

# ADDITIONAL PEDESTRIAN, BICYCLE & TRANSIT RECOMMENDATIONS

PEDESTRIAN RECOMMENDATIONS OVERVIEW	1.2
PEDESTRIAN SAFETY RECOMMENDATIONS	1.4
INTERSECTION RECOMMENDATIONS	1.10
STREET RECOMMENDATIONS	1.25
BICYCLE RECOMMENDATIONS OVERVIEW	1.30
BICYCLE RECOMMENDATIONS	1.32
TRANSIT RECOMMENDATIONS OVERVIEW	1.38
TRANSIT RECOMMENDATIONS	1.40



# PEDESTRIAN RECOMMENDATIONS OVERVIEW

Pedestrian safety is threefold:

- The built environment (how streets and sidewalks are designed and perform);
- Enforcement and policy to ensure proper motorist behavior, and
- Alert pedestrians.

Pedestrians - who are people that travel by foot, wheelchair, stroller, or similar means - are the most vulnerable users of the road. Children, as pedestrians, are at the greatest risk of injury or death from traffic crashes due to their small size, inability to judge distances and speeds, and lack of experience with traffic rules.

“Because of the demands of vehicular traffic in congested areas, it is often extremely difficult to make adequate provisions for pedestrians. Yet this should be done, because pedestrians are the lifeblood of our urban areas...”

(Policy on Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials, 2001, Page 96.)



# What We Heard

Comfortably walking the streets of Coral Gables is important to residents and business owners. The “Money Game” during the October Open Houses revealed that participants invested, on average, 25% of the City’s transportation budget into upgrades that improves everyone’s ability to walk.

Through the public participation process, the community and design team arrived at a series of basic street design and policy principles to make Coral Gables more walkable. Shaped from input by residents during the planning process, the five “Guideposts” embody the participants’ vision for the future of walkability in the City Beautiful.



**Five Guideposts for Walkability**

- Reduce vehicular speeds
- Improve intersection crossings
- Strengthen connections to transit
- Connect sidewalks
- Provide shade



# PEDESTRIAN SAFETY RECOMMENDATIONS

The first quarter of the 2017 fiscal year has already reported eleven pedestrian crashes/injuries and seven bicycle crashes/injuries in Coral Gables. This totals to eighteen injuries in just the first quarter. Five of the eighteen injuries occurred on local, residential streets, and increases to eleven when including local roads like in downtown Coral Gables. The Strategic Plan Goal for the city is to have less than 27 pedestrian and less than 26 bike injuries in 2017. The city has a ways to go in a short period of time if it is to meet this goal for pedestrian and bicycle safety.

The Miracle Mile and Giralda Streetscape project, introduces residential uses in downtown as well as other on-going projects and efforts. Coral Gables is actively encouraging more people to walk. However in most cases, the safety of these most vulnerable road users is still not a priority.

As the City and local advocacy groups continue to encourage more walking and promote the elements that make walking attractive, serious changes need to be made that include policies, enforcement and education, and physical redesigns of the built environment. Only once these elements have been made will citizens feel safe to walk in Coral Gables.



# Vision Zero

Cities around the country are eagerly embracing the Vision Zero plan for a safety-focused redesign of their streets. According to the National Complete Streets Coalition, more than 47,500 people in the U.S. died while walking on the street, from 2003 and 2012. After enough pressure, politicians have started to take action and begun to rethink the design of their cities to save the lives of their citizens. In the last three years, more than eighteen cities have joined the Vision Zero movement to set goals of stopping all traffic deaths within the next one or two decades.

Traffic deaths are not *accidents*, but products of design flaws in the traffic system. The City of Coral Gables has the opportunity to set goals and fix the system to end all traffic fatalities and serious injuries. While the City may not prevent all crashes due to human error, realizing the goal can prevent the fatal ones.

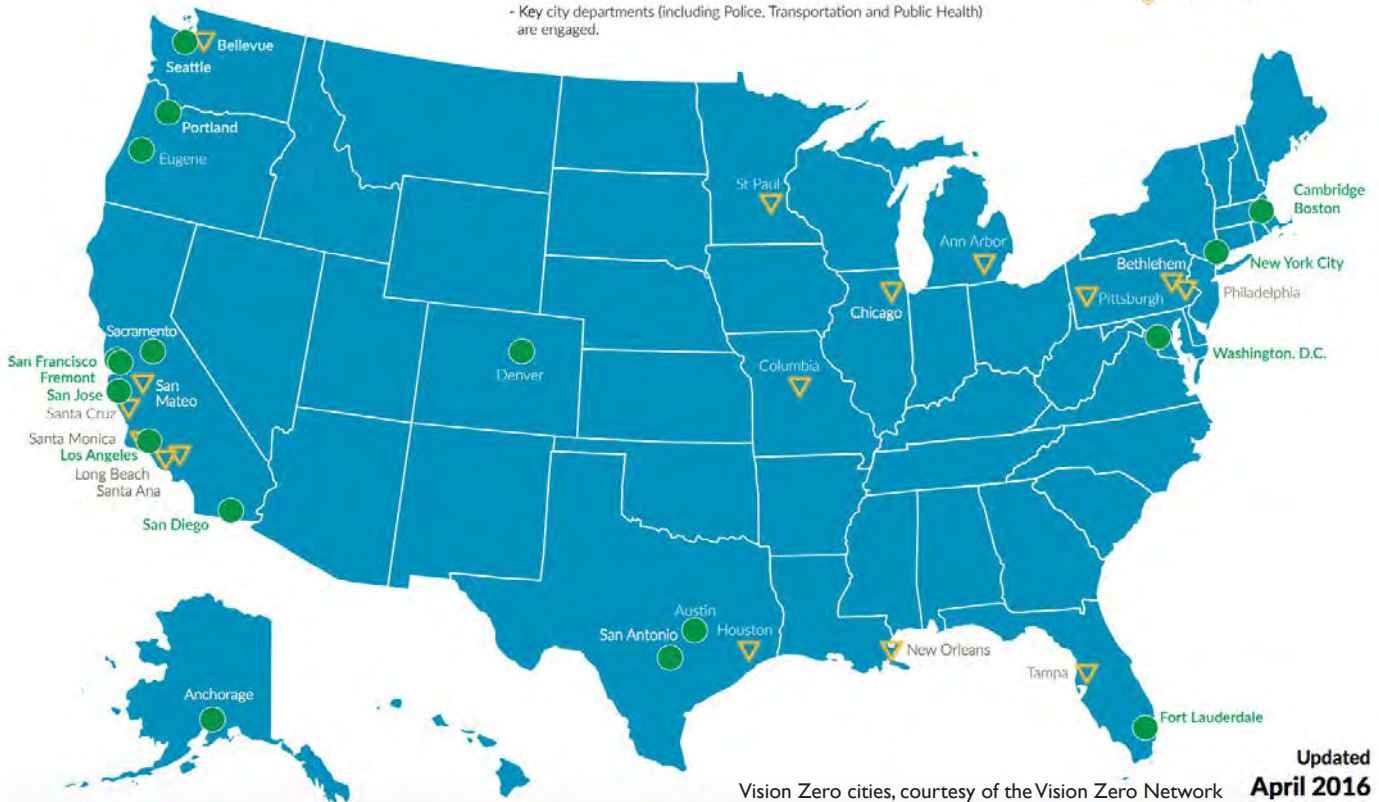
A fundamental shift in how Coral Gables plans and designs their streets is required under the Vision Zero goal. Safety must be more important than convenience, and design and data has more importance than placing blame for crashes on reckless road users.

The City of Coral Gables adopted a Strategic Plan Objective to attain world class performance levels in public safety. Public Works has already set a goal of 10% reduction in injuries each year. It is recommended that the City adopts the Vision Zero policy to reach a goal of zero fatalities by 2026, the city's 100<sup>th</sup> year celebration.

## Vision Zero Cities

### A Vision Zero City meets the following minimum standards:

- Sets clear goal of eliminating traffic fatalities and severe injuries
- Mayor has publicly, officially committed to Vision Zero
- Vision Zero plan or strategy is in place, or Mayor has committed to doing so in clear time frame
- Key city departments (including Police, Transportation and Public Health) are engaged.



Vision Zero cities, courtesy of the Vision Zero Network

## Eliminate Right Turns on Red

Implementation of the Vision Zero plan can begin with the restriction of right turns on red (RTOR). Many people enjoy walking the streets of downtown Coral Gables - its healthy, free, and provides views of the City Beautiful that people would never notice by bike, trolley, or car.

Unfortunately, walking can almost always be a frustrating experience with inconsiderate drivers at intersections. While a car in the crosswalk is an inconvenience for an able-bodied person, this is a serious impediment for a person in a wheelchair or someone using a walker. When moving slowly and relying on a clear path from curb to curb, a car in the crosswalk can make it impossible to cross the street in the meager time allotted by the walk signal.

According to a 1995 National Highway Traffic Safety Administration study, pedestrians and bicyclists were involved in 22% of RTOR crashes and 93% of those crashes resulted in injury for the walker or bike rider. Luckily, only 1% of RTOR crashes that involved a pedestrian or bicyclist ended with a fatality.

The elimination of RTOR could start as a pilot program for up to ten downtown Coral Gables intersections. These intersections should be located where the worst car-on-pedestrian crashes have occurred, which typically involve a turning car hitting a person crossing the street.



# Pedestrian Accommodations in Work Zones

According to the Federal Highway Association (FHWA), about 15% of fatalities resulting from crashes in work zones in the USA were non-motorists (i.e. pedestrians, workers, and bicyclists).

Major pedestrian traffic generators, such as schools, office buildings, and mass transit facilities, near upcoming projects should be identified and taken into consideration during the planning process. Even in the design stage, designers need to consider the route(s) that pedestrians will walk around the work zone.

While in the field, constructors and designs need to think about separating pedestrians from the work zone along with phasing or materials delivery and how the movement of construction vehicles through the construction area might impact pedestrian mobility and safety. Additionally, pathways need to be maintained by keeping walkways clear of tripping hazards to ensure safety.

When a work site needs to access to sidewalk, a separate usable footpath should be provided. When feasible, the footpath provided during temporary traffic control should also be accessible. Any abrupt changes in grade or terrain that could cause a tripping hazard or may be a barrier to wheelchair use should be avoided. Barriers and channelizing devices should be detectable to pedestrians with visual disabilities.

It is recommended that all public and private projects submit a Temporary Pedestrian & Bicycle Accommodation plan for approval.



## School and Children Traffic

Fewer children are walking and biking to school, and childhood obesity is becoming more common. In addition, Miami-Dade Public School system limits bus service for children that live more than two miles away from their designated school. This policy requires parents to drive their children to and from school. This situation creates automobile traffic during school drop-off and pick-up hours.

A walking school bus (WSB) was mentioned by participants during the public outreach of the Comprehensive Multi-Modal Transportation Plan. In discussions with the public, the community expressed interest in implementing the idea of a walking school bus in select school areas.

A walking school bus is a group of children that walk to school with one or more adults. The size and formality of these groups can differ from simply two families rotating to walk their children to school, to more structured





# Phase out Pedestrian Crossing Push Buttons

Pedestrian crossing push buttons, often referred to as “beg buttons,” are subtle ways a municipality degrades the urban environment for walking. These buttons exist solely for motorist convenience, not walking convenience. Greater optimizations of green times for the prioritized vehicle travel direction is permitted by the absence of an assumed pedestrian phase.

Standard push buttons often result in longer wait times to cross at an intersection, especially if the pedestrian does not push the button or if the button is in disrepair. According to Federal Highway Administration (FHWA) research, only about 50% of pedestrians actually push the buttons.

In addition to many signals being located in a difficult place to reach, this arrangement sends the message that a vulnerable human is secondary to motorists. For a city wanting to prioritize pedestrian traffic over motorized traffic, this is indeed backward.

If the City of Coral Gables is interested in encouraging pedestrian activity, they should discourage or ban “beg buttons” on City-owned streets, especially in Downtown Coral Gables.



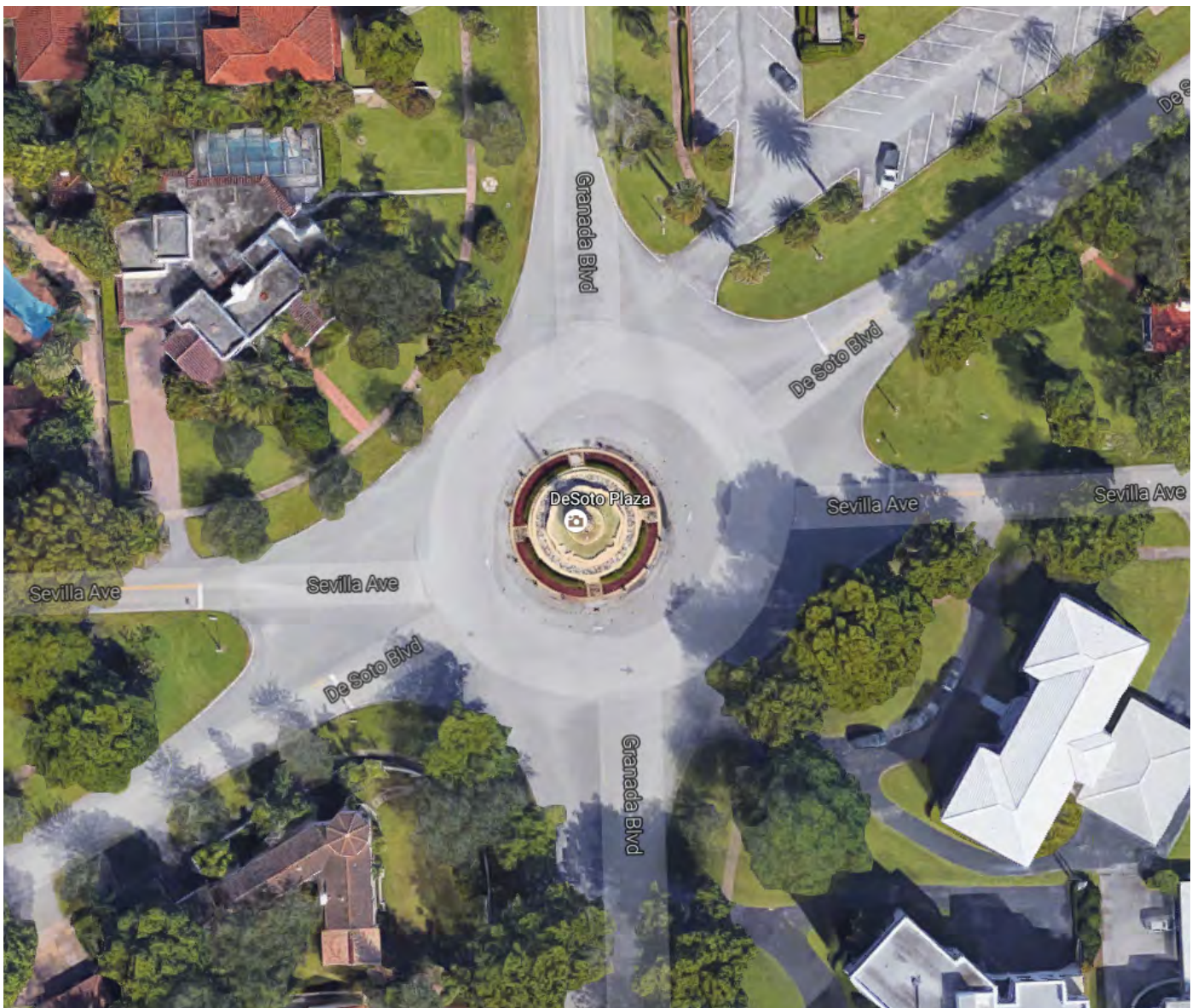
# INTERSECTION RECOMMENDATIONS

Several intersections have been reviewed for improvements to reduce unused or excess pavement. The reduction of pavement and at complex intersections can make navigating the intersection clearer for both motorists and pedestrians, thereby reducing the risk of an accident.

## De Soto Fountain

De Soto Fountain is an important monument in Coral Gables. Sitting on a roundabout at the intersection of De Soto Boulevard, Granada Boulevard, and Sevilla Avenue, the beauty of the fountain is often lost to the excess asphalt and confusing nature of the intersection.

The following design options transform this oddly shaped intersection into a clearly defined roundabout while giving pedestrians an easy way to cross each street. This is particularly important at this site because the intersection sits right in between the Biltmore Hotel and the Venetian Pool and must be crossed by visitors going to either location.

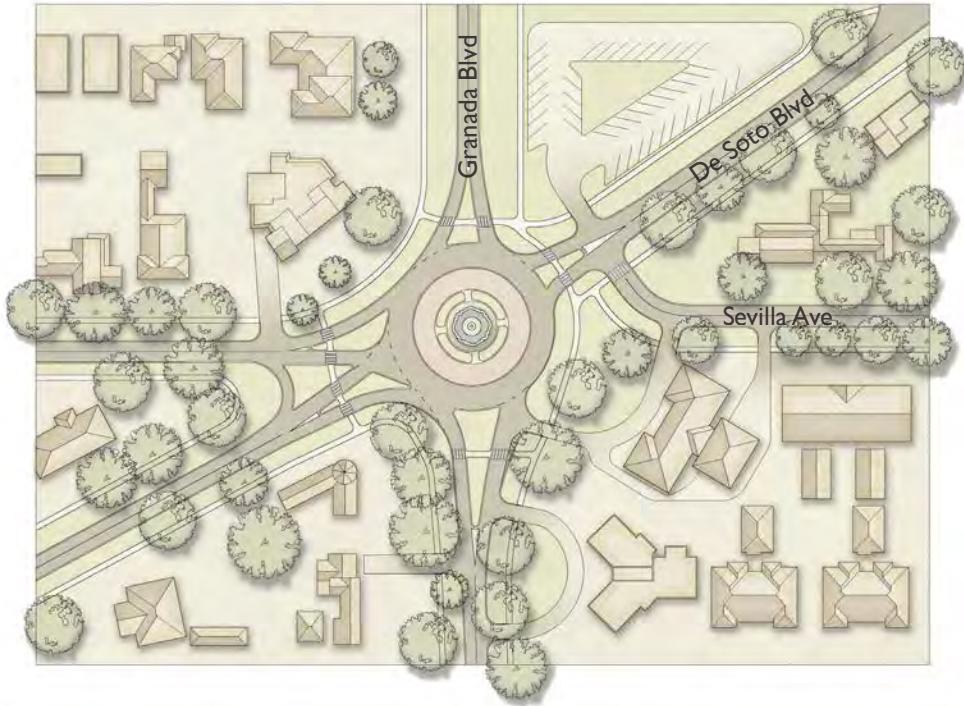




De Soto Fountain: Existing Condition



Option 1: Six-Point Roundabout - Leave all streets as they are, resulting in no curb changes and many complex splitter islands.



Option 2: Five-Point Roundabout - Merge De Soto Boulevard and Sevilla Avenue at the northeast end, resulting in some curb changes and less splitter islands.



Option 3: Four-Point Roundabout - Merge De Soto Boulevard and Sevilla Avenue at both ends, resulting in more curb changes and fewer splitter islands.



De Soto Fountain Existing Condition



De Soto Fountain Visualization of Option 3: Four-Point Roundabout

## Ingraham Terrace & S Lejeune Road

The intersection of South Lejeune Road and Ingraham Terrace is a high traffic point for people going between Coconut Grove and both Coral Gables and South Miami. Currently, the intersection favors North/South Traffic along Lejeune Road.

The following design options offer solutions to free up traffic between Ingraham Terrace and Lejeune Road, while also positioning the intersection to relate more successfully to the recent updates to Ingraham Park. The designs also addresses pedestrians, giving them a safer way to cross Lejeune Road and reach the park.





Ingham Terrace & South Lejeune Road: Existing Condition



Option I: Curve South Lejeune Road to meet intersection at 90 degrees and face Ingraham Park Fountain. Add left turn lanes on South Lejeune Road in both directions. This will prioritize the flow of traffic between Ingraham Terrace and South Lejeune Road.





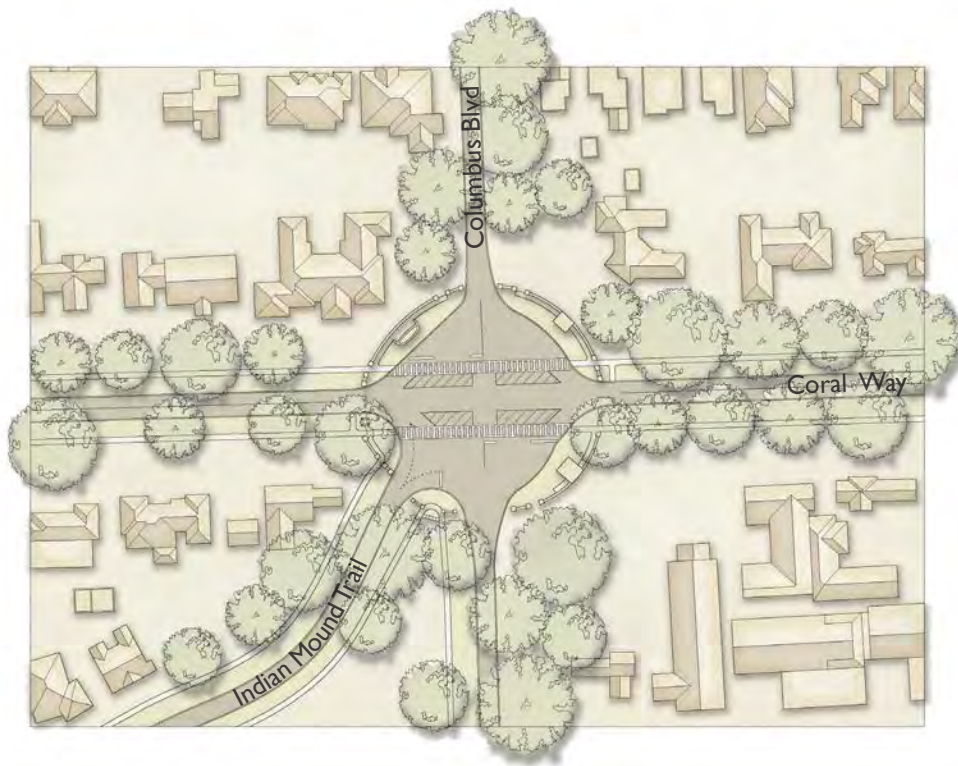
Option 2: Three-Point Roundabout - It is possible to reconfigure the intersection to add a 90' inscribed diameter roundabout and remove the traffic signals altogether. This option would help relieve congestion at this intersection and allow a constant flow of traffic.

## Coral Way & Columbus Boulevard

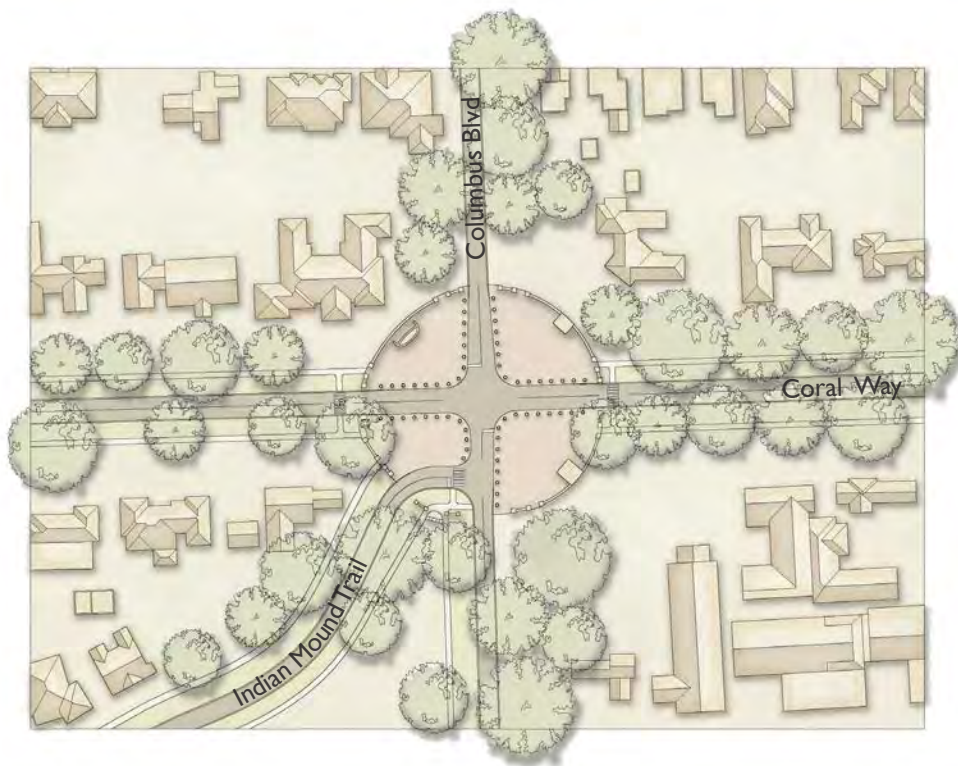
Currently, the intersection of Coral Way, Columbus Boulevard, and Indian Mound Trail is a confusing juncture of streets with an excess amount of pavement, street markings, and unnecessarily long crosswalks. The way it exists today makes it hard to appreciate some of the beautiful architectural elements, such as the gateways and pergolas, that define the edge of the circular space.

The following designs serve to simplify and elevate the intersection into an actual place which highlights those signature architectural elements and makes pedestrian and vehicular crossing safer.

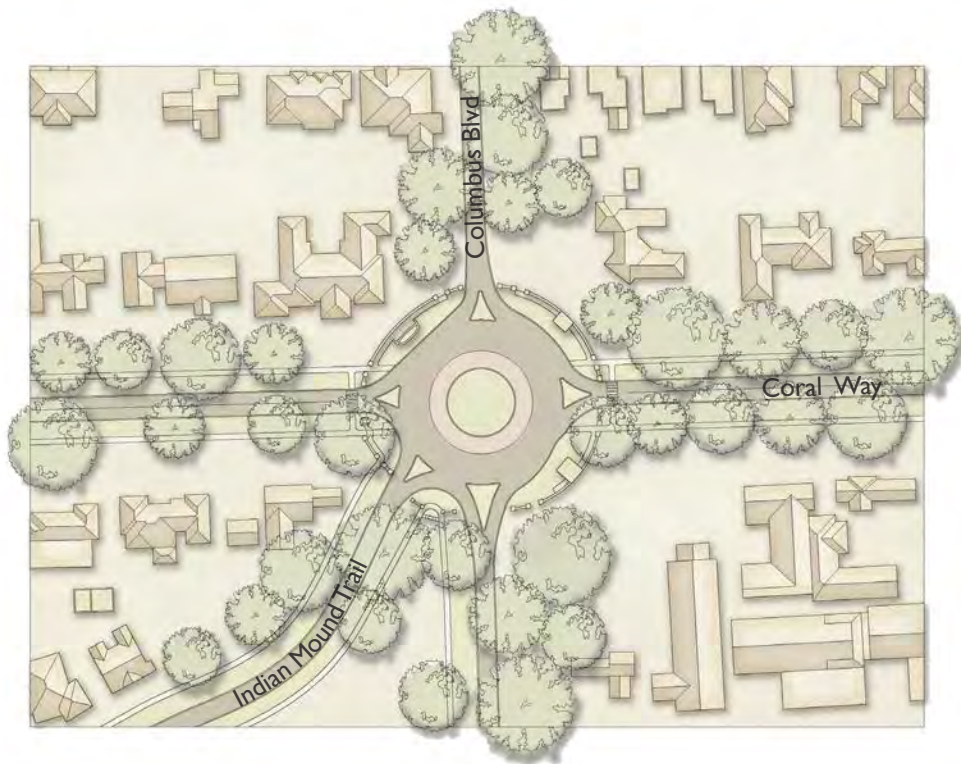




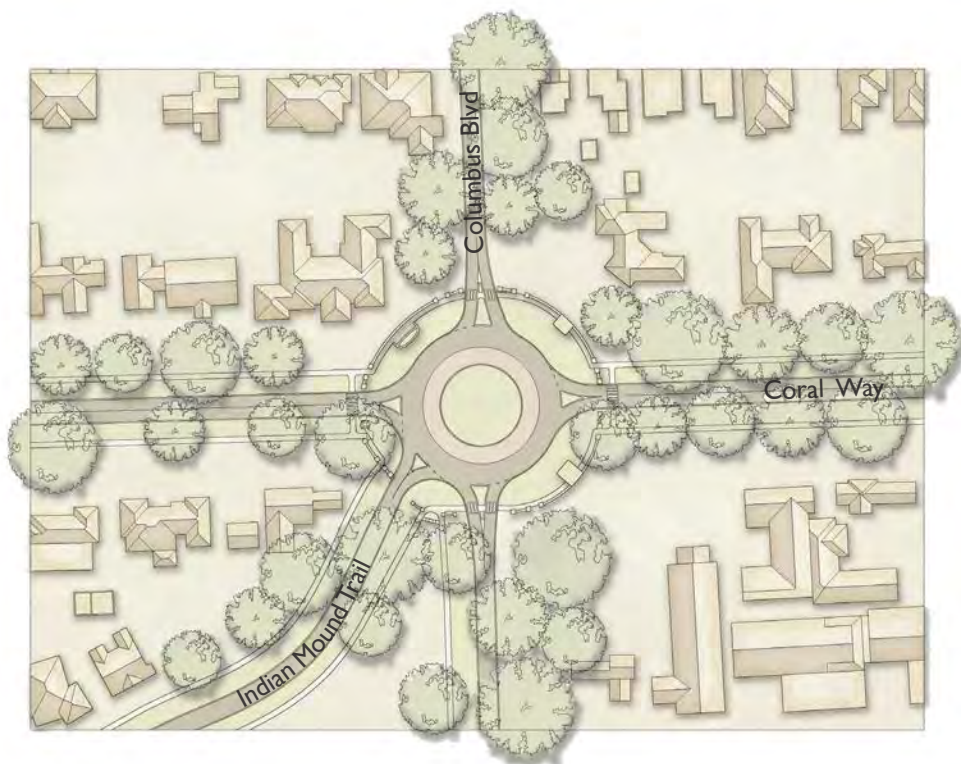
Coral Way & Columbus Boulevard: Existing Condition



Option I: Convert Indian Mound trail to a T-intersection with Columbus Boulevard. This simplifies the intersection of Coral Way and Columbus Boulevard to a 4-way intersection with a plaza at each quadrant. The plazas may be flush with the street or have a small curb and they may be separated from the road with bollards, pots, or planters.



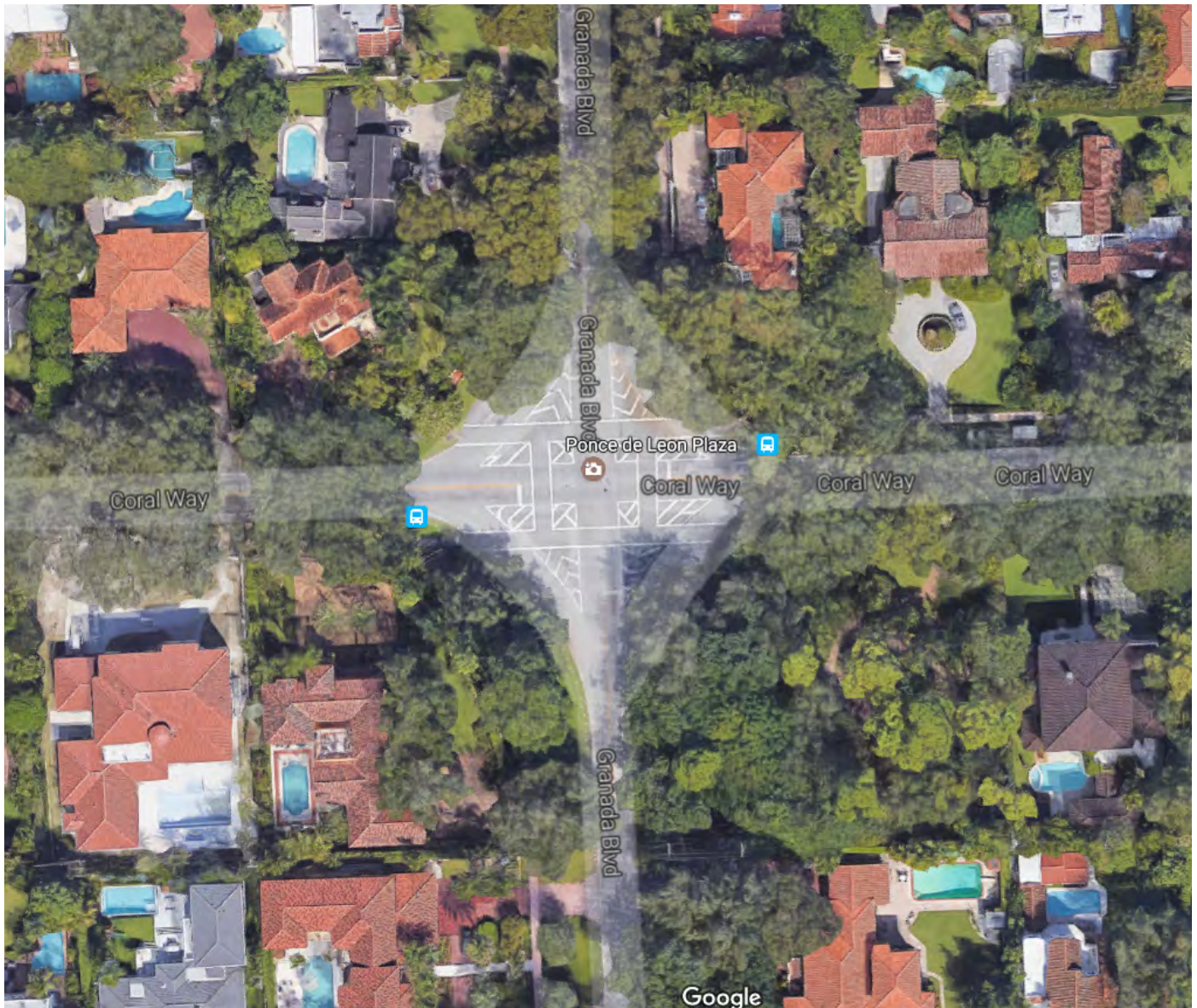
Option 2: Create an informal five-point roundabout without changing the existing curbs by adding a smaller center island and divider medians.

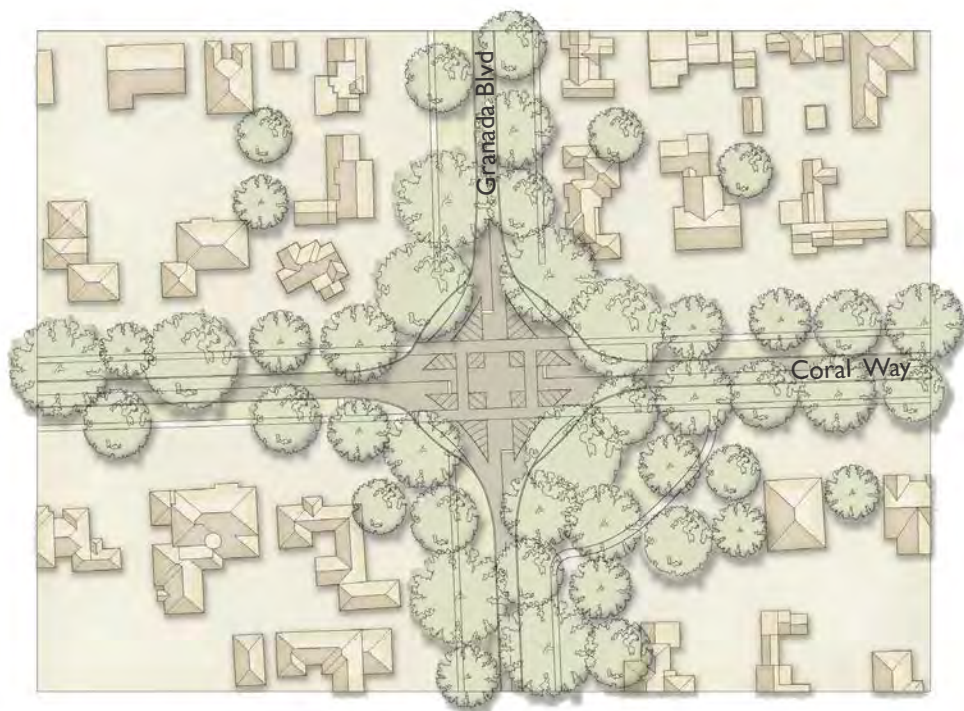


Option 3: Create a formal five-point roundabout that resolves the geometry of the intersection more completely by re-drawing the existing curbs and adding divider medians and a center island.

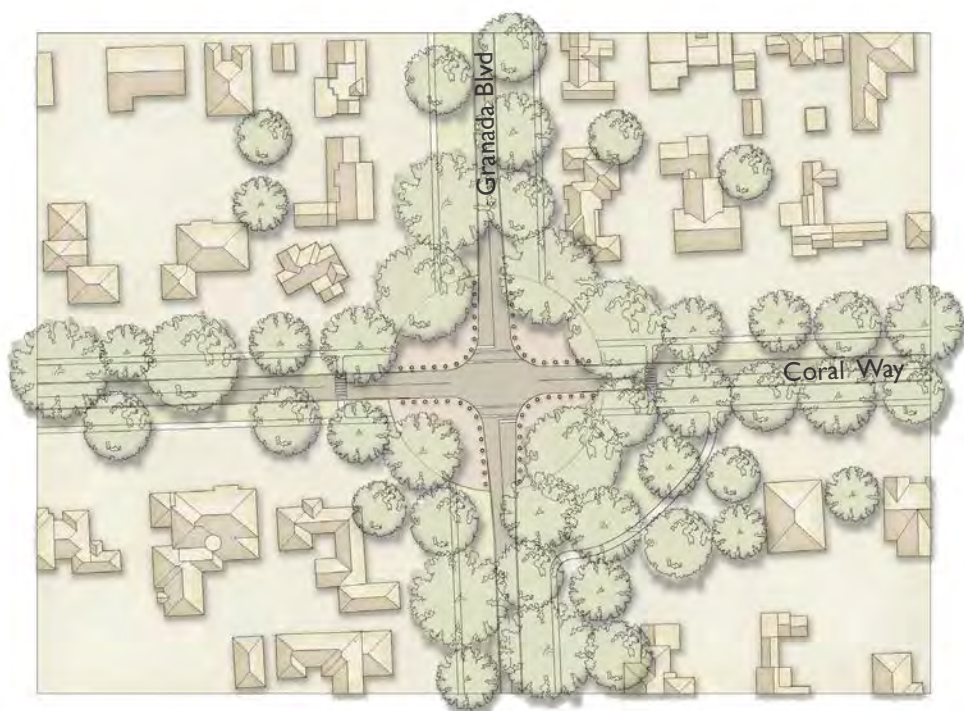
## Coral Way & Granada Boulevard

Like Coral Way and Columbus Boulevard, the intersection of Coral Way and Granada Boulevard is a confusing one that uses too much pavement and confusing street markings. This intersection also includes some of Coral Gables typical architectural elements along each quadrant of the space that are currently lost in the sea of pavement. The following design options explore ways to create a true plaza in each of the four quadrants of the space by converting to a simple 4-way intersection as well as options with roundabouts to reduce the amount of pavement and improve the flow of traffic in the area.

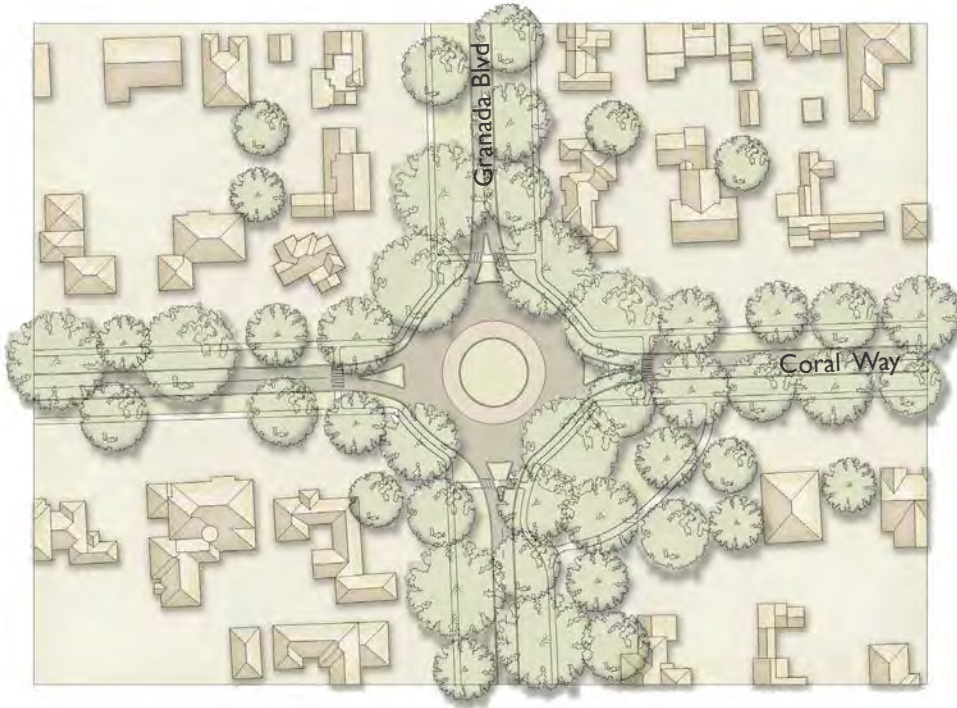




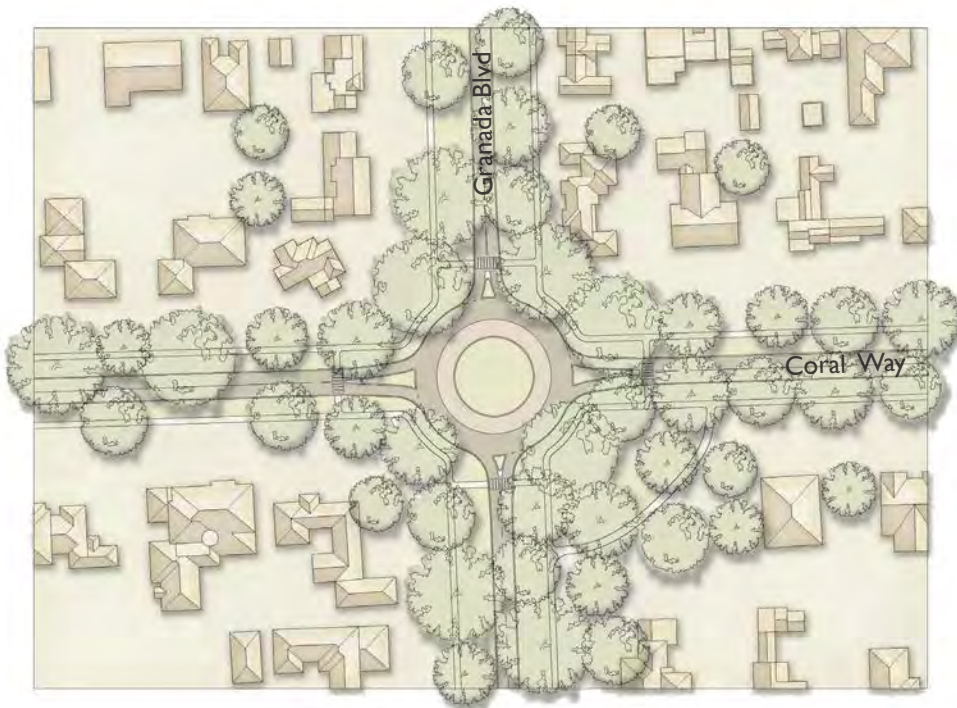
Coral Way & Granada Boulevard: Existing Condition



Option 1: Convert to a typical 4-way intersection and create a plaza at each quadrant. The plazas may be flush with the street or have a small curb and they may be separated from the road with bollards, pots, or planters.



Option 2: Create an informal four-point roundabout without changing the existing curbs by adding a smaller center island and divider medians.



Option 3: Create a formal four-point roundabout that resolves the geometry of the intersection more completely by re-drawing the existing curbs and adding divider medians and a center island.



Coral Way and Granada Existing Condition



Coral Way and Granada Visualization of Option I: 4-way intersection with Plazas



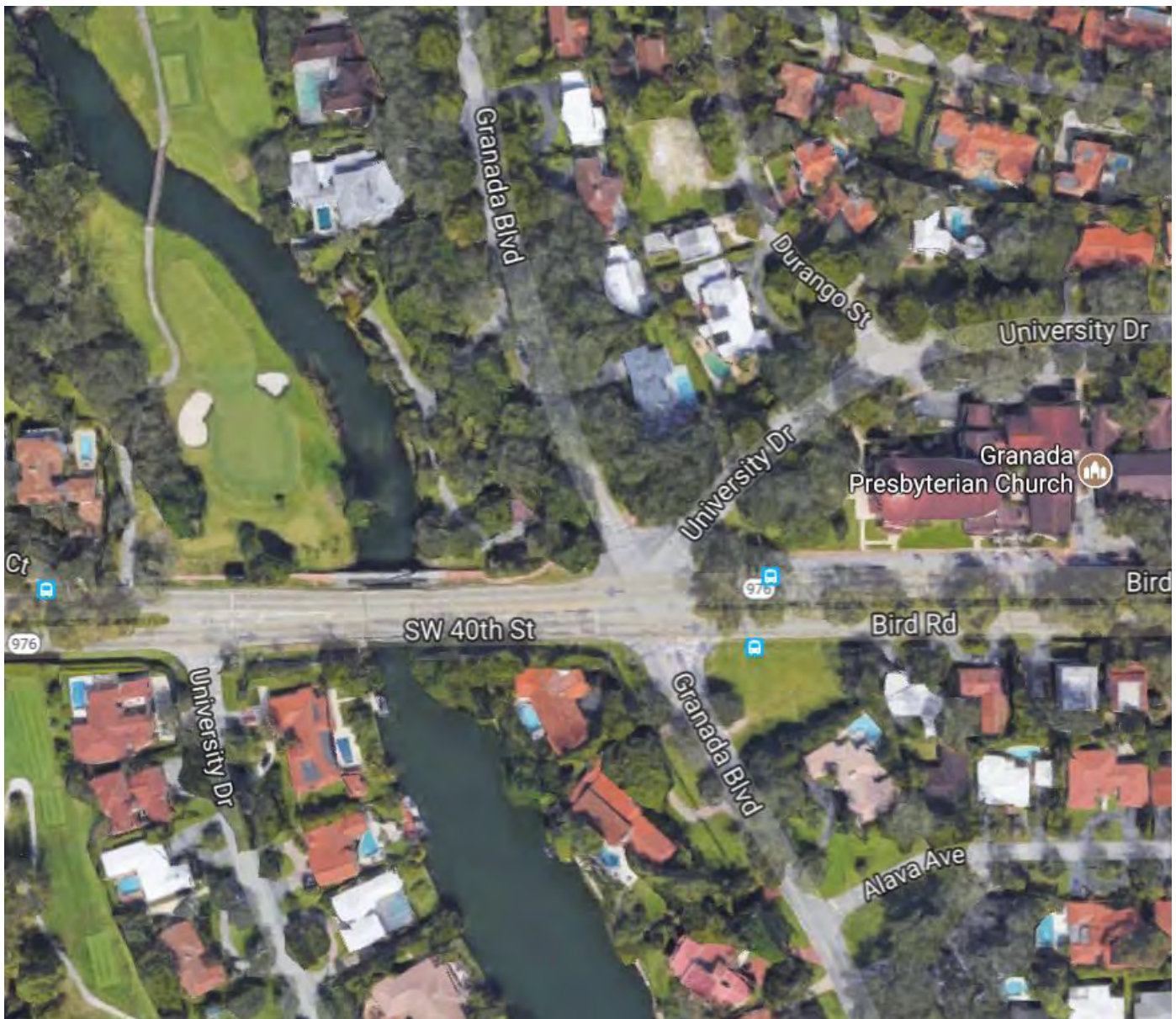


Coral Way and Granada Visualization of Option 3: Formal 4-Point Roundabout

## Bird Road & Granada Boulevard

Currently, the intersection of Bird Road, Granada Boulevard, and University Drive is a confusing juncture of streets with high levels of traffic, few crosswalks, and no way to circulate safely by foot or bicycle. While the intersection does work to move cars, it can be improved to allow for safer bike/ped crossings and simplified to better serve drivers who are unfamiliar with the area.

The following designs incorporate new Coral Gables bike infrastructure planned along University and serve to improve circulation for pedestrians, cyclists, and vehicles.





Bird Road and Granada Boulevard Existing Condition



Planned Multi-Use Trail



Option 1: Add the multi-use trail and protected bike lanes planned along University Drive, in addition to high impact crosswalks, sidewalks, and splitter islands that help protect pedestrians as they cross the street.



Option 2: Create a five-point, two-lane roundabout at the intersection that will simplify the movement of cars and help traffic flow more efficiently. Add the multi-use trail and protected bike lanes planned along University Drive, in addition to high impact crosswalks, sidewalks, and splitter islands that help protect pedestrians crossing the street.

# STREET RECOMMENDATIONS

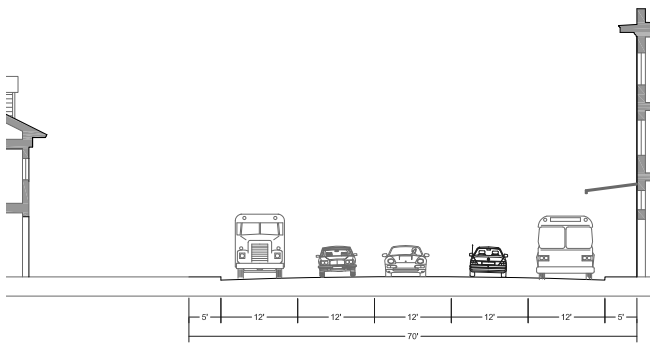
In addition to intersections, improvements to street sections throughout the city can be improved with pedestrian safety in mind. Excess pavement of existing travel lanes can be reallocated to other transportation modes.

## Lejeune Road & SW 8<sup>th</sup> Street

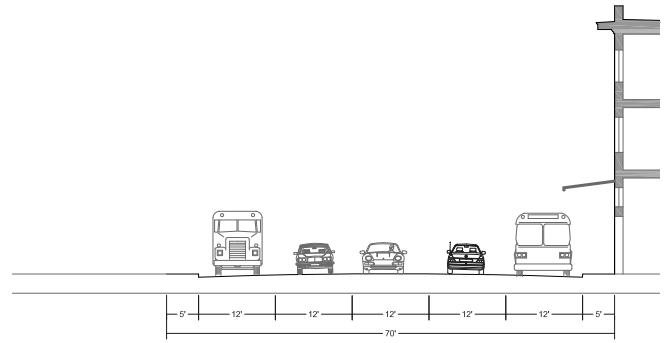
The existing conditions for Lejeune Road and SW 8<sup>th</sup> Street has a minimal 5' sidewalk directly against a five lane road section with two lanes in each direction and a central turn lane.

The proposed street sections would reduce the width of the travel lanes to create a 4' planting strip on each side of the road for street trees. The planting strip also provides a location off of the sidewalk for light poles, trash receptacles, electric boxes, and other infrastructure that often blocks the sidewalks.

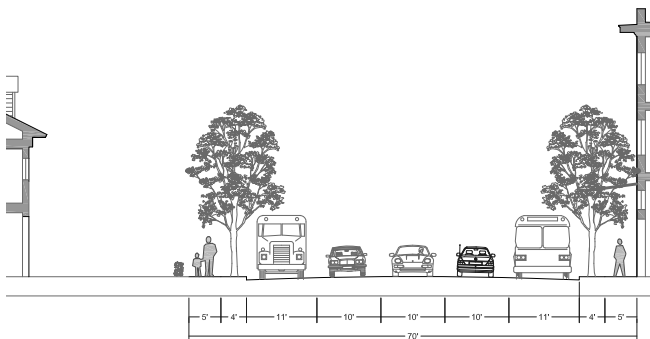
In more commercial areas, the planting strip could be tree wells with wider sidewalks.



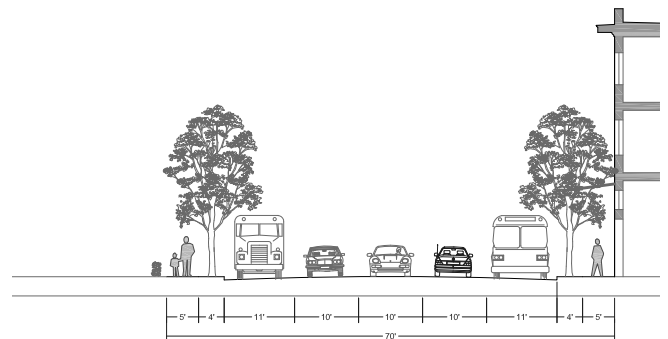
Lejeune Road - Existing Conditions



SW 8<sup>th</sup> Street - Existing Conditions



Lejeune Road - Proposed

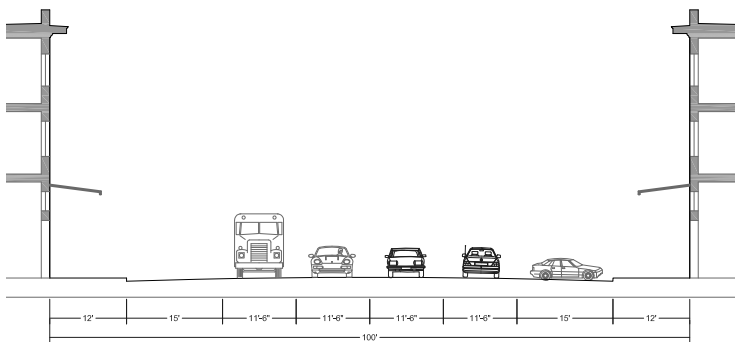


SW 8<sup>th</sup> Street - Proposed

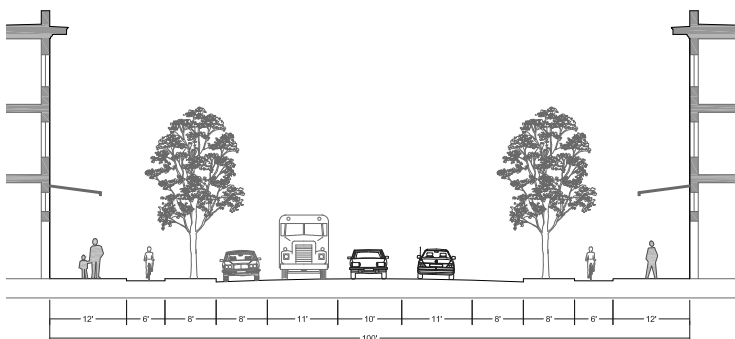
## Biltmore Way

The existing conditions for Biltmore Way has a generous 12' sidewalk with angled parking on each side of the street with four wide travel lanes.

The proposed street section would reduce the width of the travel lanes as well as convert the angled parking to parallel parking. This will create a enough space to create a grade separated bike lane in each direction. The bike lane can be separated from the roadway with an 8' planting strip for new street trees and separated from the sidewalk by being at a slightly lower level than the sidewalk.



Biltmore Way - Existing Conditions

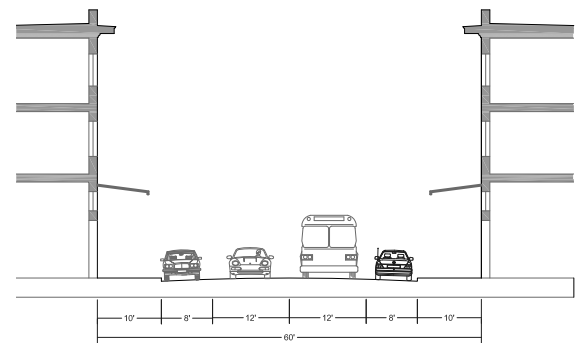


Biltmore Way - Proposed

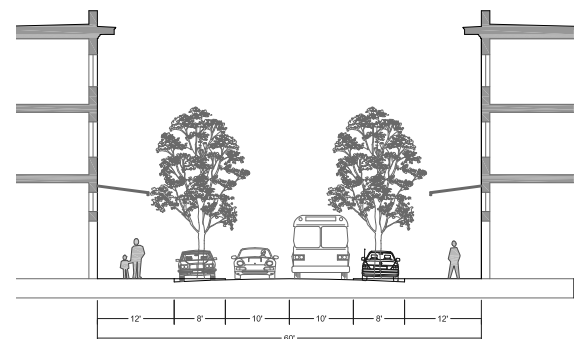
## Typical Downtown Street

Typical streets in the downtown have a narrow 60' right of way. There are 10' sidewalks with 8' for parallel parking and a 12' travel lane in each direction.

The proposed street section would reduce the width of the travel lanes to widen the sidewalk and plant street trees occasionally within the parking strip.



Typical Downtown Street - Existing Conditions

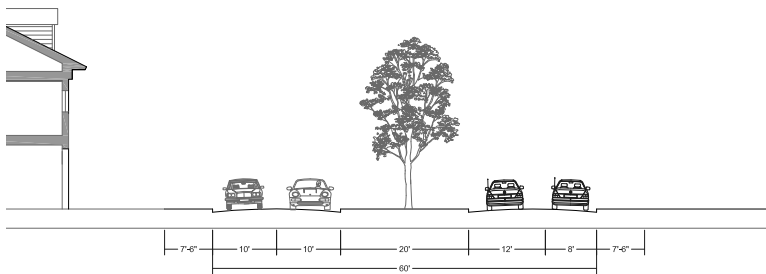


Typical Downtown Street - Proposed

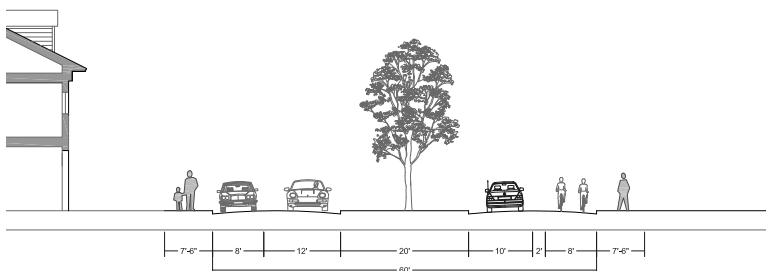
# San Amaro Drive

San Amaro Drive has a typical street section of 7.5' sidewalks with a center median that divides two travel lanes in one direction from a single travel lane with on-street parking in the other direction.

The proposed street section would keep the sidewalks and medians as they are but would reallocate the pavement within the roadway. The two travel lanes would become a single travel lane with on-street parking while the other side remains a single travel lane with a buffered bike lane.



San Amaro Drive - Existing Conditions

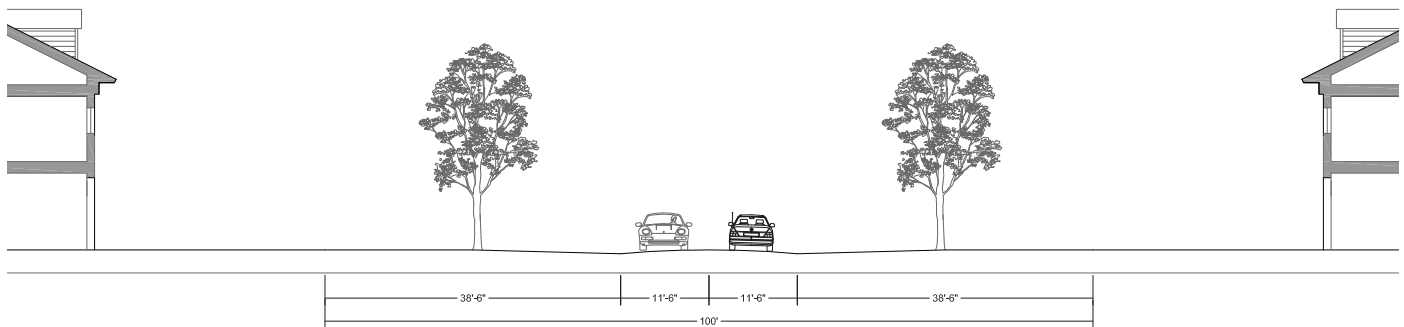


San Amaro Drive - Proposed

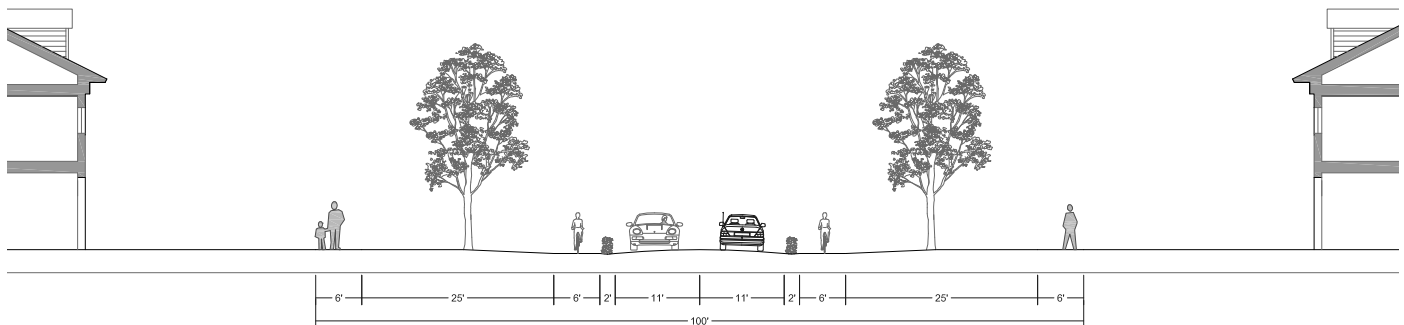
# Granada Boulevard

Granada Boulevard has a 100' street section with no sidewalks and two 11'-6" travel lanes, one in each direction. Existing trees are planted within the wide right-of-way that remains, allowing large trees to define the streetscape.

The proposed street section would add a 6' sidewalk at the outside edge of the right-of-way. A small buffer from the street can separate a new bike lane in each direction.



Granada Boulevard - Existing Conditions



Granada Boulevard - Proposed



The following illustration shows the proposed bike lane and sidewalks along Granada Boulevard.



Granada Boulevard - Existing Conditions



Granada Boulevard - Proposed

# BIKE RECOMMENDATIONS OVERVIEW

The Coral Gables Comprehensive Multi-modal Transportation Plan is taking the approach to re-balance the way people get around, and provide a variety of choices that involve healthier transportation choices like walking, bicycling, and transit for those who would like to use them. The plan seeks to enhance and connect the urban trails, greenways, and other bike facilities.

The Coral Gables Transportation Plan is part of a larger city goal to increase routine physical activity, improve health, lower health care costs, reduce the amount of climate-changing pollutants we release, and ultimately to become a more sustainable community.

Bicycle planning is about giving a community a viable transportation option that complements the existing network - an option that encourages lively streetscapes, a healthy population, and a more livable and sustainable human habitat.

To continue the growth of “bicycle culture” in Coral Gables, necessary improvements for personal safety need to be addressed. Riding a bicycle should not require bravery. Yet that is the perception among cyclists and non-cyclists. Separated, buffered bike facilities, improved intersections, and secure bicycle parking are all ways to address these common concerns.



## What We Heard

The ability to bike safely in Coral Gables is a priority to residents, business owners, and stakeholders. During the September Open Houses, the “Money Game” revealed that participants invested on average close to 20% of the City’s transportation budget into bike facility improvements.

The public participation process also revealed a series of basic street design and policy principles to encourage more people to use their bikes as a means of transportation. Developed by residents’ feedback during the planning process, the five “Guideposts” embody the vision of the participants for the future of bikeability in the City Beautiful.



### Five Guideposts for Bikeability

- Reallocate pavement from motorized vehicles to reduce traffic speed
- Add protected bike lanes
- Improve “last mile” connections for a better transit system
- Expand regional bike share
- Introduction of covered bike parking



# BIKE RECOMMENDATIONS

## Bicycle / Pedestrian Plan

The City of Coral Gables has a Bicycle / Pedestrian Plan that was developed by The Street Plans Collaborative. This plan has excellent recommendations for improving Coral Gables streets with bicyclists in mind. Prioritizing the implementation of this plan is key to improving Coral Gables streets and connecting key elements of the bike network.

The recommendations in this section are minor additions to the existing Bicycle and Pedestrian Plan.

### KEY

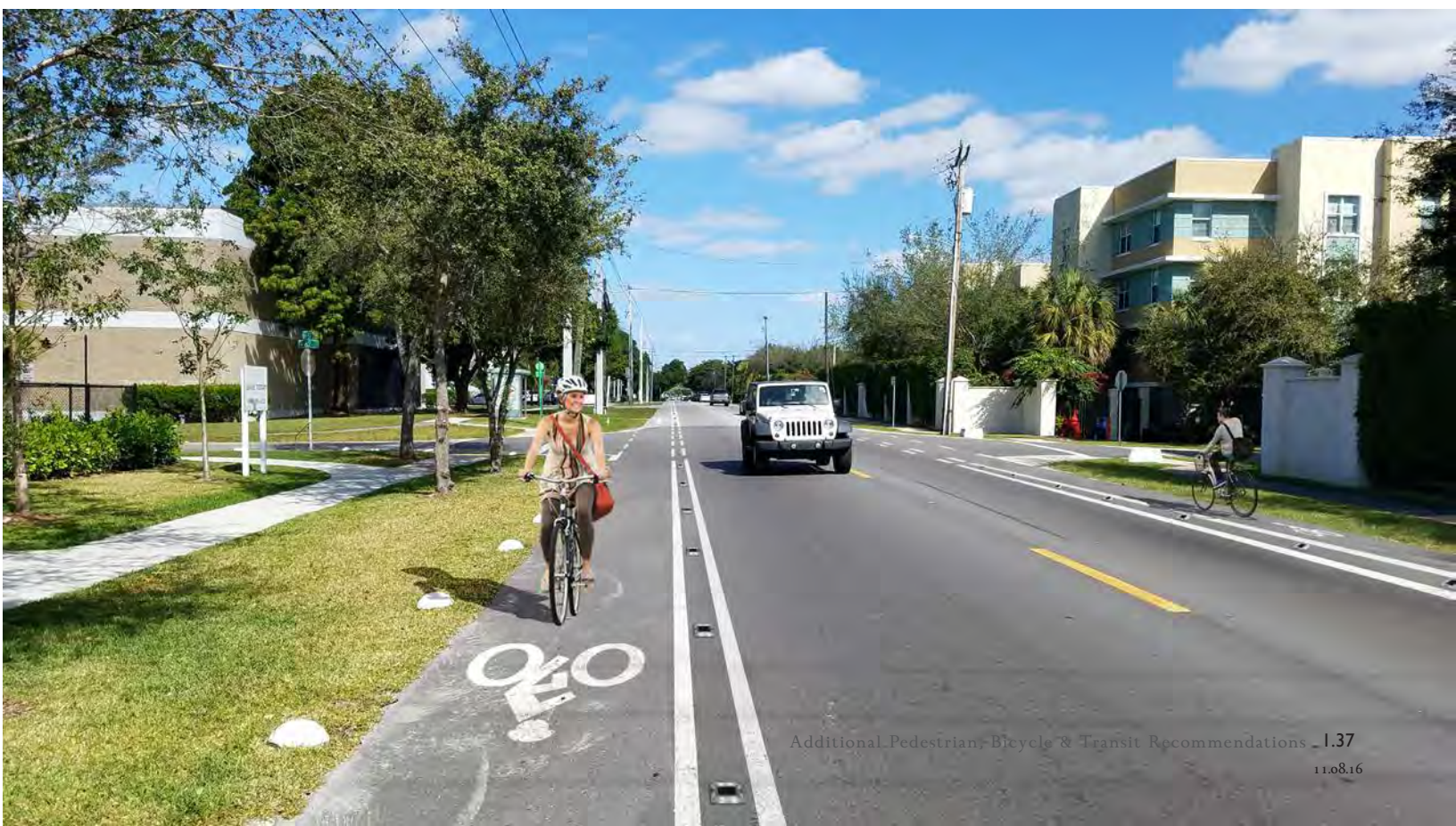
-  Existing Bicycle Facility
-  City Limits
-  Regional Destinations
-  Regional Connection
-  Shared-Use Paths
-  Protected Bike Lane
-  Bike Lane
-  Bicycle Boulevard



**CORAL GABLES**  
 BICYCLE / PEDESTRIAN PLAN  
STANTEC STREET PLANS COLLABORATIVE

## Last Mile Improvements

Narrowing travel lanes and converting large roadside buffered areas into buffered bike lanes can help to connect the overall bike network.



## Bike Commuter Stations

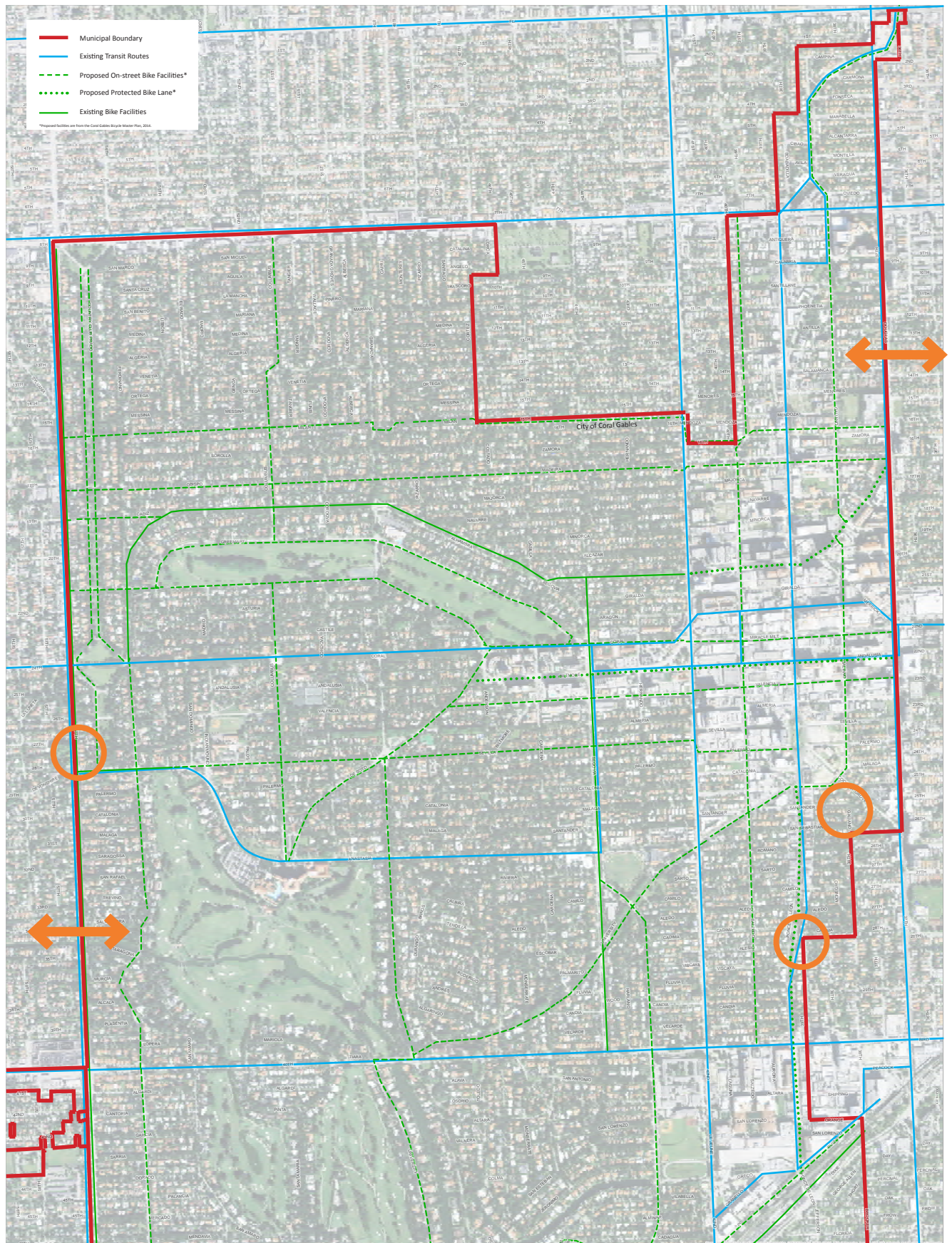
Adding bike commuter stations at key transit areas can encourage more people to bike to transit. Bike commuter stations include secure bike racks, showers and locker rooms. Suggested locations for stations include:

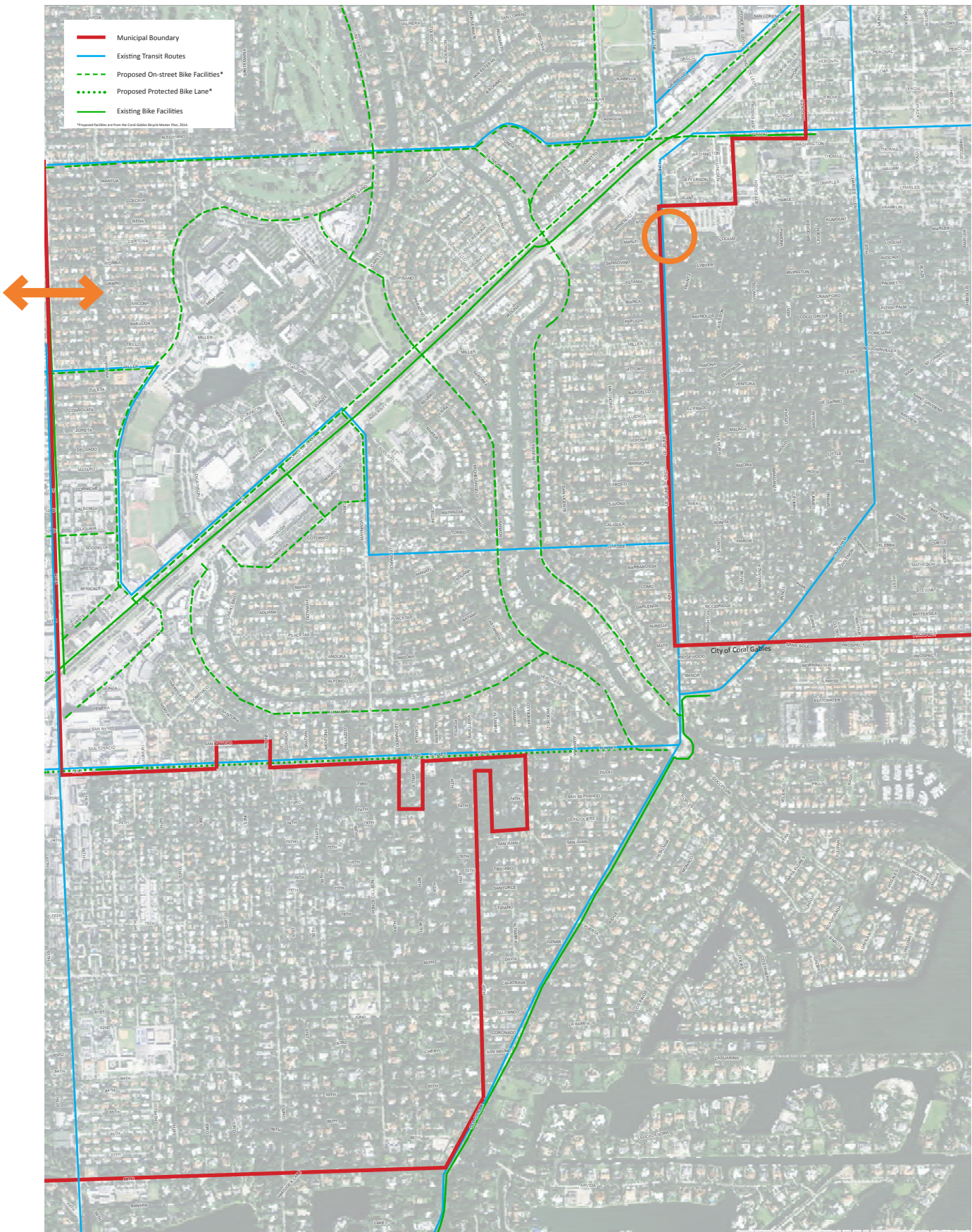
- Mediterranean Village
- Alhambra & Salzedo
- Ponce & 8th
- Sunset & Red

## Connections

Through the public process, addition bike connection locations were identified as illustrated on the following maps.

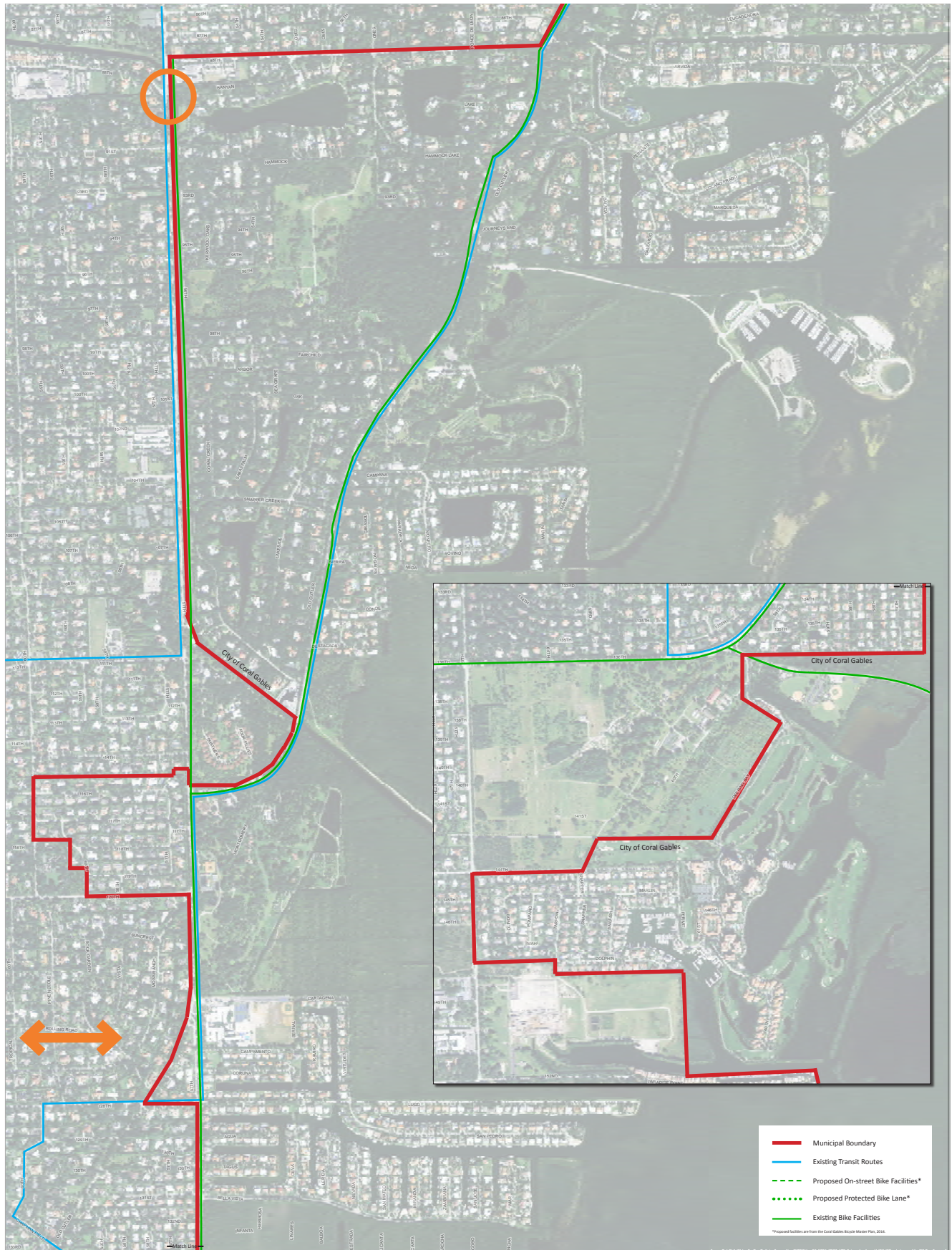






I.40 Coral Gables Comprehensive Multi-Modal Transportation Plan





# TRANSIT RECOMMENDATIONS OVERVIEW

Transit is a key component of new development in Coral Gables. Ten minutes, or approximately half a mile is the distance an average person will walk to reach a transit station or other major destination. The creation of compact, walkable, transit-oriented development reinforces the shift to walking, biking, and transit, without putting undue stress on the vehicular network. Transit solutions must also grow to accommodate growth in ridership.



# What We Heard

Participants in this planning process consistently prioritized long-term investment in high-capacity transit as a visionary and important element of Coral Gables' future. On an average, participants invested more than a quarter of the City's transportation budget into transit in the "Money Game" during the September Open Houses.

Specific elements of improvement to the transit system were also revealed during the public participation process. Using this feedback, five "Guideposts" were developed that embody the vision of the participants for the future of transit and development in Coral Gables.

## Five Guideposts for Transit

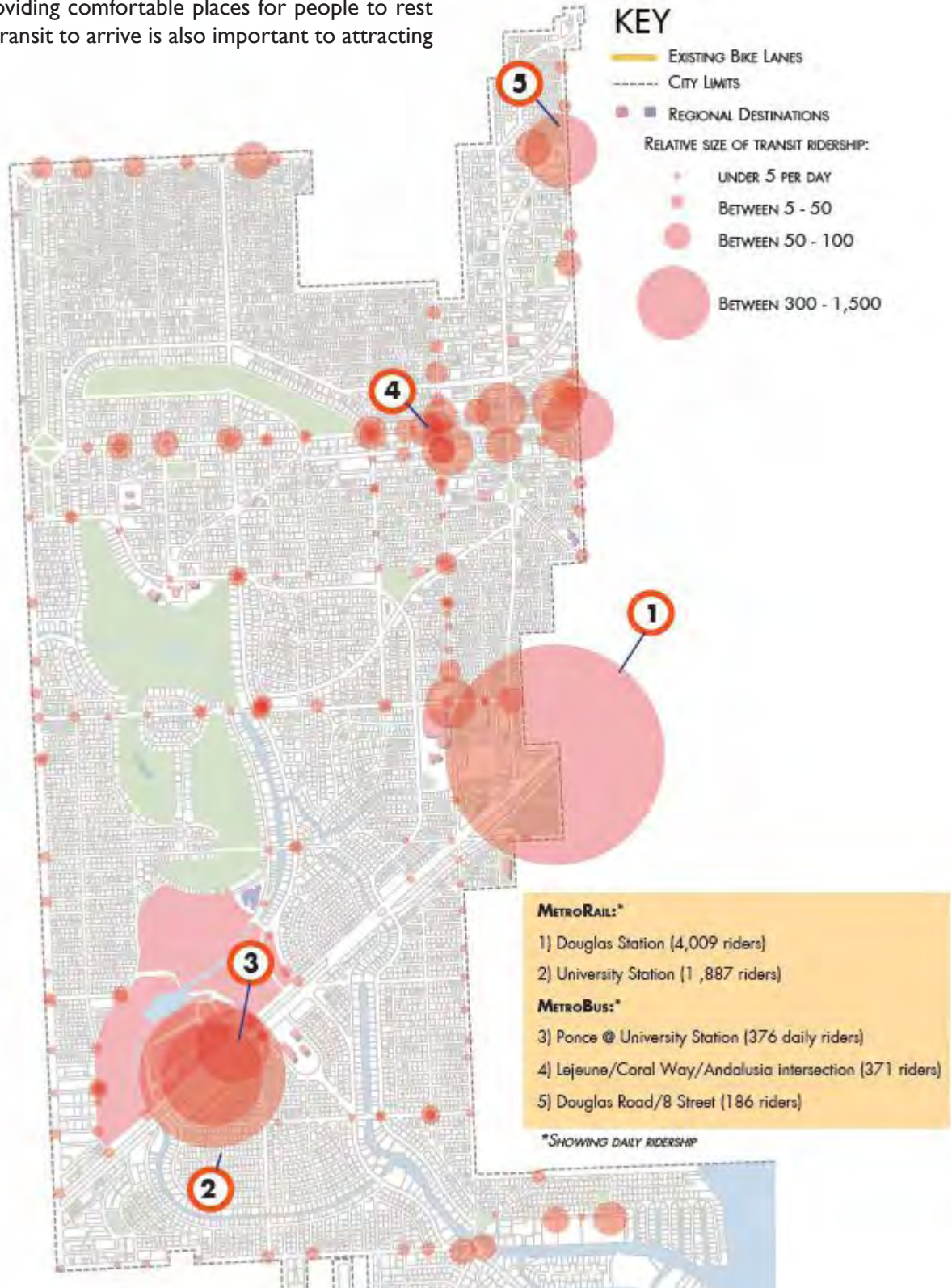
- Improve overall transit
- Expand and improve trolley system
- Locate development near existing transit
- Enhance access to Miami-Dade Transit routes
- Provide bus shelters



# TRANSIT RECOMMENDATIONS

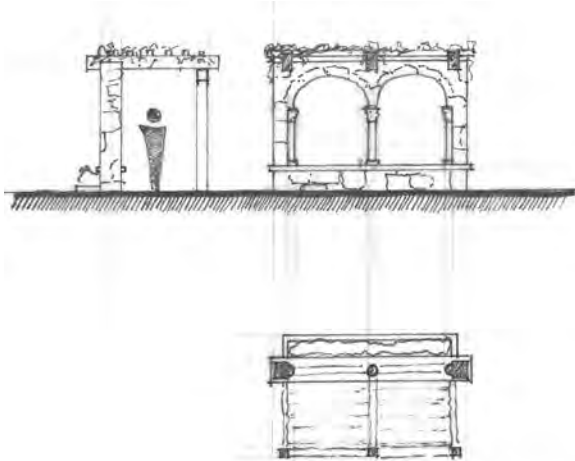
## Transit Users

The Bicycle / Pedestrian Plan has a map illustrating the transit areas with the most ridership. Connecting people to these stations is key. Providing comfortable places for people to rest while waiting for transit to arrive is also important to attracting ridership.

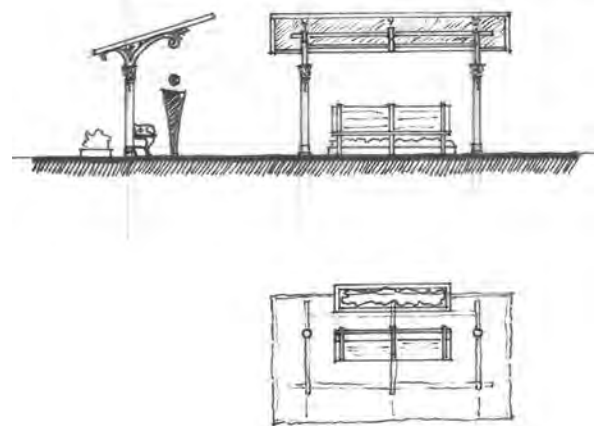


# Bus Stop Concepts

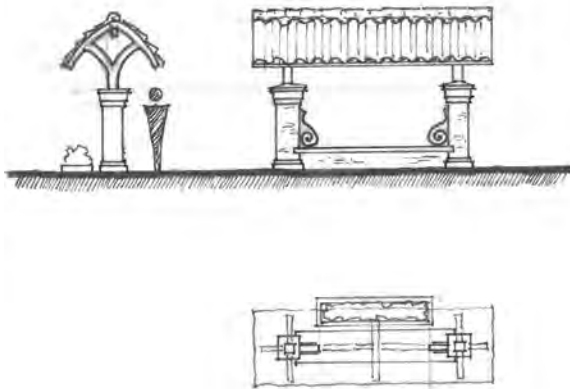
An integral part of street life is the street furniture, including any transit stops. A pleasant stop that integrates with the character of a city, or neighborhood can be a finishing touch to an experience rather than merely a utilitarian construct. With this in mind, several options have been discussed as possible structures that could play an additive role in the conveying the spirit of George Merrick's Coral Gables.



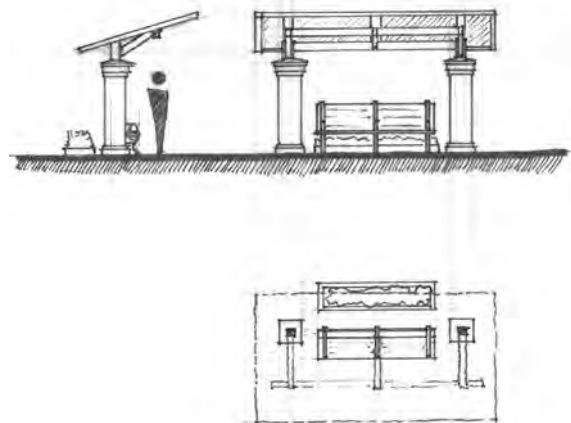
Option A incorporates a trellis motif within a series of small arches supported by columns. Taking inspiration from Piranesi's romantic engravings of Rome, this bench recalls medieval, or early Renaissance Italian cloisters though the incorporation of seating in between the columns. Additional greenery is incorporated into ground planters behind the bench.



Option C makes more use of iron as a material for the bus shelter. Recalling the metal transit structures of Paris and the City Beautiful movement, this bus stop makes use of an Art Nouveau aesthetic. This design approach takes inspiration from natural forms, providing for a connection to the Garden City of Coral Gables. A park bench for seating allows for ease of replacement in case it is damaged. An optional ground planter behind the bench incorporates greenery.



Option B is designed with small downtown streets in mind. By minimizing the structure's footprint, more room is possible in the sidewalk. Using traditional elements such as Doric piers and side volutes establishes a local connection to Coral Gables. A wood roof frame provides shelter with a profile that recalls Gothic arched windows. A ground planter brings greenery into an urban setting.



Option D is similar to option C in the form of the roof to the bus shelter, however the posts on either side are Doric masonry piers. These piers create a base for a metal frame to the canopy of the bus shelter. Again, a park bench allows for easy replacement and an optional ground planter incorporates vegetation.

