the alternative for motorized travel to campus. According to Ferguson (1990), TDM tackles the disparity in mode share by employing five strategies. UF's TDM strategies are organized in the list below according to Ferguson's categories.

Trip Generation- Transportation Fees

Trip Distribution- Parking Pricing, Parking Restriction, Park-and-Ride facilities

Mode Selection- Carpool program, Parking Restriction, Parking Pricing, Unlimited Access Transit, Transit characteristic improvements, Pedestrian/Bicycle Capital Improvements

Route Selection (spatial)- Auto-free zones, Traffic Calming

Route Selection (temporal)- Night and evening classes, Transit characteristic improvements

Four of the most important TDM policies are discussed in the rest of this section. The parking pricing, parking restrictions, bus transit service enhancement, and transportation fees are all investigated in greater depth.

Parking demand far exceeds supply on the University of Florida campus, although some limited parking facilities are available in neighborhoods adjacent to the University. A total of 19,371 spaces are available on campus. The available spaces are prioritized for certain groups' use: 5,094 are reserved for students who live on campus;

another 7,719 are reserved for faculty and staff. Only 6,558 spaces remain to accommodate the approximately 9,600 students living off campus. Figure 3 below shows all campus parking facilities.

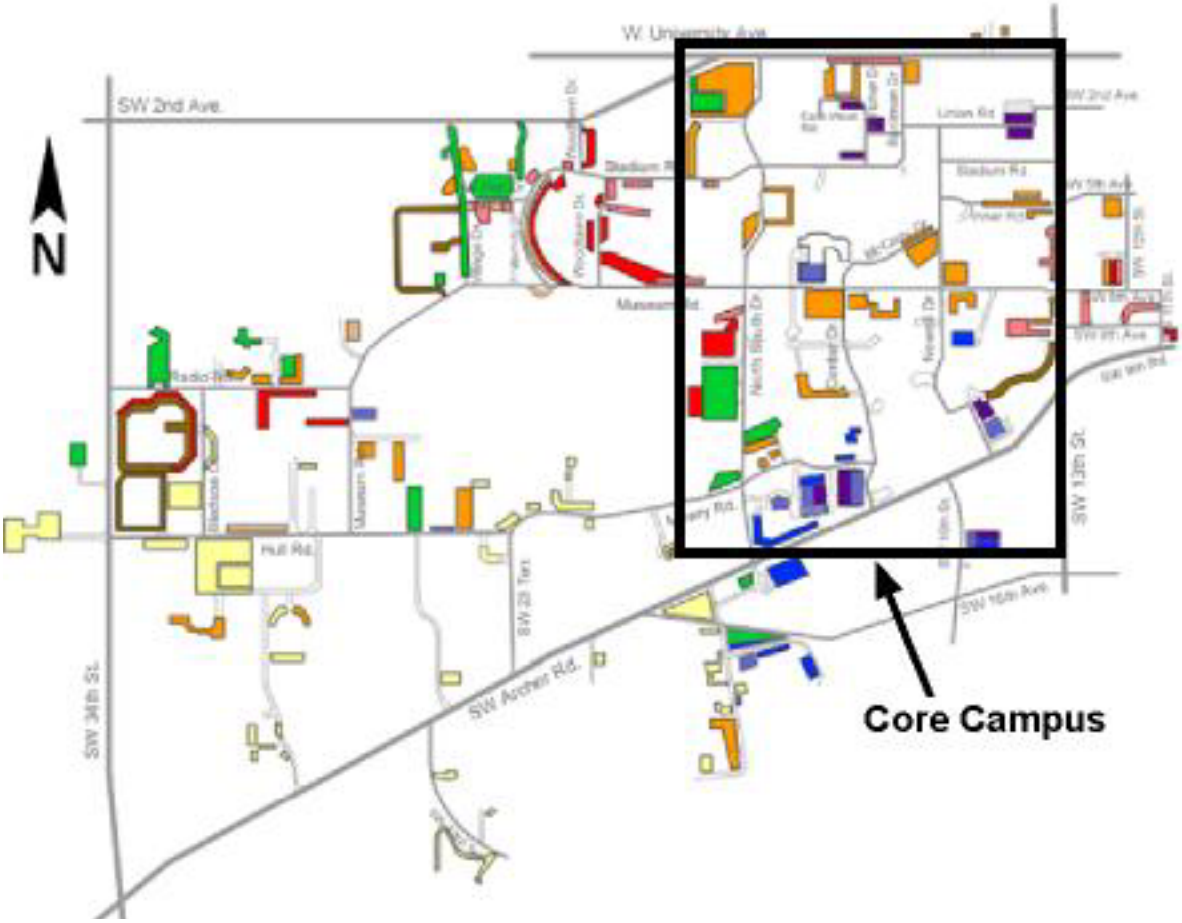


Figure 3–All Campus Parking Facilities and Core Campus Area
Source: UF Office of Parking and Transportation Services

Approximately 37,750 students live off campus. About half of the spaces reserved for off campus students are located in the core area of campus, and are designated "Commuter". Students with 90 credit hours (senior status) and graduate students can park in these more centrally located commuter spaces, usually in structured parking facilities. Other students must use park-and-ride spaces. Park-and-ride spaces are found on the perimeter of campus, and users require a bus or bicycle ride to reach

most instructional facilities. Under the contractual UF-RTS agreement, RTS provides dedicated park-and-ride busses at 10-20 minute intervals at a cost of $995,000 annually. Figure 4 below shows the park-and-ride facilities only.

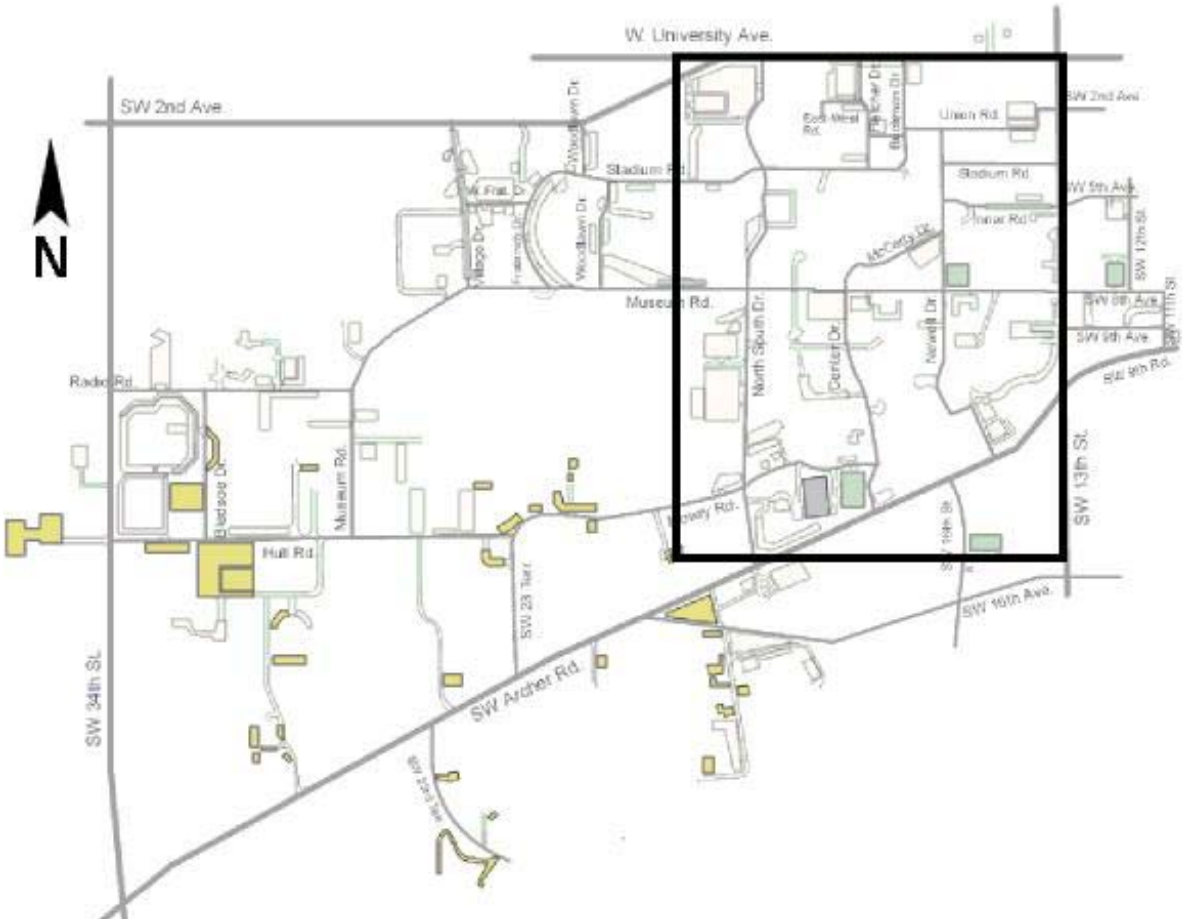


Figure 4–UF Park and Ride Facilities
Source: UF Division of Transportation and Parking Services

Analyzing the purchases of parking decals can render useful information about the demand for parking on campus. Table 4 below summarizes the number of spaces, their cost, and the oversell ratio of decals.

Table 4–Parking and Decal Sales, 2003

Decal Type	Spaces	Eligible Purchasers	Decals Sold	Decal Cost	Oversell Ratio
Faculty/Staff (Orange, Blue, Official Business)	7,719	N/A[2]	11,351	Up to $636	1.47
On-Campus Residents (Red)	5,094	9,623	5,823	$94	1.14
Commuter	3,393	~21,000	7,655	$94	2.73
Park and Ride	3,165	~26,300	2,837	$94	0.89
Total	19,371	~58,000	27,666	-	1.43

Source: UF Office of Parking and Transportation Services

UF Parking and Transportation Services does not limit the number of decals sold, instead choosing to let the supply of parking spaces and the willingness of drivers to search for spaces determine the number of decals sold. Table 4 above summarizes the parking situation on campus. Holders of faculty/staff, on-campus, and commuter decals are only allowed to park in spaces reserved for their respective category of decal. Overall, the number of decals sold exceeds the number of spaces by a 1.43 : 1 ratio. Only park-and-ride decals are sold at a rate lower than the number of available spaces, although in practice this is not accurate since all other decal types are allowed to use park-and-ride spaces.

Lower-division students have few options when it comes to parking on campus. Those with junior status and under must use remote park and ride lots, which requires a bus ride to reach their classrooms. Seniors and graduate students can park in close-in facilities, but the number of decals sold in this category far exceeds the number spaces by a 2.7 : 1 ratio.

Motorcycles and gas-powered scooters are treated very differently than automobiles. Since two-wheeled vehicles require far less space to park, the decal cost is

[2] The Faculty/Staff Category is broad and includes Faculty Staff (Orange) Official Business, Medical Resident, Gated Reserved, Shands Hospital (Blue) and certain types of advanced students. Data is not readily available to calculate the total number of eligible Faculty/Staff decal purchasers.

substantially reduced. Motorcycle/scooter decals cost $24 per year, compared with $94 for cars. Motorcycle decal sales are not prioritized according to credit hours. Further, motorcycle parking is found in every major lot on campus, greatly improving the riders' locational choice of parking. Bicycles also require very little parking space, and the University maintains bike racks at or near every building on campus.

Many of the students commuting daily to campus must use alternative modes of transportation to get to class. Some students will live close to campus and walk or bike to class. Some who live farther away will use public transit. Since 1998, the University of Florida has applied substantial monetary resources to the local transit system to make riding the bus a more viable option for students to commute to campus. During the period 1998-2004, the number of student riders has been increasing very rapidly. In 2004, the number of students arriving on campus each day by bus was more than double the number of students who arrived by car.

Regional Transit System

Bus transit in the City of Gainesville is provided by the Regional Transit System (RTS), a division of the Public Works Department of the City of Gainesville. In 2004/2005 RTS maintains a fleet of 92 diesel busses that operate on 21 standard city routes, 9 campus-only routes, and 4 late night routes (Perteet Engineering 2002). Paratransit for the city is contracted out to ATC/Intellitran. Many of the city routes operate on a pulse system from the downtown transfer plaza. Under a pulse system, many bus routes are timed to arrive at the transfer station at the same time. Busses wait 3 to 5 minutes, allowing passengers to transfer, before departing.

Three transfer points exist on the University of Florida Campus: the Reitz Union, Shands Hospital and Turlington Plaza. The campus transfer points do not operate on a pulse system, in part due to short frequencies and in part due to the congruence of campus and city routes. Bus frequencies range from 60 minutes on some city routes to 8 minutes at peak times on high demand routes operating from student-heavy areas to campus (Perteet Engineering 2002).

Ridership on the Regional Transit System (RTS) has increased each year since 1995. Please see Table 5 below for a summary of the ridership increase for the period 1995/1996 to 2002/2003. Over the study period, ridership increased 284%, to 8,106,964 boardings per year. RTS's annual ridership ranks 6th among state agencies behind Miami-Dade (63.4 Million), Broward (31.8 Million), the Central Florida Regional Transportation Authority (20.5 Million), Pinellas (10.1 Million), and Hillsborough (9.4 Million). This makes RTS the 6th largest transit system in the state, despite serving the 17th largest county (Census, 2000). Figure 5 below shows the RTS bus system and its routes within the City of Gainesville.

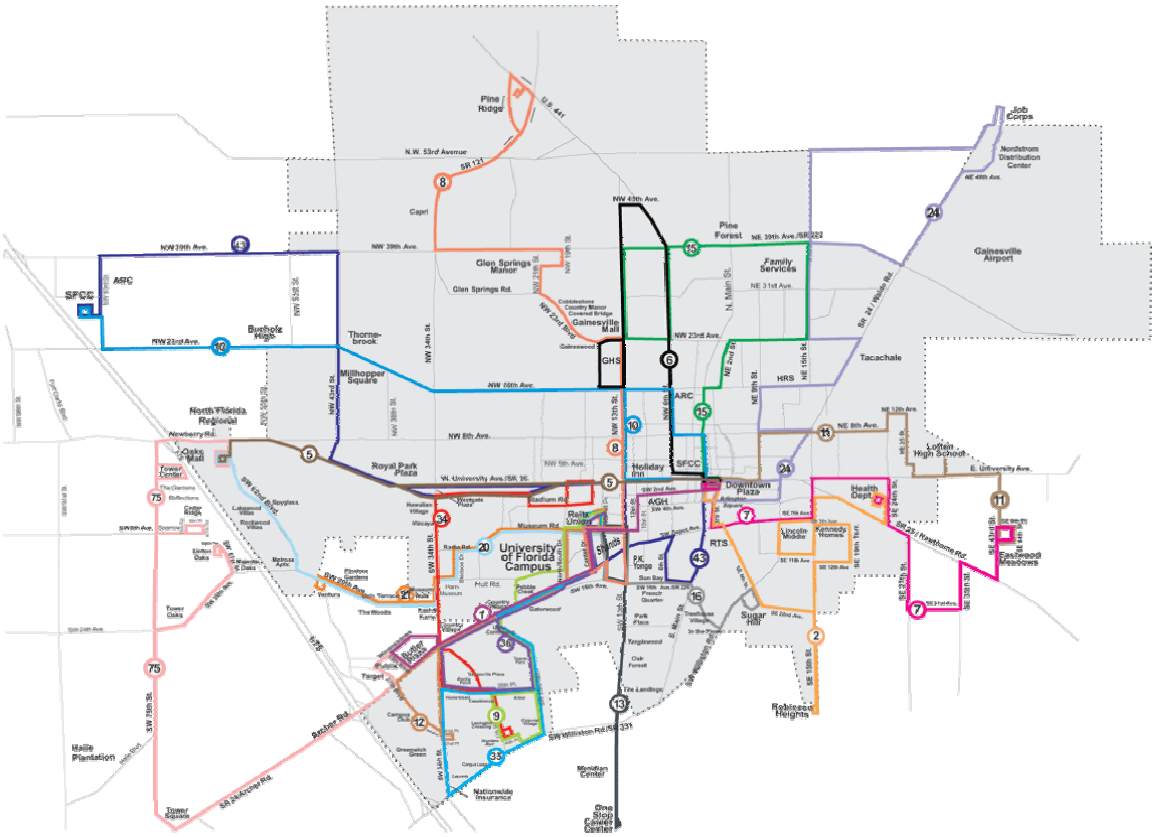


Figure 5–RTS Route System
Source: Regional Transit System

The growth in bus ridership on the Regional Transit System has outpaced ridership growth nationwide. Nationwide, bus ridership has grown 15% to 5.27 Trillion over the period 1995 to 2003 (NTST 2003). The disparity between ridership growth in Gainesville and the nationwide total can be attributed to service changes at RTS, and to the TDM policies of the University of Florida. RTS experienced the largest increases during the two years when student subsidy of transit services began. Student subsidy began in 1998/99 and resulted in substantial service improvements. Further, UF students could ride the bus on a fare-free basis. Since 1999/2000, ridership increases have been steadily increasing at more modest rates, although it is far out-distancing transit growth nationwide.

Table 5–Total Ridership 1995 to 2003[3]

Year	Boardings	Percent Increase over Previous Year
95/96	2,110,209	NA
96/97	2,174,840	3.1%
97/98	2,948,150	35.6%
98/99	4,412,773	49.7%
99/00	5,195,883	17.7%
00/01	6,306,241	21.4%
01/02	7,198,085	14.1%
02/03	8,106,964	12.6%
Increase '95-'03	**5,996,755**	**284.1%**

Source: Regional Transit System

Table 5 above demonstrates the overall growth in ridership. Segments of the total ridership have grown at even faster rates. Ridership growth on campus routes has not been as steady as other routes. Increases can be more closely attributed to new routes being created, such as the Lakeside Apartments bus. Over the period 1995/96 to 2002/03, ridership on Campus Circulator routes has increased by 125 percent to 2,253,041 annually. However, the proportion of campus route riders to the total number of riders has been steadily decreasing. Campus-only trips accounted for nearly half, 47.4%, of all RTS riders in 1995/96. That figure had decreased to 27.8% in 2002/03. Please see table 6 below for a summary of ridership on campus circulator routes.

Table 6–Campus Circulator Route Ridership 1995 to 2003

Year	Campus	Percent Increase over Previous Year	Campus Riders as Percent of Total
95/96	999,236	NA	47.4%
96/97	945,963	-5.3%	43.5%
97/98	987,049	4.3%	33.5%
98/99	1,184,643	20%	26.8%
99/00	1,281,250	8.2%	24.7%
00/01	1,620,287	26.5%	25.7%
01/02	1,879,694	16%	26.1%
02/03	2,253,041	19.9%	27.8%
Increase '95-'03	1,253,805	125.5%	--

Source: Regional Transit System

[3] The RTS fiscal year begins on August 1st. This is meant to coincide with the beginning of the academic year. Ridership counts also are recorded by fiscal year.

Figure 6 below demonstrates the separation between the number of riders using campus circulators and the total number of riders. Total ridership growth has outpaced campus-only growth, indicating that off-campus and special routes have been the source of greater ridership growth.

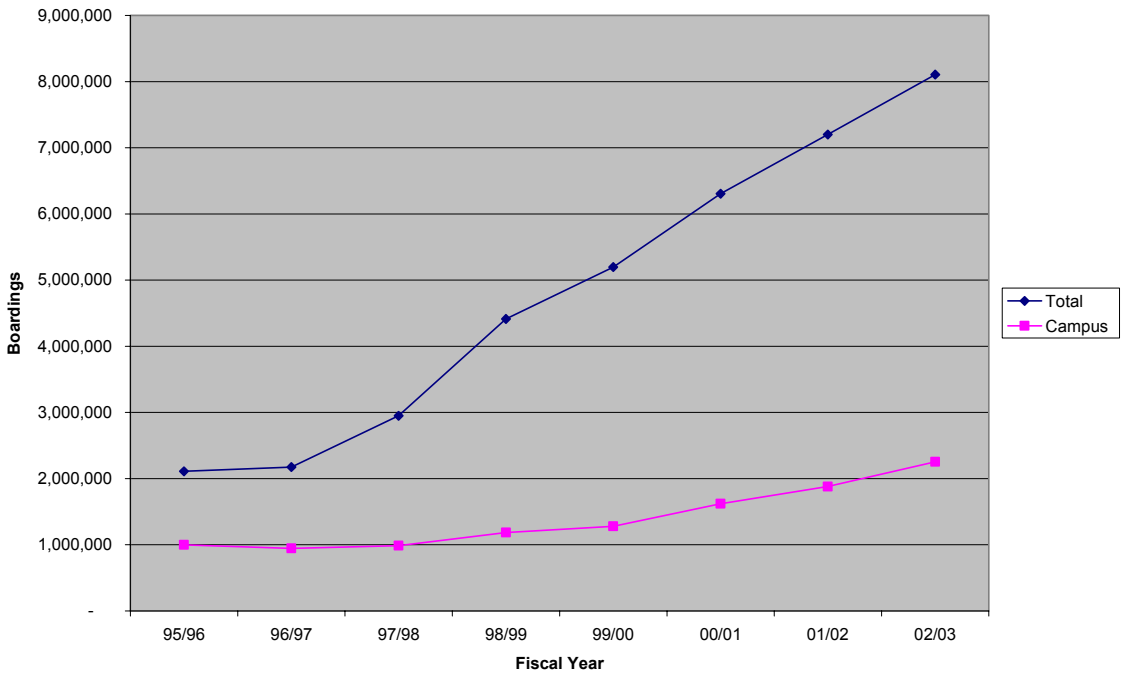


Figure 6–Campus and Total RTS Ridership Growth
Source: Regional Transit System

Campus Transit Service Agreement

Prior to 1998, RTS operated as a small urban system. Busses covered the city by circuitous routes at infrequent intervals. Nearly all riders on the system were transportation disadvantaged. The system was experiencing declining community support and ridership. Meanwhile the University of Florida had added over 8,000 students to its total enrollment during the previous decade. Previously students lived to the north and east of the campus, but the off-campus housing pattern had shifted to the southwest of the city into unincorporated Alachua County. The newer student apartment

complexes were 2-5 miles distant from the core campus. The outward sprawl of student housing coupled with rising enrollment increased the demand for motorized transport to campus. The University's Transportation Demand Management policies place an emphasis on public transit rather than private automobile use. In this next section, the sources of funding and mechanisms of coordination will be discussed.

The increase in ridership correlates closely to funding increases to the transit provider. RTS realizes very little of its operating revenues from fare-paying customers. In 2002, farebox revenues accounted for $714,183 of the agency's $9,462,631 budget. This represents a farebox recovery rate of only 7.5%, less than half the State of Florida average of 15.2%. Nationwide, farebox recovery averages 37.7%. However for small urbanized areas, the ratio is around 20% (NTD 2002). In 1998 the University of Florida entered into a contractual service agreement to provide enhanced transit service to the University in lieu of a massive parking facility construction project. The City of Gainesville made an ongoing commitment to fund the "baseline" levels of service found on routes in 1997. Newly established routes would be city-funded to provide a level of service consistent with routes operating in 1997, which operated with one or two busses on 30 to 60 minute frequencies. Additional funds to provide higher frequency, unlimited access transit would come from the University.

The Transportation and Parking Services Division and the Campus Facilities Planning and Construction Office would pay a portion of the costs, principally to fund on-campus routes and faculty/staff unlimited access. Each year the Transportation and Parking Services Division gives $1 million dollars to RTS. All funds from Transportation and Parking come from parking decal sales and parking fine revenue. The

Finance and Administration Division of UF (through the Campus Facilities Planning and Construction Office) supports RTS service with $500,000 annually. These funds are earmarked under the "Campus Development Agreement," a compact between the University and the City to help mitigate the impact the school has on city infrastructure (Miller, 2004).

The bulk of the funds came from a third source- a fee charged to students on a per-credit hour basis, similar to fees charged for capital improvements or activities. The funds that come directly from students pay for enhancements to the service characteristics of selected bus routes. The University pays RTS $42.50 per additional bus operating hour above and beyond the operating level of service paid for by the city.[4] The cost of constructing bus stop infrastructure is shared by RTS, the UF Transportation and Parking Division and the Office of Campus Facilities Planning.[5]

Transportation Access Fee

The Transportation Access Fee is the discretionary and variable portion of the payments to the Regional Transit System. Student funds are separate and distinct from Administration funds. The University's interest in stimulating transit use comes from a desire for less parking demand and improved walkability/bikability of the campus. The University administration's share of the service contract pays for unlimited access to RTS busses. Any improvements to service characteristics come from student funds. From

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[4] The per-operating-hour fee was raised to $46.75 in 2004-2005. The increase was the first since the inception of the contract. The increase was necessary due to rising costs of fuel and labor.

[5] Minutes of proceedings of the Transportation Access Fee Committee and Student Government Budget and Appropriations Committees from 1998-2004. Official correspondence between City Commissioners, UF representatives and RTS officials is also archived by the Business Services Division and Student Government as official material pertaining to the student funding of transit services.

1998-2001, student funds were allocated from the Student Government budget. For the period 2001-2004 funds came from the Transportation Access Fee.

The responsibility for collecting the Transportation Access Fee rests with the University Financial Affairs Office. Students are required to pay the fee as if it were a component of their tuition, and financial aid awards can be used to pay the fee. The responsibility for setting the Transportation Access Fee and allocating the funds is directed by a 7-member committee operating within the administrative structure of the Division of Finance and Administration. Four voting members of the committee are students, all of whom are appointed by the Student Body President and approved by the Vice President for Student Affairs.[6] One faculty member and two representatives of the University Administration are also voting members. The Transportation Access Fee Committee is authorized to charge a required fee to all students under Florida State Statute 240.209.(3)(e)8 to "support the transportation infrastructure of the university for the purpose of increasing student access to transportation services".[7]

Student funds began to pay for enhanced bus services during academic year 1998/1999. Since a dedicated Transportation Access Fee had not yet been instituted by the Florida Legislature, funds were budgeted as a portion of Student Government's Activity & Service Fee, which also funds student organizations, recreation areas and fitness centers. Table 7 below summarizes student payments to RTS. In academic year 98/99 $179,055 was paid to RTS, which translates to about fifteen cents per credit hour. This first fee paid for frequency improvements to areas where critical shortages of bus

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[6] Only 29% of university transit agreements guarantee students a voting seat on advisory committees (TCRP #39, 2001).

[7] Florida State Statute 240.209,(3)(e)8 and Florida Administrative Code Rule 6C-7.003(34), authorizing legislation of the transportation access fee, was passed in 2000.

space were occurring on a regular basis, specifically to three routes serving student-heavy areas of southwest Gainesville. The first year of student subsidy of the transit system proved to be a success, and it was renewed for a second year.

During the third year of student bus subsidy (2000/2001), the student contribution increased to $282,290. Daytime bus service levels remained the same as in previous years, costing $179,522. An additional $103,235 was spent to create a new late night bus route known as Later Gator. The Later Gator program was also a success and was expanded considerably during in coming years.

Students had begun to use busses in large numbers. Busses were often full, and student housing complexes had continued to sprawl outside of the RTS coverage area. Student Government could not increase its contribution to keep pace with rising demand.

The idea of a separate Transportation Access Fee for all State of Florida Universities had been discussed as far back as 1996 (Salazar 1996). However creating a separate Transportation Fee would require approval from the State of Florida Legislature and the State University Board of Regents. This approval came during the 2000 legislative session. This allowed the establishment of a dedicated Transportation Access Fee beginning in the Fall 2001 semester.

The Transportation Access Fee grew rapidly to keep pace with the rising demand for transit service. Table 7 below outlines the fee and the amount raised from academic year 98/99 through 04/05. The Fee amount has risen each year since its inception, starting in Fall 2001 as a $2 per credit hour fee. In 2004/2005, the fee will be $4.10 per credit hour. One hundred percent of Fee money is spent on motorized mass

transportation services. The Fee has been increased to provide service enhancements due to congested busses, new residential construction, and rising student demand.

Table 7–Student Subsidy/Transportation Access Fee Growth

Academic Year	Funding Source	Fee Amount per credit hour	Cost Per Student Per Year	Funds Raised
98/99	Student Government	$0.15 [8]	$4.50	$179,055
99/00	Student Government	$0.15 [8]	$4.50	$179,055
00/01	Student Government	$0.24 [9]	$7.20	$282,290
01/02	Transportation Access	$2.00	$60.00	$2,200,000
02/03	Transportation Access	$3.00	$90.00	$3,940,000
03/04	Transportation Access	$3.59	$107.70	$4,510,800
04/05	Transportation Access	$4.10	$123.00	$5,264,500

Source: UF Business Services Division and RTS. Cost to students is based on 30 billed credits per academic year

The Transportation Access Fee was not intended by the state legislature to be solely a means to subsidize or improve bus transit services. Funds can be used to build bike/pedestrian infrastructure, provide paratransit, jitney bus service, parking facilities, or add roadway capacity. Other Florida universities have used Transportation Access Fee Funds for all of these purposes. However at the University of Florida it remains primarily a means to subsidize bus transit, as 96% of the funds realized are transferred to the bus transit provider. However two other University transportation services are funded using the Transportation Access Fee. The Student Nighttime Auxiliary Patrol (SNAP) runs jitney van service on the UF Campus from 9PM to 2AM. SNAP was previously funded by Student Government. SNAP's mission is to provide safe point-to-point transport for on-campus residents and anyone on campus late at night. The program is operated by the University Police Department. In academic year 2004/05, SNAP was

[8] Fee amounts in 98/99, 99/00 and were allocated as a portion of the Activity and Service Fee. RTS also benefited from several Department of Transportation grants during this period.

[9] The fee amount in 00/01 continued service enhancements from the previous two years and funded the first Later Gator late night service route. These fees were also budgeted and appropriated from Student Government's Activity and Service Fee.

funded by $92,000 of Transportation Access Fee money. Paratransit around the UF Campus is provided by the Handi-Van service. Before being funded by Transportation Access Fee funds, the Handi-Van was funded and operated by the Transportation and Parking Services Division. The Handi-Van services remains under the operational control of Transportation and Parking Services, however all $120,000 of its funding comes from the Fee. Sixteen cents of the $4.10 (or 4%) Fee goes to pay for SNAP and Handivan services.

Service Enhancements

The Campus Transit Development Agreement has paid for several bus transit improvements. The most important improvement was the creation of an unlimited access, fare-free system for students, faculty and staff. Anyone possessing a valid University of Florida Identification Card can board any RTS bus free of charge. The ID Card, referred to as a Gator-1 Card, is presented to the driver upon boarding. There is no need for riders to obtain passes or interact with a third party to gain access to free transit services. This allows students to use bus transit services as frequently or infrequently as they desire. This is an important factor since bus route enhancements are intended to support a variety of different trips, some of which are used infrequently by patrons. The unlimited access program began during the fall semester of 1998[10] and has continued through 2004. Community and institutional support for the unlimited access program is very high, and the arrangement will likely continue far into the future. Two other constituent groups have started unlimited access programs in recent years. Beginning in 2001, an unlimited access program was started for city and county employees. In the

[10] UF Faculty and Staff were given unlimited access benefits in 2000.

Spring 2004 semester, Santa Fe Community College Students received fare-free rides on two routes that lead to that campus.[11]

The Service Contract provides three different services- Standard City Routes, Campus Only Routes, and "Later Gator" Late Night Routes. The service characteristics, funding arrangements and intended users differ for each type of bus route.

Standard City Routes

Standard city routes are identical to fixed bus routes found in cities throughout the United States, except that select routes run on very short frequencies. They are planned to connect residential areas (trip producers) with trip attractors such as employment or institutional land uses. As discussed previously, the City of Gainesville agreed to continue funding Standard City Routes at levels of service found in 1997. The University made a priority of increasing frequency of busses to entice more students to use the bus and to alleviate congestion on busses. Certain routes would have their operating hours lengthened to accommodate the irregular schedule of college students. Of the city's 21 Standard Routes, 10 are supplemented by University funds. These routes connect student housing to the University campus. This creates a disparity between the level of service for UF-supplemented routes and routes operated only on city funds. Table 8 below shows the 2004 routes offered by RTS including those supplemented by UF funds.

[11] Funds to allow Santa Fe Community College students to ride fare-free on two bus routes serving that campus come from the College's administration. At present, Florida Statutes do not allow a Transportation Access Fee to be charged to community college students.

Table 8–2004-2005 Standard City Routes and Funding Levels

Route Number	City Funding	UF Funding	Additional Service Hours	Peak Frequency (minutes)
1	$561,711	$0	0	20
2	$196,724	$0	0	60
5	**$412,391**	**$129,044**	**2,760**	**20**
6	$199,342	$0	0	60
7	$202,932	$0	0	60
8	$562,982	$0	0	30
9	**$175,182**	**$653,397**	**13,976**	**8**
10	$178,996	$0	0	60
11	$199,342	$0	0	60
12 [12]	**$0**	**$708,085**	**15,146**	**10**
13	**$140,026**	**$240,865**	**5,152**	**15**
15 [13]	$180,918	$0	0	30
16	**$187,187**	**$430,549**	**9,210**	**10**
20	**$348,026**	**$609,751**	**13,043**	**12**
21[12]	**$0**	**$190,142**	**4,067**	**20**
24	$190,964	$0	0	60
34 [12]	**$0**	**$540,028**	**11,551**	**20**
35	**$438,029**	**$232,011**	**4,963**	**12**
36 [12]	**$0**	**$175,574**	**3,756**	**20**
43 [13]	$315,995	$0	0	60
75	$487,359	$0	0	30
Totals	$4,978,066	$3,894,612	83,307	--

Source: Regional Transit System and UF Transportation Access Fee Committee. UF-funded routes are bolded

The sharing of costs for citywide fixed routes requires close coordination between the University and the Regional Transit System. Transit planners for RTS monitor full bus conditions and the locations of new student-oriented housing developments. They present the information to the responsible parties at UF including the Transportation Access Fee Committee and the Student Body President, who collectively appropriate funding changes to alter the bus routes, schedules and hours to accommodate changes in demand for transit service. Final approval of expenditures comes from the University

[12] Routes 12, 21, 34 and 36 are reverse routes or spurs off other routes. Since these four routes closely duplicate the service area of city-funded routes, UF is responsible for the entire cost.

[13] Routes 15 and 43 are partially funded by Santa Fe Community College

President. In 2004/05, $3.02 of the $4.10 Fee goes toward supplementing service levels on selected city routes.

Campus Circulator Routes

Campus Circulator Routes run on fixed routes on the UF Campus. Certain routes leave the campus briefly, but only to complete loops when road connections and configurations require completing a loop using city streets. They are intended to facilitate the movement of UF students, faculty and staff around the campus. The existence of Campus Circulator routes gives on-campus residents mobility within campus. These routes also allow off-campus students to park once or arrive by off-campus bus and move around to multiple destinations. The North/South Circulator, and the East and West Circulators serve as the high frequency backbone of the campus system. These routes run on 9-15 minute frequencies during peak hours. The Family Housing and Lakeside routes serve to move on-campus residents that live in remote areas to the center of campus. Three routes- Park & Ride 1, Park & Ride 2 and the Commuter Lot Routes primarily transport patrons of remote parking facilities to the center of campus.

The Campus Circulator Routes are funded entirely by the University, but are operated by RTS. The total cost of operating the Campus Circulator Routes is $2,272,005. The Campus Circulator Routes cost $48.54 per UF student per year. In 2004/2005, $1.61 (or 39.5%) of the $4.10 per-credit hour fee is allocated to fund campus circulator routes. The cost of each Campus Circulator Bus is summarized in table 9 below.

Table 9–Funding and Frequency of Campus Circulator Routes

Route	UF Funding	Daily Operating Schedule	Peak Number of Busses	Frequency (minutes)
Park & Ride 1	$466,920	7am-7:30pm	5	8
Park & Ride 2	$193,975	7am-7pm	2	15
Commuter Lot	$333,791	7am-7:30pm	3	10
West Circulator	$344,061	7am-7:30pm	3	6
East Circulator	$186,308	7am-7:30pm	2	10
E/W Circulator	$213,004	5:30pm-2am	2	15
N/S Circulator	$284,156	7:30am-2am	2	15
Family Housing	$121,428	7am-5:30pm	1	30
Lakeside Apts.	$107,454	9am-4:30pm	1	30
Lake Wauberg	$20,907	Sat/Sun 9:30am-5:30pm	1	60
Totals	$2,272,005		22	

Source: Regional Transit System and UF Parking and Transportation Services

Later Gator

Later Gator busses operate on special routes from 8:30pm to 3:00am Wednesday through Saturday evenings. These routes are intended to connect student residential areas with evening activity centers, including downtown bars and restaurants. The mission of the Later Gator program is threefold. First, it extends transit options into the late evening hours, a time traditionally ignored by transit providers. This further contributes to the ability of students to go about their daily lives with little or no automobile use. Second, Later Gator seeks to reduce the frequency of driving under the influence of alcohol by connecting student residential areas to popular bar and night club districts. Third, Later Gator seeks to alleviate severe parking shortages along University Avenue and downtown Gainesville, the two primary districts of late evening activity.

The first Later Gator route was instituted during the summer of 2000, by a special appropriation from Student Government. This first trial year cost $103,276 to operate for the fall and spring semesters from 9pm-2am on Thursday, Friday and Saturday nights. The first route – known as Later Gator A –continues to operate in a loop through the

University campus and downtown Gainesville, where many bars and night clubs are found. The program proved extremely popular, and in 2001 the responsibility of paying for Later Gator was moved to the Transportation Access Fee. Along with the greater funding base, three new routes were created. During the period 2001-2004, routes were added and deleted based on ridership and demand. In 2004-05, the Later Gator program will offer 4 routes that operate Wednesday through Saturday from 8:30pm to 3:00am. The service summary and cost of the Later Gator routes is outlined in table 10 below. Thirty four cents (or 8.2%) of the $4.10 Transportation Access Fee goes to pay for Later Gator Service.

Table 10–2004-2005 Later Gator Route Funding and Service Characteristics

Route	Funding	Busses	Frequency
A	$104,598	3	10
B	$100,017	3	15
C	$117,805	3	20
F	$110,409	3	20
Totals	$432,830	12	--

Source: UF Finance and Administration

CHAPTER 5
RESULTS AND DISCUSSION

This chapter contains the results from both surveys administered during the Summer/Fall of 2003. Beyond the numerical results of the survey, this section contains a discussion of the findings. The results are presented and discussed in three broad areas: 1) Transportation Habits, 2) Transit Attitudes and Knowledge, and 3) TDM and Public Policy.

Transportation Habits

Questions were asked on each survey to determine the transportation habits of respondents before, during and after attending the University of Florida. This section also covers respondent's housing and how transportation access impacts housing choices.

Incoming freshmen were largely suburban dwellers. Sixty eight percent of incoming freshmen lived in a suburban single family house. Another 17% report being raised in a single family house in a rural setting. Only 16% of incoming freshmen lived in urban or multifamily settings. Figure 7 below demonstrates the disparity in housing of incoming freshmen during their senior year of high school. It stands in strong contrast to the type of housing freshmen live in during their freshman year of college.

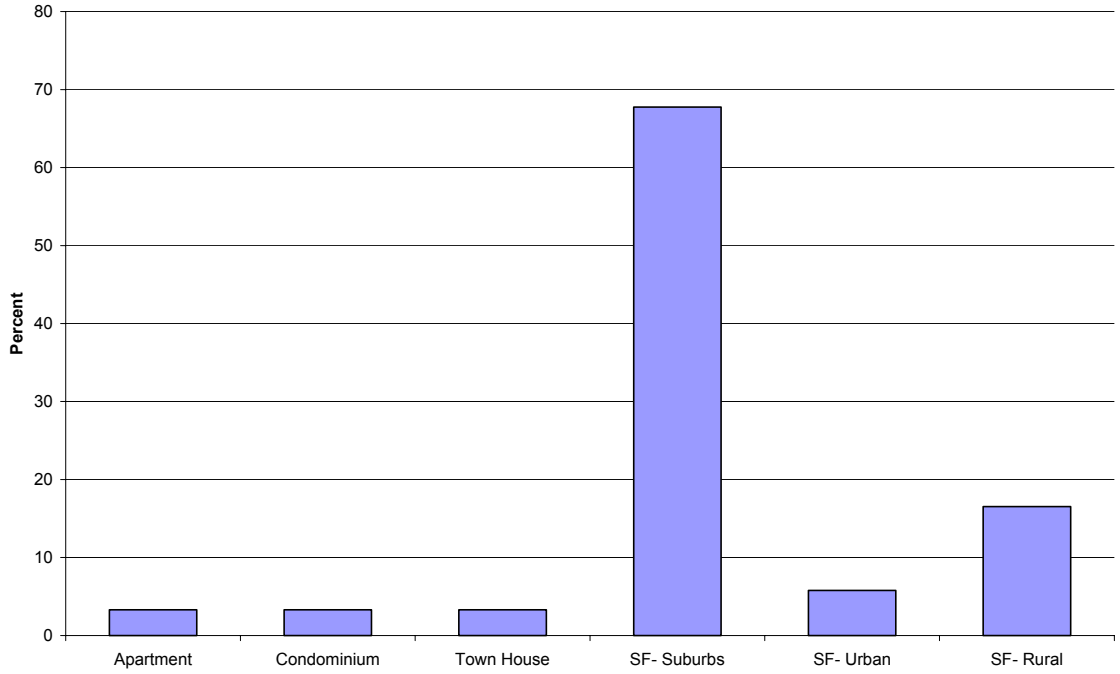


Figure 7–Hometown Housing of Incoming Freshmen
Source: 2003 Freshman Survey

Respondents were allowed to give up to three responses to the question "Please indicate the three most important factors when choosing a place to live." The most popular response was "distance to campus" with 27%. The second most important factor was "cost" with 22.8%. "Security", "Luxury", "Amenities" and "Social Life" were all between 11 and 12%. Living close to a bus line came in last with only 3.3%. Only eleven of 122 (or 9%) freshmen felt that living near a bus line was among their top three factors.

Transportation Before Attending UF

Incoming freshmen's families show automobile dependence typical of most American families. Their parents take an average of 25.1 minutes to get to work, slightly less than the national average. Each household owns an average of 3.2 cars. Thirty four percent of families own 4 or more cars.

Respondents were allowed to report two modes of parents' travel to work (one for each parent if applicable). The automobile commanded 91.1% of the modal share- 88.9% being single occupant vehicles. Only 2.2% carpooled to work, far below the national figure of 12% (Census, 2000). Alternative modes carry a very small share of transportation to work. Table 11 below shows the modal split for incoming freshmen parents' travel to work.

Table 11–Parents' Mode of Travel to Work

Mode	Number	Percent
Drive Alone	119	88.8%
Other	4	3%
Carpool	3	2.2%
Bus	3	2.2%
Bike	3	2.2%
Subway/Elevated	1	0.7%
Walk	1	0.7%

Source: 2003 Freshman Survey

Incoming students were also automobile dependent for travel to high school, although a substantial number carpooled. Sixty two percent drove to school alone. Another 27.9% carpooled to school. School busses (5%), public transit (1.7%) and walking (3.3%) account for less than 10% of the total.

Transportation While Enrolled

Incoming freshmen appear to be pragmatic about their options for commuting to class. Eighty percent report they will live on campus, and all answers in this section must consider that fact. Only 56.6% of incoming freshmen will have a car during their freshman year, regardless of where they plan to live. Over seventy percent expect to get to class by walking or biking. Twenty two percent expect to get to class by bus- 8% by city bus and 14% by campus circulator bus. Only 8% expect to drive a car to class.

Alumni were asked to report how often they used transit each of the 4 types of RTS service during their senior year (academic years 2000/01 or 01/02). Table 12 below shows the frequency of use on city to campus, city to city, later gator and campus circulator routes.

Table 12–Transit Service Use at UF

	City to Campus	City to City	Later Gator	Campus Circulator
Daily	56 (36%)	2 (1%)	--[1]	49 (32%)
Weekly	19 (12%)	6 (4%)	12 (8%)	23 (15%)
Monthly	6 (4%)	2 (1%)	14 (9%)	7 (5%)
Infrequently	27 (18%)	31 (20%)	47 (31%)	34 (22%)
Never	46 (30%)	113 (73%)	81 (53%)	31 (20%)

Source: 2003 Alumni Survey

Eighty two percent of alumni report using at least one type of bus during their senior year. Campus circulator busses have the highest frequency of ridership. Seventy four percent of the sample reported using campus circulators during their senior year. The highest daily ridership was on routes that connected student residential areas to campus. Fifty six of the one hundred and fifty three respondents (36.6%) reported commuting from off-campus homes to campus by bus during their senior year. City-only routes experienced the lowest frequency of rides. Only 26% reported having used a city-only route. Rides on city routes were also infrequent, as 5.2% rode city routes daily or weekly.

Transportation After Graduation

Alumni show similar commuting patterns to their parents, although there is a minor shift toward alternative modes. The average alumni took 22.8 minutes to get to work. The average time to work is 2.8 minutes shorter than the national average and 2.3 minutes shorter than their parents.

[1] Later Gator is only offered three days per week.

Alumni were asked the question "How do you get to work?." Eighty three percent (83.4%) of alumni travel to work by single occupant automobile. Another 7.4% of alumni travel in a carpool to work, whereas 3.3% of their parents used carpools. Subway use and walking had minor increases over the modal share of parents. The modal split is shown in Table 13 below.

Table 13–Alumni Travel to Work Mode Split

Mode	Count	Share Percent
Drive Alone	136	83.4%
Carpool	12	7.4%
Bus	2	1.2%
Subway	5	3.1%
Walk	6	3.7%
Bike	1	0.6%
Other	1	0.6%

Source: 2003 Alumni Survey

The rates of transit use change somewhat before and after graduation. Each group was asked how frequently they had ridden transit in their current city. The percentage of that reported never using transit declined from 81.9% (freshman) to 64.0% (alumni). The percentage of people who used transit daily, weekly, monthly and infrequently all increased. The largest change is in the "Infrequent" category, from a 14.8% share to 28.1% share. A Cramer's V test indicates a moderate statistical change between the Alumni and Freshman groups for all responses,[2] indicating that transit use changes somewhat after graduation. Transit use is more common among alumni, although most of the shift in responses came from "Never" to "Infrequently". Table 14 below shows the frequency of responses about transit use among freshmen and alumni.

[2] A Cramer's V test renders a value of 0.208 with an approximate significance of 0.018. Cramer's V varies between 0 and 1 and is used to compare cross-tabulated nominal data when the table is greater than 2 by 2 squares.

Table 14–Frequency of Transit Use

Transit Use	Freshmen	Fresh %	Alumni	Alumni %
Daily	2	1.6%	4	2.6%
Weekly	2	1.6%	5	3.3%
Monthly	0	0.0%	3	2.0%
Infrequently	18	14.6%	43	28.1%
Never	100	82.0%	98	64.1%

Source: 2003 Freshman and Alumni Surveys

Transit Attitudes and Knowledge

Alumni respondents were asked to give two factors (not ranked) that make the RTS transit system an attractive option for student commuting. The results are shown in Table 15 below. The most important factor for riding RTS busses was the lack of fare. Difficulty in finding parking was second. A distant third was the frequency of busses. Issues about social acceptability, hours of operation and traffic congestion were not a consideration of many alumni.

Table 15–Attractive RTS Service Factors for Alumni

Factor	Responses	Percent
No Fare	107	35.3%
Parking Difficulty	96	31.7%
Frequency of Busses	44	14.5%
Convenience Factors	31	10.2%
Social Acceptability	10	3.3%
Hours of Operation	8	2.6%
Traffic Congestion	7	2.3%

Source: 2003 Alumni Survey

To determine if minimizing transfers was a concern of potential transit patrons, both survey groups were asked the hypothetical question "There is a transit line in your current city that runs directly from your home to work. Will you ride it?" Respondents were given answer choices of "Yes", "No" and "Maybe." Table 16 below shows the results from both surveys. Very few respondents outright rejected the idea of riding transit. Only 3.3% of freshmen and 12.4% of alumni said they would not to ride a direct

transit line. A Cramer's V test confirms there is a shift in the responses between freshmen and alumni.[3] Alumni responded with more "maybe" and "no" answers. For freshmen the most common response (the mode) was "yes", while for alumni it was "maybe."

Table 16–Willingness to Ride Direct Transit Route to Work

Answer	Freshmen	Fresh %	Alumni	Alumni %
Yes	71	58.7%	65	42.5%
Maybe	46	38.0%	69	45.1%
No	4	3.3%	19	12.4%

Source: 2003 Freshman and Alumni Surveys

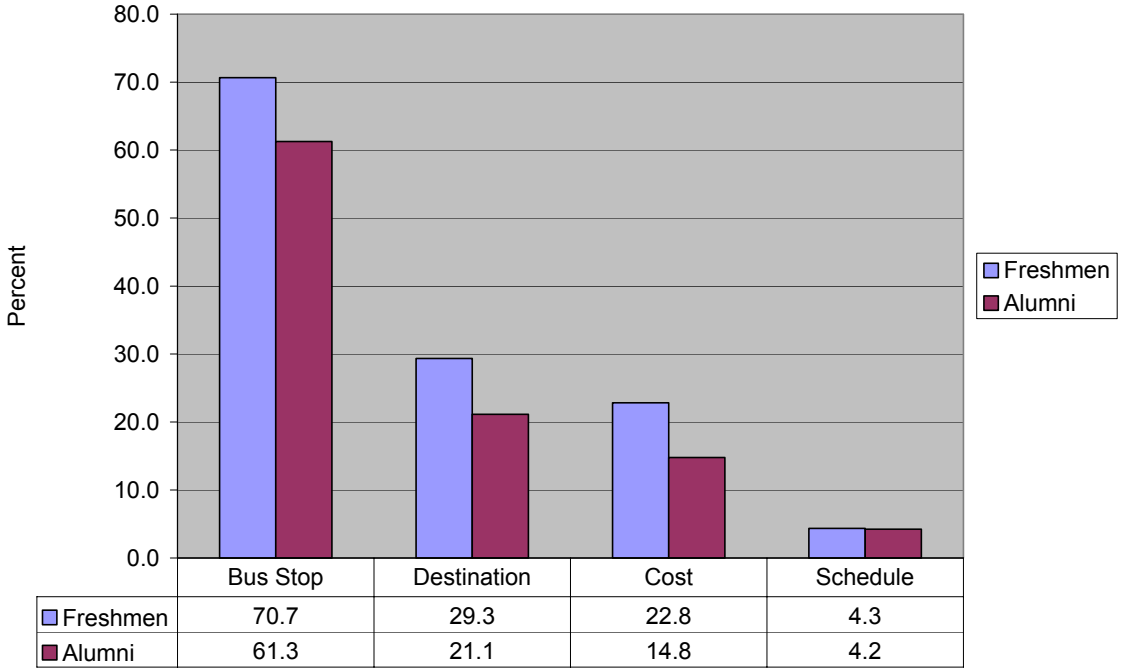
Respondents of both surveys were asked a series of questions about their knowledge of the transit system in their current city. Respondents were asked if they knew the: a) location of the nearest bus stop; b) the destinations of busses that stopped there; c) the fare of the bus; and d) the timetable of the bus. An actual answer was not required, simply a response of yes or no. Respondents were also asked if there was public transit in their city, and results were only calculated from records where transit service was present. Seventy five percent of incoming freshmen report living in a city with public transit. while 93% for alumni report there is transit in their city. Additionally 30.2% of alumni live in a city with some form of rail transit.[4]

A graph of the results of the transit awareness question series can be found in figure 8 below. Knowledge about the transit system on the whole is low. A majority know where the closest bus stop is to their home. Seventy one percent of incoming freshmen knew where the closest bus stop was in their hometown. Alumni are less aware

[3] Cramer's V = 0.201

[4] At the time of the survey rail transit operated in 5 Florida counties: Miami-Dade (Metrorail and Tri-Rail), Duval (SkyTrain), Hillsborough (Light Rail/Streetcar), Broward (Tri-Rail), and Palm Beach (Tri-Rail). Miami-Dade offers 4 routes, and the other 3 rail transit providers operate one route each. Given the small scale of rail transit in Florida, questions were asked only about bus transit. Surveys were returned from across the United States, including many metro areas with heavy, light and commuter rail service.

of the closest bus stop, and only 61% report they know where it is. In-depth knowledge of the transit system is far less common. Twenty nine percent of freshmen and 21% of alumni knew where the bus would take them. Even fewer knew how much the bus would cost. Only a small fraction (4.3%) of each group knew the timetable of the bus nearest their home. Alumni were consistently less knowledgeable about the transit system operating in their current city.



	Bus Stop	Destination	Cost	Schedule
Freshmen	70.7	29.3	22.8	4.3
Alumni	61.3	21.1	14.8	4.2

Figure 8–Knowledge of Transit System Information
Source: 2003 Freshman and Alumni Surveys

Respondents were asked to rate their willingness to use public transit on a scale from "Very Unwilling" to "Very Willing." Their responses were quantified on a scale from 1 to 5. By converting their responses to scalar data, the means could be analyzed using descriptive statistics and various statistical tests.[5] The results of the 5 question

[5] Responses were quantified using the following codes: "Very Unwilling" = 1; "Unwilling" = 2; "Neutral" = 3; "Willing" = 4; and "Very Willing" = 5.

series are shown in table 17 below. The data is analyzed using three distinct groups: a) all 274 records; b) all 122 freshmen records; and c) all 154 alumni records. The alumni group had lower means for every question. Standard deviation for all questions and all groups was between 1.2 and 1.3, indicating consistent moderate variance.

Table 17–Willingness to Use Transit

Question	Freshmen Mean	Alumni Mean
Willing to Ride Bus	3.80	3.01
Willing to Ride Rail	3.58	3.41
Willing to Carpool	3.73	3.49

Source: 2003 Freshman and Alumni Surveys

The mean for freshmen was 3.80, for Alumni 3.01. An independent sample t-test confirms that means before and after attending UF are significantly different.[6] Alumni are less willing to use a bus than freshmen.

Willingness to use rail transit was not statistically significant between alumni and freshmen.[7] The results are similar regarding carpools. The mean responses for alumni and freshmen were not statistically significant.[8] There is no statistical difference between the willingness of alumni and freshmen to use carpool or rail transit modes.

The entire population was analyzed for preferences between rail and bus modes. The mean response for willingness to use busses was 3.36, and 3.48 for rail. There was

[6] The Independent Sample t-test has a null hypothesis that the means are not significantly different. The test renders a result of t= 5.401 at confidence level 0.05, and we can reject the null hypothesis. A t statistic that is greater than 1.96 signals with 95% certainty that the means are significantly different.

[7] Independent Sample t-test has a null hypothesis that the means are not different. The test renders a result of t = 1.19. Since the t statistic is lower than 1.96, we fail to reject the null hypothesis and assume that the means are not significantly different.

[8] Independent sample t-test has a null hypothesis that the means are not different. The test renders a result of t = 1.57. We fail to reject the null hypothesis and assume that the means are not significantly different.

no preference for rail transit over bus transit, or vice versa.[9] Alumni preferred to use rail over bus.

To determine if fare-free transit would increase the likelihood of public transit use, respondents were asked to rate their willingness to use "public transit in general" and free public transit. Results for the free fare vs. regular transit questions are shown in table 18 below.

When the whole sample was split into groups according to classification, the results change somewhat. Freshmen more strongly prefer free transit, and a paired t-test confirms the observation.[10] However alumni show almost no change between fare and free-fare transit. A paired t-test confirms that the means are not significantly different.[11]

Table 18–Regular vs. Fare Free Transit

Question	Freshmen Mean	Alumni Mean
Willing to Ride Transit	3.73	3.18
Willing to Ride Free Transit	4.13	3.19

Source: 2003 Freshman and Alumni Surveys

Transportation Demand Management and Public Policy

A hypothetical question was posed to both survey groups to determine their behavioral response to stringent parking restrictions found in many TDM policies, including on the University of Florida campus. The question was asked: "You know there is no parking at your shopping destination 3 miles away. What will you do?" Responses to the hypothetical question are shown in Table 19 below. The top three responses are bolded. For freshmen, the most common response was to take public

[9] One Sample t-test for bus willingness on the mean for rail results in t = 1.59, failing to reject the null. A test on rail transit willingness on the mean for bus results in t= 1.67, failing to reject the null.

[10] A paired t-test is used to compare the means of a population before and after an event. In this case the event is the application of the condition of fare-free transit. t = -3.49

[11] t = -0.06

transit. Public transit fell to the 3rd most common response for alumni. The option to drive to a more distant destination went from 4th for freshmen to 1st for alumni. Parking far away and walking to the destination was the 2nd most popular response for both freshmen and alumni. Fifteen percent of alumni responded that they would "not go" if there was no parking at their shopping destination, up from 6.6% for freshmen.

Table 19–Behavioral Response to Parking Restriction

Behavioral Response	Freshmen Count	Freshmen Percent	Alumni Count	Alumni Percent
Public Transit	42	**34.7%**	24	**15.7%**
Park Far Away	26	**21.5%**	39	**25.5%**
Get Dropped Off	18	**14.9%**	10	6.5%
Drive to a More Distant Destination	17	14.0%	50	**32.7%**
Not Go	8	6.6%	23	15.0%
Bike	7	5.8%	2	1.3%
Taxi	2	1.7%	1	0.7%
Walk	1	0.8%	4	2.6%

Source: 2003 Freshman and Alumni Surveys

Respondents were asked to rate their level of agreement with public policy statements. The 5 possible answers varied from "Strongly Disagree" to "Strongly Agree", and the answers were coded from 1 to 5 to allow numerical analysis. First, respondents were asked if they feel it is important for government to provide public transit. Overall the group agreed with that statement. The mean response was 4.20, with a low standard deviation of 0.82. The most frequent response was "Agree," and only 12 people (or 4.4%) answered "Strongly Disagree" or "Disagree." There is no statistical difference between alumni and freshmen when the sample is broken down into separate groups.

Respondents were also asked to rate their agreement with the statement "It is important for government to provide more road improvements to deal with traffic." The

level of agreement with this statement was very high. The mean response was 4.45 (maximum 5), with a very low standard deviation of 0.66. The most frequent response was "Strongly Agree." Four respondents (or 1.1%) disagreed with the statement. There is no statistical difference between groups.

Respondents feel that government expenditure on road infrastructure is more important than expenditure on transit. The mean responses for agreement with road expenditure (4.45) and transit (4.20) were compared using a one-sample t-test. The t statistic value was 6.21, confirming that respondents support road expenditures over transit expenditures.

Alumni felt that "traffic congestion was a serious problem." An independent sample t-test shows that the mean for alumni (4.27) is statistically different than the mean for freshmen (4.02).[12] The most common response was "Strongly Agree," and only 23 people (8.2%) disagreed that traffic congestion was a serious problem. Respondents also believe that transit reduces traffic congestion, and they generally believe that transit is effective at reducing traffic. The mean was 3.99, with a mode of 4 or "Agree." There was no difference between freshmen and alumni groups. Table 20 below shows the frequency of responses of agreement with the statements about traffic congestion.

Table 20–Transit Reduces Traffic Congestion

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Traffic is a Serious Problem Mean = 4.16	1	22	26	108	113
Percent	0.4%	7.6%	9.6%	40.0%	41.9%
Transit Reduces Congestion Mean = 3.99	4	19	42	120	89
Percent	1.4%	6.9%	15.2%	43.5%	32.2%

Source: 2003 Freshman and Alumni Surveys

[12] t = -2.23

When asked if it was "critical to own a car," alumni agreed with the statement more strongly than freshmen. Freshmen responded with a mean of 3.84, while the alumni mean was 4.25. An independent samples t-test shows that alumni feel more strongly that owning a car is important.[13]

Respondents were also asked if they would be willing to vote for a political candidate who promises to spend more money on public transit. The mean response was 3.06, and the frequency of responses is show in table 21 below. The responses are nearly normally distributed, with most respondents "neutral" on the issue. Statistically there is no change in the responses between alumni and freshmen.

Table 21–Willingness to Vote for a Pro-Transit Political Candidate

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Vote for Pro-Transit Candidate	15	39	149	57	14

Source: 2003 Alumni Survey

Freshmen report that TDM measures such as bike lanes, auto-free zones, and calmed traffic makes them more inclined to ride bicycles or walk. However alumni do not value these TDM measures as much as freshmen when choosing whether to walk to bike. Table 22 below shows the mean responses for alumni and freshmen, as well as the t statistic of the independent t-test on the means. All three TDM policies were less popular with alumni, as all three statements presented score statistically significantly lower among graduates.

Table 22–TDM Policies and Their Impact on Willingness to Bike and Walk

	Alumni Mean	Freshmen Mean	t statistic
Auto-Free Zones Increases Willingness to Walk	3.15	3.48	2.62
Sidewalks Increases Willingness to Walk/Bike	3.61	3.88	2.34
Slow Traffic Increases Willingness to Walk/Bike	2.64	3.21	4.58

Source: 2003 Freshman and Alumni Surveys

[13] t = -3.32

Finally, alumni and freshmen were asked rate their agreement with the statement "I wish transit was a better option in my city." Table 23 below shows the frequency of responses. Forty Seven percent of respondents agree that they wish transit was a better option in their city. Only 16.% disagree, with 36% being neutral on the subject.

Table 23–Wish Transit Was a Better Option

Mean = 3.42	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Wish Transit was a Better Option	3	41	99	100	31

Source: 2003 Alumni Survey

Self-Selection for Transit Use

Certain groups may be more likely to ride public transit than others. The literature suggests that inner city residents, those living in multifamily settings, and those living in major metropolitan areas are more likely to use transit. Alumni make conscious decisions about where and how they live after graduation. Some will choose to leave Florida, others will stay. Many of those who leave Florida will move to large metropolitan areas where transit is a better option. Some alumni will live in multifamily settings, others will live in single family homes. Whether or not transit access is an active concern for alumni moving to major metropolitan areas or to multifamily housing is not known. However, these two lifestyle choices may create more opportunities to travel by transit.

Florida Residency

One hundred, or 65 percent, of alumni live in Florida. Eighteen percent of Florida-based alumni live in a city with some form of rail transit, all but 3 report living in Miami-Dade County. The remaining 54 alumni respondents (35%) live outside of Florida. Many out-of-state alumni are moving to major metropolitan areas, as indicated

by rail transit being present in 48 percent of their new cities. Fifty-five percent of out-of-state alumni lived in the ten largest metropolitan areas of the United States. The most popular metropolitan areas outside of Florida are: Atlanta, Washington, DC, and New York City.

The transit ridership frequency for alumni inside and out of Florida is quite different. The breakdown is shown in Table 24 below. Zero alumni in Florida use transit on a daily, weekly, or monthly basis. Seventy-eight percent have not used transit at all since graduation. Those living out-of-state used transit more frequently, a fact confirmed by a Cramer's V value of 0.469. This indicates a moderate-to-strong correlation between transit ridership and being a resident in a state other than Florida. Out-of-state residents are more likely to use transit frequently, as 16 percent ride transit daily or weekly. A larger proportion of out-of-state alumni use transit infrequently. The percentage of alumni who have never used transit dropped from 78% for Florida residents to 39% for out-of-state residents.

Table 24–Florida and Out-of-State Alumni Respondents to Transit Frequency

Frequency	Florida	Florida %	Out of State	Out of State %
Daily	0	0%	4	7%
Weekly	0	0%	5	9%
Monthly	0	0%	3	6%
Infrequently	22	22%	21	39%
Never	77	78%	21	39%
Total	99		54	

Source: 2003 Alumni Survey

Alumni who live out-of-state are significantly more likely to use transit to commute to work. The percentage of alumni who drive alone dropped from 90% for Florida residents to 72% for out-of-state. Twenty three percent of out-of-state residents used modes other than a car to get to work, while only 2% of Florida-based alumni use non-automobile modes. Walking to work also increased substantially among those living

out-of-state, from 1 percent to 9 percent. Table 25 below shows the modal split for travel to work for alumni.

Table 25–Florida and Out-of-State Alumni Respondents' Mode of Travel to Work

Mode	Florida	Florida %	Out-of-State	Out-of-State %
Drive Alone	94	90%	42	72%
Carpool	9	9%	3	5%
Walk	1	1%	5	9%
Bike	1	1%	0	0%
Bus	0	0%	2	3%
Subway	0	0%	5	9%
Other	0	0%	1	2%
Total	105		58	

Source: 2003 Alumni Survey

Table 26 below summarizes the willingness of in-state and out-of-state residents to use transit. Out-of-state respondents were more willing to use transit if it was free. Out-of-state respondents were more willing to use rail transit than bus transit.[14]

Table 26–Florida and Out-of-State Alumni Respondents' Willingness to Use Transit

Willingness to use	Florida	Out-of-State	Significant[15]
Transit	3.12	3.31	No
Free Transit	2.97	3.58	Yes
Bus	3.02	2.98	No
Rail	3.29	3.61	No
Carpool	3.55	3.39	No

Source: 2003 Alumni Survey

Multifamily and Single Family residents

To analyze if people living in multifamily housing are more likely to use public transit, the alumni survey was split into two groups who reported living in single family and multifamily housing. Possible multifamily responses included: apartments, condominiums, townhomes and university housing. Single family homes included all

[14] $t = 2.04$

[15] Using an Independent Sample t-test, the means of Transit, Bus, Rail, and Carpool for Florida and Out-of-State were not significant. Free Transit was statistically preferred by alumni living out of state than those living in-state. $t = 2.74$

other survey responses. Two respondents did not report the nature of their current home. Eighty-four, or 55%, of alumni reporting living in multifamily homes, while 68 (or 45%) lived in single family homes.

The frequency of transit use was higher among people living in multifamily homes. A Cramer's V test renders a value of 0.251, indicating a moderate correlation between living in multifamily housing and using transit frequently. Refer to table 27 below. Respondents living in single family housing did not report using transit daily, weekly or monthly. Only 31% reported using transit infrequently, while 69% reported never using transit.

Table 27–Multifamily and Single Family Residents' Transit Frequency

Frequency	Multifamily	Multi %	Single Family	Single %
Daily	4	5%	0	0%
Weekly	4	5%	0	0%
Monthly	3	4%	0	0%
Infrequently	23	27%	21	31%
Never	50	60%	47	69%
Total	84		68	

Source: 2003 Alumni Survey

Living in a multifamily setting makes one more likely to commute by alternative modes. Refer to table 28 below. Driving alone retains the largest modal share, with 81 percent of multifamily respondents, and 89% of single family respondents. The only alternative mode utilized by single family respondents was walking, with 3%. Carpooling was the second-highest utilized among both groups. Only multifamily dwellers used bus and rail transit.

Table 28–Multifamily and Single Family Mode of Travel to Work

Mode	Multifamily	Multi %	Single Family	Single %
Drive Alone	73	81%	62	89%
Carpool	6	7%	6	9%
Walk	3	3%	2	3%
Bike	0	0%	0	0%
Bus	2	2%	0	0%
Subway	5	6%	0	0%
Other	1	1%	0	0%
Total	90		70	

Source: 2003 Alumni Survey

Single family respondents and multifamily respondents do not differ significantly from each other on willingness to use various types of transit. See table 29 below for mean responses to willingness to use transit. Multifamily dwellers were not more willing to ride free transit than fare-paying transit.[16] Multifamily dwellers were not statistically more willing to ride rail than bus.[17]

Table 29–Multifamily and Single Family Willingness to Use Transit

Willingness to use	Multifamily	Single Family	Significant?
Transit	3.06	3.32	No
Free Transit	3.05	3.31	No
Bus	2.87	3.14	No
Rail	3.41	3.36	No
Carpool	3.40	3.58	No

Source: 2003 Alumni Survey

Discussion

Transportation Habits

The data supports the hypothesis that incoming students to the University were brought up in automobile dependent homes. The suburban/rural setting of their homes, high vehicle ownership rates, and low rates of alternative mode use suggest that incoming

[16] $t = 0.62$

[17] $t = 1.74$

students are highly conditioned to automobile travel. Low density suburban areas are generally not supportive of public transit. Students will have to adapt their transportation habits to conform with the TDM policies of the dense University of Florida Campus. Some of the University's TDM policies are positive ones that will improve their transportation options, such as bicycle/pedestrian improvements and transit investments. Other TDM policies will force a modal shift away from cars. These "negative" TDM policies include parking pricing, parking availability and auto-free zones.

Incoming students seem well educated about the TDM policies at the University, and are pragmatic about their options for commuting to campus. Very few freshmen plan to drive to class. Most expect to walk or bike to class, which is not surprising since so many freshmen will live on campus. When choosing where to live during college years, freshmen appear to be taking transportation into account. However they do not consider access to transit to be very important when they arrive as freshmen.

While at the University of Florida it is clear that students are using busses. Eighty two percent of alumni rode a bus at least one bus during their senior year. Walking and Biking also drew a substantial modal share. According to Tolley (1996) and Balsas (2002), alternative mode use while in school could have permanent impacts on transportation habits. There is some evidence that transportation habits have changed after graduation. Alternative modes have a small- but statistically significant- increase in modal share. A full 36% of alumni used transit after graduation, but most of those were infrequent users.

Transit Attitudes and Knowledge

On the whole alumni were far less willing to use busses than freshmen. Despite the slight increase in ridership between freshmen and alumni, busses lose their appeal to the broad population of alumni. This may signal a shift in the importance that alumni place on service characteristics after graduation. It may also signify that transit satisfies the transportation needs of only a small segment of the population.

Previous experiments have shown that consumers have no preference for rail transit over bus transit. However in this study, alumni show a preference for rail transit over bus transit. This seems to confirm the stereotype that rail transit is the choice of white collar workers. Further, it may signal that some characteristics of rail transit are preferred.

Free-fare transit was popular among freshmen, greatly increasing their willingness to ride transit. However this was not a significant factor for alumni. This is further evidence that the life circumstances of alumni are markedly different from freshmen. Free fare transit may be successful at building ridership among lower income people, but its benefits erode for those in higher income brackets.

Alumni reported that the most important factors about riding public transit to, from, and around campus was the lack of a fare and difficulty parking on campus. Bus frequency was the third most important factor. Alumni preference for fare-free transit while in college did not translate into a preference for it after graduation. This likely signals the higher income status of recent graduates.

A statistically higher number of alumni have used public transit, but most of them only use it infrequently. This may signify that alumni have tried to use public transit, but

it is not meeting their daily transportation needs. It also suggests that the cost savings of public transit mean less to alumni. Alumni show no preference for free-fare transit, while freshmen strongly prefer it. The literature shows that people value their time at a rate equal to half of their hourly salary (Hess et al. 2003). College graduates have a far greater salary than college students, thus they place a higher dollar value on their transportation time.

It is possible that cost is a concern for cash-strapped college students. Brown et al. (2002) argues that unlimited access transit substantially reduces the cost of attending college, particularly if students do not own a car. Unlimited access also increases the viability of living on campus. These factors help explain why cost is the number one factor for UF students choosing to ride the bus. Parking difficulties on campus are almost as important as cost to UF students. This supports existing the existing literature on the impact of parking restriction on transit use.

Convenience is also a factor for transit users. Convenience was the 4th most important factor for UF students choosing to ride the bus. An important component of convenience is the number of connections required. The literature shows that minimizing connections will attract more riders. The survey data backed up other researchers' work, showing that both alumni and freshmen strongly prefer direct bus routes. However, alumni were more likely to reply "maybe" to the question about direct busses. This may indicate that other service characteristics are more important.

Respondent's knowledge about the transit system in their town was poor. The majority of people knew the location of the nearest bus stop, however in-depth knowledge of the transit system dropped off significantly. Apparently very few

respondents had explored their options for public transit. Only 29% of freshmen and 21% of alumni knew where the bus would take them. Alumni were less aware of their city's transit system than freshmen. Apparently exposure to public transit while in college did not prompt graduates to investigate the transit options available to them after graduation.

TDM and Public Policy

Transportation is a major concern for respondents of the survey. Both alumni and freshmen feel strongly that traffic congestion is a serious problem. Respondents believe that government can tackle the problem of traffic congestion both by building roads and providing public transit. When it comes to funding priorities, respondents think that government should focus available funds money on road improvements. While they also value expenditure on transit, roads are their priority.

TDM policies may be able to shift people from automobiles to transit, but alumni are less willing to use other alternative modes such as walking or biking than are freshmen. Common bike/ped supportive TDM policies such as auto-free zones and traffic calming did not make those modes more attractive to alumni than freshmen. This may signal that alumni have concerns over time and convenience.

Self-Selection for Transit Use

The phenomena of "self-selection" involves people putting themselves in situations where transit use is more likely. People may or may not consciously make these life choices with transit in mind. This survey shows that some people choose their housing based on transportation factors. Other people will make housing choices with

other motivations, but later find that transit best suits (or does not suit) their transportation needs. The city where a graduate relocates, the type of housing he or she chooses, and other factors may make transit use far more likely. For example, a graduate who moves into an apartment in New York City may be choosing that lifestyle because of the easy transit connections and the cultural benefits a dense metropolitan city brings. Another alumnus may choose to live in a single family house in suburban Jacksonville, because he or she values a larger home and an automobile-oriented transportation environment. The individual who moved to New York City is "self-selecting" himself as a more likely candidate for transit use. Two self-selection choices were identified where alumni transit use was more likely–non-Florida residency and living in a multifamily dwelling unit.

Florida-based alumni used transit rarely, if at all. Zero Florida-based alumni used transit daily, weekly or monthly. Zero Florida-based alumni commuted to work by riding transit. These are strong indications that transit systems in Florida do not meet the transportation needs of choice transit riders such as college graduates. The percentage of out-of-state alumni who use transit to commute is at or above the national average for transit use. Three percent of out-of-state alumni commute by bus, near the national average. Subway/Heavy Rail use is higher than the national average, at 9%.

While Florida is a populous state, as there are few dense metropolitan areas. Most of Florida is low-density suburban style development, a very poor land use pattern for transit use. A person who wishes to live in a major metropolitan area must leave Florida to do so. In general, major metropolitan areas also implement more comprehensive TDM plans, which level the playing field between transit and automobiles. This explains the

disparity between transit use among alumni currently living in Florida and those living elsewhere. It is also in agreement with existing literature that large cities with developed TDM programs have higher rates of transit use (Litman 1999) (Kuzmayak et al. 2003).

Alumni who chose to live in multifamily settings also showed a tendency toward transit use. This agrees with existing research that claims transit is more likely to be utilized if it can be comfortably accessed on foot (Cervero 2001) and if the density of users within easy walking distance is large (Crane 1999). The two items are highly correlated, as all respondents who used transit daily, weekly or monthly were both Florida residents and multifamily dwellers.

CHAPTER 6
CONCLUSIONS

This section contains the conclusions, findings and recommendations of the proceeding five chapters. This project has covered an in-depth discussion of the literature, background research into the transit system at the University of Florida, and the results of two surveys of UF freshmen and alumni.

Conclusions

The TDM policies of the University of Florida and the enhanced transit services of the Regional Transit System combine to create a transit-friendly environment for students in the City of Gainesville. By employing student fees the city-university partnership was able to provide an array of service enhancements including unlimited access. Through distributive cost pricing, all students are able to use bus transit at a very low individual cost. Stringent parking restriction forces students to make value-based decisions about which mode to use for commuting to campus. Many choose to commute by bus, and ridership on RTS busses has risen nearly threefold since the unlimited access program's inception in 1998.

It is clear that riding the bus is a popular mode choice for motorized commuting to campus. People will choose transit over other modes under the right circumstances, and those circumstances have been created on campus. Public transit must give users a time, cost, convenience or comfort advantage over using automobiles. This study concludes low fares or an unlimited access system are the best way to attract riders.

Freshmen indicated that they are more willing to use free-fare transit, and alumni reporting in hindsight agree that the fare-free system was the most powerful reason for their transit use while in school. However, fare cost is not the only factor related to transit ridership. Parking pricing and restriction is nearly as important. Alumni report that difficulty parking was the second most important reason for choosing transit for commuting. Respondents ranked transit as a top choice when presented hypothetical situations where parking is restricted. Further, if the University of Florida had moved to unlimited access and parking restriction without improving frequencies, the impressive ridership gains would not have materialized. By coupling high frequency, low cost transit with parking restriction and pricing, a community can create a modal shift away from automobiles.

The proper environment to build transit ridership exists in Gainesville and at the University of Florida. While enrolled, students were exposed to high-quality transit while at the same time discouraged from using their automobiles. This study concludes that prior automobile use does not make a person a lifelong automobile user. Similarly, prior transit use does not make a person a lifelong transit user. Across a person's lifespan, a number of transportation environments will be encountered. Each transportation environment is unique, and users will make value-based judgments about which mode to use for their trips. If the transportation environment is altered to level the playing field between automobiles and public transit, people will use transit regardless of their previous experience. The transportation environment at the University of Florida is a good model of accomplishing a modal shift toward transit.

After college, alumni find themselves in different transportation environments– some more transit-supportive, most heavily favoring the automobile. Alumni who chose to live outside of Florida—half of whom moved to major cities—showed a much higher frequency of transit ridership. Given that major cities have more advanced TDM programs, this study concludes that the implementation of multiple TDM policies is critical to building transit ridership. Further, TDM policies in Florida are weak or non-existent, and have therefore stunted the ability of public transit to gain modal share among choice riders within the State. TDM systems in major metropolitan areas outside of Florida are far more developed, and therefore effective.

This project did not find broad changes in the transit habits or attitudes after graduation from the University of Florida. However, certain subtle changes were identified. Alumni as a whole showed higher rates of public transit use, but most rode it infrequently. Most of the alumni who had ridden transit after college lived outside of the State of Florida or in multifamily housing. These individuals self-selected themselves for transit use. Temporary transit use does not automatically translate into permanent transit use.

This study found that alumni do not place as high a value on free-fare transit, whereas freshmen do place a high value on it. Transportation disadvantaged or low-income users—such as college students—consider the cost of public transit to be very important Choice users—such as college graduates—are far less concerned with the cost of riding public transit. College graduates apparently place a greater emphasis on the convenience and time advantages of their chosen transportation mode. Despite their slightly higher ridership rates, alumni report a reduced willingness to ride transit. This is

likely because public transit in most communities—particularly systems in Florida—does not meet the necessary standards for choice riders such as college graduates.

All respondents were uneducated about transit options, and local agencies can do a better job of marketing their service. It is essential to market the available services and benefits to users if an agency wants to attract choice riders. Students in Gainesville have ready access to bus schedules, maps and online routing information. The lack of knowledge about the transit system in alumnus' new city is likely due to poor dissemination of information. Lack of knowledge or confusion over fares, routes and schedules is another roadblock to building transit ridership.

People will use public transit under the right circumstances, including when parking is restricted and the transit level of service is high. However the transit level of service found in most communities is not sufficient for residents to leave their automobiles behind. Further, transit-supportive TDM policies are not being enacted and enforced to entice people out of the cars. When bus frequencies are improved, the fare is reduced (or eliminated), parking is priced or restricted, and other amenities are added, riding transit becomes a realistic or even attractive option. Experience with transit while in college does not automatically translate into sustained, permanent use of transit after graduation. However, if communities around the nation, and particularly Florida, enacted the TDM policies that produced high transit ridership at the University of Florida, they would experience a similar rise in public transit ridership.

Policy Recommendations

The lessons learned from this project's research reveal policy changes that would benefit transit agencies and local communities. This section presents recommendations

to three groups: 1) the Regional Transit System; 2) the City of Gainesville; and 3) the University of Florida.

RTS Recommendations

The Regional Transit System has capitalized on a nationwide trend of colleges and universities offering enhanced transit service to and from campus as an alternative to automobile commuting. However, several service and administrative changes could enhance the efficiency of the transit network, leading to even higher ridership totals and revenue sources.

RTS should examine expanding unlimited access programs to other groups in the Gainesville area. The most important is Santa Fe Community College. Presently, state statutes do not allow community colleges to charge a Transportation Access Fee. The State of Florida Legislature should amend the statutes covering community colleges to allow for the fee. As a temporary or permanent alternative, Santa Fe Community College could divert funds earmarked for parking facilities—or funds raised by decal sales and parking citations—to RTS. These funds could pay for unlimited access on all Gainesville routes instead of just the two routes that intersect the campus.

RTS should also target major employers in the area for inclusion in unlimited access programs. The city and county governments employ thousands of workers in Gainesville's downtown. As discussed in earlier sections, frequencies on busses to downtown are poor. By partnering with the local governments, the service quality on busses to downtown could be substantially improved. Employees at Alachua General Hospital and the Veterans Administration Hospital could also benefit from unlimited access programs. Employers could offer unlimited access as a portion of their benefits

package, or as a less expensive option, offer it to employees if they give up subsidized parking spaces. Depending on the location of Alachua County Public Schools, unlimited access or route-specific passes could be distributed to teachers and students. School bus routes that duplicate city bus routes could be eliminated, saving the school system much needed funds. Other major employers in the Gainesville area are not likely to benefit greatly from transit service because of their location on the urban fringe, far from existing bus routes. Examples of these employers are: North Florida Regional Medical Center, Tachachale Mental Health Facility, Hunter Marine, and Nationwide Insurance.

Over the long term, RTS should explore the possibility of moving to a completely fare-free route system. Other small cities—particularly those with university support—have had success with a completely free-fare system. Since fare collection accounts for only 7% of RTS' budget, the agency would only need a small subsidy to replace those funds, and may actually be losing money in the exercise of collecting and accounting for cash fares. A fare-free system would result in the faster loading of busses, less confusion over fares, and ridership gains.

Finally, RTS can continue the slow process of expanding the route network to accommodate trips that do not involve commuting to work or school. Students and other transit riders will continue to use automobiles for shopping, and social/recreational trips if their destinations are not served or served by routes that require a connection. Route expansion must be done in close coordination with City planners to ensure acceptable levels of ridership on these routes. Greater levels of City subsidy will be required, since the enabling legislation of the Transportation Access Fee does not allow for student funds to be used on transportation that does not directly involve the campus.

City of Gainesville Recommendations

Despite the large numbers of students commuting to campus by bus, there are still substantial numbers of students who continue to own a car. Cars are used for trips that do not involve commuting to the University. While Gainesville is more bicyclist/pedestrian friendly than most cities, parts of Gainesville cannot be safely or pleasurably navigated by walking or biking. There are precious few mixed-use or dense developments that allow residents to walk to common destinations such as grocery stores, pharmacies, dry cleaners and restaurants. Dense development makes transit a more viable option as well, particularly if it is designed around transit stops. The City should promote more Transit Oriented Development (TOD) through modifications to the zoning ordinance and comprehensive plan. The area north and east of campus, which is within walking distance, are likely zoned for densities far too low for their market potential. Allowing denser development there would entice more bicycle and pedestrian commuters. Housing developments in southwest Gainesville—home to 9,000 students, many of whom commute by bus regularly—are generally not designed around transit stops. Smaller developments more focused around transit stops would help increase bus ridership. Allowing mixed-use development could also reduce car trips for social/recreational and shopping purposes. New transit corridors could be fostered along west University Avenue and north 13th Street.

The RTS-UF partnership has successfully built a foundation on which to build a citywide transit system. While the University's financial commitment has grown by large amounts each year, the City's contribution has remained stagnant. The largest portion of the University's contribution comes from the Transportation Access Fee,

which by law cannot be used to enhance transit service that does not directly intersect the campus. For the transit system to grow beyond a means to commute to campus, the City will have to increase its proportion of transit system subsidy.

University of Florida Recommendations

The University of Florida Administration and Student Government have succeeded in supplying students with a viable alternative to automobile commuting. However, several policy changes could be more effective in promoting transit ridership.

One step in eliminating the need for students to own automobiles is the provision of transportation for intercity trips. Students need to be able to travel out of town for recreational, academic or family purposes. Other than automobiles, Gainesville has very limited options for traveling to and from other cities. The University could establish intercity busses, or partner with existing companies to provide regular intercity trips during weekends and holidays. Alternatively, the University could partner with car rental agencies to allow students weekend rentals. Long term, the University could play a financial or legislative role in fostering statewide intercity rail service.

While the Transportation Access Fee should continue to be charged, continued growth in the fee is not sustainable. The Fee has more than doubled between 2001/02 and 03/04. Student subsidy of transit service has increased twenty-nine fold since 1999. While this increase indicates a strong demand for transit service, it substantially outpaces tuition increases and growth of similar fees over the same period. Continued rapid growth of the Transportation Access Fee will have a noticeable effect on the total tuition bill charged to students. In a period of rising tuition costs, the University administration and Student Government should be mindful of the additional burden placed on students.

The University should identify additional sources of funds to continue increasing the total payment to RTS. Potential sources of income include parking citations, funds diverted from planned parking lots, and increased decal sales prices.

The University could more stringently implement TDM policies on campus. The most important of which is the pricing of parking. Parking decal prices at the University of Florida remain far below the prices charged at comparable universities. The price of a decal should be raised substantially, or parking fees should be charged on a daily basis. If UF raised the price of parking, it would accomplish three goals. The first goal is to increase the disincentive to drive to campus. By making parking on campus more expensive, more people will be compelled to use transit or live close enough to campus to walk or bike. The second goal is to lessen the daily demand on existing parking resources. By reducing the number of outstanding decals, the ratio of decals to spaces is reduced. This makes it easier for those who must park on campus to do so. The third goal is to raise additional funds to apply to alternative modes of transportation. The University already applies most of the funds raised by decal sales to transit service. Additional funds could be applied to transit routes, new intermodal service, or bike/pedestrian infrastructure.

Recommendations for Future Research

This project raises several future research questions about campus transit, transportation demand management, transportation policy and the permanent impacts of temporary transit use. The following research areas would yield valuable information to the existing body of knowledge:

- A true time series survey would do a better job of framing questions about after-effects of temporary transit use. If a researcher is able to wait 4-5 years for incoming freshmen to graduate, original respondents could answer the second survey. This survey methodology could also be used to study other aspects of transportation behavior such as bicycle/pedestrian behavior and route choice.
- Campus transit may have broad impacts on the housing choices of current students or alumni. Current students may strongly prefer to live near a bus line, and could be willing to pay additional money to rent apartments or houses near a bus line to campus. Alumni may prefer to live in a multifamily or dense setting, which closely replicates their housing and transportation options while in college. Alumni may also choose housing based on transportation access to work or social/recreational sites, regardless of the mode used for travel.
- An in-depth analysis of transportation habits while in college would give insight into how people behave when high-quality transit is available to them. Many students use busses to commute to campus, but do students utilize busses for social/recreational trips and shopping? Other interesting questions could be explored about which modes students choose for intercity trips.
- An analysis of late-night bus systems would be a valuable addition to the body of knowledge on transit. The Later Gator system has had excellent ridership, but has it succeeded in its goals of reducing driving under the influence of alcohol? Has it alleviated parking shortages or otherwise assisted bars and restaurants to flourish in downtown?

- One positive aspect of building bus ridership through unlimited access is an increasing share of state and federal assistance dollars for the transit agency. An analysis of how campus transit providers have leveraged additional federal and state funding sources would be an interesting contribution to the body of knowledge on bus transit finance.

APPENDIX A
INFORMED CONSENT PROTOCOL

Transportation Choices and Attitudes Survey

Informed Consent Statement

You have been identified as an incoming freshman to the University of Florida. This survey is being done by Alex Bond, a Graduate Student in the Department of Urban and Regional Planning at the University of Florida to determine the habits and attitudes toward different types of transportation among incoming students. The survey will ask questions about your existing transportation habits, attitudes toward using alternative types of transportation, and your opinion on public policy measures related to transportation. Professor Ruth L. Steiner, Ph.D, is supervising this research project.

The survey has 45 questions and will take approximately 10-12 minutes to complete. This survey is being administered by Graduate Students in the Urban Planning Department and members of the UF Survey Research Center. There is no direct benefit to you for the completion of this survey. Your participation is completely voluntary, and you may withdraw from the survey at any time. This survey is not a required portion of the Preview program. No information is being collected that can personally identify you. This page will be detached from the rest of the questions. Further, you do not have to answer any question you do not wish to answer. There is no risk to you in conjunction with participating in this survey.

If you have any questions regarding this research project, please call Alex Bond, Graduate Student, at 727-642-5421 or email ABond68@aol.com or Ruth Steiner, Associate Professor, at 352-392-0997 x431 email rsteiner@ufl.edu. To contact the UF Institutional Review Board to learn about your rights in this study, call 352-392-0433.

I have read the above statement and wish to participate in the survey.

_____ _____

Signature Date

I am 18 years of age or older ____Yes ____No
(Note- only those 18 years of age or older may participate)

APPROVED BY
University of Florida
Institutional Review Board (IRB 02)
Protocol# 2003-U-593
For Use Through 7-7-03

APPENDIX B
INCOMING FRESHMEN SURVEY

Transportation Habits and Attitudes Survey

Demographics- Questions in this section are intended to provide information about your background so your responses to later questions can be put into the proper context.

1) What is your current city and zip code? _____

2) Check One: _____ Male _____ Female

3) Check all that apply: _____ Caucasian _____ African American
_____ Hispanic or Latino _____ Asian
_____ Native American or Hawaiian _____ Other

4) Please check one that best describes your current primary residence:
____ Apartment (rented)
____ Condominium (owned)
____ Town House or Duplex
____ Single Family house in a Rural Setting
____ Single Family House in the Suburbs
____ Single Family House in the Central City
____ University Housing or Other

5) How many cars does your family own right now: _____

Past Transportation Habits- Questions in this section are being asked so we can understand the existing transportation habits of you and your family

6) How many minutes did it take your parents to commute to work? ___ minutes

7) How did your parents get to work? (*check up to two)*
___ Drive Alone ___ Carpool ___ Bus
___ Streetcar or Trolley ___ Subway ___ Taxi
___ Walk ___ Bike ___ Other

8) How did you get to school after age 16? (*check one)*
___ Walk ___ School Bus ___ Public Transit
___ Bike ___ Drive Alone ___ Drive with Parents or Friends

9) How often did you ride public transit in your hometown? (*check one)*
___ Daily ___ Weekly ____ Monthly
___ I have use transit, but infrequently ____ Never

10) How frequently did you walk from home to your destination? (*check one)*
___ Daily ___ Weekly ___ Monthly
___ I have walked, but infrequently ____ Never

11) How frequently did you bike from home to your destination? (*check one)*
___ Daily ___ Weekly ___ Monthly
___ I have biked, but infrequently ____ Never

12) Think about the transit system in your hometown. Check all that apply:
____ I know where the nearest bus stop is
____ I know where the bus will take me
____ I know how much the bus will cost
____ I know the timetable of the bus
____ There is no transit in my city

Transportation and Accommodation in College- Questions in this section are being asked so we can understand how you expect to live and get around while enrolled during college.

13) Will you have a car during your freshman year? ___ Yes ___ No

14) Will you live on campus? ___ Yes ___ No

15) How do you expect to get to class? (*check all that apply*)
___ Drive Alone ___ Carpool ___ Walk ___ Bike
___ Ride City Bus ___ Campus Circulator Bus ___ Park and Ride

16) Indicate which type of accommodation you plan to live in during your freshman year.
___ Communal Living (Dorm, Fraternity/Sorority, or Scholarship House)
___ 1 Bedroom Apartment
___ Apartment with Roommates
___ House
___ Live with Parents

17) Please indicate the three (3) most important factors when choosing a place to live
___ Good Social Life ___ Distance to Campus ___ Cost
___ Luxury ___ Amenities (pool, exercise room)
___ Located on a Bus Line ___ Security

18) What is the maximum amount of time you would be willing to commute to school?
___ Less than 15 minutes ___ 15-30 Minutes ___ 30-45 Minutes
___ Longer than 45 Minutes

Alternative Modes- Questions in this section are being asked to gauge your willingness to use alternative types of transportation. Also, they are designed to help us understand the circumstances under which you would choose to get around without your car.

19) What is the maximum distance you would be willing to walk to a transit stop? (*check one*)
___ ¼ mile ___ ½ mile ___ ¾ mile ___ Longer
___ I would not walk any distance to a transit stop

20) What is the maximum distance you would be willing to walk to campus? (*check one*)
___ ¼ mile ___ ½ mile ___ ¾ mile ___ Longer
___ I would not walk to campus

21) What is the maximum distance you would be willing to bike to campus? (*check one*)
___ ½ mile ___ 1 mile ___ 3 miles ___ Longer
___ I would not bike to campus

Please indicate how willing you are to ride each type of transportation

	Very Unwilling	Unwilling	Neutral	Willing	Very Willing
22) Public Transit in General (bus and rail)					
23) Bus Transit					
24) Rail Transit					
25) Carpool					

Hypothetical- The following questions present you with a hypothetical situation. They are intended to measure how you would deal with different transportation conditions.

26) You know there is no parking at your shopping destination 3 miles away. What will you do? (check one)
____ Park far away and walk
____ Walk the whole distance
____ Bike the whole distance
____ Take public transit
____ Drive to a more distant destination with similar goods and services
____ Not go
____ Take a taxi
____ Have someone else drive me

27) There is a transit line in your current city that runs directly from your home to work. Will you ride it?
_____ Yes _____ No ____ Maybe

28) If transit was free of charge in your current city, indicate your willingness to ride it on a scale from 1-5, 5 being very willing: ____

Public Policy- On the following table, indicate your level of agreement with the statement. These questions are designed to measure your support or opposition to a number of public policy measure regarding transportation.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
29) It is important for government to provide public transit					
30) It is important for government to provide more road improvements to deal with traffic					
31) Improved transit service will help lower traffic congestion					
32) Public Transit costs too much to ride					
33) Transit takes me where I want to go					
34) Transit is not convenient enough					
35) Transit does not fit with my self-image					
36) It is not safe to take public transit					
37) I wish I did not have to spend so much time driving					
38) Having auto-free zones makes me more willing to walk					
39) Having sidewalks and bike paths makes me more inclined to walk and bike					
40) I would be willing to vote for a political candidate who promises to spend more money on public transit					
41) I wish transit was a better option in my city					
42) I have a better opinion of people who ride rail transit than bus transit					
43) It is critical to own a car					
44) Traffic congestion is a serious problem					
45) Having slower moving traffic makes me more willing to ride my bike					

Thank you for taking the time to complete this survey. I hope you have an enjoyable time here at UF, and as always, GO GATORS!

APPENDIX C
ALUMNI SURVEY

Transportation Habits and Attitudes Survey

Demographics- Questions in this section are intended to provide information about your background so your responses to later questions can be put into the proper context.

1) What is your current city and zip code? _____

2) Check One: _____ Male _____ Female

3) Check all that apply: _____ Caucasian _____ African American
_____ Hispanic or Latino _____ Asian
_____ Native American or Hawaiian _____ Other

4) Please check one that best describes your current primary residence:
____ Apartment (rented)
____ Condominium (owned)
____ Town House or Duplex
____ Single Family house in a Rural Setting
____ Single Family House in the Suburbs
____ Single Family House in the Central City
____ University Housing or Other

5) How many cars are there in your household (not including parents' cars): _____

6) Are you married? ____ Yes ____ No

Transportation Habits- Questions in this section are being asked so we can understand your current transportation habits.

7) How many minutes does it take you to commute to work each way? ____ minutes

8) How do you get to work? (check up to two)
____ Drive Alone ____ Carpool or Vanpool _____ Bus
____ Streetcar or Trolley ____ Subway _____ Taxi
____ Walk ____ Bike _____ Commuter Rail

9) How often have you ridden public transit since graduation? (check one)
____ Daily ____ Weekly ____ Monthly
____ I have used transit, but infrequently ____ Never

10) How frequently have you walked from home to your destination since graduation? (check one)
____ Daily ____ Weekly ____ Monthly
____ I have walked, but infrequently ____ Never

11) How frequently have you biked from home to your destination since graduation? (check one)
____ Daily ____ Weekly ____ Monthly
____ I have biked, but infrequently ____ Never

12) Think about the transit system in your city. Check all that apply:

____ I know where the nearest bus stop is
____ I know where the bus will take me
____ I know how much the bus will cost
____ I know the timetable of the bus
____ There is no transit in my city
____ My city has some form of rail transit in addition to busses (streetcar, light rail or subway)

13) What is the maximum amount of time you would be willing to commute to work?

____ Less than 15 minutes ____ 15-30 minutes ____ 30-45 minutes ____ Longer

14) Please indicate the three (3) most important factors when choosing your first accommodation after graduation:

____ Good Social Life ____ Distance to work ____ Cost
____ Luxury ____ Amenities (pool, exercise room)
____ Located on a Transit Route ____ Security

Transportation and Accomodation in College- Questions in this section are being asked so we can understand your exposure to walking, biking and transit while in Gainesville.

15) What type of accommodation did you live in while enrolled at UF? (check all that apply)

____ Communal Living (Dorm, Fraternity/Sorority, or Scholarship House)
____ 1 Bedroom Apartment
____ Apartment with Roommates
____ House
____ Lived with Parents

16) Please indicate the three (3) most important factors when choosing a place to live while at UF:

____ Good Social Life ____ Distance to campus ____ Cost
____ Luxury ____ Amenities (pool, exercise room)
____ Located on a Bus Route ____ Security

Please indicate how frequently you used each type of transportation while at UF:

Type	Daily	Weekly	Monthly	Infrequently	Never
17) Campus Circulator Bus					
18) RTS Bus to Campus					
19) Other RTS Bus					
20) Later Gator					

21) During your senior year, what was your primary method of getting to campus?

____ Walk ____ Bike
____ City Bus ____ Drove Alone
____ Carpool ____ Lived on campus

22) During your senior year, approximately how far did you live from the central part of campus?

____ 1/2 mile or less ____ ½ to 1 mile
____ 1-3 miles ____ more than 3 miles

23) What features of bus transit in Gainesville make it a viable option? (Choose up to 2)

____ Busses are free of charge
____ Busses arrive frequently

____ Other riders are from a similar age/income bracket
____ Hours of operation
____ Parking is difficult to find
____ Traffic Congestion
____ Busses drop off on campus at a central location

Alternative Modes- Questions in this section are being asked to gauge your willingness to use alternative types of transportation. Also, they are designed to help us understand the circumstances under which you would choose to get around without your car.

24) What is the maximum distance you would be willing to walk to transit stop? (check one)
____ ¼ mile ____ ½ mile ____ ¾ mile ____ Longer

25) What is the maximum distance you would be willing to walk to your destination? (check one)
____ ¼ mile ____ ½ mile ____ ¾ mile ____ Longer

26) What is the maximum distance you would be willing to bike to your destination? (check one)
____ ½ mile ____ 1 mile ____ 3 miles ____ Longer

Please indicate how willing you are to use each type of transportation:

	Very Unwilling	Unwilling	Neutral	Willing	Very Willing
27) Public Transit in General (bus and rail)					
28) Bus Transit					
29) Rail Transit					
30) Carpool					

31) You know there is no parking at your shopping destination 3 miles away. What will you do? (check one)
____ Park far away and walk
____ Walk the whole distance
____ Bike the whole distance
____ Take public transit
____ Drive to a more distant destination with similar goods and services
____ Not go
____ Take a taxi
____ Have someone else drive me

32) There is a transit line in your current city that runs directly from your home to work. Will you ride it?
_____ Yes _____ No ____ Maybe

33) If transit was free of charge in your current city, indicate your willingness to ride it on a scale from 1-5, 5 being very willing: ____

Public Policy- On the following table, indicate your level of agreement with the statement. These questions are designed to measure your support or opposition to a number of public policy measures regarding transportation.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
34) It is important for government to provide public transit					
35) It is important for government to provide more road improvements to deal with traffic					
36) Improved transit service will help lower traffic congestion					
37) Public Transit costs too much to ride					
38) Transit takes me where I want to go					
39) Transit is not convenient enough					
40) Transit does not fit with my self-image					
41) It is not safe to take public transit					
42) I wish I did not have to spend so much time driving					
43) Having auto-free zones makes me more willing to walk					
44) Having sidewalks and bike paths makes me more inclined to walk and bike					
45) I would be willing to vote for a political candidate who promises to spend more money on public transit					
46) I wish transit was a better option in my city					
47) I have a better opinion of people who ride rail transit than bus transit					
48) It is critical to own a car					
49) Traffic congestion is a serious problem					
50) Having slower moving traffic makes me more willing to ride my bike					

Thank you for taking the time to complete this survey. Good luck to you in the future and as always, GO GATORS!

APPENDIX D
FRESHMEN RAW SURVEY DATA

The following pages summarize the raw data rendered by the freshman survey. The following data are recorded, as appropriate: frequencies, measures of central tendency, standard deviation, and range. Questions that appear on both surveys have the same variable name in both Appendix D and E.

Variable Name: Zipcode
Question: What is your current Zipcode?
Available Responses (code): Open Response
Valid N = 122 Data Type = Nominal
Mode (N) = 33067 (4)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
04105	1	.8	.8	.8
07649	1	.8	.8	1.6
07869	1	.8	.8	2.5
08742	1	.8	.8	3.3
11554	1	.8	.8	4.1
19341	1	.8	.8	4.9
20755	1	.8	.8	5.7
21811	1	.8	.8	6.6
22030	1	.8	.8	7.4
24018	1	.8	.8	8.2
27510	1	.8	.8	9.0
27614	1	.8	.8	9.8
30342	1	.8	.8	10.7
32065	1	.8	.8	11.5
32068	1	.8	.8	12.3
32073	1	.8	.8	13.1
32210	1	.8	.8	13.9
32233	1	.8	.8	14.8
32317	2	1.6	1.6	16.4
32344	1	.8	.8	17.2
32536	1	.8	.8	18.0
32578	1	.8	.8	18.9
32618	1	.8	.8	19.7
32643	1	.8	.8	20.5
32653	1	.8	.8	21.3
32708	1	.8	.8	22.1
32746	1	.8	.8	23.0
32757	1	.8	.8	23.8
32773	1	.8	.8	24.6
32779	1	.8	.8	25.4
32826	1	.8	.8	26.2
32907	1	.8	.8	27.0

32926	1	.8	.8	27.9
33016	1	.8	.8	28.7
33018	1	.8	.8	29.5
33025	1	.8	.8	30.3
33027	1	.8	.8	31.1
33060	1	.8	.8	32.0
33062	1	.8	.8	32.8
33067	4	3.3	3.3	36.1
33133	1	.8	.8	36.9
33134	1	.8	.8	37.7
33142	1	.8	.8	38.5
33143	1	.8	.8	39.3
33149	1	.8	.8	40.2
33165	1	.8	.8	41.0
33316	1	.8	.8	41.8
33322	1	.8	.8	42.6
33326	1	.8	.8	43.4
33331	1	.8	.8	44.3
33414	1	.8	.8	45.1
33435	1	.8	.8	45.9
33647	3	2.5	2.5	48.4
33702	1	.8	.8	49.2
33704	2	1.6	1.6	50.8
33756	1	.8	.8	51.6
33759	1	.8	.8	52.5
33764	1	.8	.8	53.3
33765	2	1.6	1.6	54.9
33776	1	.8	.8	55.7
33781	1	.8	.8	56.6
33786	1	.8	.8	57.4
33813	1	.8	.8	58.2
33825	1	.8	.8	59.0
33873	1	.8	.8	59.8
33881	1	.8	.8	60.7
33905	1	.8	.8	61.5
33917	2	1.6	1.6	63.1
33935	1	.8	.8	63.9
33957	1	.8	.8	64.8
34102	1	.8	.8	65.6
34104	1	.8	.8	66.4
34105	1	.8	.8	67.2
34116	1	.8	.8	68.0
34207	1	.8	.8	68.9
34215	1	.8	.8	69.7
34219	1	.8	.8	70.5
34228	1	.8	.8	71.3
34233	1	.8	.8	72.1
34240	1	.8	.8	73.0
34286	1	.8	.8	73.8
34471	1	.8	.8	74.6
34601	1	.8	.8	75.4
34608	1	.8	.8	76.2
34677	1	.8	.8	77.0
34684	1	.8	.8	77.9
34685	1	.8	.8	78.7
34689	3	2.5	2.5	81.1

34695	1	.8	.8	82.0
34734	1	.8	.8	82.8
34748	1	.8	.8	83.6
34952	1	.8	.8	84.4
34957	1	.8	.8	85.2
34972	1	.8	.8	86.1
34994	1	.8	.8	86.9
35007	1	.8	.8	87.7
37027	1	.8	.8	88.5
37066	1	.8	.8	89.3
38016	1	.8	.8	90.2
46741	1	.8	.8	91.0
48130	1	.8	.8	91.8
60005	1	.8	.8	92.6
60462	1	.8	.8	93.4
60540	1	.8	.8	94.3
61821	1	.8	.8	95.1
63017	1	.8	.8	95.9
70461	1	.8	.8	96.7
71730	1	.8	.8	97.5
77478	1	.8	.8	98.4
80031	1	.8	.8	99.2
80517	1	.8	.8	100.0
Total	122	100.0	100.0	

Variable Name: Sex
Question: Check One
Available Responses (code): Male (1) Female (2)
Valid N = 122 Data Type = Nominal
Mode (N) = 1 (37)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Male	37	30.3	30.3	30.3
Female	85	69.7	69.7	100.0
Total	122	100.0	100.0	

Variable Name: Race
Question: Check all that apply
Available Responses (code): Caucasian (1) African-American (2) Hispanic or Latino (3) Asian (4) Native American or Hawaiian (5) Other (6)
Valid N = 122 Data type = Nominal
Mode (N) = 1 (92)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
white	92	75.4	75.4	75.4
black	7	5.7	5.7	81.1
hispanic	15	12.3	12.3	93.4
asian	7	5.7	5.7	99.2
native	1	.8	.8	100.0
Other	0	0.0	0.0	100.0
Total	122	100.0	100.0	

Variable Name: Housing Type
Question: Check all that apply
Available Responses (code): Apartment (1) Condominium (2) Town House or Duplex (3)
Single Family House in Rural Setting (4) Single Family House in Suburbs (5)
Single Family House in Central City (6) University Housing or Other (7)
Valid N = 121 Data type = Nominal
Mode (N) = 5 (82)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Apartment	4	3.3	3.3	3.3
Condo	4	3.3	3.3	6.6
Town House	4	3.3	3.3	9.9
SF_Rural	20	16.4	16.5	26.4
SF_Suburbs	82	67.2	67.8	94.2
SF_Central	7	5.7	5.8	100.0
Other	0	0.0	0.0	100.0
Total	121	99.2	100.0	
Missing	1	.8		
	122	100.0		

Variable Name: Cars
Question: How many cars does your family own right now?
Available Responses (code): Open Response
Valid N = 120 Data type = Scalar
Mean = 3.21 Median = 3 Mode (N) = 3 (49)
Std. Dev = 1.12 Range = 6
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
1	5	4.1	4.2	4.2
2	25	20.5	20.8	25.0
3	49	40.2	40.8	65.8
4	27	22.1	22.5	88.3
5	10	8.2	8.3	96.7
6	3	2.5	2.5	99.2
7	1	.8	.8	100.0
Total	120	98.4	100.0	
Missing	2	1.6		
	122	100.0		

Variable Name: Min_Work
Question: How many minutes does it take your parents to get to work?
Available Responses (code): Open Response
Valid N = 119 Data type = Scalar
Mean = 25.12 Median = 20 Mode (N) =30 (22)
Std. Dev = 17.72 Range = 89
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
1	5	4.1	4.2	4.2
2	1	.8	.8	5.0
3	1	.8	.8	5.9
4	1	.8	.8	6.7
5	5	4.1	4.2	10.9
6	1	.8	.8	11.8
8	3	2.5	2.5	14.3
10	11	9.0	9.2	23.5
15	21	17.2	17.6	41.2
20	15	12.3	12.6	53.8
25	6	4.9	5.0	58.8
30	22	18.0	18.5	77.3
35	2	1.6	1.7	79.0
40	6	4.9	5.0	84.0
45	8	6.6	6.7	90.8
50	2	1.6	1.7	92.4
60	5	4.1	4.2	96.6
65	1	.8	.8	97.5
80	2	1.6	1.7	99.2
90	1	.8	.8	100.0
Total	119	97.5	100.0	
Missing	3	2.5		
	122	100.0		

Variable Name: Means_Work1 and Means_Work2
Question: How do your parents get to work? (check up to two)
Available Responses (code): Drive Alone (1) Carpool (2) Bus (3)
Streetcar or Trolley (4) Subway (4) Taxi (5) Walk (6) Bike (7) Other (8)
Valid N = 134 Data type = Nominal
Mode (N) = 1 (119)
Frequency Table:

MEANS_1

	Frequency	Percent	Valid Percent	Cumulative Percent
Drive Alone	117	95.9	95.9	95.9
Walk	1	.8	.8	96.7
Other	4	3.3	3.3	100.0
Total	122	100.0	100.0	

MEANS_2

	Frequency	Percent	Valid Percent	Cumulative Percent
Drive Alone	2	1.6	16.7	16.7
Carpool	3	2.5	25.0	41.7
Bus	3	2.5	25.0	66.7
Subway	1	.8	8.3	75.0
Bike	3	2.5	25.0	100.0
Total	12	9.8	100.0	
Missing	110	90.2		
	122	100.0		

Variable Name: Sch_Means
Question: How did you get to school after age 16?
Available Responses (code): Walk (1) School Bus (2) Public Transit (3)
Bike (4) Drive Alone (5) Drive with parents or friends (6)
Valid N = 121 Data type = Nominal
Mode (N) = 5 (75)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Walk	4	3.3	3.3	3.3
School Bus	6	4.9	5.0	8.3
Public Transit	2	1.6	1.7	9.9
Drive Alone	75	61.5	62.0	71.9
Drive w/Others	34	27.9	28.1	100.0
Total	121	99.2	100.0	
Missing	1	.8		
	122	100.0		

Variable Name: Freq_Transit
Question: How frequently did you ride public transit in your hometown?
Available Responses (code): Daily (1) Weekly (2) Monthly (3)
Infrequently (5) Never (6)
Valid N = 122 Data type = Nominal
Mode (N) = 6 (100)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Daily	2	1.6	1.6	1.6
Weekly	2	1.6	1.6	3.3
Infrequently	18	14.8	14.8	18.0
Never	100	82.0	82.0	100.0
Total	122	100.0	100.0	

Variable Name: Freq_Walk
Question: How frequently did you walk from home to your desination?
Available Responses (code): Daily (1) Weekly (2) Monthly (3)
Infrequently (5) Never (6)
Valid N = 122 Data type = Nominal
Mode (N) = 6 (67)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Daily	4	3.3	3.3	3.3
Weekly	3	2.5	2.5	5.7
Monthly	4	3.3	3.3	9.0
Infrequently	44	36.1	36.1	45.1
Never	67	54.9	54.9	100.0
Total	122	100.0	100.0	

Variable Name: Freq_Bike
Question: How frequently did you bike from home to your desination?
Available Responses (code): Daily (1) Weekly (2) Monthly (3)
Infrequently (5) Never (6)
Valid N = 122 Data type = Nominal
Mode (N) = 6 (74)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Daily	2	1.6	1.6	1.6
Monthly	1	.8	.8	2.5
Infrequently	45	36.9	36.9	39.3
Never	74	60.7	60.7	100.0
Total	122	100.0	100.0	

Variable Name: Stop
Question: Check if you know the location of the nearest bus stop
Available Responses (code): Checked/Yes (1) Not Checked/No (2)
Valid N = 122 Data type = Nominal
Mode (N) = 1 (65)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Not Checked	57	46.7	46.7	46.7
Checked	65	53.3	53.3	100.0
Total	122	100.0	100.0	

Variable Name: Destination
Question: Check if you know where the bus will take you
Available Responses (code): Checked/Yes (1) Not Checked/No (2)
Valid N = 122 Data type = Nominal
Mode (N) = 2 (95)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Not Checked	95	77.9	77.9	77.9
Checked	27	22.1	22.1	100.0
Total	122	100.0	100.0	

Variable Name: Cost
Question: Check if you know how much the bus will cost
Available Responses (code): Checked/Yes (1) Not Checked/No (2)
Valid N = 122 Data type = Nominal
Mode (N) = 2 (101)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Not Checked	101	82.8	82.8	82.8
Checked	21	17.2	17.2	100.0
Total	122	100.0	100.0	

Variable Name: Time
Question: Check if you know the timetable of the bus
Available Responses (code): Checked/Yes (1) Not Checked/No (2)
Valid N = 122 Data type = Nominal
Mode (N) = 2 (118)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Not Checked	118	96.7	96.7	96.7
Checked	4	3.3	3.3	100.0
Total	122	100.0	100.0	

Variable Name: None
Question: There is no transit in my city
Available Responses (code): Checked/Yes (1) Not Checked/No (2)
Valid N = 122 Data type = Nominal
Mode (N) = 2 (92)
Frequency Table:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Checked	92	75.4	75.4	75.4
	Checked	30	24.6	24.6	100.0
	Total	122	100.0	100.0	

Variable Name: Fresh_Car
Question: Will you have a car during you freshman year?
Available Responses (code): Yes (1) No (2)
Valid N = 122 Data type = Nominal
Mode (N) = 1 (69)
Frequency Table:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	53	43.4	43.4	43.4
	Yes	69	56.6	56.6	100.0
	Total	122	100.0	100.0	

Variable Name: On_Campus
Question: Will you live on campus?
Available Responses (code): Yes (1) No (2)
Valid N = 122 Data type = Nominal
Mode (N) = 1 (98)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
No	24	19.7	19.7	19.7
Yes	98	80.3	80.3	100.0
Total	122	100.0	100.0	

Variable Name: To_Class, To_Class_A, To_Class_B
Question: How will you get to class? (check all that apply)
Available Responses (code): Drive Alone (1) Carpool (2) Walk (3) Bike (4) Ride City Bus (5) Campus Circulator Bus (6) Park and Ride (7)
Valid N = 265 Data type = Nominal
Mode (N) = 3 (108)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Drive Alone	7	5.7	5.8	5.8
Carpool	7	5.7	5.8	11.6
Walk	91	74.6	75.2	86.8
Bike	5	4.1	4.1	90.9
City Bus	6	4.9	5.0	95.9
Campus Circulator	5	4.1	4.1	100.0
Total	121	99.2	100.0	
Missing	1	.8		
	122	100.0		

TO_CLA_A

	Frequency	Percent	Valid Percent	Cumulative Percent
Drive Alone	1	.8	1.1	1.1
Carpool	2	1.6	2.2	3.3
Walk	11	8.2	10.9	14.1
Bike	48	36.9	48.9	63.0
City Bus	7	5.7	7.6	70.7
Campus Circulator	27	22.1	29.3	100.0
Total	96	75.4	100.0	
Missing	26	24.6		
	122	100.0		

TO_CLA_B

	Frequency	Percent	Valid Percent	Cumulative Percent
Walk	6	4.9	11.5	11.5
Bike	4	3.3	7.7	19.2
City Bus	9	7.4	17.3	36.5
Campus Circulator	37	25.4	59.6	96.2
Park and Ride	2	1.6	3.8	100.0
Total	58	42.6	100.0	
Missing	64	57.4		
	122	100.0		

Variable Name: UFLIVING, UFLIVI_A, UFLIVI_B
Question: Indicate the three most important factors when choosing a place to live
Available Responses (code): Good Social Life (1) Distance to Campus (2) Cost (3) Luxury (4) Amenities (5) Located on Bus Line (6) Security (7)
Valid N = 359 Data type = Nominal
Mode (N) = 2 (97)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Social Life	43	35.2	35.2	35.2
Distance	55	45.1	45.1	80.3
Cost	5	4.1	4.1	84.4
Luxury	14	11.5	11.5	95.9
Amenities	4	3.3	3.3	99.2
Bus Line	1	.8	.8	100.0
Total	122	100.0	100.0	

UFLIVI_A

	Frequency	Percent	Valid Percent	Cumulative Percent
Social Life	1	.8	.8	.8
Distance	39	32.0	32.5	33.3
Cost	51	41.8	42.5	75.8
Luxury	7	5.7	5.8	81.7
Amenities	14	11.5	11.7	93.3
Security	8	6.6	6.7	100.0
Total	120	98.4	100.0	
Missing	2	1.6		
	122	100.0		

UFLIVI_B

	Frequency	Percent	Valid Percent	Cumulative Percent
Distance	3	2.5	2.6	2.6
Cost	26	21.3	22.2	24.8
Luxury	21	17.2	17.9	42.7
Amenities	22	18.0	18.8	61.5
Bus Line	11	9.0	9.4	70.9
Security	34	27.9	29.1	100.0
Total	117	95.9	100.0	
Missing	5	4.1		
	122	100.0		

Variable Name: MAX_TIME
Question: Indicate the maximum amount of time you are willing to commute to campus
Available Responses (code): Less than 15 minutes (1) 15 to 30 minutes (2)
30 to 45 minutes (3) Longer than 45 minutes (4)
Valid N = 122 Data type = Nominal
Mode (N) = 2 (71)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
0-15	41	33.6	33.6	33.6
15-30	71	58.2	58.2	91.8
30-45	9	7.4	7.4	99.2
Longer	1	.8	.8	100.0
Total	122	100.0	100.0	

Variable Name: Walk_Transit
Question: What is the maximum distance you would be willing to walk to a transit stop?
Available Responses (code): Less than ¼ mile (1) ½ mile (2) ¾ mile (3) Longer (4)
I would not walk any distance to a transit stop (5)
Valid N = 121 Data type = Nominal
Mean = Median = Mode (N) = 2 (56)
Std. Dev = Range =
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
1/4 mile	35	28.7	28.9	28.9
1/2 mile	56	45.9	46.3	75.2
3/4 mile	17	13.9	14.0	89.3
Longer	9	7.4	7.4	96.7
Not Any	4	3.3	3.3	100.0
Total	121	99.2	100.0	
Missing	1	.8		
	122	100.0		

Variable Name: Walk_Campus
Question: What is the maximum distance you would be willing to walk to campus?
Available Responses (code): Less than ¼ mile (1) ½ mile (2) ¾ mile (3) Longer (4)
I would not walk any distance to a transit stop (5)
Valid N = 121 Data type = Nominal
Mode (N) = 2 (42)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
1/4 Mile	15	12.3	12.4	12.4
1/2 Mile	42	34.4	34.7	47.1
3/4 Mile	31	25.4	25.6	72.7
Longer	28	23.0	23.1	95.9
Not Walk	5	4.1	4.1	100.0
Total	121	99.2	100.0	
Missing	1	.8		
	122	100.0		

Variable Name: Bike_Campus
Question: What is the maximum distance you would be willing to bike to campus?
Available Responses (code): Less than ½ mile (1) 1 mile (2) 3 miles (3) Longer (4)
I would not bike any distance (5)
Valid N = 119 Data type = Nominal
Mode (N) = 2 (40)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
1/2 Mile	9	7.4	7.6	7.6
1 Mile	40	32.8	33.6	41.2
3 Miles	35	28.7	29.4	70.6
Longer	18	14.8	15.1	85.7
Not Bike	17	13.9	14.3	100.0
Total	119	97.5	100.0	
Missing	3	2.5		
	122	100.0		

Variable Name: Will_Transit
Question: Indicate your willingness to ride public transit in general (bus and rail)
Available Responses (code): Very Unwilling (1) Unwilling (2) Neutral (3) Willing (4) Very Willing (5)
Valid N = 121 Data type = Scalar
Mean = 3.73 Median = 4 Mode (N) = 4 (54)
Std. Dev = 1.14 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Very Unwilling	10	8.2	8.3	8.3
Unwilling	6	4.9	5.0	13.2
Neutral	21	17.2	17.4	30.6
Willing	54	44.3	44.6	75.2
Very Willing	30	24.6	24.8	100.0
Total	121	99.2	100.0	
Missing	1	.8		
	122	100.0		

Variable Name: Will_Bus
Question: Indicate your willingness to ride bus transit
Available Responses (code): Very Unwilling (1) Unwilling (2) Neutral (3) Willing (4) Very Willing (5)
Valid N = 121 Data type = Scalar
Mean = 3.8 Median = 4 Mode (N) = 4 (53)
Std. Dev = 1.18 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Very Unwilling	11	9.0	9.1	9.1
Unwilling	6	4.9	5.0	14.0
Neutral	15	12.3	12.4	26.4
Willing	53	43.4	43.8	70.2
Very Willing	36	29.5	29.8	100.0
Total	121	99.2	100.0	
Missing	1	.8		
	122	100.0		

Variable Name: Will_Rail
Question: Indicate your willingness to ride rail transit
Available Responses (code): Very Unwilling (1) Unwilling (2) Neutral (3) Willing (4) Very Willing (5)
Valid N = 120 Data type = Scalar
Mean = 4.2 Median = 4 Mode (N) = 4 and 5 (34)
Std. Dev = 1.23 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Very Unwilling	10	8.2	8.3	8.3
Unwilling	12	9.8	10.0	18.3
Neutral	30	24.6	25.0	43.3
Willing	34	27.9	28.3	71.7
Very Willing	34	27.9	28.3	100.0
Total	120	98.4	100.0	
Missing	2	1.6		
	122	100.0		

Variable Name: Will_Carpool
Question: Indicate your willingness to carpool
Available Responses (code): Very Unwilling (1) Unwilling (2) Neutral (3) Willing (4) Very Willing (5)
Valid N = 121 Data type = Scalar
Mean = 3.73 Median = 4 Mode (N) = 5 (34)
Std. Dev = 1.24 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Very Unwilling	11	9.0	9.1	9.1
Unwilling	7	5.7	5.8	14.9
Neutral	26	21.3	21.5	36.4
Willing	37	30.3	30.6	66.9
Very Willing	40	32.8	33.1	100.0
Total	121	99.2	100.0	
Missing	1	.8		
	122	100.0		

Variable Name: No_Parking
Question: You know there is no parking at your shopping destination 3 miles away. What will you do?
Available Responses (code): Park far away and walk (1) Walk the whole distance (2)
Bike the whole distance (3) Take public transit (4) Drive to a more distant location (5)
Not Go (6) Take a Taxi (7) Have someone else drop me off (8)
Valid N = 121 Data type = Nominal
Mode (N) = 4 (42)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Park Far Away	26	21.3	21.5	21.5
Walk Whole Way	1	.8	.8	22.3
Bike Whole Way	7	5.7	5.8	28.1
Public Transit	42	34.4	34.7	62.8
Drive Elsewhere	17	13.9	14.0	76.9
Not Go	8	6.6	6.6	83.5
Taxi	2	1.6	1.7	85.1
Catch a Ride	18	14.8	14.9	100.0
Total	121	99.2	100.0	
Missing	1	.8		
	122	100.0		

Variable Name: Direct_Transit
Question: There is a direct transit line from your home to your work. Will you ride it?
Available Responses (code): Yes (1) No (2) Maybe (3)
Valid N = 121 Data type = Nominal
Mode (N) = 1 (71)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
No	4	3.3	3.3	3.3
Yes	71	58.2	58.7	62.0
Maybe	46	37.7	38.0	100.0
Total	121	99.2	100.0	
Missing	1	.8		
	122	100.0		

Variable Name: Free_Transit
Question: If transit was free of charge in your current city, indicate on a scale from 1-5 your willingness to ride it, 5 being very willing
Available Responses (code): Very Unwilling (1) Unwilling (2) Neutral (3) Willing (4) Very Willing (5)
Valid N = 121 Data type = Scalar
Mean = 4.13 Median = 4 Mode (N) = 5 (60)
Std. Dev = 1.06 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
1	4	3.3	3.3	3.3
2	5	4.1	4.1	7.4
3	22	18.0	18.2	25.6
4	30	24.6	24.8	50.4
5	60	49.2	49.6	100.0
Total	121	99.2	100.0	
Missing	1	.8		
	122	100.0		

Variable Name: Transit
Question: Level of Agreement: It is important for government to provide public transit
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Disagree (5)
Valid N = 121 Data type = Scalar
Mean = 4.15 Median = 4 Mode (N) = 4 (57)
Std. Dev = 0.86 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	2	1.6	1.7	1.7
Disagree	4	3.3	3.3	5.0
Neutral	13	10.7	10.7	15.7
Agree	57	46.7	47.1	62.8
Strongly Agree	45	36.9	37.2	100.0
Total	121	99.2	100.0	
Missing	1	.8		
	122	100.0		

Variable Name: Roads
Question: Level of Agreement: It is important for government to provide more road improvements to deal with traffic
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Disagree (5)
Valid N = 120 Data type = Scalar
Mean = 4.37 Median = 4 Mode (N) = 4 (57)
Std. Dev = 0.697 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	1	.8	.8	.8
Disagree	1	.8	.8	1.7
Neutral	6	4.9	5.0	6.7
Agree	57	46.7	47.5	54.2
Strongly Agree	55	45.1	45.8	100.0
Total	120	98.4	100.0	
Missing	2	1.6		
	122	100.0		

Variable Name: Congestion
Question: Level of Agreement: Improved transit service will help lower traffic congestion
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Disagree (5)
Valid N = 121 Data type = Scalar
Mean = 3.96 Median = 4 Mode (N) = 4 (53)
Std. Dev = 0.93 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	2	1.6	1.7	1.7
Disagree	7	5.7	5.8	7.4
Neutral	22	18.0	18.2	25.6
Agree	53	43.4	43.8	69.4
Strongly Agree	37	30.3	30.6	100.0
Total	121	99.2	100.0	
Missing	1	.8		
	122	100.0		

Variable Name: Cost
Question: Level of Agreement: Public transit costs too much to ride
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Disagree (5)
Valid N = 119 Data type = Scalar
Mean = 2.56 Median = 3 Mode (N) = 3 (63)
Std. Dev = 0.766 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	9	7.4	7.6	7.6
Disagree	42	34.4	35.3	42.9
Neutral	63	51.6	52.9	95.8
Agree	2	1.6	1.7	97.5
Strongly Agree	3	2.5	2.5	100.0
Total	119	97.5	100.0	
Missing	3	2.5		
	122	100.0		

Variable Name: Where
Question: Level of Agreement: Transit takes me where I want to go
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Disagree (5)
Valid N = 121 Data type = Scalar
Mean = 2.98 Median = 3 Mode (N) = 3 (73)
Std. Dev = 0.85 Range = 3
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	6	4.9	5.0	5.0
Disagree	20	16.4	16.5	21.5
Neutral	73	59.8	60.3	81.8
Agree	15	12.3	12.4	94.2
Strongly Agree	7	5.7	5.8	100.0
Total	121	99.2	100.0	
Missing	1	.8		
	122	100.0		

Variable Name: Convenient
Question: Level of Agreement: Transit is not convenient enough
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Disagree (5)
Valid N = 120 Data type = Scalar
Mean = 3.22 Median = 3 Mode (N) = 3 (55)
Std. Dev = 0.91 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	4	3.3	3.3	3.3
Disagree	18	14.8	15.0	18.3
Neutral	55	45.1	45.8	64.2
Agree	34	27.9	28.3	92.5
Strongly Agree	9	7.4	7.5	100.0
Total	120	98.4	100.0	
Missed	2	1.6		
	122	100.0		

Variable Name: Image
Question: Level of Agreement: Transit does not fit with my self image
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Disagree (5)
Valid N = 121 Data type = Scalar
Mean = 2.54 Median = 3 Mode (N) = 3 (37)
Std. Dev = 1.07 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	22	18.0	18.2	18.2
Disagree	37	30.3	30.6	48.8
Neutral	43	35.2	35.5	84.3
Agree	13	10.7	10.7	95.0
Strongly Agree	6	4.9	5.0	100.0
Total	121	99.2	100.0	
Missing	1	.8		
	122	100.0		

Variable Name: Safe
Question: Level of Agreement: It is not safe to take public transit
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Disagree (5)
Valid N = 121 Data type = Scalar
Mean = 2.54 Median = 2 Mode (N) = 2 (50)
Std. Dev = 0.88 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	12	9.8	9.9	9.9
Disagree	50	41.0	41.3	51.2
Neutral	42	34.4	34.7	86.0
Agree	16	13.1	13.2	99.2
Strongly Agree	1	.8	.8	100.0
Total	121	99.2	100.0	
Missing	1	.8		
	122	100.0		

Variable Name: Time
Question: Level of Agreement: I wish I did not have to spend so much time driving
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Disagree (5)
Valid N = 121 Data type = Scalar
Mean = 3.16 Median = 3 Mode (N) = 4 (42)
Std. Dev = 1.13 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	9	7.4	7.4	7.4
Disagree	29	23.8	24.0	31.4
Neutral	29	23.8	24.0	55.4
Agree	42	34.4	34.7	90.1
Strongly Agree	12	9.8	9.9	100.0
Total	121	99.2	100.0	
Missing	1	.8		
	122	100.0		

Variable Name: Autowalk
Question: Level of Agreement: Having auto-free zones makes me more willing to walk
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Disagree (5)
Valid N = 120 Data type = Scalar
Mean = 3.48 Median = 4 Mode (N) = 4 (48)
Std. Dev = 0.98 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	4	3.3	3.3	3.3
Disagree	14	11.5	11.7	15.0
Neutral	38	31.1	31.7	46.7
Agree	48	39.3	40.0	86.7
Strongly Agree	16	13.1	13.3	100.0
Total	120	98.4	100.0	
Missing	2	1.6		
	122	100.0		

Variable Name: Paths
Question: Level of Agreement: Having sidewalks and bike paths makes me more willing to walk and bike
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Disagree (5)
Valid N = 121 Data type = Scalar
Mean = 3.88 Median = 4 Mode (N) = 4 (66)
Std. Dev = 0.90 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	1	.8	.8	.8
Disagree	12	9.8	9.9	10.7
Neutral	15	12.3	12.4	23.1
Agree	66	54.1	54.5	77.7
Strongly Agree	27	22.1	22.3	100.0
Total	121	99.2	100.0	
Missing	1	.8		
	122	100.0		

Variable Name: Vote
Question: Level of Agreement: I would be willing to vote for a political candidate who promises to spend more money on public transit
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Disagree (5)
Valid N = 121 Data type = Scalar
Mean = 3.07 Median = 3 Mode (N) = 3 (59)
Std. Dev = 0.79 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	5	4.1	4.1	4.1
Disagree	15	12.3	12.4	16.5
Neutral	72	59.0	59.5	76.0
Agree	25	20.5	20.7	96.7
Strongly Agree	4	3.3	3.3	100.0
Total	121	99.2	100.0	
System	1	.8		
	122	100.0		

Variable Name: Option
Question: Level of Agreement: I wish transit was a better option in my city
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Disagree (5)
Valid N = 121 Data type = Scalar
Mean = 3.50 Median = 4 Mode (N) = 3 (49)
Std. Dev = 0.85 Range = 3
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	15	12.3	12.4	12.4
Neutral	44	36.1	36.4	48.8
Agree	49	40.2	40.5	89.3
Strongly Agree	13	10.7	10.7	100.0
Total	121	99.2	100.0	
Missing	1	.8		
	122	100.0		

Variable Name: Opinion
Question: Level of Agreement: I have a better opinion of people who ride rail transit than bus transit
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Disagree (5)
Valid N = 121 Data type = Scalar
Mean = 2.68 Median = 3 Mode (N) = 3 (67)
Std. Dev = 0.93 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	18	14.8	14.9	14.9
Disagree	21	17.2	17.4	32.2
Neutral	67	54.9	55.4	87.6
Agree	12	9.8	9.9	97.5
Strongly Agree	3	2.5	2.5	100.0
Total	121	99.2	100.0	
Missing	1	.8		
	122	100.0		

Variable Name: Critical
Question: Level of Agreement: It is critical to own a car
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Disagree (5)
Valid N = 121 Data type = Scalar
Mean = 3.84 Median = 4 Mode (N) = 4 (50)
Std. Dev = 1.05 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	2	1.6	1.7	1.7
Disagree	16	13.1	13.2	14.9
Neutral	17	13.9	14.0	28.9
Agree	50	41.0	41.3	70.2
Strongly Agree	36	29.5	29.8	100.0
Total	121	99.2	100.0	
Missing	1	.8		
	122	100.0		

Variable Name: Problem
Question: Level of Agreement: Traffic congestion is a serious problem
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Disagree (5)
Valid N = 121 Data type = Scalar
Mean = 4.02 Median = 4 Mode (N) = 4 (47)
Std. Dev = 0.97 Range = 3
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	13	10.7	10.8	10.8
Neutral	16	13.1	13.3	24.2
Agree	47	38.5	39.2	63.3
Strongly Agree	44	36.1	36.7	100.0
Total	120	98.4	100.0	
Missing	2	1.6		
	122	100.0		

Variable Name: Slowbike
Question: Level of Agreement: Traffic congestion is a serious problem
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Disagree (5)
Valid N = 121 Data type = Scalar
Mean = 3.21 Median = 4 Mode (N) = 4 (51)
Std. Dev = 1.01 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	7	5.7	5.8	5.8
Disagree	24	19.7	19.8	25.6
Neutral	33	27.0	27.3	52.9
Agree	51	41.8	42.1	95.0
Strongly Agree	6	4.9	5.0	100.0
Total	121	99.2	100.0	
Missing	1	.8		
	122	100.0		

APPENDIX E
ALUMNI RAW SURVEY DATA

Variable Name: Zipcode
Question: What is your current zipcode?
Available Responses (code): Open Response
Valid N = 154 Data type = Nominal
Mode (N) = 32607 (4)
Frequency Table:

Zipcode	Frequency	Percent	Valid Percent
02171	1	.6	.6
03301	1	.6	.6
07006	1	.6	.6
07044	1	.6	.6
10016	1	.6	.6
10025	1	.6	.6
11211	1	.6	.6
11213	1	.6	.6
12601	1	.6	.6
19128	1	.6	.6
20191	1	.6	.6
21701	1	.6	.6
22202	1	.6	.6
22203	1	.6	.6
28216	1	.6	.6
28226	1	.6	.6
28311	1	.6	.6
29615	1	.6	.6
30144	1	.6	.6
30308	1	.6	.6
30318	1	.6	.6
30319	2	1.3	1.3
30327	1	.6	.6
30329	2	1.3	1.3
30345	1	.6	.6
30606	1	.6	.6
30701	1	.6	.6
32004	1	.6	.6
32055	1	.6	.6
32073	1	.6	.6
32080	1	.6	.6
32159	1	.6	.6
32168	1	.6	.6
32174	1	.6	.6
32205	2	1.3	1.3
32255	1	.6	.6
32257	1	.6	.6
32308	1	.6	.6
32309	1	.6	.6

32459	1	.6	.6
32503	2	1.3	1.3
32504	1	.6	.6
32578	1	.6	.6
32579	1	.6	.6
32601	1	.6	.6
32603	1	.6	.6
32605	2	1.3	1.3
32606	2	1.3	1.3
32607	4	2.6	2.6
32608	3	1.9	1.9
32609	1	.6	.6
32615	1	.6	.6
32618	1	.6	.6
32643	1	.6	.6
32701	1	.6	.6
32771	1	.6	.6
32789	1	.6	.6
32804	1	.6	.6
32811	1	.6	.6
32817	1	.6	.6
32822	1	.6	.6
32825	1	.6	.6
32826	1	.6	.6
32835	1	.6	.6
33020	1	.6	.6
33029	1	.6	.6
33068	1	.6	.6
33129	1	.6	.6
33130	1	.6	.6
33156	2	1.3	1.3
33169	1	.6	.6
33183	1	.6	.6
33186	1	.6	.6
3330	1	.6	.6
33309	1	.6	.6
33314	2	1.3	1.3
33317	2	1.3	1.3
33319	1	.6	.6
33410	1	.6	.6
33411	1	.6	.6
33428	1	.6	.6
33433	1	.6	.6
33441	1	.6	.6
33444	1	.6	.6
33486	1	.6	.6
33549	1	.6	.6
33569	1	.6	.6
33607	1	.6	.6
33609	1	.6	.6
33616	1	.6	.6
33624	2	1.3	1.3
33625	1	.6	.6
33629	1	.6	.6
33647	2	1.3	1.3
33701	1	.6	.6

33704	1	.6	.6
33707	1	.6	.6
33770	1	.6	.6
33809	1	.6	.6
33825	1	.6	.6
34119	1	.6	.6
34212	1	.6	.6
34221	1	.6	.6
34236	1	.6	.6
34442	1	.6	.6
34479	1	.6	.6
34677	1	.6	.6
34711	1	.6	.6
34761	1	.6	.6
34772	1	.6	.6
34952	1	.6	.6
34983	2	1.3	1.3
37919	1	.6	.6
48322	1	.6	.6
53211	1	.6	.6
59401	1	.6	.6
60613	1	.6	.6
61821	1	.6	.6
66049	1	.6	.6
68503	1	.6	.6
70123	1	.6	.6
70130	1	.6	.6
72202	1	.6	.6
75001	1	.6	.6
76106	1	.6	.6
78664	1	.6	.6
78731	1	.6	.6
78748	1	.6	.6
78752	1	.6	.6
80301	1	.6	.6
80601	1	.6	.6
84405	1	.6	.6
89103	1	.6	.6
92103	1	.6	.6
94401	1	.6	.6
98270	1	.6	.6
99615	1	.6	.6
Total	154	100.0	100.0

Variable Name: Sex
Question: What is your gender?
Available Responses (code): Male (1) Female (2)
Valid N = 154 Data type = Nominal
Mode (N) = 2 (102)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Male	52	33.8	33.8	33.8
Female	102	66.2	66.2	100.0
Total	154	100.0	100.0	

Variable Name: Race
Question: Check your ethnicity
Available Responses (code): Caucasian (1) African-American (2) Hispanic or Latino (3) Asian (4) Native American or Hawaiian (5) Other (6)
Valid N = 154 Data type = Nominal
Mode (N) = 1 (121)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
white	121	78.6	78.6	78.6
black	7	4.5	4.5	83.1
hispanic	19	12.3	12.3	95.5
asian	4	2.6	2.6	98.1
NR	3	1.9	1.9	100.0
Total	154	100.0	100.0	

Variable Name: Housing_Type
Question: Check one that describes your primary residence
Available Responses (code): Apartment (1) Condominium (2) Town House or Duplex (3)
Single Family House in Rural Setting (4) Single Family House in Suburbs (5)
Single Family House in Central City (6) University Housing or Other (7)
Valid N = 152 Data type = Nominal
Mode (N) = 1 (63)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Apartment	63	40.9	41.4	41.4
Condo	12	7.8	7.9	49.3
Town House	10	6.5	6.6	55.9
SF_Rural	9	5.8	5.9	61.8
SF_Suburbs	51	33.1	33.6	95.4
SF_Central	7	4.5	4.6	100.0
Total	152	98.7	100.0	
Missing	2	1.3		
	154	100.0		

Variable Name: Cars
Question: How many cars are there in your household?
Available Responses (code): Open Response
Valid N = 154 Data type = Scalar
Mean = 1.69 Median = 2 Mode (N) = 2 (72)
Std. Dev = 0.795 Range = 5
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
0	3	1.9	1.9	1.9
1	63	40.9	40.9	42.9
2	72	46.8	46.8	89.6
3	11	7.1	7.1	96.8
4	4	2.6	2.6	99.4
5	1	.6	.6	100.0
Total	154	100.0	100.0	

Variable Name: Married
Question: Are you married?
Available Responses (code): Yes (1) No (2)
Valid N = 154 Data type = Nominal
Mean = Median = Mode (N) = 2 (119)
Std. Dev = Range =
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	35	22.7	22.7	22.7
No	119	77.3	77.3	100.0
Total	154	100.0	100.0	

Variable Name: Min_Work
Question: How many minutes does it take you to commute to work each way?
Available Responses (code): Open Response
Valid N = 152 Data type = Scalar
Mean = 22.81 Median = 20 Mode (N) = 15 (24)
Std. Dev = 16.41 Range = 90
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
0	4	2.6	2.6	2.6
2	5	3.2	3.3	5.9
3	1	.6	.7	6.6
5	7	4.5	4.6	11.2
6	1	.6	.7	11.8
7	4	2.6	2.6	14.5
8	1	.6	.7	15.1
10	16	10.4	10.5	25.7
12	3	1.9	2.0	27.6
13	1	.6	.7	28.3
15	24	15.6	15.8	44.1
18	1	.6	.7	44.7
20	20	13.0	13.2	57.9
22	1	.6	.7	58.6
23	1	.6	.7	59.2
25	13	8.4	8.6	67.8
30	22	14.3	14.5	82.2
35	5	3.2	3.3	85.5
40	2	1.3	1.3	86.8
45	10	6.5	6.6	93.4
50	2	1.3	1.3	94.7
60	5	3.2	3.3	98.0
75	1	.6	.7	98.7
90	2	1.3	1.3	100.0
Total	152	98.7	100.0	
Missing	2	1.3		
	154	100.0		

Variable Name: Means_Work
Question: How do you get to work? (check up to two)
Available Responses (code): Drive Alone (1) Carpool (2) Bus (3)
Streetcar or Trolley (4) Subway (4) Taxi (5) Walk (6) Bike (7) Other (8)
Valid N = 163 Data type = Nominal
Mode (N) = 1 (136)
Frequency Table:

MEANS_1

	Frequency	Percent	Valid Percent	Cumulative Percent
Drive Alone	136	88.3	90.1	90.1
Carpool	5	3.2	3.3	93.4
Bus	1	.6	.7	94.0
Subway	3	1.9	2.0	96.0
Walk	5	3.2	3.3	99.3
Other	1	.6	.7	100.0
Total	151	98.1	100.0	
Missing	3	1.9		
	154	100.0		

MEANS_2

	Frequency	Percent	Valid Percent	Cumulative Percent
Carpool	7	4.5	58.3	58.3
Bus	1	.6	8.3	66.7
Subway	2	1.3	16.7	83.3
Walk	1	.6	8.3	91.7
Bike	1	.6	8.3	100.0
Total	12	7.8	100.0	
Missing	142	92.2		
	154	100.0		

Variable Name: Freq_Transit
Question: How often have you ridden public transit since graduation?
Available Responses (code): Daily (1) Weekly (2) Monthly (3)
Infrequently (5) Never (6)
Valid N = 153 Data type = Nominal
Mode (N) = 6 (98
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Daily	4	2.6	2.6	2.6
Weekly	5	3.2	3.3	5.9
Monthly	3	1.9	2.0	7.8
Infrequently	43	27.9	28.1	35.9
Never	98	63.6	64.1	100.0
Total	153	99.4	100.0	
Missing	1	.6		
	154	100.0		

Variable Name: Freq_Walk

Question:
Available Responses (code): Daily (1) Weekly (2) Monthly (3)
Infrequently (5) Never (6)
Valid N = 154 Data type = Nominal
Mode (N) = 6 (97)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Daily	10	6.5	6.5	6.5
Weekly	9	5.8	5.8	12.3
Monthly	4	2.6	2.6	14.9
Infrequently	34	22.1	22.1	37.0
Never	97	63.0	63.0	100.0
Total	154	100.0	100.0	

Variable Name: Freq_Bike
Question: Daily (1) Weekly (2) Monthly (3)
Infrequently (5) Never (6)
Available Responses (code):
Valid N = 154 Data type = Nominal
Mode (N) = 6 (128)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Weekly	3	1.9	1.9	1.9
Monthly	6	3.9	3.9	5.8
Infrequently	17	11.0	11.0	16.9
Never	128	83.1	83.1	100.0
Total	154	100.0	100.0	

Variable Name: Stop
Question: Check if you know where the nearest bus stop is
Available Responses (code): Checked/Yes (1) Not Checked/No (2)
Valid N = 154 Data type = Nominal
Mode (N) = 1 (87)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Not Checked	67	43.5	43.5	43.5
Checked	87	56.5	56.5	100.0
Total	154	100.0	100.0	

Variable Name: Desination
Question: Check if you know where the bus will take you
Available Responses (code): Checked/Yes (1) Not Checked/No (2)
Valid N = 154 Data type = Nominal
Mode (N) = 2 (124)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Not Checked	124	80.5	80.5	80.5
Checked	30	19.5	19.5	100.0
Total	154	100.0	100.0	

Variable Name: Cost
Question: Check if you know how much the bus will cost
Available Responses (code): Checked/Yes (1) Not Checked/No (2)
Valid N = 154 Data type = Nominal
Mode (N) = 2 (133)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Not Checked	133	86.4	86.4	86.4
Checked	21	13.6	13.6	100.0
Total	154	100.0	100.0	

Variable Name: Time
Question: Check if you know the timetable of the bus
Available Responses (code): Checked/Yes (1) Not Checked/No (2)
Valid N = 154 Data type = Nominal
Mode (N) = 2 (148)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Not Checked	148	96.1	96.1	96.1
Checked	6	3.9	3.9	100.0
Total	154	100.0	100.0	

Variable Name: None
Question: Check if there is no transit in your city
Available Responses (code): Checked/No Transit (1) Not Checked/Transit Present(2)
Valid N = 154 Data type = Nominal
Mode (N) = 2 (142)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Not Checked	142	92.2	92.2	92.2
Checked	12	7.8	7.8	100.0
Total	154	100.0	100.0	

Variable Name: Rail_City
Question: Check if there is some form of rail transit in your city
Available Responses (code): Checked/ Rail Present(1) Not Checked/No Rail (2)
Valid N = 154 Data type = Nominal
Mode (N) = 2 (111)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Not Checked	111	72.1	72.1	72.1
Checked	43	27.9	27.9	100.0
Total	154	100.0	100.0	

Variable Name: Max_Time
Question: What is the maximum time you would be willing to commute to work?
Available Responses (code): Less than 15 minutes (1) 15 to 30 minutes (2)
30 to 45 minutes (3) Longer than 45 minutes (4)
Valid N = 154 Data type = Nominal
Mode (N) = 3 (72)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
0-15	5	3.2	3.2	3.2
15-30	62	40.3	40.3	43.5
30-45	72	46.8	46.8	90.3
Longer	15	9.7	9.7	100.0
Total	154	100.0	100.0	

Variable Name: Factor_Living
Question: Check the three most important factors you considered when choosing a place to live after graudation?
Available Responses (code): Good Social Life (1) Distance to Campus (2) Cost (3) Luxury (4) Amenities (5) Located on Bus Line (6) Security (7)
Valid N = 438 Data type = Nominal
Mode (N) = 3 (133)
Frequency Table:

FACTOR_A

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Social Life	44	28.6	28.8	28.8
	Distance	85	55.2	55.6	84.3
	Cost	17	11.0	11.1	95.4
	Luxury	3	1.9	2.0	97.4
	Amenities	3	1.9	2.0	99.3
	Security	1	.6	.7	100.0
	Total	153	99.4	100.0	
Missing	System	1	.6		
Total		154	100.0		

FACTOR_B

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Social Life	2	1.3	1.4	1.4
	Distance	27	17.5	18.4	19.7
	Cost	89	57.8	60.5	80.3
	Luxury	7	4.5	4.8	85.0
	Amenities	16	10.4	10.9	95.9
	Security	6	3.9	4.1	100.0
	Total	147	95.5	100.0	
Missing	System	7	4.5		
Total		154	100.0		

FACTOR_C

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Cost	27	17.5	19.6	19.6
	Luxury	19	12.3	13.8	33.3
	Amenities	13	8.4	9.4	42.8
	Bus Line	4	2.6	2.9	45.7
	Security	75	48.7	54.3	100.0
	Total	138	89.6	100.0	
Missing	System	16	10.4		
Total		154	100.0		

Variable Name: Accommodation_UF
Question: What type of accommodation did you live in while enrolled at UF?
Available Responses (code): Communal Living (1) 1BR Apartment (2) Apartment w/Roommates (3) House (4) Live w/ Parents (5)
Valid N = 229 Data type = Nominal
Mode (N) = 3 (104)
Frequency Table:

ACCOMODA

	Frequency	Percent	Valid Percent	Cumulative Percent
Communal Living	55	35.7	35.7	35.7
1 BR Apartment	19	12.3	12.3	48.1
Apt w/roomates	56	36.4	36.4	84.4
House	22	14.3	14.3	98.7
Live with Parents	2	1.3	1.3	100.0
Total	154	100.0	100.0	

ACCOMO_A

	Frequency	Percent	Valid Percent	Cumulative Percent
Communal Living	2	1.3	2.7	2.7
1 BR Apartment	4	2.6	5.3	8.0
Apt w/ Roomates	48	31.2	64.0	72.0
House	20	13.0	26.7	98.7
Live with Parents	1	.6	1.3	100.0
Total	75	48.7	100.0	
Missing	79	51.3		
	154	100.0		

Variable Name: UFLiving
Question:) Please indicate the three (3) most important factors when choosing a place to live while at UF
Available Responses (code): Good Social Life (1) Distance to Campus (2) Cost (3)
Luxury (4) Amenities (5) Located on Bus Line (6) Security (7)
Valid N = 452 Data type = Nominal
Mode (N) = 3 (134)
Frequency Table:

UFLIVING

	Frequency	Percent	Valid Percent	Cumulative Percent
Social Life	45	29.2	29.2	29.2
Distance	86	55.8	55.8	85.1
Cost	12	7.8	7.8	92.9
Luxury	5	3.2	3.2	96.1
Amenities	5	3.2	3.2	99.4
Bus Line	1	.6	.6	100.0
Total	154	100.0	100.0	

UFLIVI_A

	Frequency	Percent	Valid Percent	Cumulative Percent
Social Life	1	.6	.7	.7
Distance	30	19.5	19.7	20.4
Cost	88	57.1	57.9	78.3
Luxury	9	5.8	5.9	84.2
Amenities	16	10.4	10.5	94.7
Security	8	5.2	5.3	100.0
Total	152	98.7	100.0	
Missing	2	1.3		
	154	100.0		

UFLIVI_B

	Frequency	Percent	Valid Percent	Cumulative Percent
Distance	2	1.3	1.4	1.4
Cost	34	22.1	23.3	24.7
Luxury	14	9.1	9.6	34.2
Amenities	24	15.6	16.4	50.7
Bus Line	27	17.5	18.5	69.2
Security	45	29.2	30.8	100.0
Total	146	94.8	100.0	
Missing	8	5.2		
	154	100.0		

Variable Name: Campus_Circulator
Question: How frequently did you use: Campus Circulator Busses
Available Responses (code): Daily (1) Weekly (2) Monthly (3) Infrequently (4) Never (5)
Valid N = 154 Data type = Nominal
Mode (N) = 1 (49)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Daily	49	31.8	31.8	31.8
Weekly	23	14.9	14.9	46.8
Monthly	7	4.5	4.5	51.3
Infrequently	34	22.1	22.1	73.4
Never	41	26.6	26.6	100.0
Total	154	100.0	100.0	

Variable Name: RTS_to_Campus
Question: How frequently did you use: RTS busses from City to Campus
Available Responses (code): Daily (1) Weekly (2) Monthly (3) Infrequently (4) Never (5)
Valid N = 154 Data type = Nominal
Mode (N) = 1 (56)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Daily	56	36.4	36.4	36.4
Weekly	19	12.3	12.3	48.7
Monthly	6	3.9	3.9	52.6
Infrequently	27	17.5	17.5	70.1
Never	46	29.9	29.9	100.0
Total	154	100.0	100.0	

Variable Name: RTS_City_to_City
Question: How frequently did you use: Other RTS bus
Available Responses (code): Daily (1) Weekly (2) Monthly (3) Infrequently (4) Never (5)
Valid N = 154 Data type = Nominal
Mode (N) = 5 (113)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Daily	2	1.3	1.3	1.3
Weekly	6	3.9	3.9	5.2
Monthly	2	1.3	1.3	6.5
Infrequently	31	20.1	20.1	26.6
Never	113	73.4	73.4	100.0
Total	154	100.0	100.0	

Variable Name: Later_Gator
Question: How frequently did you use: Later Gator busses
Available Responses (code): Daily (1) Weekly (2) Monthly (3) Infrequently (4) Never (5)
Valid N = 154 Data type = Nominal
Mode (N) = 5 (81)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Weekly	12	7.8	7.8	7.8
Monthly	14	9.1	9.1	16.9
Infrequently	47	30.5	30.5	47.4
Never	81	52.6	52.6	100.0
Total	154	100.0	100.0	

Variable Name: ToClass
Question: During your senior year, what was your primary method of getting to campus?
Available Responses (code): Walk (1) Bike (2) City Bus (3) Drive Alone (4) Carpool (5) Lived on Campus (6)
Valid N = 154 Data type = Nominal
Mode (N) = 4 (63)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Walk	24	15.6	15.6	15.6
Bike	14	9.1	9.1	24.7
City Bus	42	27.3	27.3	51.9
Drove Alone	63	40.9	40.9	92.9
Carpool	7	4.5	4.5	97.4
Lived on Campus	4	2.6	2.6	100.0
Total	154	100.0	100.0	

Variable Name: Distance
Question: During your senior year, how far did you live from campus?
Available Responses (code): 0-1/2 Mile (1) ½ to 1 Mile (2) 1-3 Miles (3) 3+ Miles (4)
Valid N = 154 Data type = Nominal
Mode (N) = 3 (60)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
0-1/2 Mile	26	16.9	16.9	16.9
1/2 to 1 Mile	20	13.0	13.0	29.9
1-3 Miles	60	39.0	39.0	68.8
3+ Miles	48	31.2	31.2	100.0
Total	154	100.0	100.0	

Variable Name:
Question: What features of bus transit in Gainesville make it a viable option? (choose 2)
Available Responses (code): Free of charge (1) Frequency (2) Other Riders (3) Hours of Operation (4) Parking is Difficult to Find (5) Traffic Congestion (6) Busses drop off at a central location (7)
Valid N = 303 Data type = Nominal
Mode (N) = 1 (107)
Frequency Table:

VIABLE_A

	Frequency	Percent	Valid Percent	Cumulative Percent
Free of Charge	107	69.5	70.4	70.4
Frequency	21	13.6	13.8	84.2
Other riders	5	3.2	3.3	87.5
Hours	2	1.3	1.3	88.8
Parking	17	11.0	11.2	100.0
Total	152	98.7	100.0	
Missing	2	1.3		
	154	100.0		

VIABLE_B

	Frequency	Percent	Valid Percent	Cumulative Percent
Frequency	23	14.9	15.2	15.2
Other riders	5	3.2	3.3	18.5
Hours	6	3.9	4.0	22.5
Parking	79	51.3	52.3	74.8
Traffic Congestion	7	4.5	4.6	79.5
Central Dropoff	31	20.1	20.5	100.0
Total	151	98.1	100.0	
Missing	3	1.9		
	154	100.0		

Variable Name: Walk_Transit
Question: What is the maximum distance you would be willing to walk to transit stop?
Available Responses (code): ¼ mile (1) ½ mile (2) ¾ mile (3) Longer (4)
I would not walk any distance to a transit stop (5)
Valid N = 153 Data type = Nominal
Mode (N) = 1 (84)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
1/4 mile	84	54.5	54.9	54.9
1/2 mile	49	31.8	32.0	86.9
3/4 mile	15	9.7	9.8	96.7
Longer	4	2.6	2.6	99.3
Not Any	1	.6	.7	100.0
Total	153	99.4	100.0	
Missing	1	.6		
	154	100.0		

Variable Name: Walk_Destination
Question: What is the maximum distance you would be willing to walk to your destination?
Available Responses (code): ¼ mile (1) ½ mile (2) ¾ mile (3) Longer (4)
I would not walk any distance to my destination(5)
Valid N = 153 Data type = Nominal
Mode (N) = 2 (50)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
1/4 Mile	22	14.3	14.4	14.4
1/2 Mile	50	32.5	32.7	47.1
3/4 Mile	38	24.7	24.8	71.9
Longer	43	27.9	28.1	100.0
Total	153	99.4	100.0	
Missing	1	.6		
	154	100.0		

Variable Name: Bike_Destination
Question: What is the maximum distance you would be willing to bike to your destination?
Available Responses (code): ½ mile (1) 1 mile (2) 3 miles (3) Longer (4)
I would not bike any distance (5)
Valid N = 153 Data type = Nominal
Mode (N) = 3 (65)
Frequency Table:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1/2 Mile	15	9.7	9.8	9.8
	1 Mile	39	25.3	25.5	35.3
	3 Miles	65	42.2	42.5	77.8
	Longer	31	20.1	20.3	98.0
	Not Bike	3	1.9	2.0	100.0
	Total	153	99.4	100.0	
Missing	System	1	.6		
Total		154	100.0		

Variable Name: Will_Transit
Question: Indicate how willing you are to use public transit in general (bus and rail)
Available Responses (code): Very Unwilling (1) Unwilling (2) Neutral (3)
Willing (4) Very Willing (5)
Valid N = 153 Data type = Scalar
Mean = 3.19 Median = 4 Mode (N) = 4 (59)
Std. Dev = 1.26 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Very Unwilling	23	14.9	15.0	15.0
Unwilling	22	14.3	14.4	29.4
Neutral	30	19.5	19.6	49.0
Willing	59	38.3	38.6	87.6
Very Willing	19	12.3	12.4	100.0
Total	153	99.4	100.0	
Missing	1	.6		
	154	100.0		

Variable Name: Will_Bus
Question: Indicate how willing you are to use bus transit
Available Responses (code): Very Unwilling (1) Unwilling (2) Neutral (3) Willing (4) Very Willing (5)
Valid N = 153 Data type = Scalar
Mean = 3.01 Median = 3 Mode (N) = 4 (45)
Std. Dev = 1.23 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Very Unwilling	25	16.2	16.3	16.3
Unwilling	24	15.6	15.7	32.0
Neutral	44	28.6	28.8	60.8
Willing	45	29.2	29.4	90.2
Very Willing	15	9.7	9.8	100.0
Total	153	99.4	100.0	
Missing	1	.6		
	154	100.0		

Variable Name: Will_Rail
Question: Indicate your willingness to ride rail transit
Available Responses (code): Very Unwilling (1) Unwilling (2) Neutral (3) Willing (4) Very Willing (5)
Valid N = 153 Data type = Scalar
Mean = 3.41 Median = 4 Mode (N) = 4 (54)
Std. Dev = 1.21 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Very Unwilling	17	11.0	11.1	11.1
Unwilling	14	9.1	9.2	20.3
Neutral	40	26.0	26.1	46.4
Willing	54	35.1	35.3	81.7
Very Willing	28	18.2	18.3	100.0
Total	153	99.4	100.0	
Missing	1	.6		
	154	100.0		

Variable Name: Will_Carpool
Question: Indicate your willingness to carpool
Available Responses (code): Very Unwilling (1) Unwilling (2) Neutral (3) Willing (4) Very Willing (5)
Valid N = 153 Data type = Scalar
Mean = 3.49 Median = 4 Mode (N) = 4 (51)
Std. Dev = 1.24 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Very Unwilling	14	9.1	9.2	9.2
Unwilling	20	13.0	13.1	22.2
Neutral	32	20.8	20.9	43.1
Willing	51	33.1	33.3	76.5
Very Willing	36	23.4	23.5	100.0
Total	153	99.4	100.0	
Missing	1	.6		
	154	100.0		

Variable Name: No_Parking
Question: You know there is no parking at your destination 3 miles away. What will you do?
Available Responses (code): Park far away and walk (1) Walk the whole distance (2) Bike the whole distance (3) Take public transit (4) Drive to a more distant location (5) Not Go (6) Take a Taxi (7) Have someone else drop me off (8)
Valid N = 153 Data type = Nominal
Mode (N) = 5 (50)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Park Far Away	39	25.3	25.5	25.5
Walk Whole Way	4	2.6	2.6	28.1
Bike Whole Way	2	1.3	1.3	29.4
Public Transit	24	15.6	15.7	45.1
Drive Elsewhere	50	32.5	32.7	77.8
Not Go	23	14.9	15.0	92.8
Taxi	1	.6	.7	93.5
Catch a Ride	10	6.5	6.5	100.0
Total	153	99.4	100.0	
Missing	1	.6		
	154	100.0		

Variable Name: Direct Transit
Question: There is a transit line in your current city that runs directly from your home to work. Will you ride it?
Available Responses (code): Yes (1) No (2) Maybe (3)
Valid N = 153 Data type = Nominal
Mode (N) = 3 (69)
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
No	19	12.3	12.4	12.4
Yes	65	42.2	42.5	54.9
Maybe	69	44.8	45.1	100.0
Total	153	99.4	100.0	
Missing	1	.6		
	154	100.0		

Variable Name: Free_Transit
Question: If transit was free of charge in your current city, indicate your willingness to ride it on a scale from 1-5, 5 being very willing
Available Responses (code): Very Unwilling (1) Unwilling (2) Neutral (3) Willing (4) Very Willing (5)
Valid N = 151 Data type = Scalar
Mean = 3.19 Median = 3 Mode (N) = 3 (46)
Std. Dev = 1.34 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
1	22	14.3	14.6	14.6
2	23	14.9	15.2	29.8
3	46	29.9	30.5	60.3
4	25	16.2	16.6	76.8
5	35	22.7	23.2	100.0
Total	151	98.1	100.0	
Missing	3	1.9		
	154	100.0		

Variable Name: Transit
Question: It is important for government to provide public transit
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Agree (5)
Valid N = 153 Data type = Scalar
Mean = 4.24 Median = 4 Mode (N) = 4 (63)
Std. Dev = 0.78 Range = 3
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	6	3.9	3.9	3.9
Neutral	14	9.1	9.2	13.1
Agree	70	45.5	45.8	58.8
Strongly Agree	63	40.9	41.2	100.0
Total	153	99.4	100.0	
Missing	1	.6		
	154	100.0		

Variable Name: Roads
Question: It is important for government to provide more road improvements to deal with traffic
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Agree (5)
Valid N = 153 Data type = Scalar
Mean = 4.51 Median = 5 Mode (N) = 5 (86)
Std. Dev = 0.62 Range = 3
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	2	1.3	1.3	1.3
Neutral	4	2.6	2.6	3.9
Agree	61	39.6	39.9	43.8
Strongly Agree	86	55.8	56.2	100.0
Total	153	99.4	100.0	
Missing	1	.6		
	154	100.0		

Variable Name: Congestion
Question: Improved transit service will help lower traffic congestion
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Agree (5)
Valid N = 153 Data type = Scalar
Mean = 4.01 Median = 4 Mode (N) = 4 (67)
Std. Dev = 0.95 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	2	1.3	1.3	1.3
Disagree	12	7.8	7.8	9.2
Neutral	20	13.0	13.1	22.2
Agree	67	43.5	43.8	66.0
Strongly Agree	52	33.8	34.0	100.0
Total	153	99.4	100.0	
Missing	1	.6		
	154	100.0		

Variable Name: Cost
Question: Public Transit costs too much to ride
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Agree (5)
Valid N = 152 Data type = Scalar
Mean = 2.68 Median = 3 Mode (N) = 3 (75)
Std. Dev = 0.90 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	17	11.0	11.2	11.2
Disagree	39	25.3	25.7	36.8
Neutral	75	48.7	49.3	86.2
Agree	18	11.7	11.8	98.0
Strongly Agree	3	1.9	2.0	100.0
Total	152	98.7	100.0	
Missing	2	1.3		
	154	100.0		

Variable Name: Where
Question: Transit takes me where I want to go
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Agree (5)
Valid N = 152 Data type = Scalar
Mean = 3.18 Median = 3 Mode (N) = 3 (71)
Std. Dev = 0.94 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	7	4.5	4.6	4.6
Disagree	22	14.3	14.5	19.1
Neutral	71	46.1	46.7	65.8
Agree	40	26.0	26.3	92.1
Strongly Agree	12	7.8	7.9	100.0
Total	152	98.7	100.0	
Missing	2	1.3		
	154	100.0		

Variable Name: Convenience
Question: Transit is not convenient enough
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Agree (5)
Valid N = 152 Data type = Scalar
Mean = 3.42 Median = 4 Mode (N) = 4 (57)
Std. Dev = 1.05 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	5	3.2	3.3	3.3
Disagree	27	17.5	17.8	21.1
Neutral	41	26.6	27.0	48.0
Agree	57	37.0	37.5	85.5
Strongly Agree	22	14.3	14.5	100.0
Total	152	98.7	100.0	
Missing	2	1.3		
	154	100.0		

Variable Name: Image
Question: Transit does not fit with my self-image
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Agree (5)
Valid N = 151 Data type = Scalar
Mean = 2.78 Median = 3 Mode (N) = 2 and 3 (46)
Std. Dev = 1.15 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	20	13.0	13.2	13.2
Disagree	46	29.9	30.5	43.7
Neutral	46	29.9	30.5	74.2
Agree	25	16.2	16.6	90.7
Strongly Agree	14	9.1	9.3	100.0
Total	151	98.1	100.0	
Missing	3	1.9		
	154	100.0		

Variable Name: Safe
Question: It is not safe to take public transit
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Agree (5)
Valid N = 152 Data type = Scalar
Mean = 2.79 Median = 3 Mode (N) = 2 (59)
Std. Dev = 0.99 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	9	5.8	5.9	5.9
Disagree	59	38.3	38.8	44.7
Neutral	46	29.9	30.3	75.0
Agree	31	20.1	20.4	95.4
Strongly Agree	7	4.5	4.6	100.0
Total	152	98.7	100.0	
Missing	2	1.3		
	154	100.0		

Variable Name: Time
Question: I wish I did not have to spend so much time driving
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Agree (5)
Valid N = 152 Data type = Scalar
Mean = 3.34 Median = 4 Mode (N) = 4 (50)
Std. Dev = 1.21 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	11	7.1	7.2	7.2
Disagree	32	20.8	21.1	28.3
Neutral	31	20.1	20.4	48.7
Agree	50	32.5	32.9	81.6
Strongly Agree	28	18.2	18.4	100.0
Total	152	98.7	100.0	
Missing	2	1.3		
	154	100.0		

Variable Name: Autowalk
Question: Having auto-free zones makes me more willing to walk
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Agree (5)
Valid N = 151 Data type = Scalar
Mean = 3.15 Median = 3 Mode (N) = 3 (49)
Std. Dev = 1.08 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	11	7.1	7.3	7.3
Disagree	30	19.5	19.9	27.2
Neutral	49	31.8	32.5	59.6
Agree	47	30.5	31.1	90.7
Strongly Agree	14	9.1	9.3	100.0
Total	151	98.1	100.0	
Missing	3	1.9		
	154	100.0		

Variable Name: Paths
Question: Having sidewalks and bike paths makes me more inclined to walk and bike
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Agree (5)
Valid N = 153 Data type = Scalar
Mean = 3.61 Median = 4 Mode (N) = 4 (73)
Std. Dev = 0.98 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	2	1.3	1.3	1.3
Disagree	24	15.6	15.7	17.0
Neutral	30	19.5	19.6	36.6
Agree	73	47.4	47.7	84.3
Strongly Agree	24	15.6	15.7	100.0
Total	153	99.4	100.0	
Missing	1	.6		
	154	100.0		

Variable Name: Vote
Question: I would be willing to vote for a political candidate who promises to spend more money on public transit
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Agree (5)
Valid N = 153 Data type = Scalar
Mean = 3.05 Median = 3 Mode (N) = 3 (77)
Std. Dev = 0.94 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	10	6.5	6.5	6.5
Disagree	24	15.6	15.7	22.2
Neutral	77	50.0	50.3	72.5
Agree	32	20.8	20.9	93.5
Strongly Agree	10	6.5	6.5	100.0
Total	153	99.4	100.0	
Missing	1	.6		
	154	100.0		

Variable Name: Option
Question: I wish transit was a better option in my city
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Agree (5)
Valid N = 153 Data type = Scalar
Mean = 3.36 Median = 3 Mode (N) = 3 (55)
Std. Dev = 0.96 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	3	1.9	2.0	2.0
Disagree	26	16.9	17.0	19.0
Neutral	55	35.7	35.9	54.9
Agree	51	33.1	33.3	88.2
Strongly Agree	18	11.7	11.8	100.0
Total	153	99.4	100.0	
Missing	1	.6		
	154	100.0		

Variable Name: Opinion
Question: I have a better opinion of people who ride rail transit than bus transit
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Agree (5)
Valid N = 153 Data type = Scalar
Mean = 2.84 Median = 3 Mode (N) = 3 (74)
Std. Dev = 0.91 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	14	9.1	9.2	9.2
Disagree	32	20.8	20.9	30.1
Neutral	74	48.1	48.4	78.4
Agree	30	19.5	19.6	98.0
Strongly Agree	3	1.9	2.0	100.0
Total	153	99.4	100.0	
Missing	1	.6		
	154	100.0		

Variable Name: Critical
Question: It is critical to own a car
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Agree (5)
Valid N = 153 Data type = Scalar
Mean = 4.25 Median = 5 Mode (N) = 5 (82)
Std. Dev = 1.00 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	1	.6	.7	.7
Disagree	15	9.7	9.8	10.5
Neutral	10	6.5	6.5	17.0
Agree	45	29.2	29.4	46.4
Strongly Agree	82	53.2	53.6	100.0
Total	153	99.4	100.0	
Missing	1	.6		
	154	100.0		

Variable Name: Problem
Question: Traffic congestion is a serious problem
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Agree (5)
Valid N = 149 Data type = Scalar
Mean = 4.27 Median = 4 Mode (N) = 5 (69)
Std. Dev = 0.86 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	1	.6	.7	.7
Disagree	8	5.2	5.4	6.0
Neutral	10	6.5	6.7	12.8
Agree	61	39.6	40.9	53.7
Strongly Agree	69	44.8	46.3	100.0
Total	149	96.8	100.0	
Missing	5	3.2		
	154	100.0		

Variable Name: Slowbike
Question: Having slower moving traffic makes me more willing to ride my bike
Available Responses (code): Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Agree (5)
Valid N = 152 Data type = Scalar
Mean = 2.64 Median = 2 Mode (N) = 2 (65)
Std. Dev = 1.03 Range = 4
Frequency Table:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	15	9.7	9.9	9.9
Disagree	65	42.2	42.8	52.6
Neutral	39	25.3	25.7	78.3
Agree	26	16.9	17.1	95.4
Strongly Agree	7	4.5	4.6	100.0
Total	152	98.7	100.0	
Missing	2	1.3		
	154	100.0		

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BIOGRAPHICAL SKETCH

Alexander Thomas Bond was born April 9, 1979, in St. Petersburg, FL. He graduated from St. Petersburg Senior High School in 1997 and moved to Gainesville to attend the University of Florida shortly thereafter. Alex graduated with a Bachelor of Arts degree from UF in December of 2001 with a major in geography and a minor in history. He enrolled in the urban and regional planning program the following semester, completing all degree requirements in May of 2005.

Alex has a long history of extra-curricular involvement at the University of Florida. Between 1997 and 1999, he was a University of Florida cheerleader. Since 1999 he was active in Student Government, serving three times as a Student Senator and as Cabinet Director for Academic Affairs. Alex served in the Student Senate during the creation of the Later Gator program and later served on the Transportation Access Fee Committee. He is a member of Florida Blue Key leadership honorary, Gamma Theta Upsilon Geography Honor Society and Phi Delta Theta fraternity.

Alex plans on pursuing a Ph.D. in the near future. His research interests include transportation's implications with growth management, land use and economic development. He also has research interests in transportation policy and the historical development cities.