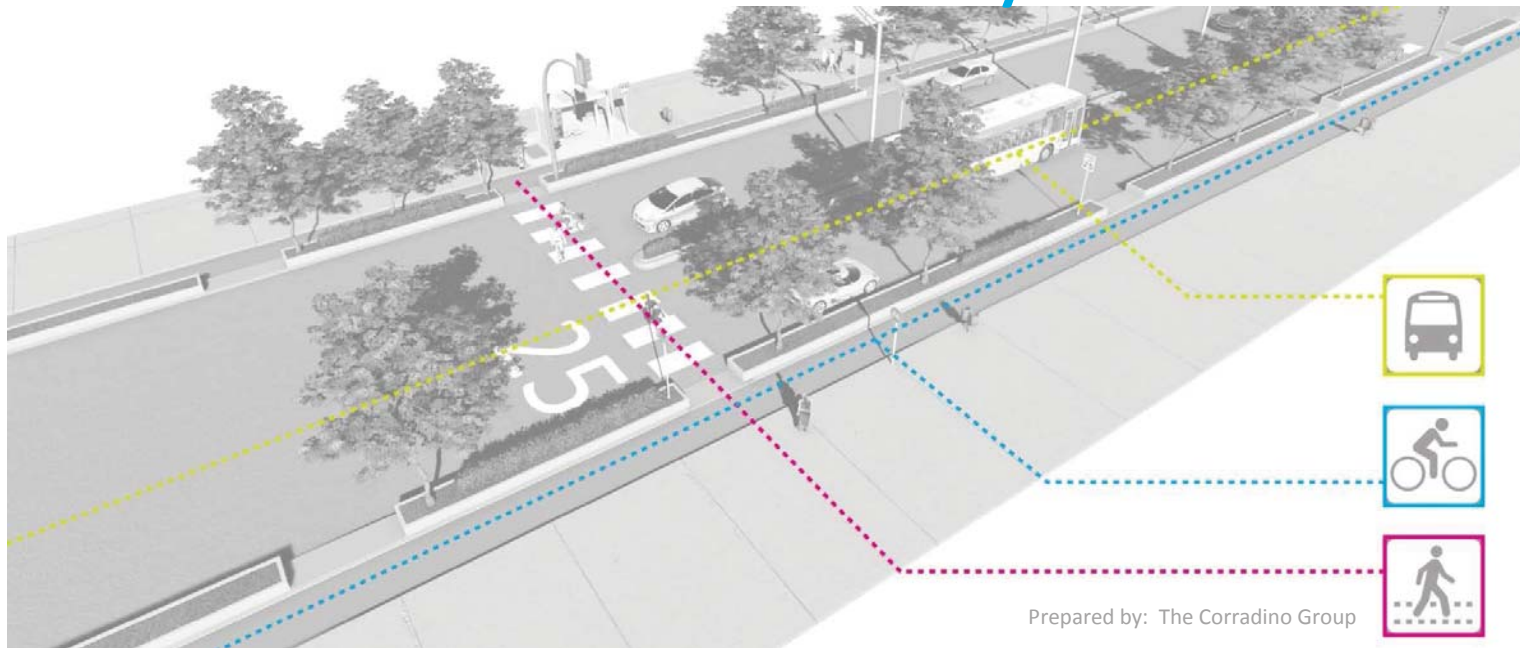


Doral Transit Mobility Plan 2014



Prepared by: The Corradino Group



Visioning

Doral is one of few cities in Miami-Dade County with significant residential, commercial and industrial areas, and is an employment hub which generates tremendous amounts of traffic on a daily basis, drawing tens of thousands of people each and every day.

Due to its location and surrounding major transportation facilities, as well as the rapid development of the surrounding area, Doral contends with an array of multimodal transportation concerns that require immediate and significant attention. Safer streets and healthier communities must be a priority moving forward, due to the fact that little, if any, more space can be dedicated to the single occupancy automobile, while travel trips remain high and there is an increment of activities in the area generating vehicular congestions. There is a need for transit alternatives that would alleviate the reliance on single occupancy automobile, and move towards a healthier pedestrian, bicycle, and transit environment.

This Transit Mobility Plan is focused on further linking all modes of transportation together by looking to ensure that roadways have the multimodal capacity. The goals of this study were to:

- Preserve and maintain the transportation system in Doral
- Promote safe and secure multi-modal transportation
- Support intermodal access and connectivity
- Support economic growth
- Preserve quality of life in Doral

The scope of work for this project incorporated extensive data collection and analysis, an assessment of existing projects and future needs, development of projects, and an implementation plan. The project consisted of eight tasks including:

- Task I:** Public Involvement
- Task II:** Review of Background Information and Previous Studies
- Task III:** Data Collection
- Task IV:** Analysis
- Task V:** Project Development
- Task VI:** Implementation Strategy

Task VII: Education and Awareness Program

Task VIII: Reporting

As opposed to a program aimed at general guidelines, this study instead analyzed the specific conditions and objectives of the community. Mobility exists throughout all of Doral in some form, though not in all types of transit—walking, biking, auto, and bus/trolley transit.

Specific objectives of the Transit Mobility Plan included the following:

- Identify a comprehensive sidewalk and crosswalk network that enables safe and reasonably comfortable walking trips throughout the City;
- Develop a safe bicycling network that accommodates local short trip users and connects to regional bike routes for use by cycling commuters;
- Identify transit system enhancements to make transit an effective alternative to driving.

Key concepts which arose through the course of this discussion were those of barriers and connectivity. Traditional ways of looking at transportation are predisposed toward an overall systemic evaluation. Yet, multimodal transit also has considerations of proximity, connectivity, mobility, accessibility, comfort and desirability. Good urban design echoes many of these considerations in its own terms: walkability, protection from weather, unity in sense of place, the compatibility of land uses, and easy orientation for users.

By applying concepts of urban design, and specific siting locations to bridge these connections between different modes, taking into factor proximity not only to the origins and destinations but also the relationship between the physical aspects of these different modes, the City thereby intends to utilize the notion of “transit by design” to increase mobility and accessibility within the City.



Doral at a Glance

Doral is a Young, Affluent, Mobile Community...

Doral

Population: 47,156 (2012 Census Est.)

Land area: 15 sq. miles.

Jobs: 72,780 (US Census 2011), 94.2% of employees live outside of Doral

Resident Workforce: 18,765, 77.7% work outside of Doral

Demographics - Doral vs. Miami-Dade

	Doral	Miami Dade
Youth (< 18 year old) population	31%	21%
Elderly (>65 year old) population	5%	14%
Poverty Rate	8%	21%
Population with Disabilities	3%	10%
Households without Automobile	2.4%	11.6%
Median Household Income	\$ 70,157	\$41,420
Median Age	32.4	38.6

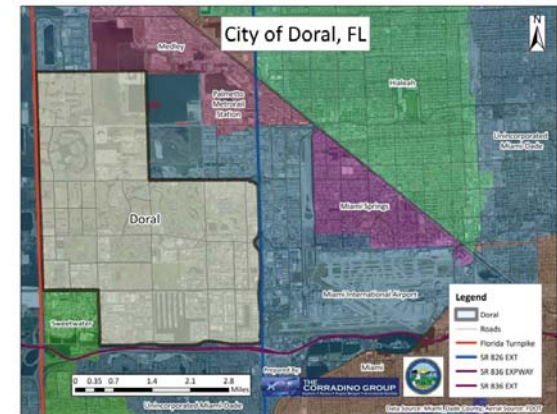
Transportation problems primarily exist because of the fact that the population of the City more than doubles during the day, with over 100,000 people working and playing within the City of Doral. In addition, vehicular travel is the overwhelmingly dominant mode of transportation utilized in Doral.

Compared to Miami-Dade County, Doral's population is more likely to use personal vehicles for transit, and less likely to use public transit, walking, or other means of transportation. This has much to do with the mobility choices offered in Doral, as well as those regional opportunities.

Transportation Network

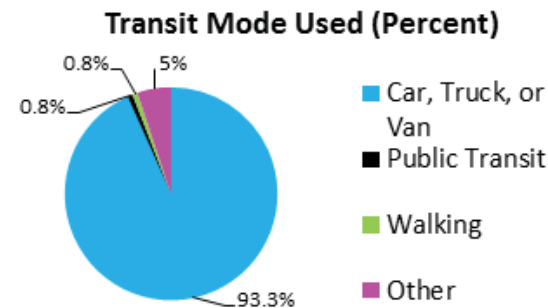
Approximately 204 miles of roads, including highways, service the city of Doral, which fall into 4 categories of responsibility:

1. State
2. County
3. City
4. Private



City of Doral

Doral must work across multiple jurisdictions to effect systemic changes affecting vehicular, bicycle, and pedestrian traffic. Private roads (87.8 miles) compose the largest component of Doral's road infrastructure. Doral's maintenance responsibility consist of 59.83 center line miles.



Data Source: American Community Survey, US Census (2012)

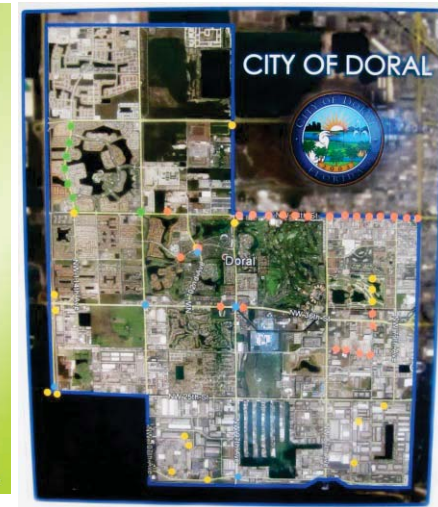
Public Engagement

Two workshops were held over the course of this study to involve the public and provide a venue for feedback and suggestion. The first workshop, held in two sessions in February 2014, presented background findings to date and solicited feedback from the public on areas of concern for further investigation, as well as potential projects. The second and final workshop was held on September 30th, 2014. The emphasis of this workshop was on the presentation of proposed projects, and acquiring feedback from the public on these projects.

Primary focus of feedback from the attendees included concerns regarding bicycling routes, gaps in sidewalks, and missing infrastructure, and missing road linkages, along with truck routes. The perception of safety and viability of alternative modes of transportation was also discussed.

As part of the second workshop, audience members were invited to review the boards, which provided the location of each proposed project in the recommended nodes, and corridor areas and their associated project costs. Audience members were asked to place green dots on projects they liked or felt were important and red dots on projects which they did not agree with or felt were not as important. Significantly, there were no red dots placed on the proposed projects.

Outreach for the workshops was effected through listserv email blasts from the City, as well as posting of ads on the City's website and in City Hall. Ads were also placed inside the City Trolleys and on Facebook.



Evaluation: Data Collection and Needs Assessment

Basis of Analysis:

The Data Collection and Needs Assessment herein took a multidisciplinary approach which took into account ideas/concepts of Complete Streets in the creation of a more “Complete System” which incorporates policy and transit by design. In evaluating the transit system, this analysis objectively applied standards for the various components of a multimodal system, expanding to include qualities of regulations which dictate land use, the placement or design of infrastructure, or incentive programming in transit demand management.

Each mode of transit has innate qualities that lend to their attractiveness as a mode of transportation, and range from timeliness of transit, to the perceived and actual distance of the trip, to the amenities involved with each mode. In evaluating mobility and accessibility, connectivity is a key element which determines the viability of transfers between modes within a trip.

The Needs Assessment utilized information on existing conditions and applied them to considerations of **Current Land Use**, Doral’s **Pedestrian** and **Bicycle Networks**, the **Transit Network**, and integrated both policy and the key concepts of connectivity, accessibility, and personal mobility into the evaluation.

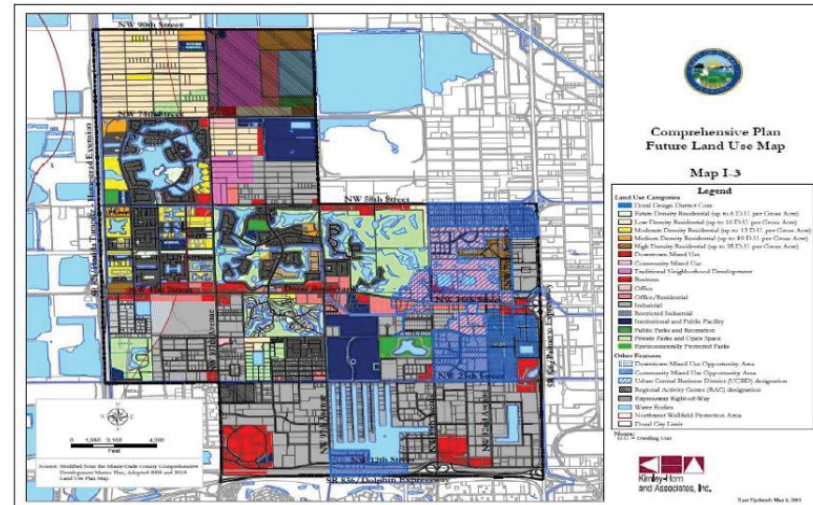


Land Uses and Development Patterns

The existing built environment in Doral consists of predominantly commercial and industrial uses in the southern area with primarily residential and commercial components in the west, central, and northeastern portions of the City. Future land use in Doral will retain much of the same pattern, with new mixed-use development to occur in the north and in Downtown Doral.

Most buildings in Doral, including strip malls and standalone commercial structures, have parking in the front between the street and the building. Parking is also segregated by property ownership, and there are few public parking facilities.

In Doral, grid layouts within sections are blocked in many areas by cul-de-sac and curvilinear roads and by several large golf courses which obviously have no streets through them. In many cases, roadway ROW widths have been completely utilized by widened roads with multiple lanes and ideally a sidewalk. As the City moves forward, consideration should be given to reserving remaining unused ROW width for widened sidewalks, bike lanes, or dedicated transit lanes to achieve a Complete Streets system.



Land Use and Demographics: Transit Supportiveness

Population and employment densities are utilized as key predictors of potential need and support for transit service operations. Transit supportiveness based on population can be based on the following population and employment thresholds:

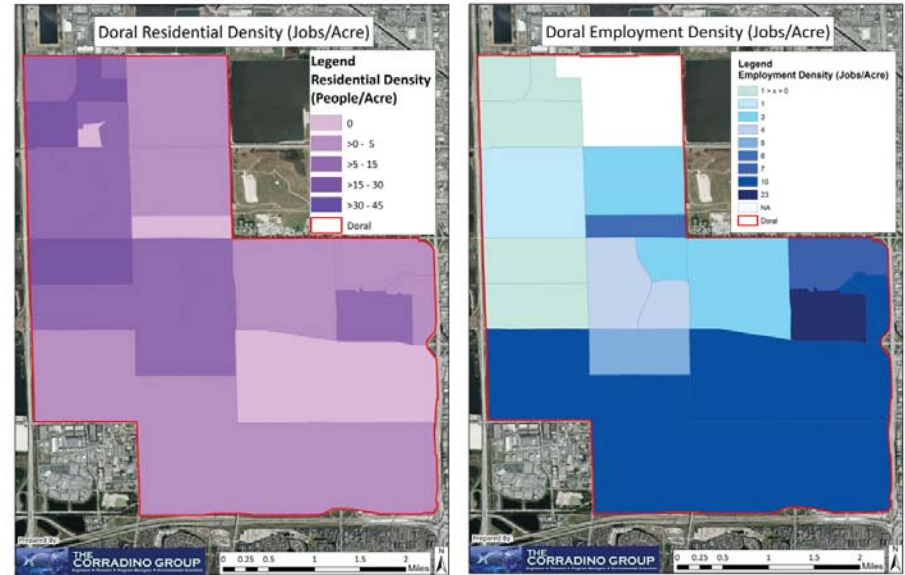
- **Low** (15–30 persons per acre) – Supports basic bus service with 15-30 minute headways.
- **Medium** (31–45 persons per acre) – Supports high frequency bus service, with 10 minute headways, and bus rapid transit (BRT) service.
- **High** (> 45 persons per acre): Supports enhanced transit modes including BRT and light rail.

Transit Type	Gross Employment Density (Jobs/Acre)
Heavy Rail	20-30
Light Rail/Commuter	15-20
Bus Service/BRT	10-15

Source: A Framework for Transit-Oriented Development in Florida. Florida Department of Transportation and Florida Department of Community Affairs, March 2011.

The areas of highest residential population density in Doral are in the northwest, which have upwards of 24 persons per acre, and fall into the Low transit supportiveness category. These areas can support basic bus service with 15-30 minute headways. While some of the surrounding areas do not technically fall into the “Low” category these areas generally have between 14-15 persons per acre and provide a sufficient population base for bus and/or trolley service.

Most of the City’s concentration of employment is in the east and south of Doral, with employment density (jobs/acre) primarily ranging from 10 to 23 in these areas. At this level of development, Bus Rapid Transit or higher frequency bus route development is supported. The planned Downtown Doral area, with 23 jobs/acre, may provide under this current categorization enough employment density to consider a study of potential light rail/heavy rail as it further densifies in the future.



Land Use Summary:

- Doral retains its historic primarily suburban land use pattern which poses challenges for transportation system efficiency;
- Major commercial land uses create employment centers which result in a doubling of the City’s workday population with a corresponding impact on the transportation network;
- Developments underway and Future Land Use Map designations are creating areas of higher density mixed-use required to support walking, biking, and high frequency transit;
- Transit generators are dispersed throughout the City, which results in more travel distance and route variability;
- The existing roadway grid system is limited at the local level and new developments need to incorporate a finer grid road pattern to improve connectivity;
- ROW widths have generally been fully utilized for car lanes so ROW usage may have to be shifted to other modes and additional easements will be required from developers to add wider sidewalks, bike lanes, etc.

Pedestrian Network:

As would be expected from a historically car-oriented community, Doral’s pedestrian network is somewhat limited although major improvements have been made in recent years. Overall, the pedestrian network exhibits the following issues and deficiencies:

Sidewalks:



Sidewalk conditions - cracks, weeds, uneven segments, and similar issues - vary throughout the City and may be related to jurisdiction. In areas primarily under City jurisdiction, the sidewalks are generally well maintained.

Average sidewalk width within Doral ranges between 5’ and 6’ which is an acceptable. However, this minimum width is constrained in many locations by obstructions, such as fire hydrants in the middle of

the sidewalk, posing major issues for disabled pedestrians. Doral must work to remedy these problems and ensure ADA compliance for projects in the future.

Intersections Crosswalks: Crosswalks are generally lacking signalization, crosswalk markings, or both, resulting in prevalent jaywalking, a pervasive problem in the City. Crosswalks should be added at some of the bus stops, where there are no close means of crossing after disembarking. 44 of the 54 intersections within the City reviewed require additional facilities.

Crosswalks in Doral are generally spaced a mile apart at the major intersections; to address this issue, Doral should install mid-block crossings at key crossing points. This distance should optimally be, 0.25 miles or less from significant points on entry onto that segment of the sidewalk system.

Shading: Shading for pedestrians generally does not exist in Doral, and can be remedied by adding trees along walkways and shared-use paths.

Building Connections: Most buildings in Doral are separated from the sidewalk at the street by a large parking lot or landscaping area. Traveling across these parking lots and landscape areas requires following an indirect unmarked route that poses safety conflicts with vehicles. Some newer

developments have incorporated marked direct dedicated pedestrian connections across parking lots to building entrances.

Adjacent Conditions and Amenities: Doral’s pedestrian network is lacking in these visual and amenity walkability elements. For walking to truly be an alternative to driving, the experience of walking in a City must go beyond being possible and safe - which requires that sidewalks, crosswalks, and connections be present and meet minimal design requirements – to being appealing. Plazas, pocket parks, public art and similar elements can also encourage walking.

Pedestrian Network Analysis Summary:

To improve its Pedestrian Network, the City needs to:

- Adopt a capital projects program to install sidewalks in all locations where they are warranted with a prioritization of transit stops and areas where there is already major development;
- Prioritize streetscape design;
- Adequately mark and signalize pedestrian crosswalks and implement mid-block crossings;
- Adopt policies to prevent obstructions from being placed in sidewalks;
- Adopt policies to require build-to lines with buildings built to a street edge and parking lots on the side or rear;
- Enhance the pedestrian experience through the provision of amenities – seating, shade, and visual - creating pocket parks, plazas, public art, and similar elements.



Bicycling Network:

Doral is currently in the process of implementing its 2006 Bicycle Network Master Plan, with 8.8 miles completed (4.0 miles bike lanes, 4.3 miles shared off-road, 0.5 miles maintenance path) and 24.2 miles planned (16.0 miles bike paths, 8.2 shared off-road). Shared off-road bicycle paths in the City are typically 10 feet in width and bi-directional. Bike lanes are generally 4' in width.

Overall Connectivity and Completeness of System:

As an overall system, Doral's bicycle network is generally very limited. The bicycle network is more oriented toward recreation than transportation. Recreational aspects of bicycling are well utilized but does not significantly advance multi-modal transportation goals.



Doral's bicycle network should be redeveloped to account for more origin-destination trips. Bicycling connectivity is generally good in a north-south direction in some portions of the City; however, east-west connectivity is virtually non-existent, and should be the next step in development.

Regional access can be provided by connecting on road and off road bicycle facilities through the City to other communities on all sides, particularly to bike routes and paths in other areas of the County. Doral can prepare for the future by scheduling the implementation of routes to the City's edge at strategic areas, and by coordinating with neighboring municipalities and the County.

General Conditions and Levels of Service:



General conditions of existing off-road bicycle paths indicate a system with regular maintenance, with some exceptions. Paths are generally free of cracks and have clear striping. Shade for bicycle paths is provided by foliage and tree cover in some places, but additional shading is needed. There were no rest areas or water fountains along the current bicycle trails. People who wish to stop at certain points could stand to the side but more often would end up blocking the path.

Amenities:

Bike lockers/Racks: Existing racks are inadequate and at a minimum, Doral should adopt policies which will lead to the installation of bicycle racks at major transit generators.

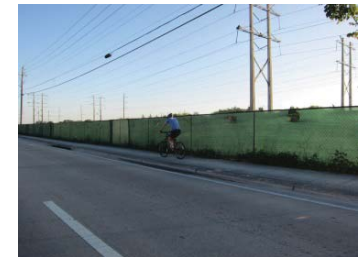
Lighting: Lighting of bicycle and shared off-road paths are generally low in Doral at night. Additional lighting is necessary in order for bicycling to be a viable commuting option.

Shade/Shelter: The lack of shelters or trees along most paths indicates low amounts of shading for bicyclists. Shading provides areas of rest for bicyclists and should be incorporated into design.

Perception of Safety:

Off-Road Pathways: Established off-road pathways for the bicyclists as dedicated are well maintained. The sense of security along these established paths tend to be positive, and the paths are well utilized.

On-Road Infrastructure: The ability to safely cross or make turns are difficult at many intersections and poses major concerns for the average bicyclist, especially on roads with moderate to high travel speeds normally found on arterials and some collector roads, and are noted by the local bicycling community in Doral to be a major issue. Bicyclists in Doral tend to ride close to or on the sidewalk because of safety perceptions.



Bike Rental/Sharing:

Bicycle rental systems are a major component of a more sustainable and intermodal transportation in many cities in the region, such as with CitiBike in Miami Beach and Miami. It is recommended that the city contact several bikeshare system providers for a feasibility analysis of creating a system in Doral.

Bicycle Network Analysis Summary:

To improve the bicycle network, the City should:

- **Address the incompleteness of the current system which currently serves as a disincentive for bicycle usage by filling in infrastructural gaps;**
- **Provide for more bicycle racks and other forms of bicycle amenities within Doral;**
- **Implement a bikesharing program;**
- **Apply bicycle signalization at key intersections along established bicycle routes; and**
- **Implement connections to the burgeoning regional bicycle network.**

Transit:

Transit Riders in Doral can utilize either the Doral Trolley or Miami-Dade Transit buses for local access. Regionally, transit users may utilize either MDT buses or MetroRail. Doral is in close proximity to the Miami International Airport.

Doral Trolley

The City established a free internal circulator system, the Doral Trolley, in 2008. The system operates 8 trolleys on three routes.



Route 1 has the highest ridership, followed by Route 3 and Route 2. The City is currently improving upon the Trolley's amenities by adding bicycle racks and wifi, and should continue with this effort.



Route and Stop Modifications Are Necessary:

The analysis of ridership information for the Trolley suggests a need for stop location modifications. Stops are currently spaced fairly closely on much of the routes and generally be at least 0.5 miles apart, so that the midpoint between each stop is this 0.25 miles.

At minimum, overlaps with the other routes should be reduced. In some instances, this may lead to lower in-transit time for the travelers, which would improve their perception of transit efficiency and thereby their willingness to switch from a car to transit.

Route 2's ridership is low primarily because it is aligned to serve a future neighborhood rather than an existing one.

Bus Priority Signals:

Significant vehicular congestion exists along NW 12th St, NW 25th Street, NW 41st/NW 36th Street, and NW 87th Avenue at various points of the day, and technology to assist the flowthrough of bus traffic at these intersections and corridors such intersection signalization should be implemented.

Doral Trolley Long Range Planning:

Doral Trolley should be developed as the exclusive transit for the City, with connections emanating from a local hub in the City to other regional hubs.

Trolley Lunch and Express Routes:

Doral's daytime population is significantly higher during the day. To alleviate traffic during the lunchtime rush hour, a Lunch Express route should be explored and implemented. Express Trolley Routes from Palmetto MetroRail Station will provide improved connections to the regional system.

Miami-Dade Transit

Eight MDT Bus Routes provide service within Doral. Miami-Dade Transit currently has 3 proposed intermodal transit hubs that are close to Doral: Miami Intermodal Center, Dolphin Station, and the Palmetto Intermodal Center, which would create Park and Ride opportunities and multi-modal connections to and from the region.

Transit Summary:

- **Three Doral Trolley routes and eight MDT routes provide a significant amount of transit service in the City;**
- **The three Trolley Routes should be adjusted to improve Route and stop ridership, and underperforming stops should be eliminated;**
- **For both Trolley and MDT stops, the City should take steps to ensure that minimal sidewalk and ADA connections, as well as minimal amenities like signs and benches, are provided at every stop;**
- **For higher ridership stops and shared Trolley-Metrobus stops, the City should ensure that shelters and other amenities that improve the transit experience are provided.**



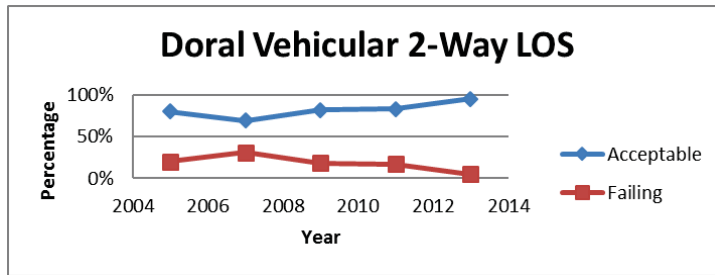
Roadway and Vehicular Traffic Analysis:

Vehicular Traffic:

Annual Average Daily Traffic (AADT) in Doral ranges from 8,600 to 43,500 (FDOT), with the heaviest concentration on the east-west arterials of NW 41 Street/NW 36 Street and NW 25th Street, and north-south arterial of NW 87th Avenue, between NW 12th Street and NW 36th Street (Florida Department of Transportation, April 2012).

Level of Service:

Vehicular LOS on the City’s roadways is regularly evaluated by the City. The City has made considerable strides in improving its road network to maintain adopted LOS.



Truck Traffic:

Truck traffic is generally high along some portions of NW 58th Street, NW 25th Street, and NW 12th Street. Additional considerations for bicyclist and pedestrians may be necessary at mid-block crossings and intersections on these streets. At some intersections on routes used by trucks, turning radii are too small to accommodate turning trucks and need to be reevaluated.

Managed Lanes: Managed Lanes are an important aspect of Doral’s future transportation system given that its eastern, western, and southern borders are the Palmetto Expressway, the Florida Turnpike, and the Dolphin Expressway. Managed Lanes can be utilized to regulate demand, to separate different types of traffic, or to utilize available unused capacity.

Missing Roadway Segments: During public workshops held for the Doral Mobility Plan, participants brought up missing roadway segments on NW 117th Avenue, NW 109th Avenue, and NW 97th Avenue. These segments should be evaluated for possible future construction.

Intersection Crash Data:

Doral regularly evaluates its Police Department’s intersection crash data. Intersections with high levels of crashes are a high priority for remedial action, to be determined after additional studies given different needs in design for each intersection. Based on a review of accident rates, the following intersections should be evaluated further:

- NW 12th Street/NW 87th Avenue
- NW 36th Street/NW 79th Avenue
- NW 41st Street/NW 107th Avenue
- NW 41st Street/ NW 97th Avenue
- NW 36th Street/ NW 87th Avenue

Parking: Parking in Doral is decentralized; street parking generally does not exist. As a result, people must utilize their cars in order to travel between businesses even if these businesses are within walking distance. Improvements can be achieved through implementation of street parking or more centralized, public parking facilities, either within the City, or, if transit is of good quality and development becomes more compact, on the City’s edge.

Complete Streets: The Future Right of Way: Doral’s rights-of-way must be rededicated to allow for bicycle, pedestrian, and transit to be viable forms of alternative transportation. Through its design code, Doral should work towards acquiring buffer space between sidewalks and vehicular ROWs.

Transit Demand Management: Transit demand management techniques, which include flex time or varying work start times, traveler information tools, etc., can all contribute to less vehicular congestion. These techniques should be implemented with the employee population in mind.

Vehicular Traffic Summary:

- **Doral’s vehicular LOS generally meet adopted levels;**
- **The concentration of truck traffic on certain roads as a result of it being prohibited on others calls for special attention to bike and pedestrian routes along these roads;**
- **Intersections with the highest crash rates should be evaluated for possible redesign that should take into account pedestrian and bicycle needs;**
- **Applied policy initiatives, such as managed lanes, transit demand management, and alternative parking policies will reduce congestion or aid in the shift to alternative modes of transportation**

Project Development and Implementation Strategy:

The Transit Mobility Plan identified multimodal transportation and mobility issues across the community by talking with the citizens and analyzing transit and roadway data and existing pedestrian and bicycling facilities. A set of multimodal projects were developed.

Projects were listed in the following categories:

- Pedestrian
- Bicycling
- Transit
- Roadway
- Policy

Projects were evaluated for based on cost, benefits, needs, and community desire in the creation of the overall project bank. After detailed consideration of these criteria, ideas from the initial lists were utilized, consolidated, or dropped. Forty-seven (47) projects were developed on a City-wide basis.

Individual projects were applied to specific corridors and transfer “hubs” intersections, with the intent of maximizing potential catalytic effects from multimodal project investments. These hub and corridor locations were developed from an analysis based on land use, focusing on current development and demographics, considerations of geographic concentrations of recommended projects, potential for immediate impact, and existing mass transit routing and traffic within the City. This analysis yielded three (3) corridor areas and six (6) transfer hubs within Doral:

Corridors:

- NW 41st Street
- NW 58th Street
- NW 87th Avenue

Hubs:

- Miami International Mall
- NW 58th Street and NW 102nd Avenue

- NW 58th Street and NW 107th Avenue
- NW 74th Street and NW 107th Avenue
- NW 33rd Street and NW 107th Avenue
- NW 25th Street and NW 107th Avenue

After the specific intersections and corridors were determined, a buffer area of one-quarter (0.25) mile from each corridor or intersection was used for evaluation of existing conditions and project implementation.

The Corridor and Hub maps served as a prioritized project bank for the City in the implementation strategy. In development of the Corridors, specific intersections which have been highlighted in the following maps should be first developed as a whole before other intersections in the Corridor are slated for improvements. 18 node areas have been identified by the Corridor and Hubs system. There are differences in the land use and geographical location of the nodes in relation to transit routes, which allow for further categorization to create better focus in project implementation. Among the various nodes, we recommend the following prioritization category levels for consideration by the City:

1. “Nexus”: Intersections which are natural transfer points for multiple Corridors or Hub concentration areas.
2. “Current High Impact”: Intersections where current traffic is high or where land use results in higher density. These improvements are likely to have a better rate of immediate impact.
3. “Future High Impact Areas”: Intersections/Areas which merited inclusion for Hubs and Corridor development based on currently developing or expected future development, such as the new mixed-use development expected in the vicinity of NW 74th Street and NW 107th Avenue.

As applied:

1. “Nexus” is recommended that the specific hubs and intersections which intersect with the designated Corridor receive the highest priority as “Nexus” transfer points. These nodes are:

- a. NW 36th Street/NW 41st Street/NW 33rd Street and NW 87th Avenue (+/- \$3,871,000)
- b. NW 58th Street and NW 107th Avenue (+/- \$531,700)

- c. NW 41st Street and NW 107th Avenue (+/- \$1,869,500)

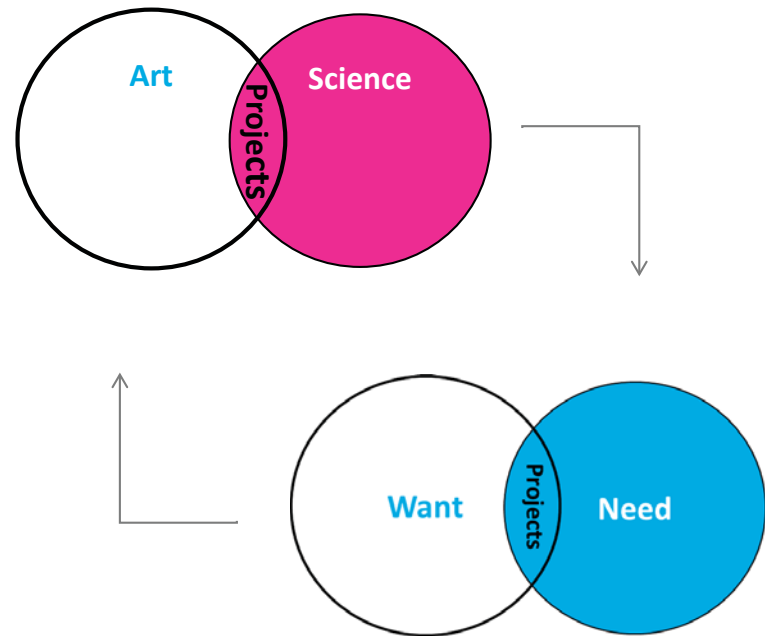
2. **“High Impact”** area nodes provide relatively high return on investment. The development of these nodes provide the second tier of development which branches the next connection and builds off the “Nexus” nodes. These nodes are:

- a. NW 12th Street and NW 107th Avenue - Miami International Mall (+/- \$361,000)
- b. NW 58th Street and NW 97th Avenue (+/- \$367,200)
- c. NW 25th Street and NW 87th Avenue (+/- \$267,500)
- d. NW 25th Street and NW 107th Avenue (+/- \$1,713,500)
- e. NW 41st Street and NW 97th Avenue (+/- \$876,800)
- f. NW 41st Street and NW 102nd Avenue (+/- \$741,000)
- g. NW 41st Street and NW 114th Avenue (+/- \$1,179,750)
- h. NW 58th Street and NW 102nd Avenue (+/- \$1,004,200)

3. **“Future High Impact Areas”** area nodes provide areas of needed development to address emerging needs in the immediate future. These nodes are:

- a. NW 74th Street and NW 107th Avenue (+/- \$1,120,800)
- b. NW 58th Street and NW 92nd Avenue (+/- \$32,000)
- c. NW 58th Street and NW 87th Avenue (+/- \$93,800)
- d. NW 58th Street and NW 82nd Avenue (+/- \$122,500)
- e. NW 41st Street and NW 112th Avenue (+/- \$473,150)
- f. NW 33rd Street and NW 107th Avenue (+/- \$1,426,500)
- g. NW 12th Street and NW 87th Avenue (+/- \$223,000)

Evaluation of the projects as they applied to Doral showed that various improvements could be bundled together instead of being applied separately at different locations and points in time; in some cases this allows for cost savings. Holistic application of area improvements also allows for a more integrated area design that takes into account the various competing factors in right-of-way dedication for multi-modal transit.



PROJECTS LOCATION MAP

DORAL TRANSIT MOBILITY PLAN

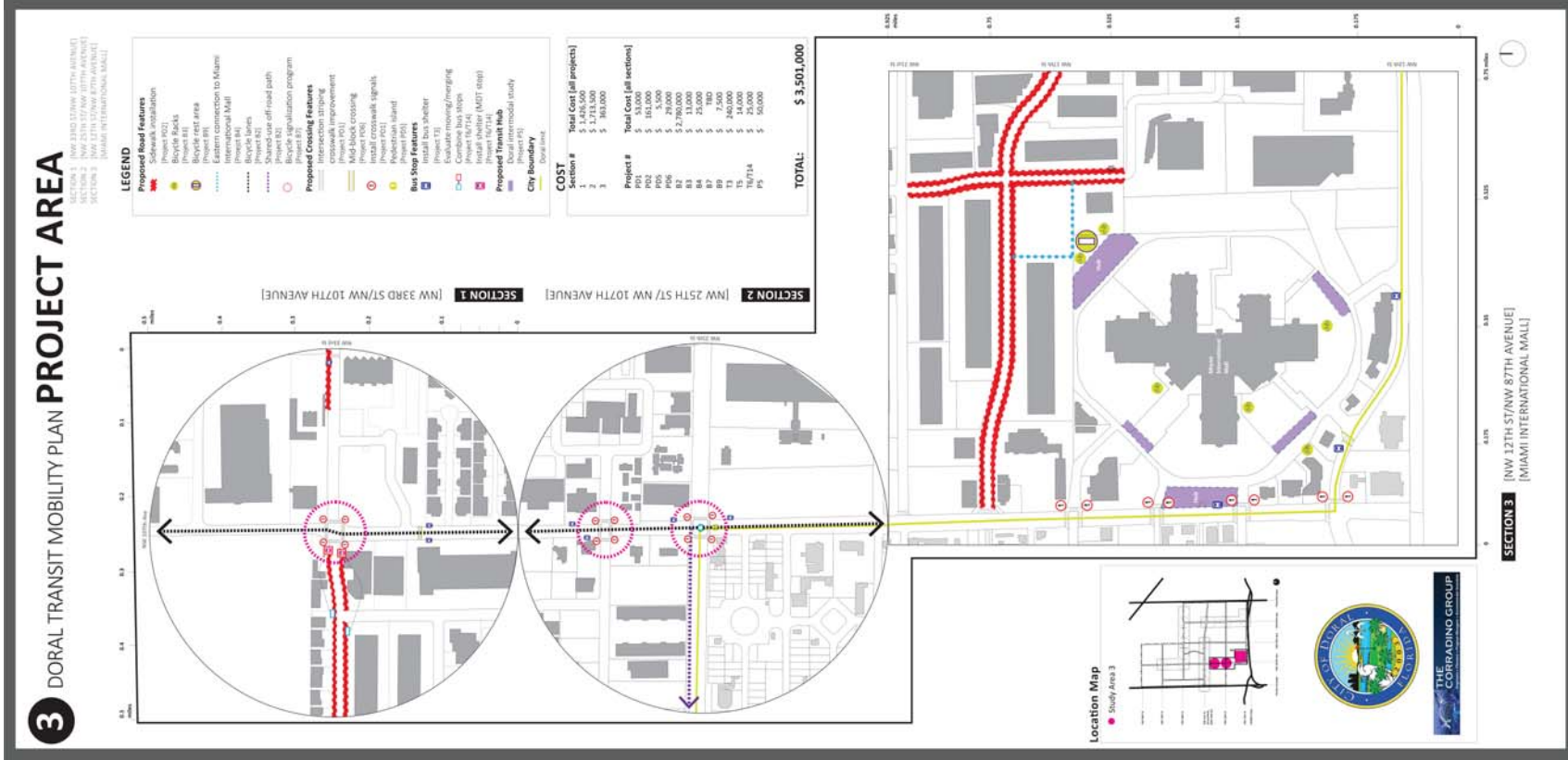
2014

1	PROJECT AREA: SECTION 1 [NW 41ST ST/NW 114TH + NW 117TH AVENUE] SECTION 2 [NW 41ST ST/NW 112TH AVENUE] SECTION 3 [NW 41ST ST/NW 107TH AVENUE] SECTION 4 [NW 41ST ST/NW 102ND AVENUE] SECTION 5 [NW 41ST ST/NW 97TH AVENUE]	\$ 3,802,400
2	PROJECT AREA: SECTION 1 [NW 36TH ST/NW 87TH AVENUE] SECTION 2 [NW 25TH ST/NW 87TH AVENUE] SECTION 3 [NW 12TH ST/NW 87TH AVENUE]	\$ 4,361,500
3	PROJECT AREA: SECTION 1 [NW 33RD ST/NW 107TH AVENUE] SECTION 2 [NW 25TH ST/ NW 107TH AVENUE] SECTION 3 [NW 12TH ST/NW 87TH AVENUE] [MIAMI INTERNATIONAL MALL]	\$ 3,501,000
4	PROJECT AREA: SECTION 1 [NW 58TH ST/NW 107TH AVENUE] SECTION 2 [NW 74TH ST/NW 107TH AVENUE] SECTION 3 [NW 58TH ST/NW 102ND AVENUE]	\$ 3,994,500
5	PROJECT AREA: SECTION 1 [NW 58TH ST/NW 97TH AVENUE] SECTION 2 [NW 58TH ST/NW 92ND AVENUE] SECTION 3 [NW 58TH ST/NW 87TH AVENUE] SECTION 4 [NW 58TH ST/NW 82ND AVENUE]	\$ 615,500
TOTAL COST FOR ALL PROJECT AREAS		\$ 16,274,900

- CITY LIMIT
- PROJECT AREA
- PROJECT SECTION

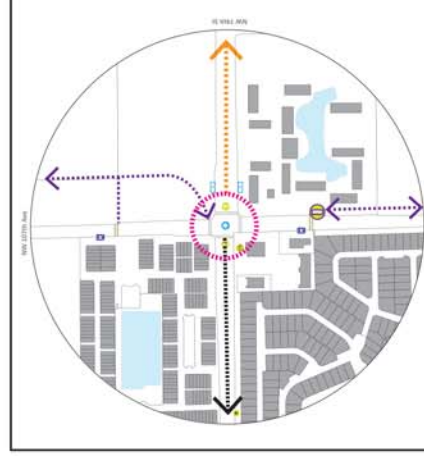


PREPARED BY THE CORRADIAD GROUP



4 DORAL TRANSIT MOBILITY PLAN PROJECT AREA

SECTION 1 [NW 74TH ST/NW 107TH AVENUE]
 SECTION 2 [NW 58TH ST/NW 107TH AVENUE]
 SECTION 3 [NW 58TH ST/NW 102ND AVENUE]



SECTION 1 [NW 74TH ST/NW 107TH AVENUE]

LEGEND

Proposed Road Features

- Project PD1: Sidewalk installation
- Project PD2: Bicycle reorganization program
- Project PD3: Shared-use off-road path
- Project PD4: Bicycle racks
- Project PD5: Bicycle rest area
- Project PD6: Trailway express route
- Project PD7: Bicycle lane
- Project PD8: Bicycle lanes

Proposed Transit Features

- Project TS1: Intersection striping
- Project TS2: Crosswalk improvement
- Project TS3: ADA-compliant crossing
- Project TS4: Pedestrian island
- Project TS5: Install new walk signals
- Project TS6: Move sidewalk obstacle/ADA compliance
- Project TS7: Signal priority for buses
- Project TS8: Signal priority for buses
- Project TS9: Install bus shelter
- Project TS10: Install bus shelter
- Project TS11: Install bus shelter
- Project TS12: Install bus shelter

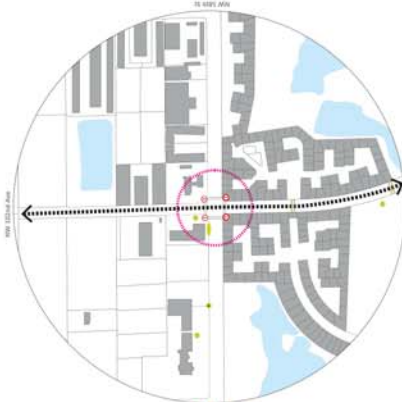
COST

Section #	Total Cost (all projects)
1	\$ 931,700
2	\$ 1,120,800
3	\$ 1,000,000
TOTAL:	\$ 3,954,500

Project #	Total Cost (all sections)
PD1	\$ 22,000
PD2	\$ 3,100
PD3	\$ 29,000
PD4	\$ 20,000
PD5	\$ 20,800
PD6	\$ 116,000
B2	\$ 2,277,000
B3	\$ 21,000
B4	\$ 180
B5	\$ 20,000
T3	\$ 100,000
T4	\$ 100,000
T5	\$ 5,000
T6	\$ 5,000
TOTAL:	\$ 3,954,500



SECTION 2 [NW 58TH ST/NW 107TH AVENUE]



SECTION 3 [NW 58TH ST/NW 102ND AVENUE]

Location Map

City of Doral logo and The Corradino Group logo.

5 DORAL TRANSIT MOBILITY PLAN PROJECT AREA [NW 58TH STREET CORRIDOR]

SECTION 1 [NW 58TH ST/NW 97TH AVENUE]
 SECTION 2 [NW 58TH ST/NW 92ND AVENUE]
 SECTION 3 [NW 58TH ST/NW 87TH AVENUE]
 SECTION 4 [NW 58TH ST/NW 82ND AVENUE]



SECTION 1 [NW 58TH ST/NW 97TH AVENUE]

- LEGEND**
- Proposed Road Features**
 - Sidewalk Installation (Project P02)
 - Bicycle lanes (Project B1)
 - Bicycle signalization program (Project B7)
 - Bicycle rest area (Project B8)
 - Shared-use off-road path (Project B2)
 - Trolley lunch route (Project T1)
 - Proposed Crossing Features**
 - Intersection striping (Project T3)
 - Mid-block crossing (Project P04)
 - Pedestrian island (Project P05)
 - Install crosswalk signals (Project P01)
 - Move sidewalk obstacle/ADA compliance (Project P03)
 - Sidewalk repair (Project P04)
 - Proposed Bus Stop Features**
 - Install bus shelter (Project T3)
 - Evaluate moving/merging bus/trolley stop (Project T1/T14)
 - Install bus shelter (MDT stop) (Project T1/T14)
 - Signal priority for buses (Project T3)
 - Trolley lunch stop (Project T3)
 - Proposed Transit Hub**
 - Doral intermodal study (Project P5)
 - Study Areas**
 - NW 4157/ NW 367H corridor safety study (Project K1)
 - Intersection safety study (Project K5)

SECTION 2 [NW 58TH ST/NW 92ND AVENUE]

- Proposed Road Features**
 - Sidewalk Installation (Project P02)
 - Bicycle lanes (Project B1)
 - Bicycle signalization program (Project B7)
 - Bicycle rest area (Project B8)
 - Shared-use off-road path (Project B2)
 - Trolley lunch route (Project T1)
- Proposed Crossing Features**
 - Intersection striping (Project T3)
 - Mid-block crossing (Project P04)
 - Pedestrian island (Project P05)
 - Install crosswalk signals (Project P01)
 - Move sidewalk obstacle/ADA compliance (Project P03)
 - Sidewalk repair (Project P04)
- Proposed Bus Stop Features**
 - Install bus shelter (Project T3)
 - Evaluate moving/merging bus/trolley stop (Project T1/T14)
 - Install bus shelter (MDT stop) (Project T1/T14)
 - Signal priority for buses (Project T3)
 - Trolley lunch stop (Project T3)
- Proposed Transit Hub**
 - Doral intermodal study (Project P5)
- Study Areas**
 - NW 4157/ NW 367H corridor safety study (Project K1)
 - Intersection safety study (Project K5)

SECTION 3 [NW 58TH ST/NW 87TH AVENUE]

- Proposed Road Features**
 - Sidewalk Installation (Project P02)
 - Bicycle lanes (Project B1)
 - Bicycle signalization program (Project B7)
 - Bicycle rest area (Project B8)
 - Shared-use off-road path (Project B2)
 - Trolley lunch route (Project T1)
- Proposed Crossing Features**
 - Intersection striping (Project T3)
 - Mid-block crossing (Project P04)
 - Pedestrian island (Project P05)
 - Install crosswalk signals (Project P01)
 - Move sidewalk obstacle/ADA compliance (Project P03)
 - Sidewalk repair (Project P04)
- Proposed Bus Stop Features**
 - Install bus shelter (Project T3)
 - Evaluate moving/merging bus/trolley stop (Project T1/T14)
 - Install bus shelter (MDT stop) (Project T1/T14)
 - Signal priority for buses (Project T3)
 - Trolley lunch stop (Project T3)
- Proposed Transit Hub**
 - Doral intermodal study (Project P5)
- Study Areas**
 - NW 4157/ NW 367H corridor safety study (Project K1)
 - Intersection safety study (Project K5)

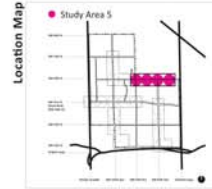
SECTION 4 [NW 58TH ST/NW 82ND AVENUE]

- Proposed Road Features**
 - Sidewalk Installation (Project P02)
 - Bicycle lanes (Project B1)
 - Bicycle signalization program (Project B7)
 - Bicycle rest area (Project B8)
 - Shared-use off-road path (Project B2)
 - Trolley lunch route (Project T1)
- Proposed Crossing Features**
 - Intersection striping (Project T3)
 - Mid-block crossing (Project P04)
 - Pedestrian island (Project P05)
 - Install crosswalk signals (Project P01)
 - Move sidewalk obstacle/ADA compliance (Project P03)
 - Sidewalk repair (Project P04)
- Proposed Bus Stop Features**
 - Install bus shelter (Project T3)
 - Evaluate moving/merging bus/trolley stop (Project T1/T14)
 - Install bus shelter (MDT stop) (Project T1/T14)
 - Signal priority for buses (Project T3)
 - Trolley lunch stop (Project T3)
- Proposed Transit Hub**
 - Doral intermodal study (Project P5)
- Study Areas**
 - NW 4157/ NW 367H corridor safety study (Project K1)
 - Intersection safety study (Project K5)

COST	Section #	Total Cost [all projects]
	1	\$ 873,200
	2	\$ 32,000
	3	\$ 98,800
	4	\$ 122,500

Project #	Total Cost [all sections]
P01	\$ 28,000
P02	\$ 237,000
P04	\$ 300
P05	\$ 3,400
P7	\$ 1,000
T3	\$ 25,000
B2	\$ 334,000
B7	\$ 780

CORRIDOR TOTAL: \$ 615,500



Thank You

City of Doral

Miami-Dade MPO

The Corradino Group
