UNIVERSITY
OF MIAMI

MOBILITY PLAN

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Executive Summary

The University of Miami is committed to programs and strategies that reduce single-occupant vehicle trips and maximize efficiency for moving to, from, within, and around its Coral Gables Campus ("Campus").

Over the past 26 years, the University has become increasingly residential. More students are living on or near Campus in developments such as University Village, Red Road Commons, Cloisters at the Gables, Valencia Apartments, The Residences at Merrick Park, and Gables Ponce apartments. The University has eliminated cars for resident freshmen, launched a student and employee discount public transit program, and introduced an efficient parking management program. The University continually encourages the use of fuel efficient and electric vehicles, trip sharing, walking, bicycling and much more.

Hurry 'Canes shuttles transport students, faculty, and staff around Campus and connect them to other Campuses, shopping and entertainment centers, SunLife Stadium, and nearby public transit stops. Street closures and traffic-calming measures have reduced non-UM traffic on adjoining residential streets.

In Fall 2011, the University ushered in a new parking management plan. In a major departure from past practices, commuter students, faculty, and staff were assigned parking permits limited to specific parking lots. This new approach to parking management eliminated the need to circle the Campus in search of parking. As a direct result, the evidence shows a significant reduction in trips along those portions of the Campus that border residential areas. Furthermore, a significant redirection of traffic away from the residential edges of the Campus has occurred due to Phase I of the Internal Road, the addition of two floors of parking to the Pavia Garage, and the creation of a new parking lot at Levante Avenue and Red Road. These improvements shifted approximately 400 parking spaces and traffic from areas north of Lake Osceola adjacent to the residential neighborhoods to areas south of the lake.

The parking management program, along with other mobility strategies and neighborhood traffic improvements, has resulted in an overall **33.0 percent decline** in University traffic during peak morning and evening periods in the San Amaro/Campo Sano neighborhoods between 1990 and 2016. Since the first Mobility Plan in 2011, the decline in traffic has been **26.6 percent**.

Residential Campus Strategy

The University has improved residential living options on Campus, and off Campus private sector rental units have increased. The combination of these two actions has removed a share of local trips from the roadway network. As part of a broader long-term strategy, the University will:

- continue to enhance Campus housing options to reduce commuter trips by adding 1,100 new resident beds by 2025;
- encourage students to consider living in residential developments near Campus;
- promote walking, biking, and skateboarding as a means of getting to, from, and around the Campus; and
- continue to prohibit resident freshmen from having cars on Campus.

Parking Management Program

The University's parking management program assigns permits to specific lots where commuters are guaranteed to find parking. This approach eliminates the need to drive around searching for a parking space and serves to reduce traffic on surrounding roads. In addition, the University will continue to take the following steps to reduce traffic on the streets around the Campus that border the surrounding residential neighborhoods:

- increase structured and surface parking resources south of Lake Osceola and away from the residential areas north of Miller Road; and
- interconnect surface lots on the northeast side of Campus to eliminate the need to exit the Campus and drive onto public streets in search of parking.

Neighborhood Traffic Improvements

Volumes of through-traffic in the residential areas have been significantly reduced. The reduction in through-traffic was achieved due to the following strategic improvements along Campo Sano Avenue and San Amaro Drive:

- closing selected streets;
- implementing traffic calming measures through median and landscape improvements; and
- diverting pedestrian and vehicular movements through the use of traffic circles.

Reduction of Traffic North of Lake Osceola

The University controls traffic patterns by controlling access to its parking resources. To divert traffic away from the single-family residential areas north of Lake Osceola, the University:

- implemented changes to the parking management program to limit and reduce the amount of parking spaces and permits issued for parking lots adjacent to the residential neighborhoods bordering the Campus north of Lake Osceola;
- constructed a new roundabout at Miller Road;
- constructed Phase I of the Internal Road;
- reduced over 400 parking spaces from areas north of the lake by way of parking lot improvements;
- built new parking options south of the lake including structured parking and surface lots; and
- interconnected specific parking lots in the academic core to eliminate the need to exit the Campus and drive onto public streets in search of parking.

Public Transit Program

The University promotes the use of public transportation by its students and employees through its Public Transit Program. This successful program includes:

- subsidized Tri-Rail and Metropasses for employees and faculty;
- discounted Tri-Rail and Metropasses for students; and
- encouraging Metrobus ridership.

Trip-Sharing Programs

The University community is uniquely positioned to reduce the number of single-occupant vehicle trips by promoting trip-sharing programs. Current programs include:

- car sharing through the Zipcar program;
- use of taxis;
- mobile app-based transportation networks such as Uber and Lyft; and
- car and van pooling.

Hurry 'Canes Shuttle Program

The Hurry 'Canes shuttle program promotes Campus connectivity and mobility and significantly reduces single-occupant vehicle trips. The shuttle program serves the University community on Campus as well as those who live within walking distance. The program provides connections to:

- academic areas;
- transit;
- Campus parking resources;
- nearby retail and entertainment districts;
- other UM Campuses; and
- SunLife Stadium for major sporting events.

Bicycle and Pedestrian Programs

South Florida is a highly suitable location for bicycle and pedestrian transportation programs. In March 2012, the University was named a Bike Friendly University, Bronze, by the League of American Bicyclists. This prestigious achievement validated the University's efforts to develop and support a healthy bike culture on Campus. The University's UBike program will continue to:

- facilitate Campus bike sales;
- provide registration and safety programs for cyclists;
- provide air stations and repair stands to support regular users; and
- consider bike storage facilities and pathways as part of Campus projects.

Enhanced Campus Life Programming

By continuing to develop the Campus as a place to live, study, eat, and play, the need to leave the Campus is reduced. This results in fewer trips on the local roadways. Improvements to Campus life include:

- the Donna E. Shalala Student Center and renovated University Center with expanded food options;
- enhanced wellness and recreational facilities including a renovated University Center pool;
- renovated and expanded food options at the residential dining halls;
- enhanced student after hours and weekend programming; and
- new medical and health resources.

Regional Traffic Studies

The Mobility Plan does not operate in isolation. Rather, its effectiveness is measured by the results of Regional Traffic Studies (RTS) that the University performs and updates. Through the RTS process, the University:

- measures the efficacy of the Mobility Plan;
- forecasts the impact on the surrounding roadways of future Campus development; and
- generates recommendations for consideration as part of the Mobility Plan.

Through all of the aforementioned measures, the University continues to enhance programs and strategies that maximize efficiency for moving to, from, within, and around the Campus.

University of Miami Mobility Plan

Reducing traffic on the streets surrounding the Campus benefits both the community and the University. It helps to preserve the tranquility of the residential area and provides key benefits to neighbors, students, faculty, staff, and visitors. In order to reduce the number of single-occupant vehicles that come to the Campus, the University of Miami has implemented strategies and programs that have a direct and immediate impact on regional trip reduction. This is of particular importance with respect to those commuter trips that occur during morning and afternoon peak hours.

Since the adoption of the first Campus Master Plan in 1992, the University has prepared technical traffic studies and reports and has performed Regional Traffic Studies (RTS) since 2007 that closely monitor and report on traffic around the Campus. As a result, the University has been able to clearly document and understand historic traffic patterns around Campus. It is important to note that the City and the University each retain independent traffic engineers to develop the methodology to measure traffic. The studies and reports identified herein were all prepared in accordance with jointly approved methodology.

The first traffic study, done in 1992, and a subsequent study done in 2003 contained a number of recommendations to mitigate traffic impacts on surrounding residential neighborhoods and arterial approach roads to the Campus. At that time, there was a perception among the neighbors surrounding the Campus that traffic on local neighborhood streets during rush hour was predominantly generated by University commuter students and staff. These studies found, however, that most traffic was due to non-university related commuters taking shortcuts from Red Road and areas to the west to get to downtown Coral Gables and back. Actual traffic to the University was relatively low.

The 2007 RTS reviewed all traffic improvement recommendations since 1992. The 2007 report revealed that the series of traffic calming measures, traffic improvements, street closures, and other University mobility programs were successful in mitigating traffic in the area and helped reduce the volume of trips – particularly in the residential neighborhood to the north of the Campus. A comparison of the findings between the previous reports and the 2007 report showed only a modest increase in traffic around the University.

The most recently completed 2013 RTS evaluated the adopted University Campus Development program and found a continued decrease in traffic in the San Amaro Drive/Campo Sano Avenue corridors and the adjacent neighborhoods and a shift in traffic and parking patterns to the areas south of Lake Osceola. These reductions in traffic volume are a result of the various mobility programs that the University of Miami has put into place. These programs reduce both the number of vehicles that come to the Campus, as well as the traffic around and within the Campus. The drop in UM traffic in this area is reflective of the consistent low rates of traffic growth at the University during the last 26 years and significant neighborhood traffic calming and improvements on San Amaro and Campo Sano that slow and divert traffic. The drop in volume is also attributable to the increase in the number of students living on Campus and in the immediately surrounding neighborhoods. The University is committed to monitoring and managing vehicle trips and their impact on the residential neighborhoods and has implemented programs to support these goals.

In Fall 2011, the University implemented a new parking management program that assigned parking permits to specific lots. As a direct result, vehicle trips by commuters

Aerial view of pedestrian paths

were reduced on the roadways adjacent to the residential neighborhoods that border the northern edge of the Campus.

Traffic data obtained in Spring 2016 indicates that University traffic volumes in the northern sector of Campus adjacent to the residential neighborhoods have been reduced by 36.2 percent in the AM peak period and 30.3 percent in the PM peak period, compared to corresponding volumes recorded in 1990 (See *Exhibit A: 1990 - 2016 Local Traffic Counts*). Despite an increase of nearly 1.4 million square feet of Campus development between 1990 and 2016, campus traffic has decreased **33%** north of the lake during the same period.

Lake Osceola

2016 UNIVERSITY OF MIAMI MOBILITY PLAN

VOLUMES AT THE FIVE MAIN DRIVEWAYS ON SAN AMARO DRIVE AND CAMPO SANO AVENUE

Three-Hour, Two-Way AM Peak Period Volumes (7 AM to 10 AM)

UM Entrance	1990 (1)	2000 (2)	2007 (3)	2011 (3)	2012 (4)	2013 (5)	2014 (6)	2015 (9)	2016 (10)	Percent Change 1990-2016	Percent Change 2011-2016
San Amaro/Miller Road (7)	N/A	N/A	N/A	N/A	N/A	238	(8)	264	374		
San Amaro/Miller Drive (7)	810	821	688	645	466	N/A	N/A	N/A	N/A		
San Amaro/Memorial Drive	566	608	677	661	582	849	782	556	528		
San Amaro/Robbia Avenue	236	222	179	226	223	177	162	183	165		
Campo Sano/Wilder	76	136	239	201	146	205	251	225 (11)	248		
Campo Sano/Brunson Drive	1,041	1,522	609	643	568	521	473	367	427		
AM PEAK THREE HOUR TOTALS	**2,729**	**3,309**	**2,392**	**2,376**	**1,985**	**1,990**	**1,668**	**1,595**	**1,742**	**-36.2%**	**-26.7%**

Three-Hour, Two-Way PM Peak Period Volumes (3 PM to 6 PM)

UM Entrance	1990 (1)	2000 (2)	2007 (3)	2011 (3)	2012 (4)	2013 (5)	2014 (6)	2015 (9)	2016 (10)	Percent Change 1990-2016	Percent Change 2011-2016
San Amaro/Miller Road (7)	N/A	N/A	N/A	N/A	N/A	371	(8)	383	445		
San Amaro/Miller Drive (7)	1,093	876	869	975	816	N/A	N/A	N/A	N/A		
San Amaro/Memorial Drive	830	848	765	877	640	820	1,024	720	624		
San Amaro/Robbia Avenue	274	174	183	191	184	171	195	236 (11)	190		
Campo Sano/Wilder	162	197	285	247	222	286	329	383	415		
Campo Sano/Brunson Drive	927	767	772	828	745	692	621	576	615		
PM PEAK THREE HOUR TOTALS	**3,286**	**2,862**	**2,874**	**3,118**	**2,607**	**2,340**	**2,169**	**2,298**	**2,289**	**-30.3%**	**-26.6%**

Total Six-Hour, Two-Way Peak Period Volumes

	YEAR									Percent Change	
	1990	2000	2007	2011	2012	2013	2014	2015	2016	1990-2016	2011-2016
SIX-HOUR TOTAL VOLUMES	**6,015**	**6,171**	**5,266**	**5,494**	**4,592**	**4,330**	**3,837**	**3,893**	**4,031**	**-33.0%**	**-26.6%**

NOTES:

(1) Traffic counts conducted April 18-19, 1990, University of Miami Coral Gables Campus Parking and Traffic Study, Ralph Burke Associates and Joseph L. Rice.
(2) Traffic counts conducted in April 2000, University of Miami, Coral Gables Campus, Year 2000 Update & Concurrency Analysis, Keith and Schnars and Jack A. Ahlstedt, P.E., June 2000.
(3) Traffic counts conducted April 12-13, 2011, Traffic Survey Specialists, Inc.
(4) Traffic counts conducted March 29 - April 12, 2012, Traffic Survey Specialists, Inc.
(5) Traffic counts conducted April 2, 2013, Traffic Survey Specialists, Inc.
(6) Traffic counts conducted April 2, 2014, Traffic Survey Specialists, Inc.
(7) San Amaro Drive/Miller Road operated as signalized intersection until late 2012 with no access to the Campus. Intersection converted to roundabout mid-October 2012 with a new Miller Road access to the UM Campus via the roundabout. The Miller Drive access to the UM Campus was permanently closed.
(8) UM access at Miller Road Roundabout closed due to campus copnstruction (School of Music). Traffic diverted to Memorial Drive access.
(9) Traffic counts conducted April 1, 2015, Traffic Survey Specialists, Inc.
(10) Traffic counts conducted March 30, 2016, Traffic Survey Specialists, Inc.
(11) 2015 AM and PM Volumes revised as result of review of 2015 data.

Exhibit A: 1990-2016 Local Traffic Counts

The University's Mobility Plan is comprised of a series of components as described below:

A. Residential Campus Strategy

An important goal of the University's strategic plan is to continue the evolution into a predominantly residential Campus. The University is committed to providing more student housing by 2025 and continuing to expand Campus life facilities. The increased number of students living on Campus has a direct correlation with reduced traffic during peak hours.

Campus residents with cars are prohibited from driving their vehicles around Campus. Instead, they are encouraged to travel by Hurry 'Canes shuttles, bike or foot. By growing the on-Campus residential population and associated parking limitations, Campus area traffic is reduced. See *Mobility Plan Matrix, Appendix 1,* for information on Campus population under the Residential Campus Strategy.

A.1. On-Campus Residential Strategy

Currently, the University has a resident student population of 4,013 students and a small faculty/staff resident population of about 80. One of the long-term goals of the University, as reflected in the adopted Campus Master Plan (see *Exhibit B: Adopted Master Plan*), is to increase the number of residential units to serve over 5,000 resident students by 2025.

As stated in the 2013 RTS, any increase in student resident population results in a significant reduction in peak-hour student trips, especially during the morning peak period. The continued shift in the Campus population from commuter population to a residential population will reduce vehicular traffic to Campus during peak hours.

In 2006, University Village (UV), an 800-bed residential complex, opened for upperclassmen and graduate students. The apartment complex includes two parking garages (800 spaces) that are reserved exclusively for UV residents. UV residents are restricted from parking anywhere on Campus other than in the UV garages between 8 a.m. and 4 p.m. on weekdays. This strategy has had the following impact: (1) it converted 800 students from commuters to residents; (2) it directly reduced daily traffic to Campus by approximately 1,600 vehicle trips; and (3) it opened for other uses 800 parking spaces on Campus.

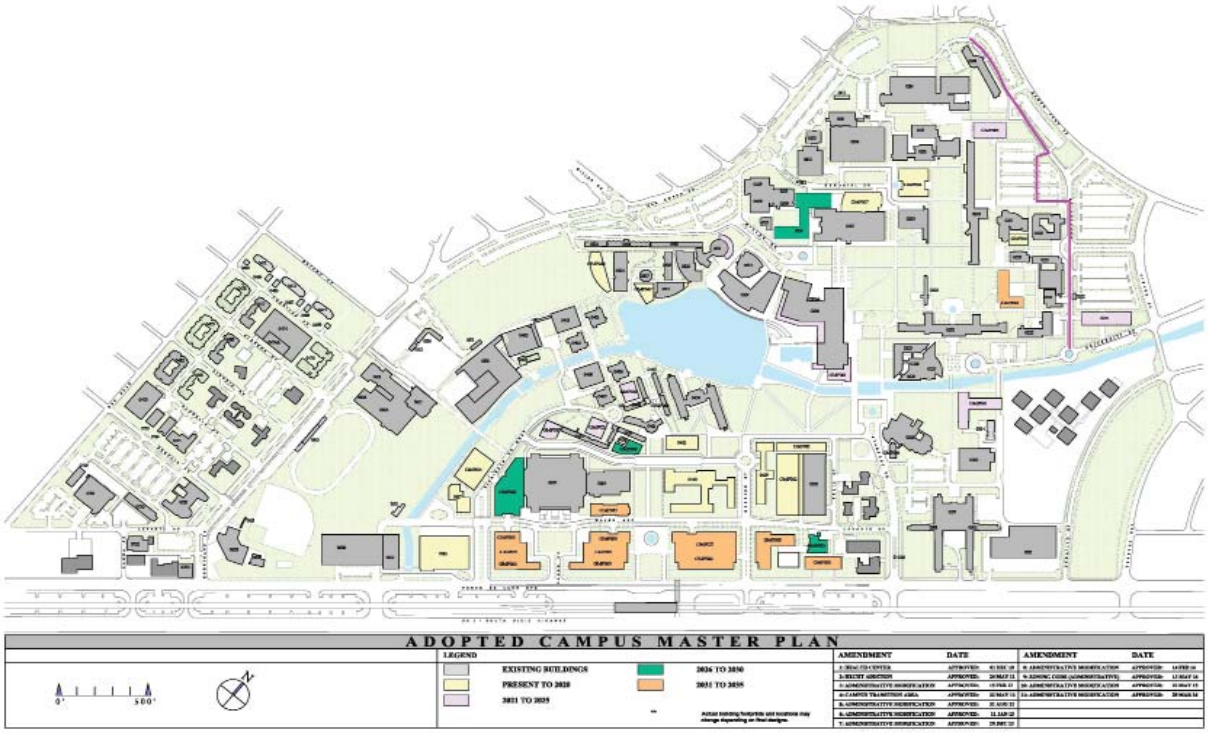


Exhibit B: Adopted Campus Master Plan

The UV residential complex also includes 16 two-and-three bedroom townhome units with enclosed garages and two surface lots for faculty and staff families. In some cases, more than one household member is employed by the University. The estimated trip reduction is approximately 130 trips per day during peak hours and frees up about 30 Campus parking spaces.

The number of residential beds on campus will be increased in two phases by 2025. The first phase will include over 1,000 new beds in two new buildings south of the Lake by Fall 2019. The second phase will improve the Hecht-Stanford complex and renovate other existing residential buildings.

Gables Ponce

A.2. Off-Campus/Non-University Residential Development

A significant amount of the private-sector residential development near Campus serves students including the Cloisters, Red Road Commons, The Residences at Merrick Park, Gables Ponce and various other projects in the nearby South Miami and Merrick Park areas including across US-1. The University estimates that more than 1,600 students are now living in the vicinity and are either walking, biking, or using public transit to get to the Campus.

B. Parking Management Program and Policies

The University's Parking and Transportation Department (PTD) is responsible for the overall management of parking facilities and services, and traffic control. It is additionally responsible for the maintenance of an effective commuter system that meets the transportation needs of the University community. All vehicles that park on Campus must be registered with the PTD and are required to display a current and valid parking permit. See *Mobility Plan Matrix, Appendix 1*, for information on parking supply and parking permits under the Parking Management Program and Policies section.

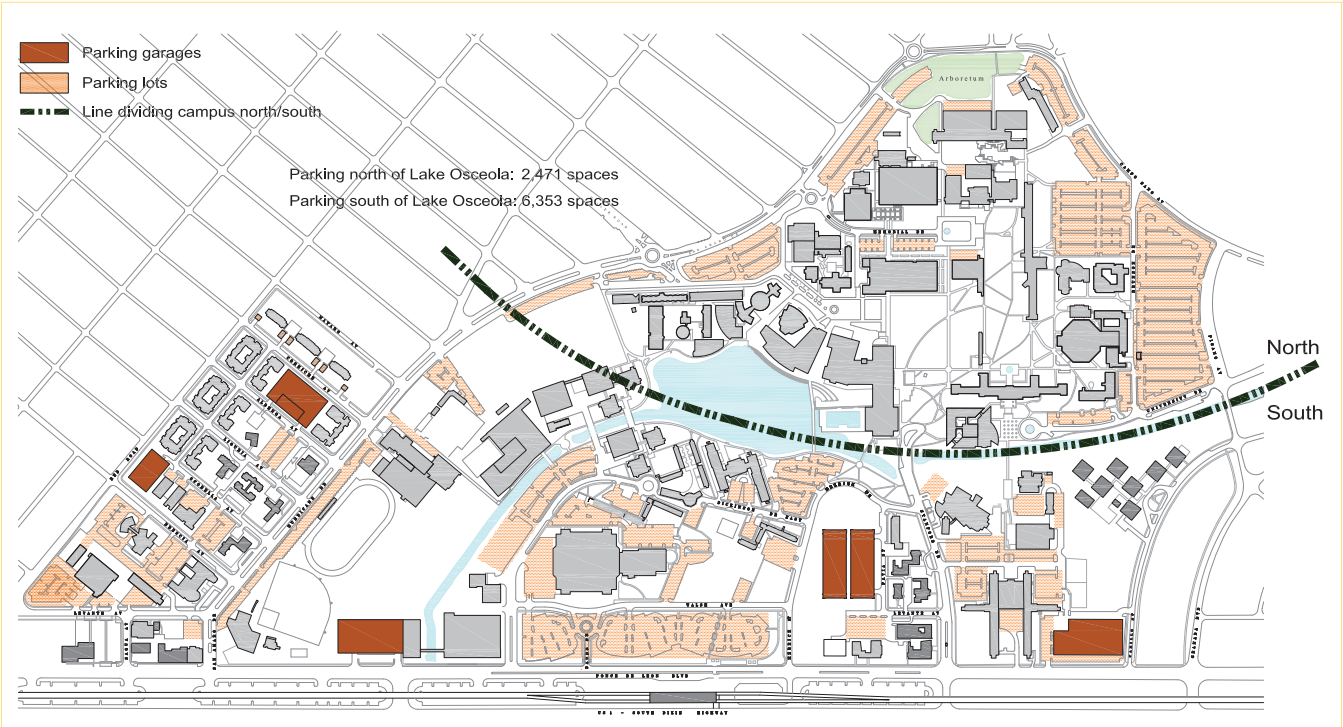


Exhibit C: Campus Parking Map

The University has 8,824 parking spaces distributed among surface lots and five parking garages (see Appendix *2: Campus Parking Supply*). Of these spaces, 2,471 spaces are located north of Lake Osceola, and the remaining 6,353 spaces are located to the south of the lake with 3,240 of these spaces located in parking garages. Based on a parking accumulation study conducted in October 2011, there is a daily average vacancy of approximately 2,000 spaces during peak occupancy hours. The average daily vacancy was determined based on data collected during 12 consecutive hours (7 a.m. to 7 p.m.) on two consecutive days by Keith and Schnars, P.A. The University of Miami Parking and Transportation Department also monitors parking usage on a daily basis as part of operations protocols for parking management purposes.

B.1. No Freshmen Resident Car Policy

In 2008, the University implemented a policy that restricted first-year resident students from bringing a car on Campus, which immediately and directly reduced parking demand by approximately 500 cars and decreased vehicle trips accordingly.

B.2. Commuter (Students, Faculty, Staff) Restrictions

One characteristic of parking behavior is the tendency of drivers to seek parking as close to their destination as possible. Therefore, the Campus core area, located to the north of Lake Osceola, with approximately 2,500 spaces, is the most desirable area for parking. These lots are also the closest to the residential neighborhoods bordering the University.

In Fall 2011, the University implemented a parking management program that issues parking permits for commuter students, faculty, and staff to specific parking lots identified by various colors (See *Appendix 3: Campus Parking Zones*). The number of permits sold for each parking area is calibrated to the number of parking spaces in interconnected lots of the same color. This ensures that commuters will not have difficulty finding a space in their assigned lot and nearly eliminates the need for commuters to utilize an external surface road to search for parking once they have entered their assigned lot on Campus. Due to the distribution of parking on Campus, with nearly three-quarters of parking resources located south of Lake Osceola, the program has served to redirect commuters from lots north of the lake to areas south of the lake, further away from the surrounding residential neighborhoods.

B.3. Service and Deliveries

Service and delivery vehicles are encouraged to utilize Ponce de Leon Boulevard to access the Campus. This reduces the number of delivery vehicles that approach the Campus through the residential neighborhoods. In addition, the University has reduced the number of service vehicles that are in use on Campus and has added numerous electric vehicles to its fleet.

Medians

C. Neighborhood Traffic Improvements

Traffic Circle

Over the past 24 years, a number of traffic improvements to the roadways separating the Campus from the neighborhoods have helped divert, reduce, and calm traffic. Many residential streets south of Miller Road (Mataro, Delgado, Zoreta, Consolata, and Zuleta Avenues) and along the Red Road corridor were closed by way of resident petitions to the City. The City installed medians and plantings on San Amaro Drive and along Ponce de Leon that have helped calm and reduce traffic. The most successful traffic calming improvements are found along the San Amaro Drive/Campo Sano Avenue corridors. These improvements include enhanced sidewalks, medians, landscaping, lighting and limitation of access points to the residential cross streets in the area. These improvements have had a positive impact on reducing speed and minimizing cut-through traffic into residential neighborhoods. The 2007 and 2013 RTS reports confirm the effectiveness of these improvements by showing that traffic volumes have been decreasing on neighboring residential streets.

In Fall 2012, the signalized intersection at Miller Road and San Amaro Drive was eliminated and a roundabout was constructed in its place. The former Miller Drive entrance to the north of the intersection was closed and a new entrance to the Campus was provided directly accessed from the circle. The roundabout ended the stop and go traffic that previously existed at the signalized intersection and serves as an effective traffic calming feature. In Fall 2016, the University Hurry' Cane shuttle will enter the Campus at the new Miller Road entrance instead of continuing north on San Amaro to Memorial Drive, further reducing traffic in the bordering residential streets.

D. Reduction of Traffic North of Lake Osceola

In the early 1990's, a general belief existed that the University was the primary generator of all the traffic in the area. This belief predated the RTS reports which demonstrated the limited growth of University traffic, and in some cases, the reduction of University traffic over time. This conclusion is supported by the traffic data, notwithstanding the 1.4 million square feet of Campus development that occurred since the first traffic study was conducted in 1992.

Campo Sano Drive Median

The Spring 2016 traffic counts north of Miller Road demonstrate that, since 2011, University traffic has been reduced by nearly 26.7 percent in the AM peak period and by 26.6 percent in the PM peak hours (see *Exhibit A: 1990-2016 Local Traffic Counts*) by adding more student housing, more parking south of Lake Osceola, restricting parking, eliminating resident freshmen cars, encouraging alternate modes of transportation, changing the parking management program, and completing the Miller roundabout and Phase I of the Internal Road in Fall 2012.

The Campus areas near the surrounding neighborhood have seen a reduction of 400 spaces with the construction of Phase I of the Internal Road. The proven traffic reduction makes it unnecessary to maintain the existing parking supply north of the lake as required in the original scope of the Internal Road project. Sufficient parking supply on the Campus will be maintained through additional parking construction south of the lake (see *Exhibit D: Internal Road Phase I and Location of Eliminated Spaces*).

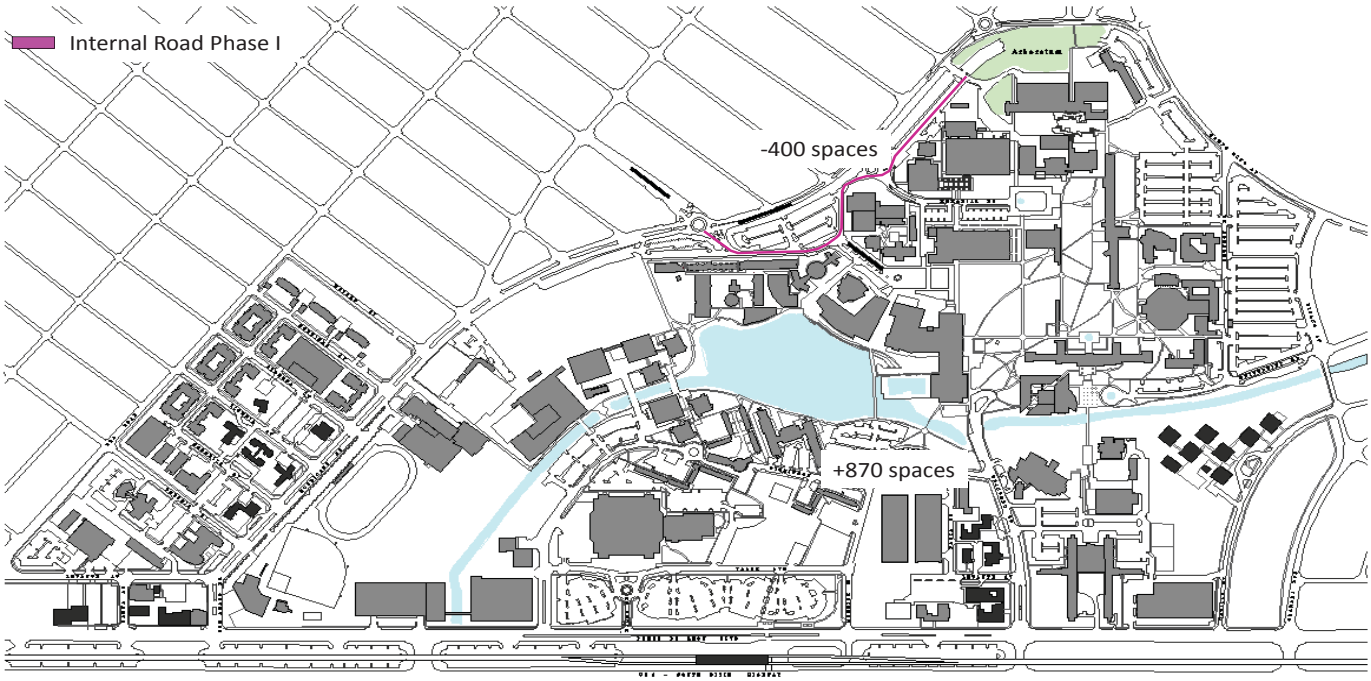


Exhibit D: Internal Road Phase I and Location of Eliminated Spaces

E. Public Transit Program

The Campus is included in the City's "Gables Redevelopment Infill District" (GRID), a transportation concurrency exception area. A key consideration for traffic concurrency exception is the availability and proximity of mass transit. The University is well served by Miami-Dade Transit (MDT) which provides accessible heavy rail (Metrorail) and bus service (Metrobus) in close proximity to the Campus (see *Exhibit E: Transit Availability Map*). In addition, University shuttles provide linkages between campuses and Metrorail stations.

To support traffic reductions and encourage mass transit ridership, the University has supported a Public Transit Program since 2008. This program provides subsidized and discounted Tri-Rail and Miami-Dade Metropasses for employees, faculty, and students. Program participants are restricted from purchasing parking permits. Participants may use other modes of Campus transportation such as the Hurry 'Canes Shuttle, which provides convenient access from the University Station to the Campus. Full-time students and employees are eligible to purchase monthly Metropasses at a reduced rate. Approximately 370 Coral Gables Campus participants take advantage of this program. Overall, over 2,800 employees and students take advantage of this program across all three Campuses (Coral Gables Campus, Miller School of Medicine located in downtown Miami, and Rosenstiel School of Marine and Atmospheric Science on Virginia Key). The program reduces both the number of cars on Campus roadways and associated parking needs.

MDT is the 14th largest public transit system in the country and the largest transit agency in the State of Florida. This integrated transportation system consists primarily of the Metrobus fleet, connecting most areas of Miami-Dade County, Metrorail, and Metromover which serves the downtown central business district of Miami. The MDT connects to the regional Tri-Rail commuter

service, which provides heavy rail commuter services within the Tri-County Area (Miami-Dade, Broward, and Palm Beach Counties). *Mobility Plan Matrix, Appendix 1,* provides information on ridership under the Public Transit Program section.

E.1. Metrobus

The UM Coral Gables Campus is served by three regular Metrobus routes (Routes 48, 56, and 57) and the Midnight Owl Service (Route 500). MDT bus routes serve the area along the peripheral roads and, in several instances, share bus stops with UM's Hurry 'Canes shuttle buses.

- Route 48 operates between the Brickell Metrorail Station and the University Metrorail Station via Coconut Grove and South Bayshore Drive. In the immediate UM Campus area, this bus route operates along US 1 and Ponce de Leon Boulevard between S. Alhambra Circle and Stanford Drive. The route operates on weekdays, between 6:44 a.m. and 7:36 p.m. with a headway of approximately an hour.
- Route 56 operates between SW 162nd Avenue/47th Street (56A), Miller Road, and Miami Children's Hospital via the University Metrorail Station and the City of Coral Gables. In the immediate UM Campus

Metrobus at University Station

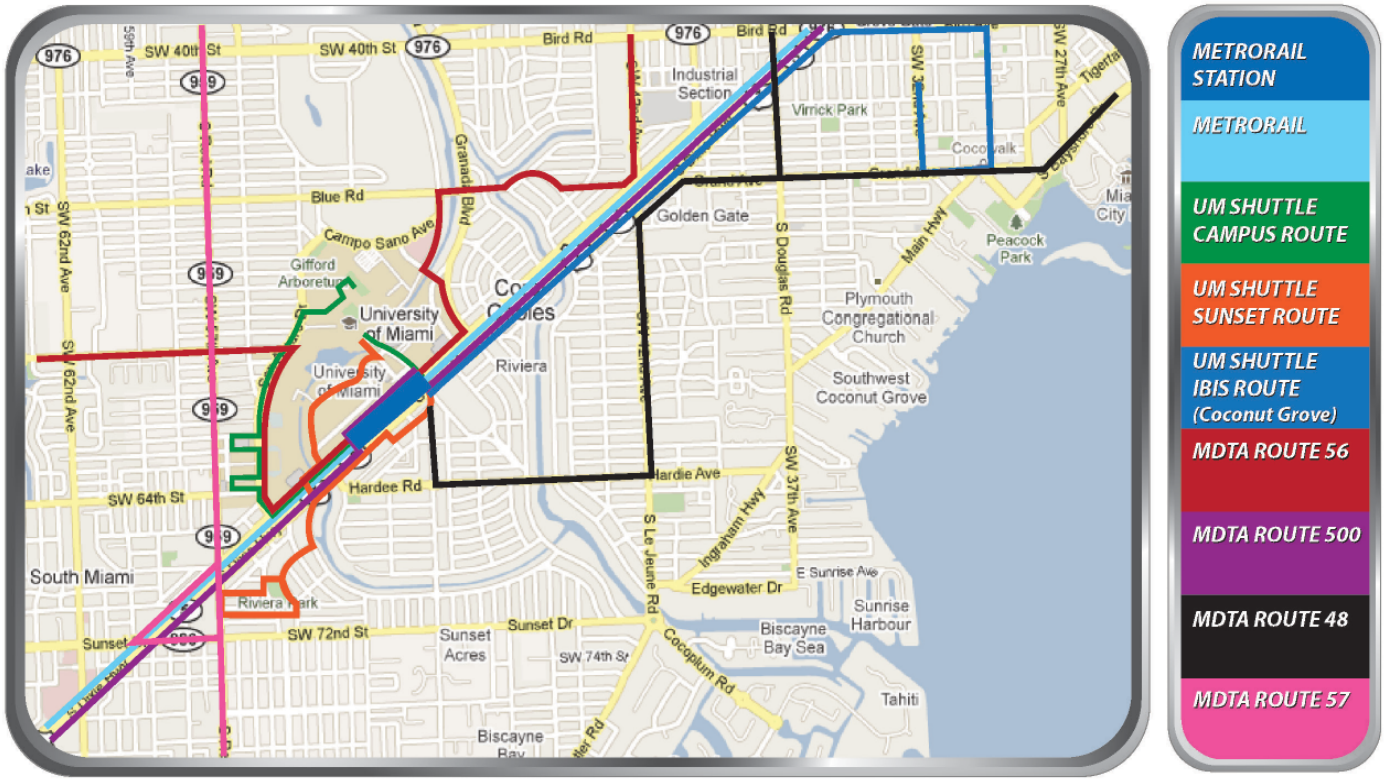


Exhibit E: Transit Availability Map

area, this bus route operates along University Drive (Doctors' Hospital), Pisano Avenue, Granada Boulevard, Ponce de Leon Boulevard (including the University Metrorail Station), San Amaro Drive, and Miller Road. The route operates on weekdays, between 5:58 a.m. and 8:01 p.m. with a headway that varies between 40 to 67 minutes.

- Route 57 operates between the MIA Metrorail Station and the Jackson South Hospital via the Miami International Airport, South Miami Metrorail Station, Red Road (NW/SW 57th Avenue), and the SW 152nd Street Park and Ride, Jackson South Hospital. In the immediate UM Campus area, this bus route operates along SW 57th Avenue on the southwestern boundary of the Campus. The route operates on weekdays between 6:31 a.m. and 7:30 p.m. with a headway that varies between 40 to 65 minutes.
- Route 500 Midnight Owl operates on a 60-minute headway schedule on all days of the week from around 12:32 a.m. until about 5:32 a.m. The buses stop at or near Metrorail stations, from Dadeland South to the Government Center station, including the University Metrorail station. In the immediate Campus area, the route operates along Ponce de Leon Boulevard between Stanford Drive and South Alhambra Circle.

E.2. Metrorail

Metrorail is a 25-mile dual track, elevated rapid transit system which runs from Kendall in southern Miami-Dade County through South Miami, Coral Gables, and downtown Miami; to the Civic Center/Health District; and to Brownsville, Liberty City, Hialeah, and Medley in northwest Miami-Dade, with connections to Broward and Palm Beach counties at the Tri-Rail/Metrorail transfer station recently completed and operational in 2015. A second line runs from Dadeland South to Miami International Airport. Overall, the system has 23 accessible Metrorail stations about one mile apart from each other providing easy access for bus riders, pedestrians, cyclists, and passengers.

Metrorail

Metrorail runs along the southeast edge of Campus between Ponce de Leon Boulevard and US 1, with a stop (University Station) located just south of Merrick Drive. University Station is accessible from the Campus via a signalized pedestrian crossing on Ponce de Leon Boulevard.

The station is one of the 10 most heavily utilized stations in the system, with approximately **355,000** boardings during academic year 2015-2016. A pedestrian traffic signal provides direct access to the Campus across Ponce de Leon Boulevard. The station has connecting service provided by MDT Routes 48, 56, and 500 and UM's Hurry 'Canes Shuttle buses.

University Station Metrorail

Operational since July 2012, Miami-Dade Transit's AirportLink Metrorail Extension has provided a key linkage to Miami International Airport (MIA) via transit. This connection runs to MIA and is known as the Orange Line. This link has provided convenient access to University students, staff and faculty travelling to and from MIA and to communities to the north via the Tri-Rail.

A pedestrian bridge over US-1 connecting to the Metrorail station is expected to be completed by late 2016 or early 2017. This bridge will provide pedestrians a safe overhead path across US-1 and will help to connect the commercial, office, and residential uses on the south side of US-1 with the Metrorail and the campus on the north side of US-1.

F. Trip-Sharing Program

The University supports those members of its community who choose to not drive, or are restricted from having a car on Campus, by providing a car share program, encouraging van/carpools and app-based transportation networks such as Uber and Lyft, and facilitating the use of taxicabs. *Mobility Plan Matrix, Appendix 1,* provides supporting information on trip sharing programs.

Zipcars

F.1. Zipcar

Zipcar is an innovative and affordable car-sharing program that was launched on Campus in 2008. Car-sharing industry standards report that car sharing takes about 20 personally-owned vehicles off the road, reduces parking demand, saves money, and is good for the environment. It has been reported that car-sharing members:

- drive 40 percent fewer miles;
- use public transportation about 46 percent of the time;
- increase bicycle trips by 10 percent; and
- increase walking trips by 26 percent.

At present, the UM Zipcar program includes 16 vehicles (including hybrid models) on Campus stationed at four convenient locations with reserved parking spaces:

- Eaton Residential College parking lot;
- Hecht/Stanford Residential parking lot;
- University Village; and
- Mahoney/Pearson Residential parking lot.

Zipcar members, 18 and older, may rent a vehicle for an hour, a day, or longer for a small fee that includes fuel, insurance, and maintenance. Zipcars are available 24 hours a day, seven days a week, and can be reserved online. This program is particularly convenient to resident populations that do not have a car on Campus and also for faculty and staff that use public transportation or ride-sharing programs.

There are over 1,500 University and community members of the Zipcar program, a nearly 60 percent increase since 2010 (see *Mobility Plan Matrix, Appendix 1*). Based on current usage statistics, each Zipcar is in use approximately 40 percent of the time with about 30 percent of its use occurring during weekdays and 49 percent during the weekends.

F.2. Campus Taxi Stand Areas and app-based transportation networks

Taxis are an effective means of transportation for students, particularly in the evening hours. The University of Miami Police Department created two weekend Campus taxi stand areas that are convenient for resident students. On Thursday, Friday, and Saturday evenings from 9 p.m. to 3 a.m., taxis coming to pick up or drop off anyone on Campus are restricted to two locations: on the Dickinson Drive Circle or on Stanford Drive, just west of the Lowe Art Museum. Both of these locations are accessed from Ponce de Leon Boulevard, and do not impact the residential neighborhoods.

Taxis

Web-based mobile app services such as Uber and Lyft have provided students with additional mobility alternatives. The increase in mobility options reduces the need for resident students to have cars on campus.

F.3. Car/Van Pool

In partnership with South Florida Commuter Services the University promotes and encourages carpooling by connecting students, faculty, and staff to www.get2um.com. This website allows University students and employees to link daily travel-sharing plans with others travelling to the Campus. The commuter program reinforces savings of time and money for commuters as a benefit. For the University, the benefits derived are reduced traffic trips to Campus and greater parking vacancy. To date, the program has registered a total of 285 carpoolers.

Hurry 'Canes Shuttle near University Station

G. Hurry 'Canes Shuttle Program

The University's Hurry 'Canes Shuttle is a free program funded by the University that provides easy and direct service throughout Campus. A shuttle route map is shown in *Exhibit F: Campus Shuttle Map*. *Mobility Plan Matrix, Appendix 1,* provides supporting information on the Hurry 'Canes Shuttle program.

G.1. On-Campus Shuttle

The two main routes of the Hurry 'Canes Shuttle on the Coral Gables Campus connect major parking areas, academic core buildings, University Village, and the public transit system at the University Metrorail Station.

There are two Campus shuttle routes. The Ponce/Fountain route serves the western side of the Campus and the Stanford Express serves the eastern side of the Campus. The main terminus for both routes is the Ponce Garage, which is centrally located near the intersection of Ponce de Leon Boulevard and South Alhambra Circle. The garage serves as the system's transfer point and is a primary destination for commuters. Shuttle stops are conveniently located throughout Campus. The annual ridership for academic year 2015-2016 was estimated at approximately 721,000 passengers, with each shuttle rider representing one person who did not utilize a vehicle to move throughout the Campus or the area. The shuttles operate on weekdays from 7 a.m. to midnight during the spring and fall semesters, with approximate headways of six (6) to eight (8) minute intervals during class days, and 15 to 20 minute intervals at other times. During the summer semester, the shuttles operate between 7 a.m. and 7 p.m. The Hurry 'Canes Shuttle does not operate on University of Miami designated holidays.

Hurry 'Canes Shuttle

G.2. Off-Campus, Recreational, and Shopping Shuttles

The Coral Gables off-campus, recreational and shopping shuttles serving approximately **22,000** riders provide a safe and efficient way for students to go to RMSAS, recreational and commercial areas without needing to utilize a personal vehicle. The routes operate during the Fall and Spring semesters.

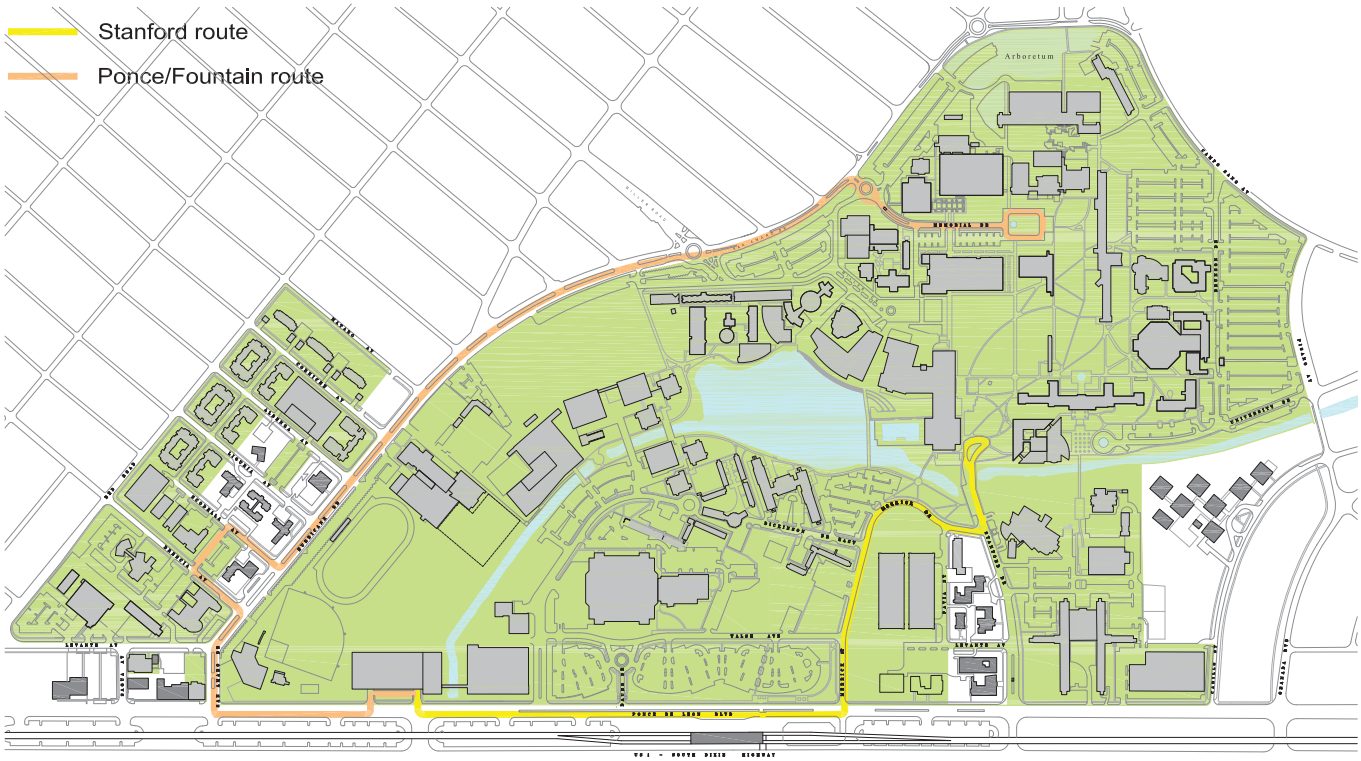


Exhibit F: Campus Shuttle Map

The Ibis Ride Shuttle, serving over 2,700 riders, operates on Thursday and Friday nights from 9 p.m. to 2 a.m. between the Coral Gables Campus and the attractions of Coconut Grove.

The Sunset Shuttle, serving over 5,300 riders, operates on Thursdays and Fridays from 5 p.m. to 2 a.m., on Saturdays from noon to 2 a.m., and on Sundays from noon to 6 p.m. The shuttle operates from Merrick Drive and Stanford Circle. After the pickup, the shuttle proceeds to the corner of Mariposa Court and Madruga Avenue and offers service to the many retail locations on the east side of US 1, including supermarkets, restaurants and South Miami's Shops at Sunset Place.

Recreational shuttles are also provided to all home football games for the University community, from the Campus to SunLife Stadium and for day trips to nearby area destinations as part of programmed activities for students.

The Rosenstiel School of Marine and Atmospheric Science (RSMAS) Shuttle transports nearly 14,000 students, faculty, and staff annually from the Coral Gables Campus to RSMAS on Virginia Key. It stops at the Vizcaya Metrorail station to encourage the use of public transit for RSMAS students and staff. This route operates on weekdays from 7:30 a.m. to 6:30 p.m.

Hurry 'Canes Shuttle


Pathways near Memorial Drive


Shared pathways

H. Bicycle and Pedestrian Programs

The Coral Gables Campus is an attractive environment conducive to biking and walking. The University is a medium-sized, semi-urban Campus, surrounded on three sides by single-family residential neighborhoods and on one side by the heavily travelled US 1 / Ponce de Leon Boulevard commercial corridor. *Mobility Plan Matrix, Appendix 1,* provides supporting information on the bicycle and pedestrian programs.

With a medium-sized Campus where all facilities are within a 5- to 10-minute walk or bike ride, more members of the University community are taking advantage of the University's network of shared paths.

H.1. UBike

The University of Miami formalized a bike program, UBike, in 2008 to encourage the use of bicycles. The program is

managed by the Parking and Transportation Department (PTD), with input and coordination from other Campus departments. The UBike program ensures that concerns and needs representing all aspects of student and University life are considered to make the program accessible, enjoyable, and safe. In March 2012, the University of Miami was designated as a Bicycle Friendly University at the Bronze level by the League of American Bicyclists. This award is presented to colleges and universities that demonstrate significant commitments to bicycling.

The bike program includes the following components:

- Bike sales on Campus by outside vendors;
- Traffic safety classes for bicyclists;
- Bike registration by the University Police Department. In the 2015-2016 academic year over 1,100 new bikes were registered;
- Coordination of construction and repairs of existing and new bike paths by the Facilities and Construction Department. Generally, paths on Campus are shared by pedestrians and bicyclists. New construction projects are reviewed to ensure that adequate paths are provided and integrated into the Campus path system and bike racks are properly situated to encourage more bike usage;
- Adequate bike parking at multiple locations across the Campus and continuous monitoring of bike usage patterns and needs. There are over 300 bike racks throughout Campus, with current capacity for nearly 1,700 bikes. These efforts ensure that bike riders will find convenient and secure places to park their bicycles overnight and around Campus;
- Air stations for bike tires provided at three locations on Campus;
- Shower access for students, faculty, and staff commuting to the University by bicycle;
- Support and funding to the UBike student group;
- Yearly bike sweeps by the University of Miami Police and Facilities Department to ensure that abandoned bikes are removed from Campus and donated to local charities;
- Distribution of information on local and regional bike events hosted by outside groups; and

Signage showing shared biking paths

UBike Program

Bike racks

- Easy access to the M-Path located along the southeast side of the Campus providing connectivity to Campus for bicyclists. The M-Path is a paved path that runs the length of the Metrorail guideway and is part of Miami Dade County's Bicycle Plan. This path provides access north to the Vizcaya Metrorail station and south to the Metro busway. An proposed enhancement of the M-Path - The Underline - would provide a more active and engaging linear park experience for pedestrians and bicyclists.

H.2. Pedestrian and Bike Pathways

When the UBike program was conceived, the University determined the requirements of the program, with a primary goal to establish shared paths that would allow a bicyclist to traverse the entire Campus.

As part of Campus infrastructure improvements, the University has developed an extensive system of paths that are used by bicycles and pedestrians and has improved and widened sidewalks to minimize areas of pedestrian and bicycle conflict. Pathways will be incorporated into new Campus projects.

I. Enhanced Campus Life Programming

The University provides a number of facilities and programs that help keep students on Campus. More than 290 student clubs, organizations, fraternities, and sororities provide a comprehensive variety of activities that engage and inspire students while connecting them with colleagues involved in similar pursuits.

The Student Center Complex which includes the Donna E. Shalala Student Center and the Whitten University Center has quickly become a hub for Campus life activities. With the addition of Starbucks, Fresh Fusion, Jamba Juice and the new Rathskellar, there are now more dining options at the Student Center Complex likely leading to more people staying on Campus for meals.

The multipurpose room, with capacity of up to 1,000 persons, provides space for events that were previously held off Campus to be held on Campus. This has eliminated the back-and-forth traffic to bring items off Campus and has kept resident students on Campus for the events.

Student Activity Center

Lowe Art Museum

BankUnited Center

The addition of lounge and study spaces (including the 24-Hour Kornspan Study Lounge) has encouraged commuter students to stay on Campus during breaks in their day.

Late Night Programming aimed at keeping students on Campus was initiated recently. This includes a monthly "Canes After Dark" event on Thursday or Friday evenings, Canes Night Live, and food truck events aimed towards keeping students on Campus. A full-time staff position was created in the Department of Student Activities and Student Organizations to facilitate these types of events.

Commuter initiatives by the Department of Orientation and Commuter Student Involvement have also been developed. This includes "Good Morning Commuters" encouraging students to be on Campus in the morning, and remain on Campus. The Commuter Assistant Program creates events at specific times to keep commuters on Campus. Additionally, the Association of Commuter Students Office is an area which members can use as a "home away from home" further encouraging students to remain on Campus.

The Wellness Center provides numerous new program offerings that complement the already successful recreational and Campus wellness programs.

In addition to these aforementioned, the Cosford Cinema, Lowe Art Museum, BankUnited Center, Ring Theater, dining areas, libraries, and a variety of outdoor Campus areas continue to provide a host of community spaces that add value to Campus life. All of these facilities and programs support the Mobility Plan's goals by encouraging and providing for students to remain on Campus.

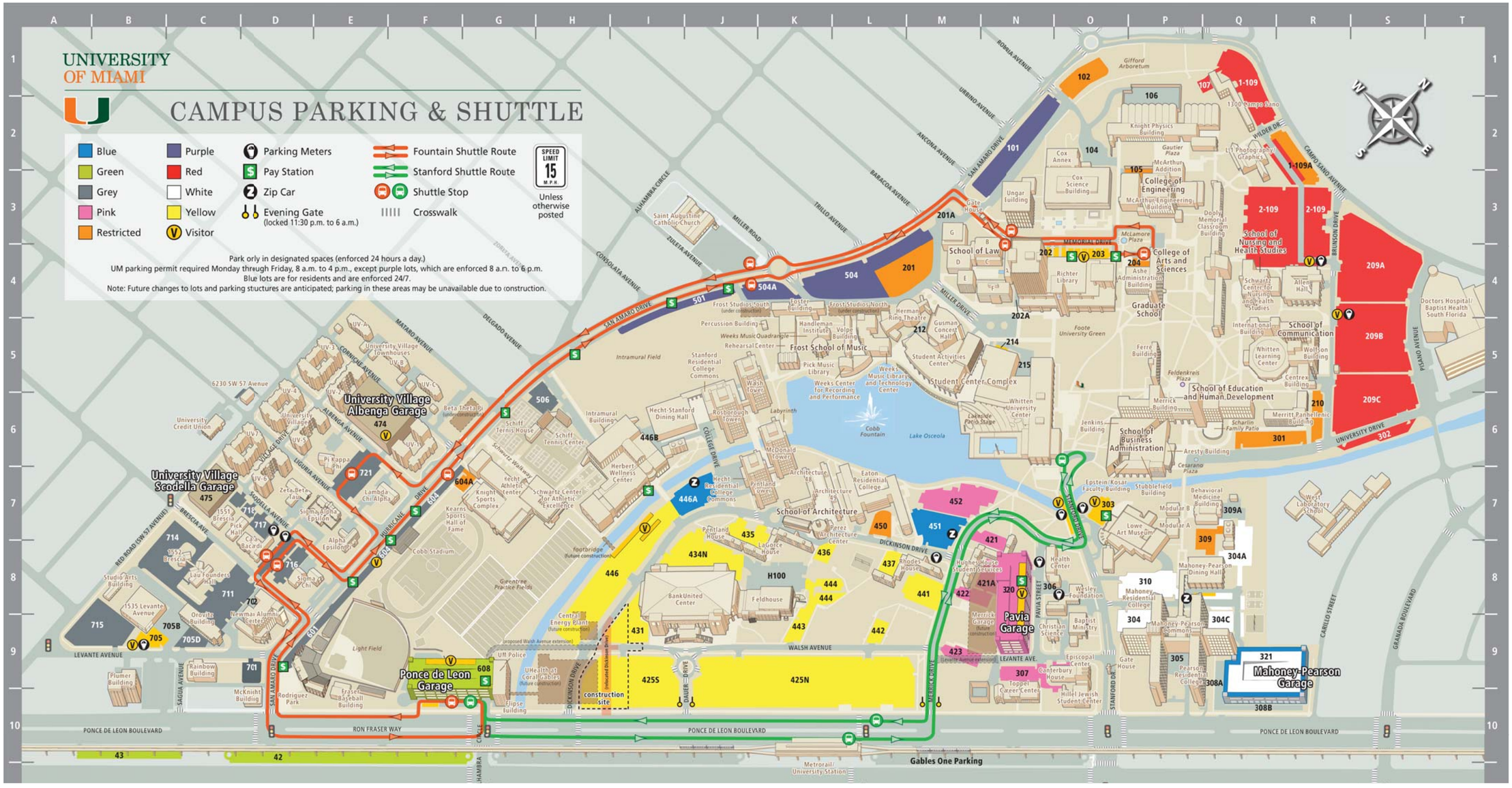
J. Regional Traffic Studies

The University of Miami performs a Regional Traffic Study (RTS) every five years and identifies mitigation that is needed based on a measurement of future roadway and intersection levels of service against the forecasted Campus development program through build-out in five year increments. The mitigation in the RTS ensures that the Mobility Plan can continue to ameliorate reasonable traffic impacts. The Mobility Plan and the RTS, both mandated by the Development Agreement between the City of Coral Gables and the University, share common goals and objectives: they both document and quantify local and regional trip reductions. In addition, the RTS has a greater focus on traffic impacts and mitigation. The success of the Mobility Plan is monitored through a mandated annual report that advises of changes in the plan.

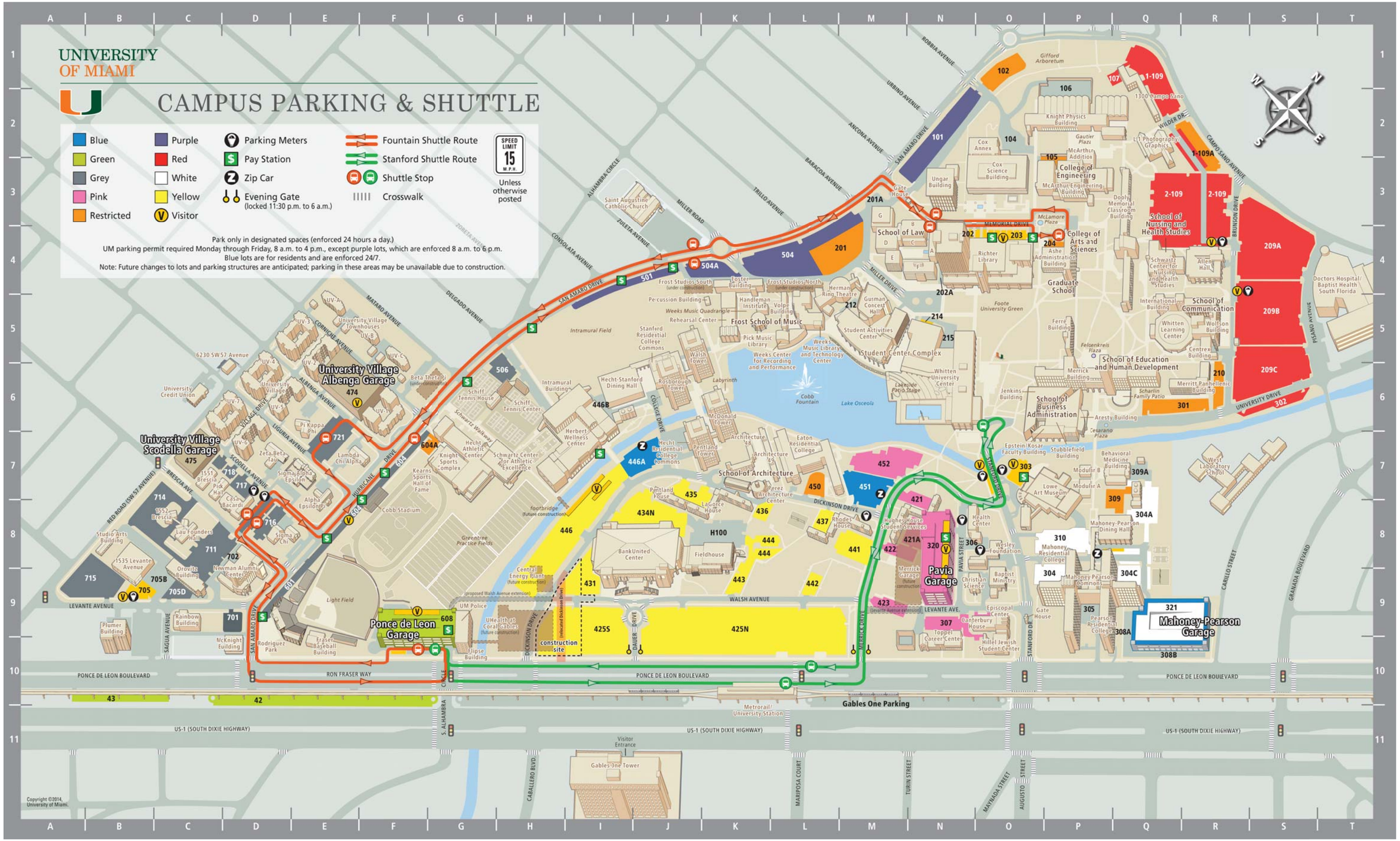
The Mobility Plan remains flexible and capable of incorporating new and evolving strategies and technologies, as well as abandoning those that may prove to be unproductive. While the Mobility Plan reduces overall vehicle trip generation on local and regional levels, the RTS measures the success of those reductions and the extent to which the goals of the Master Plan are being achieved through a defined methodology and process. The 2013 RTS documents and confirms that the University's Mobility strategies have been successful in mitigating traffic impacts resulting from Campus development.

Appendix 1: Mobility Matrix Academic Years 2010-2016							
		Academic Year 2010-2011	Academic Year 2011-2012	Academic Year 2012-2013	Academic Year 2013-2014	Academic Year 2014-2015	Academic Year 2015-2016
A.	**Residential Campus Strategy[1]**						
A.1.	Number of on-campus beds	4,468	4,431	4,344	4,344	4,344	4,344
Campus Population (Headcount)							
A.2.	Total Number of enrolled students	14,091	14,451	14,442	15,009	14,978	14,666
	Total Number of Resident students	4,284	4,373	4,216	4,243	4,153	4,013
	Total Number of Commuters students	9,807	10,078	10,226	10,766	10,825	10,653
A.3.	Total Number of Faculty and Staff	3,197	3,186	3,152	3,214	3,338	3,326
B.	**Parking Management Program and Policies**						
Parking Supply							
B.1.	Total on-campus parking (surface and garage)	9,351	9,289	9,273	9,274	8,878	8,824
Parking Supply North of the Lake							
B.2.	Total on-campus parking north of the lake (surface and garage)	2,892	2,543	2,469	2,473	2,470	2,471
	Surface Parking	2,892	2,543	2,469	2,473	2,470	2,471
	Garage Parking	-	-	-	-	-	-
	Red Zone	-	-	1,784	1,784	1,774	1,775
	Purple Zone	-	-	685	689	696	696
Parking Supply South of the Lake							
B.3.	Total on-campus parking south of the lake (surface and garage)	6,459	6,746	6,804	6,801	6,408	6,353
	Surface Parking	3,503	3,501	3,564	3,561	3,168	3,113
	Garage Parking	2,956	3,245	3,240	3,240	3,240	3,240
	Yellow Zone	-	-	1,497	1,495	1,245	1,190
	Pink Zone	-	-	1,136	1,136	1,128	1,128
	White Zone	-	-	408	590	594	594
	Grey Zone	-	-	867	866	794	794
	Green Zone	-	-	1,338	1,338	1,279	1,279
	Blue Zone	-	-	722	540	532	532
	University Village	-	-	836	836	836	836
Supporting Information:							
B.4.	Change of Total on-campus parking	-	-62	-16	1	-396	-54
	Change of North Campus Area parking supply	-	-341	-41	4	-3	1
	Change of South Campus Area parking supply	-	307	25	-3	-393	-55
Permits issued							
B.5.	Total on campus permits issued	12,339	12,592	12,048	12,937	12,496	11,968
Permits Issued North of the Lake							
B.6.	Permits issued north of the lake	N/A	3,698	3,297	3,464	3,533	3,536
	Residential	-	-	-	-	-	-
	Commuter/all others	N/A	3,698	3,297	3,464	3,533	3,536
	Red Zone	N/A	2,710	2,730	2,950	3,002	2,995
	Purple Zone	N/A	988	567	514	531	541
Permits Issued South of the Lake							
B.7.	Permits issued south of the lake	N/A	8,894	8,751	9,473	8,963	8,432
	Residential	1,320	1,377	1,400	1,483	1,333	1,194
	Blue Zone	N/A	1,377	700	733	663	577
	University Village	N/A	N/A	700	750	670	617
	Commuter/all others	N/A	7,517	7,351	7,990	7,630	7,238
	Yellow Zone	N/A	5,039	2,320	2,537	2,203	1,818
	Pink Zone	N/A	N/A	1,745	1,815	1,528	1,296
	White Zone	N/A	N/A	653	427	554	749
	Grey Zone	N/A	788	576	774	863	747
	Green Zone	N/A	1690	2,057	2,437	2,482	2,628
C.	**Public Transit Program[2]**						
Total University of Miami System							
C.1.	Average Number of Monthly Metropasses/Tri-Rail Passes distributed	2,952	2,849	2,743	2,770	2,666	2,840
University of Miami Coral Gables Campus Only							
C.2.	Average Number of Monthly Metropasses/Tri-Rail Passes distributed	460	388	428	400	369	371
University Metrorail Station *(source: Miami-Dade County Transit)*							
C.3.	University Metrorail Station Ridership**	456,937	486,896	536,518	562,212	438,711	355,431
Metrobus Ridership Routes and Stops *(source: Metro-Dade Transit)*							
C.4.	Route 48/56/57/500, UM stops (yearly total based on weekday average)	53,820	81,380	67,600	60,060	65,000	58,500
D.	**Trip-Sharing Program[3]**						
Zip Car Program							
D.1.	Number of Zipcars on Coral Gables campus	13	13	15	15	15	16
D.2.	Number of UM and Coral Gables participants*	969	1,218	1,402	1,582	1,558	1,540
Car/Van Pool							
D.3.	Total number of program registrants***	-	-	-	279	3	3
Taxi Stand Areas							
D.4.	Number of taxi stand areas on Coral Gables campus	2	2	2	2	2	2
E.	**Hurry'Canes Shuttle Program[4]**						
On-Campus Shuttle							
E.1.	Total ridership during academic year*	560,100	803,100	620,600	634,736	698,042	721,532
Recreational and Shopping Shuttles							
E.2.	Total ridership during academic year*	37,600	41,700	32,300	35,675	14,306	8,146
Off-Campus Shuttles (RSMAS)							
E.3.	Total ridership during academic year*	12,400	11,000	11,000	12,161	12,900	13,856
F.	**Bicycle Program[5]**						
F.1.	Total annual UM Bicycle registration	1,070	1,037	1,155	1,213	1,137	1,164
F.2.	Total on-campus bike racks	234	234	294	294	293	335
F.3.	Total bike capacity	1,658	1,658	1,707	1,703	1,686	1,752

[1] *See Volume II, Section 1 for supporting documentation*
[2] *See Volume II, Section 2 for supporting documentation*
[3] *See Volume II, Section 3 for supporting documentation*
[4] *See Volume II, Section 4 for supporting documentation*
[5] *See Volume II, Section 5 for supporting documentation*
**Includes available data up to April 2016*
***Includes available data up to February 2016.*
****2014-2015 car/vanpool program registrants was incorrectly added to the previous year's total. The actual number of registrants was 3.*



Appendix 2: Campus Parking Supply



Appendix 3: Campus Parking Zones