

COASTAL COMMUNITIES TRANSPORTATION MASTER PLAN FINAL REPORT



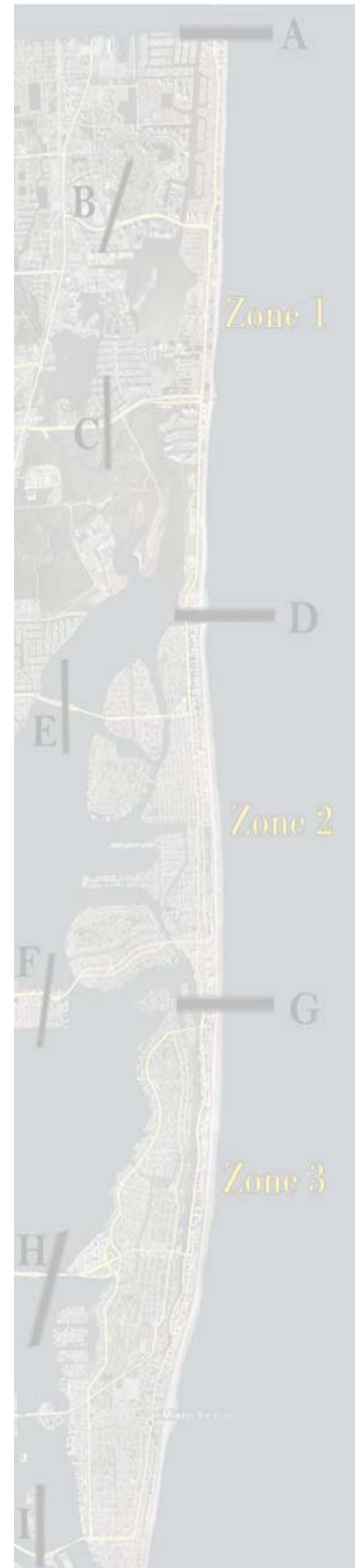
THE
CORRADINO
GROUP



AUGUST 2007

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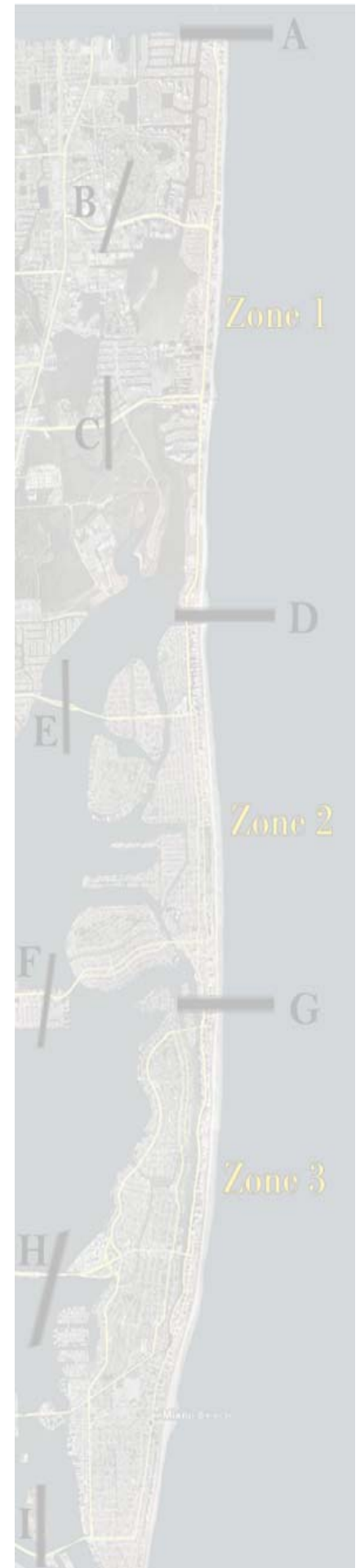


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Introduction and Background

In a joint effort between neighboring coastal communities in northeastern Miami-Dade County (City of Miami Beach, City of Aventura, City of Sunny Isles Beach, Town of Bal Harbour Village, Town of Bay Harbor Islands, Town of Surfside, and City of North Bay Village) there is interest in the development of a transportation master plan that assesses the current traffic and transportation issues on the barrier islands. The goal of this plan is to produce short, mid, and long term multi-modal solutions to transportation issues on a sub-regional basis.

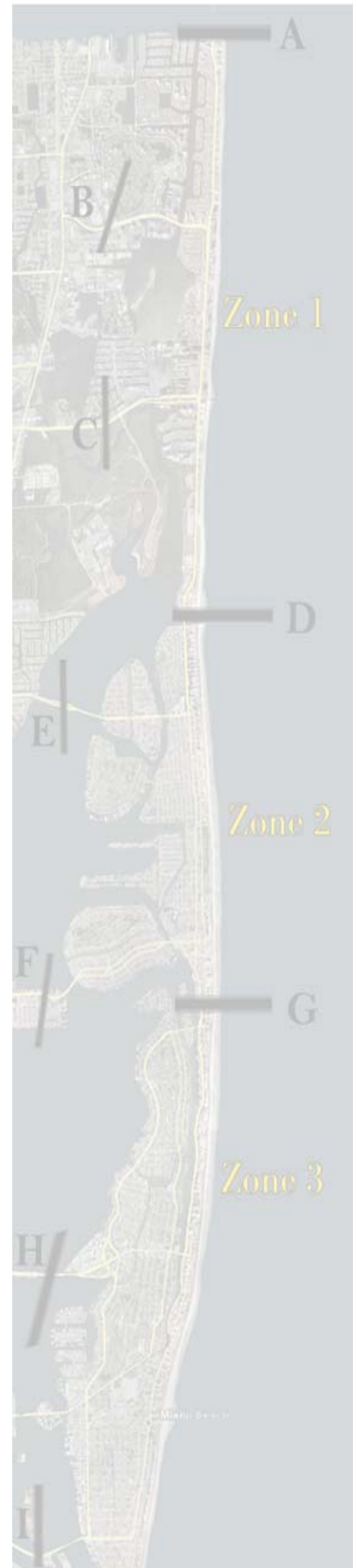
This effort is being coordinated with a Coastal Communities Transit Plan being developed by the Center for Urban Transportation Research (CUTR).

Study Objectives:

- Study the sub-regional transportation network through data collection, analysis, and public involvement.
- Examine existing studies and plans to assess future conditions.
- Develop a multi-modal list of projects designed to address identified needs based on the scientific and subjective nature of the project.
- Quantify the cost of these projects relative to their planning, design and construction.
- Prioritize the list of projects into an Implementable Coastal Communities Transportation Master Plan.
- Achieve community consensus.
- Enhance regional mobility in a coordinated manner.

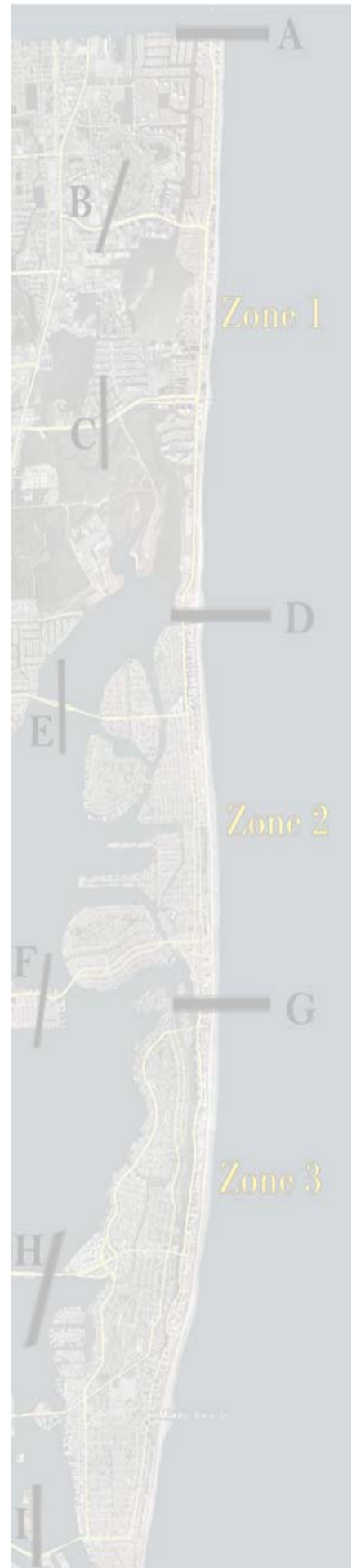
Methodology

This effort strives to set an example as a targeted sub-regional attempt at transportation planning which is multi-modal in nature. Issues arrived through accepted methodologies have been supported through an extensive public involvement process. The study has portrayed existing conditions and projected conditions in the future, and has provided a clear picture of the movement of traffic affecting the coastal communities. Recommendations focus on coordinated improvements. The study has involved local decision makers in the process.



After an analysis of the data several findings were made relative to travel behavior on the Coastal Communities. It is important to remember that this is a logical transportation system and, therefore, was relatively easy to study because of its isolated nature with relatively few opportunities for ingress or egress to the system. Travel within the system may not be related between zones. The conclusions are as follows:

- Sub regional trip making in study area is occurring but not the primary cause of congestion.
- Drivers tend to enter or exit the system on the causeway closest to their beach origin or destination.
- East/West movement is most prevalent.
- Traffic is a product of the existing density, diverse land uses, and a well balanced economy.
- The roadway network is mature.
- The vast majority of the traffic originates internal to the study area.



Task 1: Public Involvement

Engaging the public and incorporating public input is a multi-level process that takes place consistently throughout the duration of the plan development. The goal was community consensus. Consistent involvement and direction was supplied by the project's technical steering committee. Input was collected through stakeholders meetings. Potential solutions were developed and discussed as part of more formal workshops.

Steering Committee Meetings were held, stakeholders meetings were held with each municipality's Mayor, City Manager, and or Planning Director. Public workshops were held, one in each of the three sub areas and an additional meeting in the central portion of the study area. Additionally, City Councils were met with for presentations at numerous times in the workshop phase of the study. Neighborhood groups, committees, and city boards were also met with on numerous occasions. Special care was taken to advertise public meetings, including special mailers, and advertisements. Ultimately, the results were presented to various municipal boards, each City Council, and MPO boards.

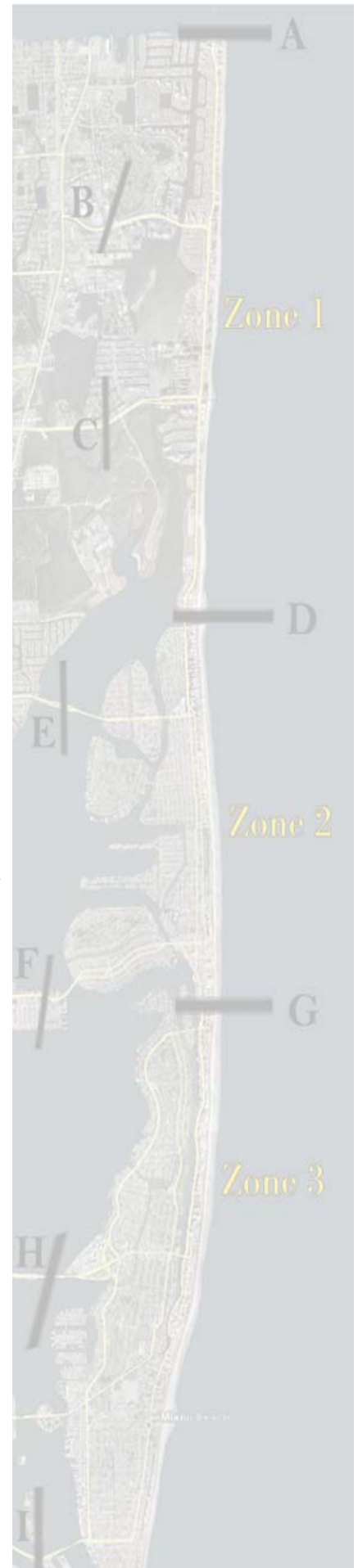
This public involvement plan was structured to be flexible in order to be responsive to new and changing project needs, along with public concerns, issues, and needs that develop and as the study progressed. Public input was solicited and encouraged throughout the study.

The eight municipalities that were involved in this plan include coastal communities in northeastern Miami-Dade County which consist of the City of Miami Beach, the City of Aventura, the City of Sunny Isles Beach, the Town of Bal Harbour Village, the Town of Bay Harbor Islands, the Town of Surfside, the Town of Golden Beach and the City of North Bay Village. The following meetings took place during the course of the study:

- Steering Committee
- Stakeholders Meetings
- Community Workshops
- Agency Meetings

Steering Committee

It was anticipated that this body consisting of managers from each participating municipality, the MPO, FDOT, MDT and MDCPW would meet on a regular basis to review study activity and approve future direction. The actual steering committee consisted of:



City of Aventura

Joanne Carr, AICP, Planning Director

City of Sunny Isles Beach

Jeff Maxim, Assistant City Manager

Town of Bal Harbour Village

Michael Miller, Town Planner

Town of Bay Harbor Islands

Michael Miller, Town Planner

Town of Surfside

Jody Roodman, Special Projects Coordinator

City of North Bay Village

Robert Pushkin, Assistant City Manager

City of Miami Beach

Fernando Vazquez, City Engineer

Maria Echeverry, Transportation Manager

Mark Weithorn, Transportation and Parking Committee

Jeffrey Bradley, Transportation and Parking Committee

Gabriela Redfern, Transportation and Parking Committee

Metropolitan Planning Organization (MPO)

Wilson Fernandez, MPO Project Manager

Miami-Dade Transit (MDT)

David Fialkoff, Chief of Service Planning & Scheduling

Robert Pearsall, Manager of Transit Planning

Florida Department of Transportation (FDOT)

Marie Suzie Papillon, Transportation Planner

David Korros, Planning Manager

Stakeholders Meetings

This group of meetings was designed to solicit initial input, introduce the study and be the first step in solid consensus building and communication. Meetings were scheduled for participants from each of the governments. This included council members, mayors, county commissioners, or other local decision makers. The first stage of the stakeholders meetings was with the mayors and managers who provided recommendations on neighborhood groups and committees to meet with for the second phase of the stakeholders meetings. The mayors and managers were a valuable resource to provide focus to the issues of concern to each individual community. During this initial phase, discussions focused on specific problems that had been identified within the community. The following individuals were contacted for consultation:

Municipality

City of Miami Beach

City of Aventura

City of Sunny Isles Beach

City of North Bay Village

Town of Bal Harbour Village

Town of Bay Harbor Islands

Town of Surfside

Town of Golden Beach

City/Town Manager

Jorge Gonzalez

Eric Soroka

John Szerlag

Charity Good

Alfred J. Treppeda

Greg Tindle

W.D. Higginbotham

Bonilyn Wilbanks-Free

Mayors

David Dermer

Susan Gottlieb

Norman Edelcup

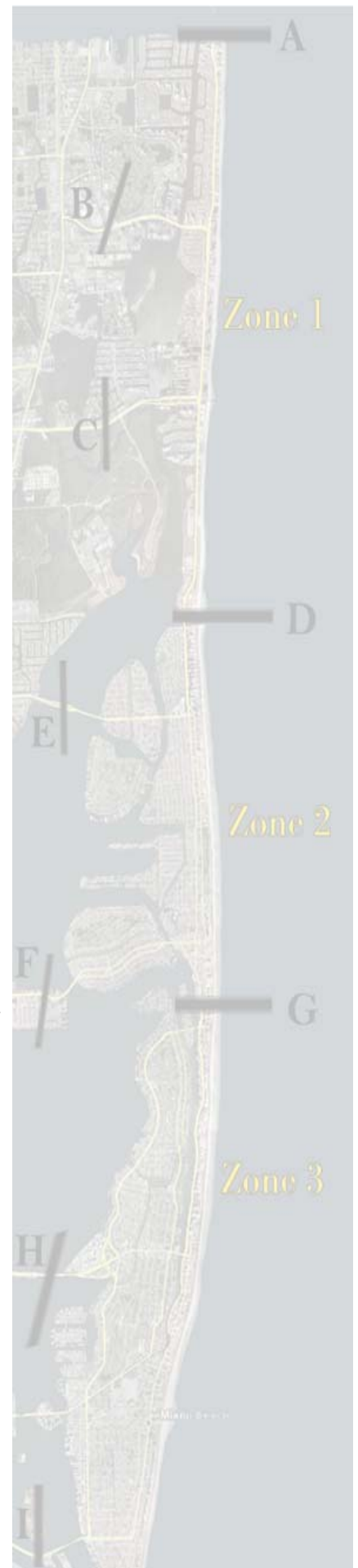
Joseph Geller

Seymour Roth

Peter G Lynch

Charles Burkett

Glenn Singer

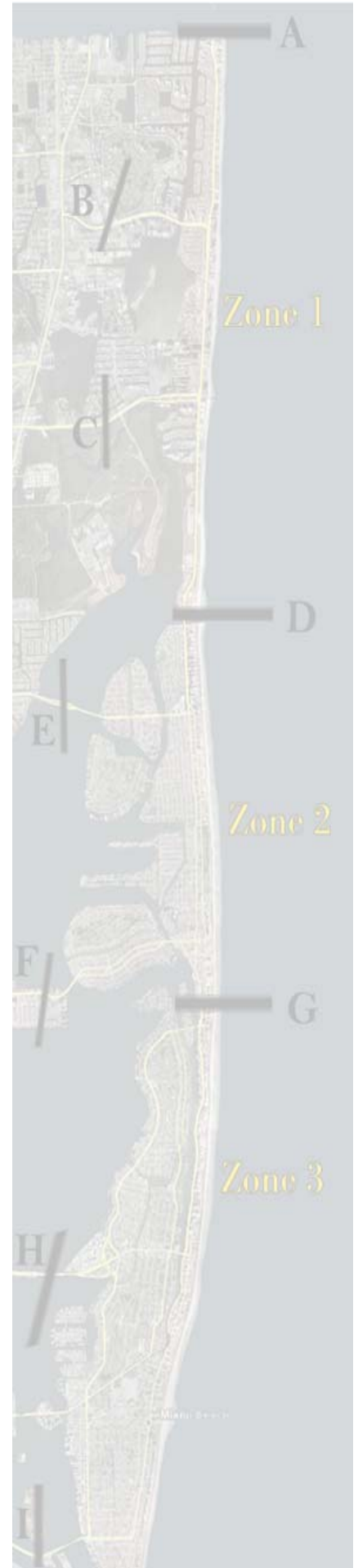


Community Workshops

Four workshops were held at different locations and with each municipality in the Coastal Communities Study Area. The study area was divided into three sub-areas. The north communities consisted of Golden Beach, Aventura, and Sunny Isles. The middle communities included Surfside, Bal Harbour, and Bay Harbor Islands. The south communities included North Bay Village and Miami Beach. These workshops were designed to present initial findings from the stakeholders meetings to the entire community in a workshop format. The purpose of the workshops was to obtain additional area-wide input and also to refine alternatives.

Agency Meetings

As requested by the Miami Dade County Metropolitan Planning Organization, presentations were made to its Transportation Planning Committee(TPC), Transportation Planning Advisory Committee (TPTAC) and MPO Board.



Task 2: Data Collection

An intensive data collection effort was undertaken for this study, culminating in a detailed Origin and Destination Study. Prior to new data collection, previous reports were reviewed and incorporated into the data collection and analysis process. Previous work was used as a guide to the assignment of data collection efforts. Other reports and surveys at the county and regional level were used to verify presumptions and findings, and to ensure that gaps were addressed. Planning work was coordinated with ongoing studies and projects that would have direct and indirect impacts on the relevance and effectiveness of the recommendations.

Origin/Destination Surveys in General

Origin-destination surveys are used worldwide to understand the ever-changing transportation needs of large communities. Information about where people go, as well as why, when and how they choose to get there is an important resource for transportation planners. The dramatic growth and development of our region over the last 15 years requires planners to seek a detailed picture of today's trip patterns and travel choices, which means communicating directly with a broad sampling of residents and visitors.

What Is An Origin Destination Survey?

An origin-destination survey is a survey whereby willing participants are asked to reveal the place where they began the journey they are currently making (the origin) and where they will finish this journey (the destination). The origin and destination as defined for these studies is the ultimate origin and destination of the trip excluding short duration incidental stops (such as stopping for gas, food or restroom breaks).

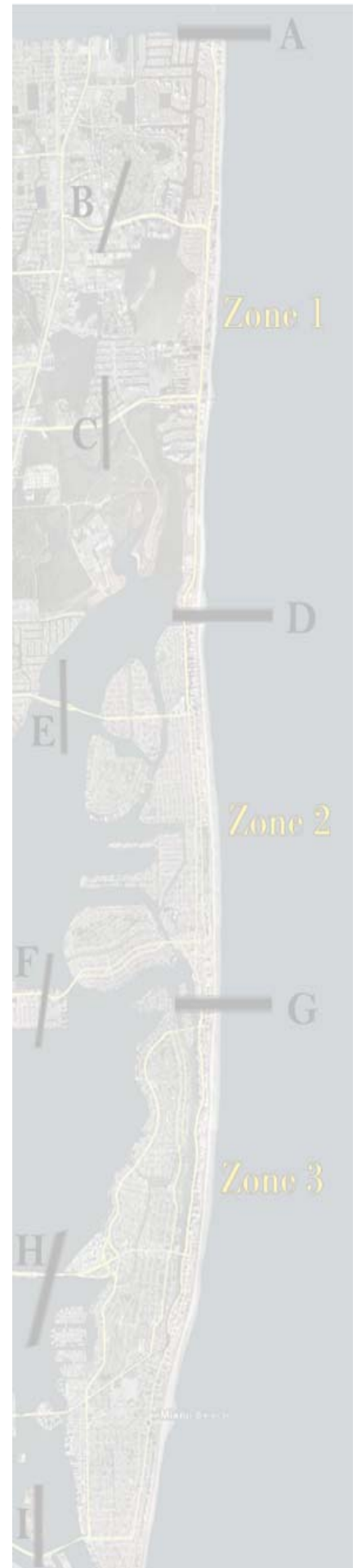
Origin: The starting point for the trip in progress when the motorist is intercepted.

Destination: The ending point for the trip in progress when the motorist is intercepted.

Survey Uses

Information from these studies can be used to anticipate present and future traffic patterns, especially the demand to be placed on the road network in the future. These studies provide information concerning:

- The number of trips into, within, and through a region; and time of day, mode of travel, and number of occupants in a vehicle during a trip
- Present travel patterns; areas that generate the most traffic; and efficiency of traffic lanes concerning flow and safety
- Evaluation of the general road plan and present or foreseeable problems



- Determining need for revised flow patterns, alternate routes, new streets and parking areas
- Help determine parking patterns in major functional area of the study region

Future travel patterns can be determined by being aware of future projects or changes. By anticipating changes, potential traffic problems can be avoided. This might include changes in population, new residential areas or service facilities.

Survey Times

Theoretically, to obtain a complete accurate picture of travel patterns at a given site one would survey the site 24 hours a day, in both directions and over many days. Practically this is not possible. Due to the expense of such an examination, only one typical day is chosen for the survey. This day is usually selected as a Tuesday, Wednesday, or Thursday to obtain typical weekday traffic patterns. Surveys should not be scheduled on the first work day before and after a holiday weekend.

Selecting Sites

Site selection is based upon the needs of a particular project. Generally all roads meeting some threshold of volume or functional class (or both) which cross the study area cordon or a screen line are selected for inclusion in the survey.

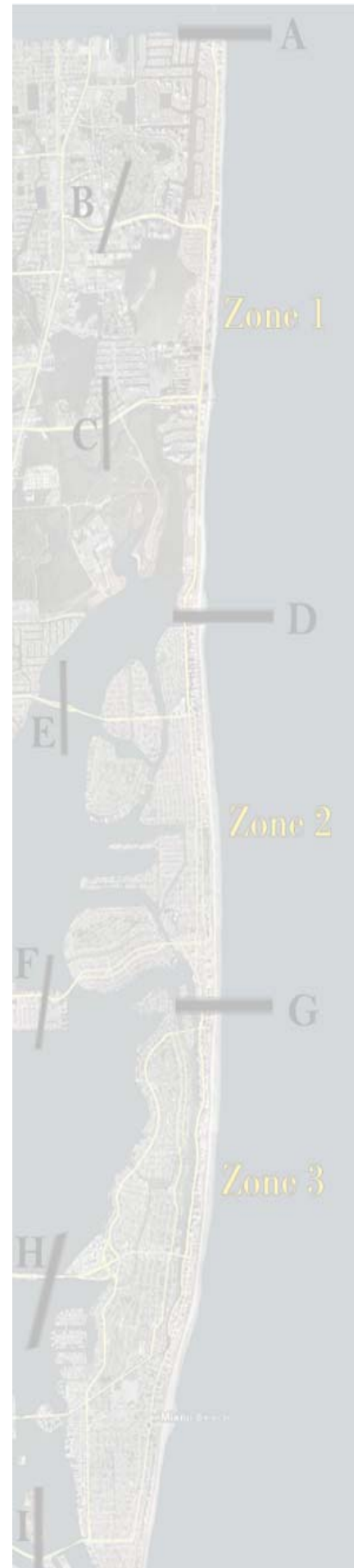
Field Review

Once rough locations are selected based upon project needs, exact survey locations need to be selected via a field review of the sites. Sites should be selected such that there are no major traffic generators (such as busy cross streets) between the theoretical and actual survey locations.

Methods of Surveying

These are the methods by which an origin-destination study can be made. These are:

- Mailback Questionnaire
- Post Card
- Roadside Interview
- Telephone Interview
- Web-Based Questionnaire
- On-Board Surveys (conducted on buses, rail, cars, etc.)
- Intercept Survey (conducted at bus stops, subway stations, etc.)
- License Plate/Traffic Count Survey



Postcard/Mailback Surveys

Postcards are either sent via mail or passed out at strategic points to passing motorists. These postcards are to be completed and returned business reply postage paid. Basic questions as to the origin and destination address are asked, along with questions as to the activity at the origin and destination, the trip purpose, vehicle occupancy, and a selection of routes used during the trip. An example of an origin/destination postcard is shown in Exhibit 2-1.

Exhibit 2-1
Origin/Destination Survey Postcard

№ 32300

1. WHERE DID THIS TRIP BEGIN?

Address (or nearest intersection) _____

Town _____ State _____ Zip _____

CHECK ONE: Home Work Site Store School Other

2. WHERE WILL THIS TRIP END?

Address (or nearest intersection) _____

Town _____ State _____ Zip _____

CHECK ONE: Home Work Site Store School Other

3. ARE YOU DRIVING TO OR FROM A TRAIN STATION? Yes No

Which Station? _____

4. PLEASE CHECK THE PRIMARY PURPOSE OF THIS TRIP:

- | | |
|--|---|
| <input type="checkbox"/> Going to or coming from work | <input type="checkbox"/> To or from school |
| <input type="checkbox"/> To or from shopping | <input type="checkbox"/> Social or recreational |
| <input type="checkbox"/> Personal business (doctor, dentist, or other appointment) | <input type="checkbox"/> Business-related |
| | <input type="checkbox"/> Other purpose |

5. PLEASE INDICATE THE NUMBER OF PEOPLE IN YOUR VEHICLE, INCLUDING YOURSELF: _____

6. PLEASE CHECK ALL THE ROUTES YOU ARE USING ON THIS TRIP:

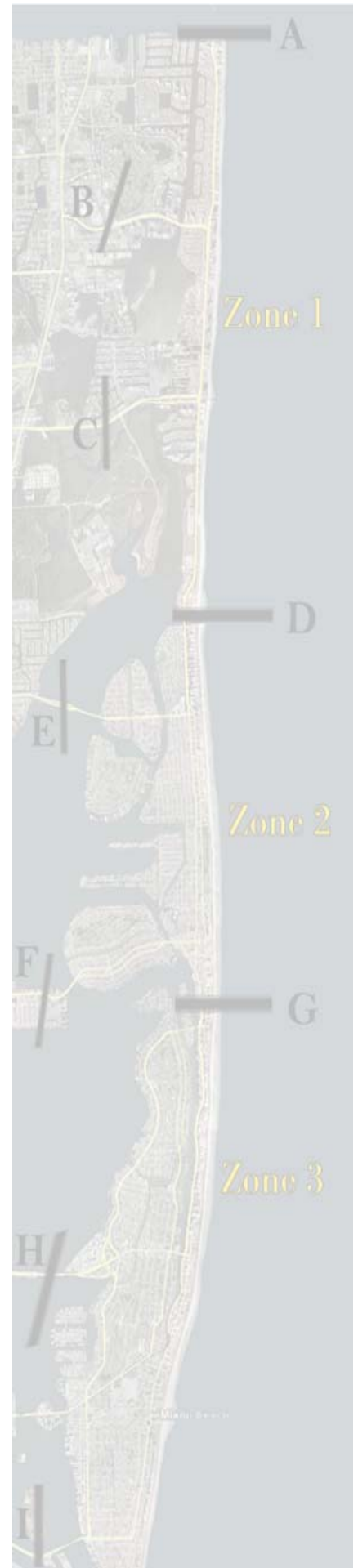
- | | | |
|--|---|---|
| <input type="checkbox"/> Route 1 | <input type="checkbox"/> Alexander Rd | <input type="checkbox"/> Quakerbridge Rd |
| <input type="checkbox"/> Route 27 | <input type="checkbox"/> Washington Rd | <input type="checkbox"/> Meadow Rd |
| <input type="checkbox"/> Route 33 | <input type="checkbox"/> Route 571 | <input type="checkbox"/> Edinburg Rd |
| <input type="checkbox"/> Route 130 | <input type="checkbox"/> Harrison St | <input type="checkbox"/> College Rd |
| <input type="checkbox"/> Route 133 | <input type="checkbox"/> Scudders Mill Rd | <input type="checkbox"/> Ridge Rd |
| <input type="checkbox"/> Route 206 | <input type="checkbox"/> Great Rd | <input type="checkbox"/> Cranbury Neck Rd |
| <input type="checkbox"/> I-295 / 95 | <input type="checkbox"/> I-287 | <input type="checkbox"/> Plainsboro Rd |
| <input type="checkbox"/> New Jersey Turnpike | | <input type="checkbox"/> Day Rd |

License Plate Survey

A license plate survey involves recording the license plate of a vehicle passing a particular point at a specific time. Generally, license plate surveys are collected through manual or automatic recording. Manual recording involves an individual recording the license plate number and time, either on paper or using a voice or video recorder. The automatic recording methods employ video cameras to record license plates and video recognition software to identify license plate numbers.

Traffic Counts

Traffic counts are collected using automatic traffic counters or "tube counters"



(i.e. a hollow tube attached to an automated recorder). As each set of vehicle tires passes over the tube, air impulses are generated and the automated recorder counts these impulses as a car. Traffic counts are generally collected during license plate studies to verify that the combined license plate records match the traffic counts. A significant mismatch between the license plate record totals and the traffic counts can be indicative of problems with the license plate survey.

Camera Survey

For the Coastal Communities Transportation Master Plan a sophisticated video license plate survey was undertaken. This methodology was formalized and approved in concert with the project Steering Committee, which consisted of industry professionals from the public and private sectors as well as citizen stakeholders.

After much consideration it was decided that a six hour snapshot of traffic flow would be taken across the barrier islands. For each project all the cameras are set up in the field. The camera timers turn on the units 15 minutes early and let them run until 15 minutes after the study. The video was run through the License Plate Recognition system program, which scrolls through the video, freezes the frame with the license plate in it. An actual person goes through each photo and types in the time and plate. They are given the location number and they return it in an excel file with all the plates. All the plates are matched from point to point. A single spreadsheet containing the camera locations, and number of plates filmed at those locations was provided. This raw data was analyzed by the consultant team and the resulting findings presented.

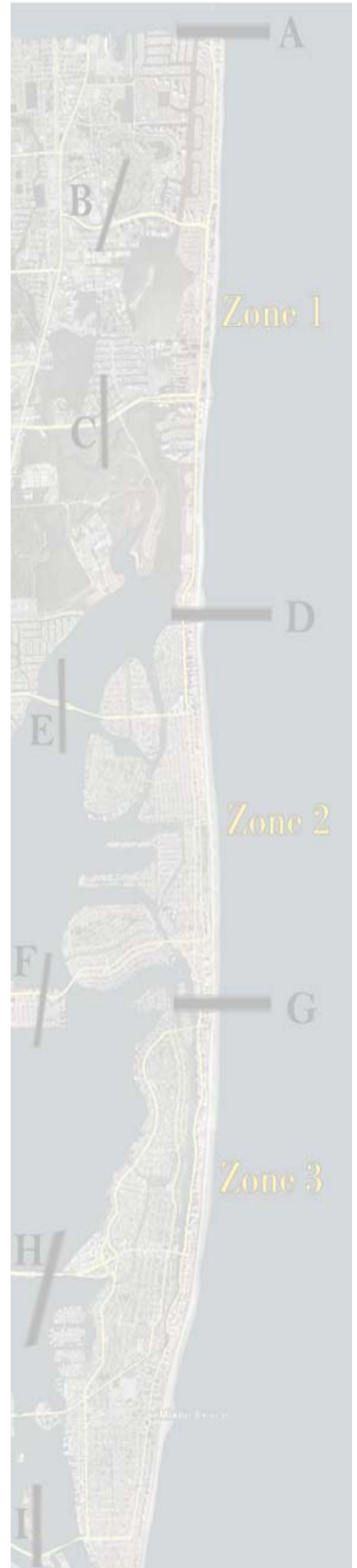
The actual cameras can be mounted on any object on the side of the road. The benefit to using this system is when in a study area like Florida the sun can be bright on the plates in the morning for the west bound cars but not on the east bound so the software has the capability to simply adjust the brightness so that no data is lost, as was with older versions. The accuracy of this equipment is 85-95%. The items that drop the percentage are vehicles with no plates or obscured plates.

Origin / Destination Study Methodology

Taking advantage of the closed nature of the Coastal Communities Transportation Network, with 9 isolated ingress and egress points, a license plate camera survey was undertaken.

The conduct of the origin/destination study for the Coastal Communities Transportation Master Plan was undertaken to determine the magnitude of trip movements within the study area and between the study area and the mainland of Miami-Dade and Broward Counties.

An origin/destination study attempts to identify where a trip begins and where the trip ends. Because of the isolated nature of this study area (a barrier island connected to a large land mass by a number of causeways) origins



and destinations of a trip were determined by which causeway a trip entered or exited the study area. The study area was also divided into three zones so that intra-study area trips could be examined. Local trips that begin and end within a single zone are not examined as part of this study, as they were never captured with the camera.

It was decided that this origin/destination study would be undertaken with the use of cameras filming license plates at a series of screen lines. The following screen lines were established:

- A - Collins Avenue at the County line
- B - William Lehman Causeway east of Biscayne Boulevard
- C - Sunny Isles Boulevard east of Biscayne Boulevard
- D - Collins Avenue at the Haulover inlet
- E - Broad Causeway east of the toll plaza
- F - Kennedy Causeway west of North Bay Village
- G - Indian Creek/Collins Avenue at 65th Street
- H - Julia Tuttle Causeway west of the Hospital Complex
- I – MacArthur Causeway between Hibiscus Island and Parrot Jungle.

One camera was mounted, per lane, in each direction, at each of the screen lines in order to record the license plates that passed each screen line. The data collection started as soon as it was light enough to record the license plates. Data was collected from 6:30 AM to 1:30 PM.

A program was used that automatically found license plates so they could be entered into a spreadsheet. The following movements were isolated:

- Trips that passed through only one screen line
- Trips that passed through only two screen lines
- Trips that passed through only three screen lines
- Trips that passed through only four screen lines
- Trips that originated within the system and passed out of the system
- Trips that originated outside of the system and passed into the system and stopped
- Trips that originated outside of the system and passed through the system

Description of Zones

The study area was divided into three zones for analysis purposes.

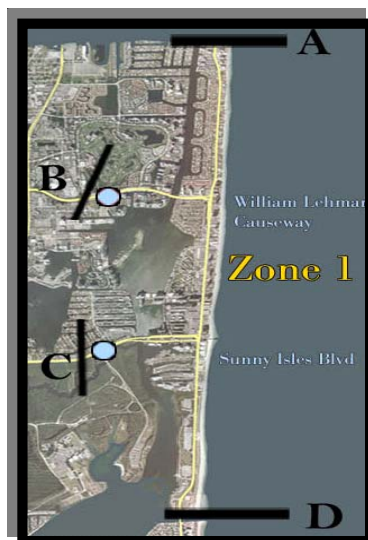
Zone 1 North Coastal Communities

Golden Beach, Sunny Isles Beach, Haulover Beach and Aventura

Zone 1 contains the County property encompassing Haulover Beach, and the communities of Sunny Isles Beach, Golden Beach and Aventura. Zone 1 is connected to the City of North Miami Beach by Sunny Isles Boulevard



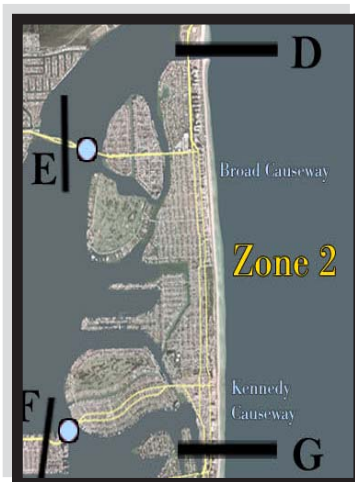
and to the County by William Lehman Causeway. Zone 1 being the northern most zone in the study area is connected to the City of Hallandale Beach in Broward County by Collins Avenue (A1A) as it crosses 215th Street. Miami Dade County 2000 population and employment projections show that Zone 1 contains 51,800 residents and 19,300 jobs. The employment in the zone is focused in one employment area. The Aventura Mall area has 12,600 employees, which is about 65% of the total employment in the zone.



Zone 2 Mid Coastal Communities

Bal Harbour, Bay Harbor Islands, Surfside, Miami Beach

Zone 2 contains the area of Miami Beach known as North Beach and the communities of North Bay Village, Indian Creek Village, Surfside, Bal Harbour, and Bay Harbor Islands. Zone 2 is connected to the Cities of Miami and North Miami by the Kennedy Causeway and the Broad Causeway. The boundary between Zone 2 and Zone 1 is just north of the Haulover Inlet Bridge. County 2000 population and employment projections show that Zone 2 contains 55,500 residents and 11,700 jobs. The employment in the zone is focused in one employment area.

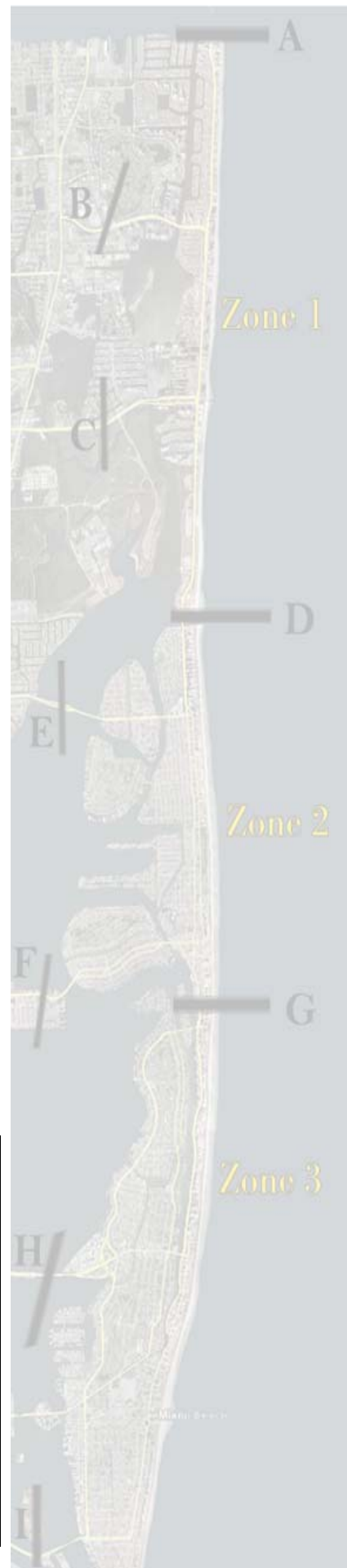
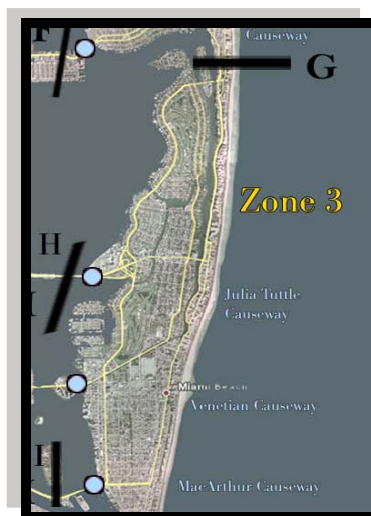


Bal Harbour/Bay Harbor Island has 5,400 employees, which is about 46% of the total employment in the zone.

Zone 3 South Coastal Communities

Miami Beach

Zone 3 contains the areas of Miami-Beach known as South Beach and Middle Beach. Zone 3 is connected to the Miami by two major travel corridors – the MacArthur Causeway and the Julia Tuttle Causeway. The boundary between Zone 3 and Zone 2 is 65th Street. The Venetian Causeway is the third connection to the mainland however the traffic volumes on this causeway are not significant and were not included in this study. Miami Dade County 2000 population and employment projections show that Zone 3 contains 77,000 residents, and 42,500 jobs.



Study Area Description

Zone 1: Golden Beach, Sunny Isles Beach, Haulover, Aventura

- Connections:
 - AIA (Broward)
 - Lehman Causeway
 - Sunny Isles Blvd

- 51,800 Residents
- 19,300 Jobs
- Major Employment Center:
 - Aventura Mall
 - 12,600 Employees



Study Area Description

Zone 2: Bal Harbour, Bay Harbour Islands, Surfside, North Bay Village, North Beach

- Connections
 - Broad Causeway
 - Kennedy Causeway

- 55,000 Residents
- 11,700 Jobs
- Major Employment Center:
 - Bal Harbour/Bay Harbor Islands
 - 5,400 Employees

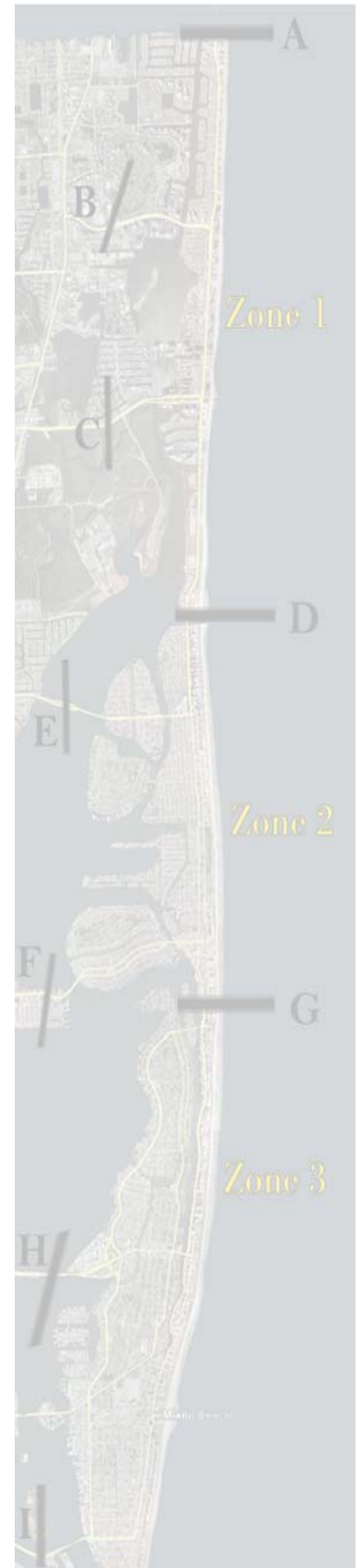


Study Area Description

Zone 3: Middle Beach, South Beach

- Connections
 - Julia Tuttle
 - MacArthur

- 77,000 Residents
- 42,500 Jobs
- Major Employment Centers:
 - 41st Street (14,300 Employees)
 - Lincoln Road (9,900 Employees)
 - Ocean Drive (4,300 Employees)



Origin Destination Analysis

There are approximately 175,000 trips that were captured in the study area. The bulk of them, 81,000 or 47% occur in the southern most zone south of 65th Street (Zone 3). The other two zones, Zone 2 (between Haulover and 65th Street, and Zone 1 (between the County Line and Haulover) carry about 26% and 27% of the total traffic respectively.

The majority of the trips, 55% or 95,000 cross only one line. This is represented by a short trip out of the system, either from a driver originating in a zone and moving west to exit immediately over a causeway, a driver moving east to entering the system over a causeway and traveling no further, or a driver taking a north or south trip to the next zone and no further. Seventy-three percent of the trips are east / west in nature. Thirty-nine percent, or 66,000 trips cross only two lines. These are usually trips that cross between two zones but not three, These are not long enough to move the length of the study area. The remainder of the trips move between three and for lines. Trips that move through 4 lines, true regional commuters, represent less that 1% of total trips. (See Exhibit 2-2)

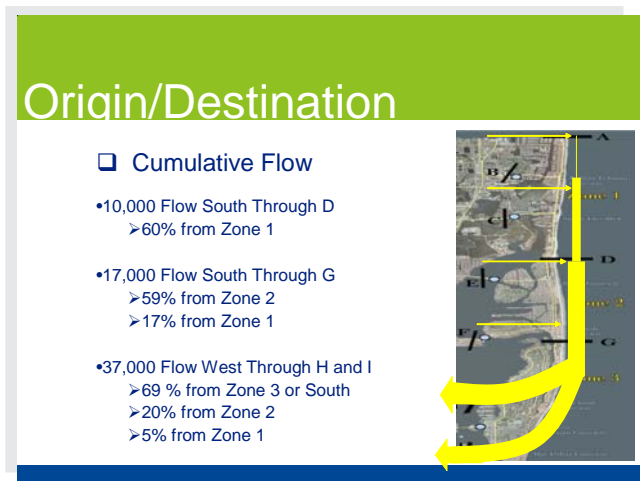
Exhibit 2-2
Breakdown of Trip Length

Trip Length	Trips +/-	%
Trips that Cross 1 Screen Line	95,000	55%
Trips that Cross 2 Screen Lines	66,000	39%
Trips that Cross 3 Screen Lines	11,500	6%
Trips that Cross 4 Screen Lines	1,500	<1%

In an effort to determine if there is a sub regional flow through the study area, a cumulative flow analysis was undertaken. Trips entering the system from the north, flowing south and exiting to the mainland in the Miami Beach zone, (Zone 3) were examined. There is a definite increase in volume as traffic progresses south. The volumes nearly double as traffic progresses south through each line. South Beach flow shows that about 3,600 trips cross into the system over the screen lines from the north into the system, 10,000 trips flow southbound over (D) Haulover, 17,400 trips flow further south across (G) 65th Street, and a total of 37,000 trips flow through the South Beach Zone, (Zone 3). Of the 37,000 trips through Zone 3, nearly 21,000 exit the system over the (H) Tuttle Causeway, and 16,000 exit over (I) MacArthur Causeway.

While on initial examination this appears to represent a sub-regional through movement, it does not do so completely. The overall trip making pattern is relatively short. The primary reason for the increasing volumes to the south, is the higher capacity of the roadway system, and the higher density of residences and businesses. There are few trips that traverse the entire study area or even half of it. The bulk of the trips at each screen line have originated in the zone immediately up stream. (See Exhibit 2-3)

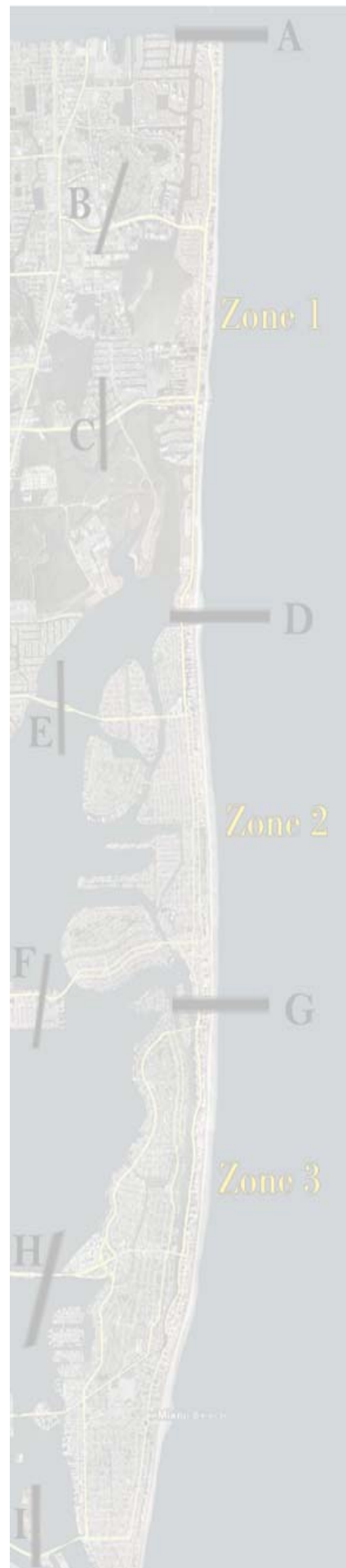
**Exhibit 2-3
Cumulative Flow**



There are approximately 3600 trips entering the system over (A) county line (1031 trips), (B) Lehman Causeway, and (C) Sunny Isles Blvd, and flowing south over (D) Haulover to points south.

A total of +/- 10,000 (9800) trips flow southbound across Haulover. Of these 62% or 6,200 originated in Zone 1 and did not come from outside the system.

Entering the South Beach Zone (Zone 3) from the north across (G) 65th Street, there are a total of +/-17,400 trips. Nearly 74% of all these trips originate in the study area. 58% (10,000) of these are from the middle zone (Zone 2). Nearly 17% are from Zone 1 north of Haulover. (See Exhibit 2-4)

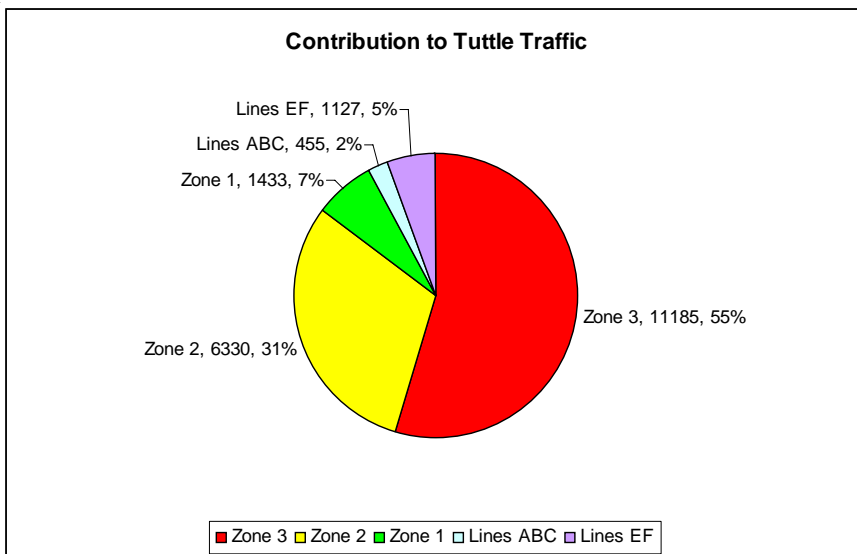


**Exhibit 2-4
Cumulative Flow (South Bound)**

Screen Line	Trips +/-	From
A County Line	1,031	Broward – 1031
D Haulover	10,000	Zone 1 – 6,200
		Outside of system (lines ABC) – 3,700
G 65 th Street	17,000	Zone 1 – 3,100
		Zone 2 – 10,000
		Outside of system (lines ABCEF) – 3,900
H/I Tuttle, MacArthur	36,260	Zone 1 – 1,750
		Zone 2 – 7,050
		Zone 3 – 25,500
		Outside of system to north (lines ABC) - 560
		Outside of system to north (lines EF) - 1,400

This traffic progresses south and some of it out of the system, mainly through (H), the Julia Tuttle Causeway, which carries nearly 20,500 trips. About 53% (11,000) of these trips originate from Zone 3 or south of 65th Street. An additional 30% (6,300) originate from the middle zone (Zone 2), and an additional 7% (1,400) come from Zone 1. About 2% comes from external to the system north of Haulover, and 5% from external to the system north of 65th Street. The Julia Tuttle Causeway is the main sub-regional route through the coastal communities system. Mainly because it has the physical capacity to handle large volumes effectively, it connects to one of the densest areas of the state, and it links to all major distribution roadways on the mainland network. Yet, over 80% of the outflow traffic effectively is from Miami Beach itself. (See Exhibit 2-5)

Exhibit 2-5



The MacArthur Causeway does not provide the same sub regional connection. In fact about 15,500 trips flow out over this causeway. 91% originate in the South Beach Zone (Zone 3), or from the mainland immediately west of that zone. These would not be considered regional trips.

About 94 % of the trips cross two lines or less, and that the bulk of the flow is oriented east and west, shows that drivers are making relatively short trips and exiting the system as quickly as possible. Few drivers traverse the study area.

The Coastal Communities study area, particularly Zone 3, the southern part of Miami Beach, is one of the densest areas in the State of Florida. The traffic experienced is largely a product of this density, and the diversity in economic uses. South Beach, considered by many as the economic engine of Miami Dade County, is a world class attraction and thus is congested. Three types of traffic affect the study area. For each, mitigation measures can be defined. These include traffic that originates in the area (people who live here contributing to the economy through taxes), traffic that is destined for the area, (people who work or socialize here, contributing to the economy through spending), and through traffic (people who merely use the area as a conduit to an alternative destination). On a zone by zone basis, just over half (53%) of the traffic counted is vested in the community, by being either an origin or a destination trip. Just under half (47%) of the traffic passes through a screen line to another zone or out of the system. 60,000 or 34% of the total passes out of the system and these through trips are generally short moving. Therefore about 65% of all trips in the system are either coming or going, to or from a specific destination within the study area, and not merely passing through with no impact other than added congestion and pollution.

In Zone 1, which represents about 27% of the total trips, 9% of the total and 32% of the zonal trips are destined to the zone. Seven percent of the total and 27% of the zonal originate in the zone, and 11% of the total and 41% of the total cross between zones or out of the system. There is a relatively even distribution. Zone 2, by its nature as the middle zone, shows a much higher percentage of trips that move between zones (58%). This is the most transient zone, as only 16% of the trips are destined, representing a lack of commercial land uses. Originating trips equal about 26%, which is on par with the other zones, and represents the steady residential character of the area. In Zone 3, 47% of the total trips occur. 36% are destined, 23% originate and 42% pass through between zones. Again, this is a relatively balanced pattern, skewed slightly toward the area as a destination. (See Exhibit 2-6)

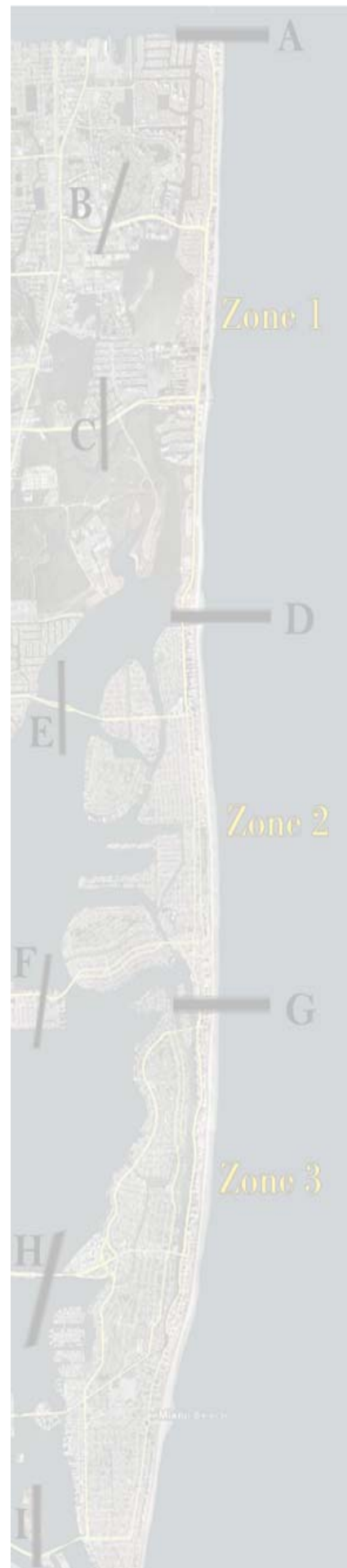


Exhibit 2-6
Zone by Zone Breakdown

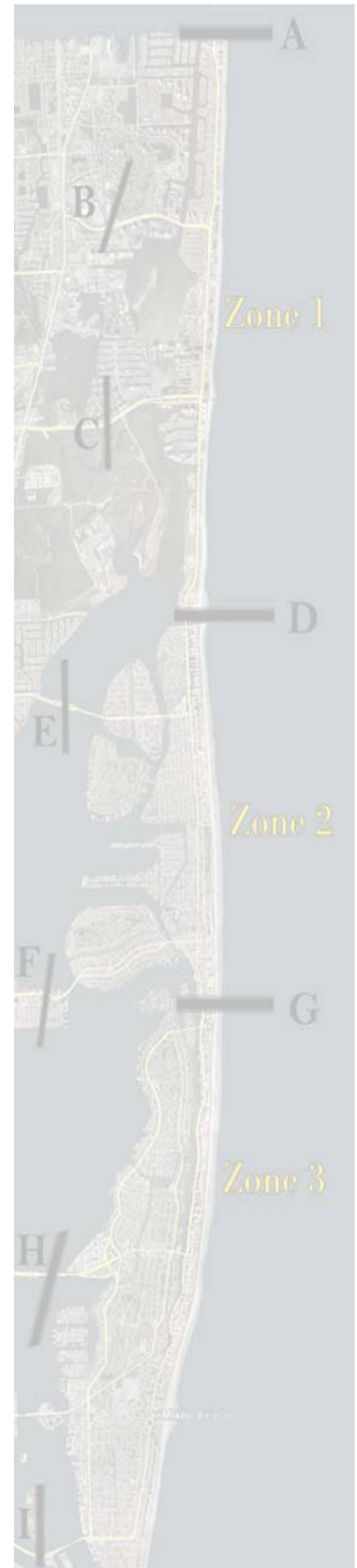
Zone 1			
	Trips	% Total	% Zone
Total Zone Trips	48072	27%	100%
Total Trips That Exit Zone 1	22524	13%	47%
Trips That Enter The Zone	25548	15%	53%
Trips That Are Destined For The Zone	15390	9%	32%
Trips That Originate In The Zone	12991	7%	27%
Trips That Pass Through The Zone	19692	11%	41%

Zone 2			
	Trips	% Total	% Zone
Total Zone Trips	44891	26%	100%
Total Trips That Exit Zone 1	21733	12%	48%
Trips That Enter The Zone	23158	13%	52%
Trips That Are Destined For The Zone	7306	4%	16%
Trips That Originate In The Zone	11742	7%	26%
Trips That Pass Through The Zone	25844	15%	58%

Zone 3			
	Trips	% Total	% Zone
Total Zone Trips	81928	47%	100%
Total Trips That Exit Zone 1	38757	22%	47%
Trips That Enter The Zone	43168	25%	53%
Trips That Are Destined For The Zone	29085	17%	36%
Trips That Originate In The Zone	18666	11%	23%
Trips That Pass Through The Zone	34175	20%	42%

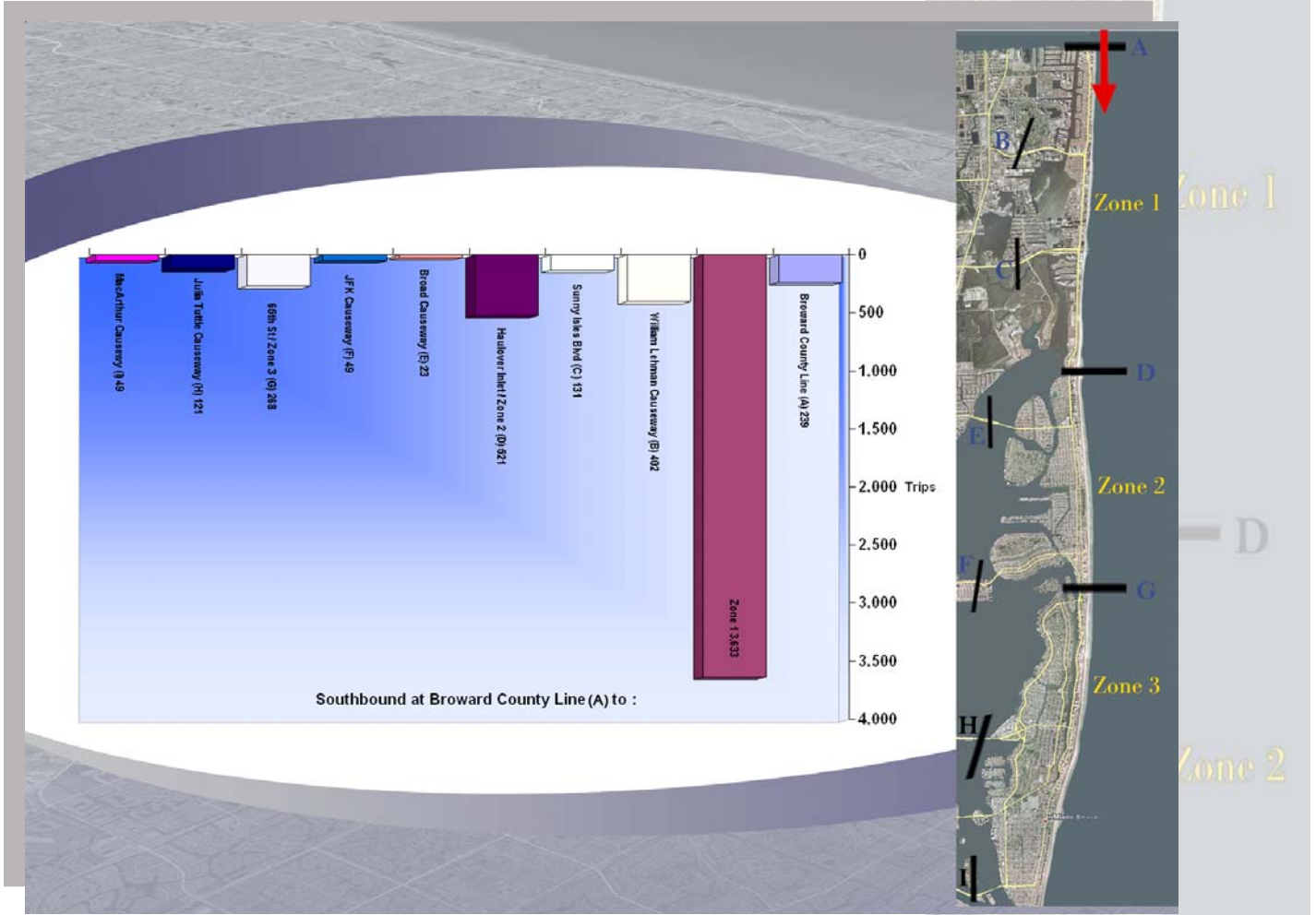
Several conclusions have been made after a thorough analysis of the data.

- Sub-Regional (multi-zonal) trip making on the barrier islands contributes to, but is not the primary cause of the traffic congestion in the area.
- Drivers tend to enter or exit the Coastal Communities Transportation system, via the causeway nearest their barrier island origin or destination.
- Traffic in the study area is largely a product of the land use mix and diverse economy.
- Traffic distributes or collects on the mainland.
- The Julia Tuttle Causeway carries the vast majority of any regional traffic in the study area.
- The transportation system is mature.



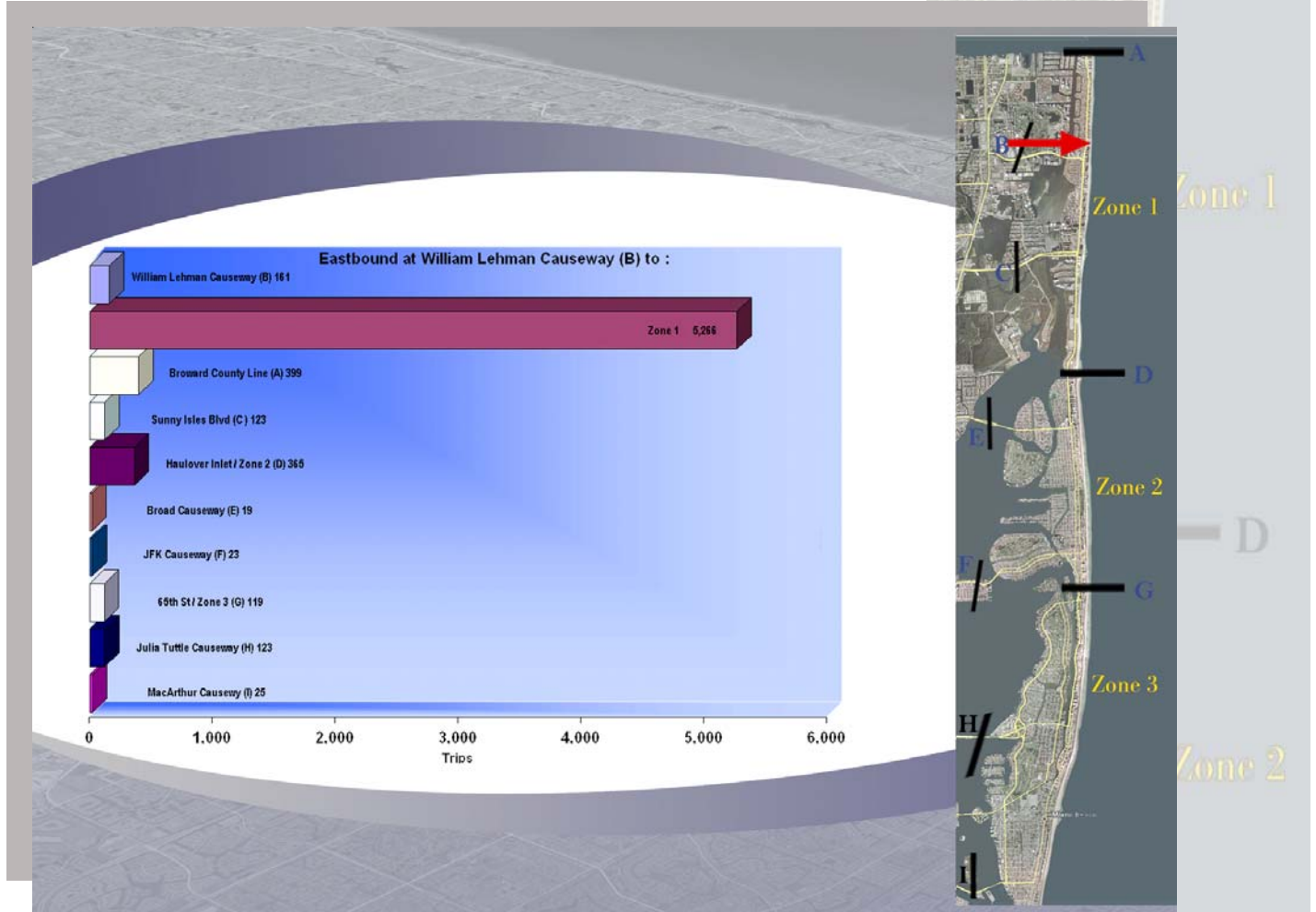
Screenline Directional Movements

Southbound A Countyline



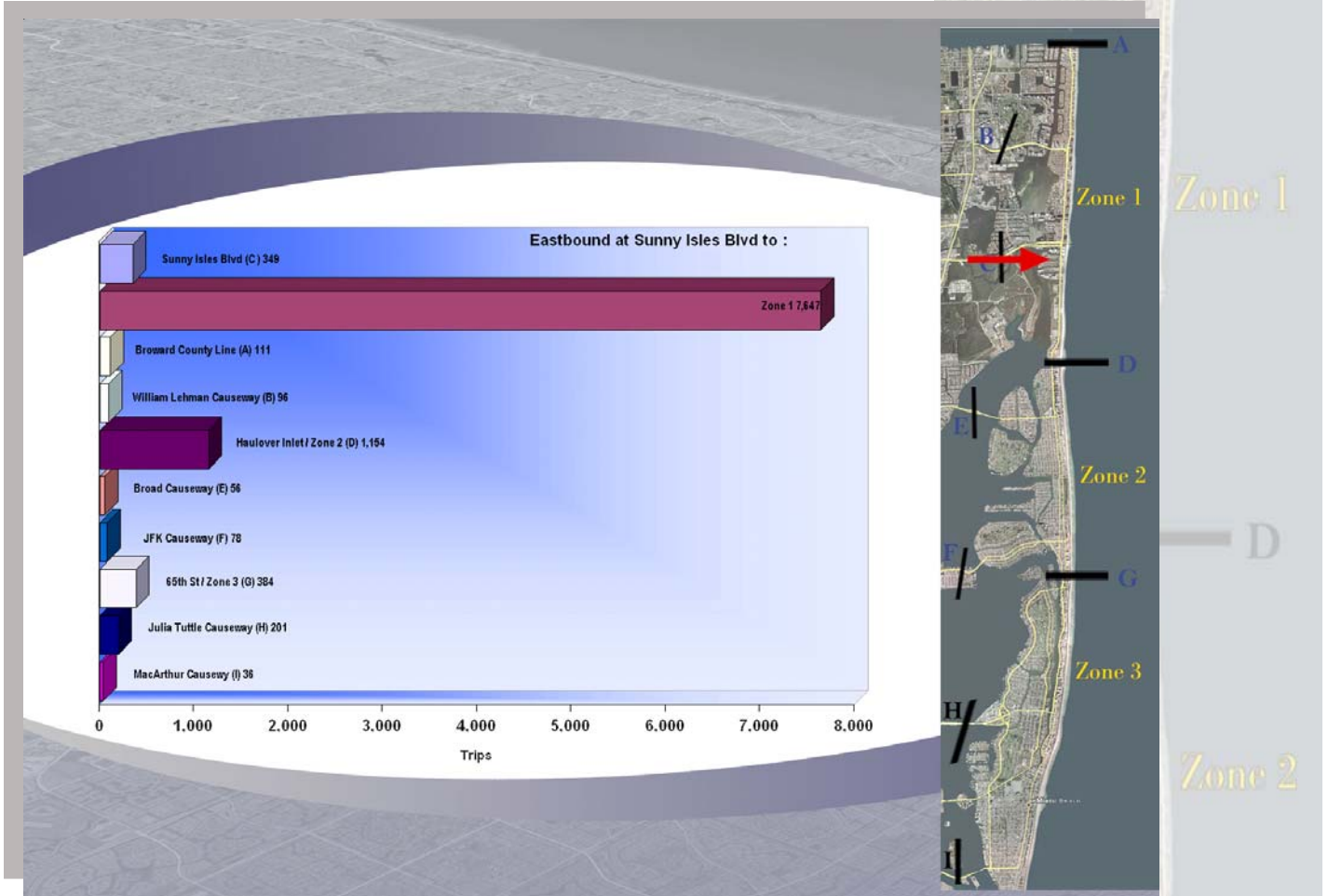
The traffic coming into the system southbound at the Broward county line as compared to the other entrances/causeways was relatively low. The majority of the traffic that does enter at this location stays on the barrier islands. The vast majority stay. The four most prevalent destinations were the three barrier island zones and the William Lehman causeway, which just happens to be the closest causeway.

Eastbound B: William Lehman Causeway



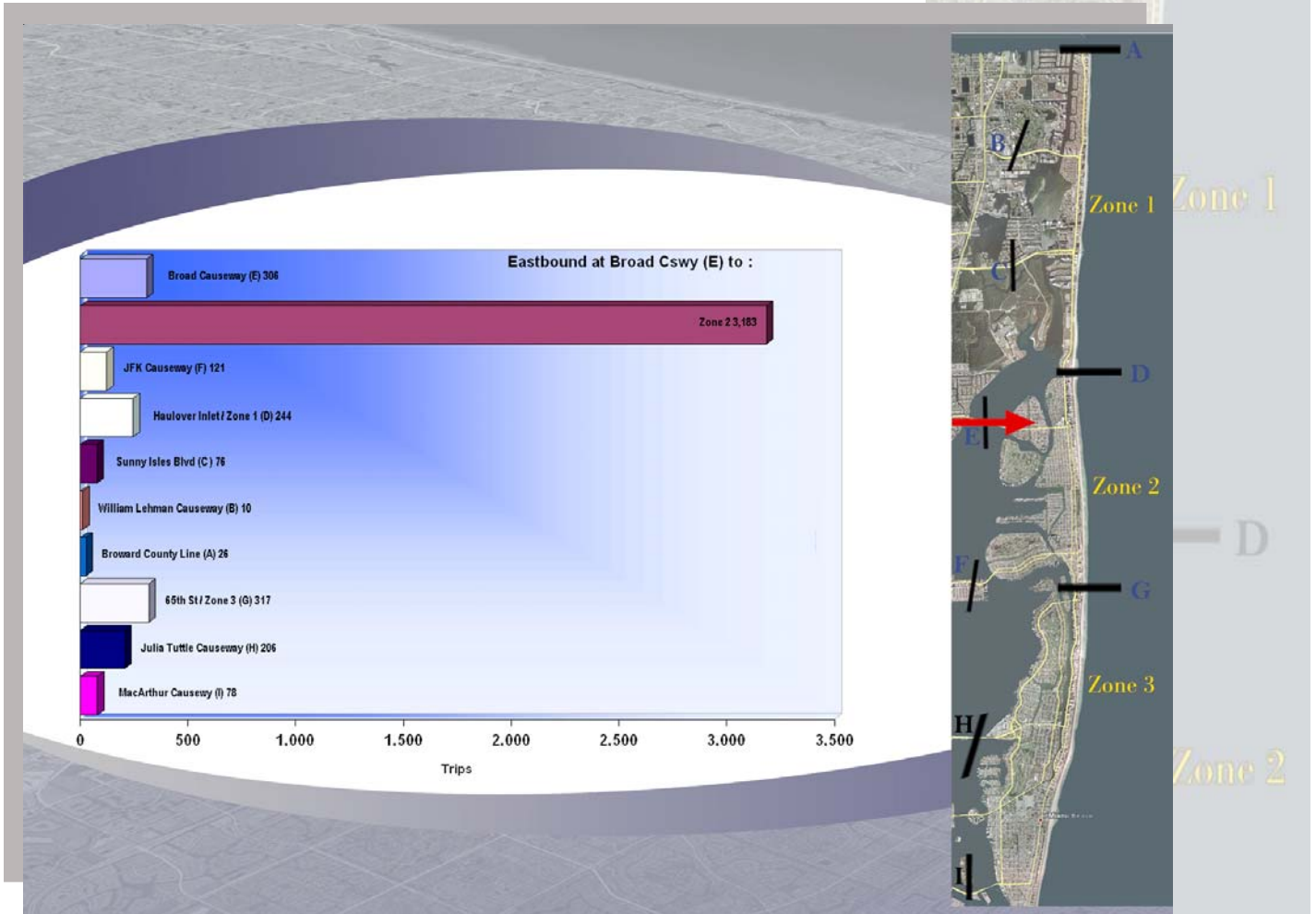
The eastbound vehicles at the William Lehman Causeway generally stop in Zone 1. Approximately 80% of all inbound traffic at this location stops in the home zone (Zone 1). The three most prevalent movements were to Zone 1, Zone 2 and Screenline A. This means that most of this traffic enters near their final destination, or leaves the network into Broward County, which is the next closest screenline.

Eastbound C: Sunny Isles Boulevard



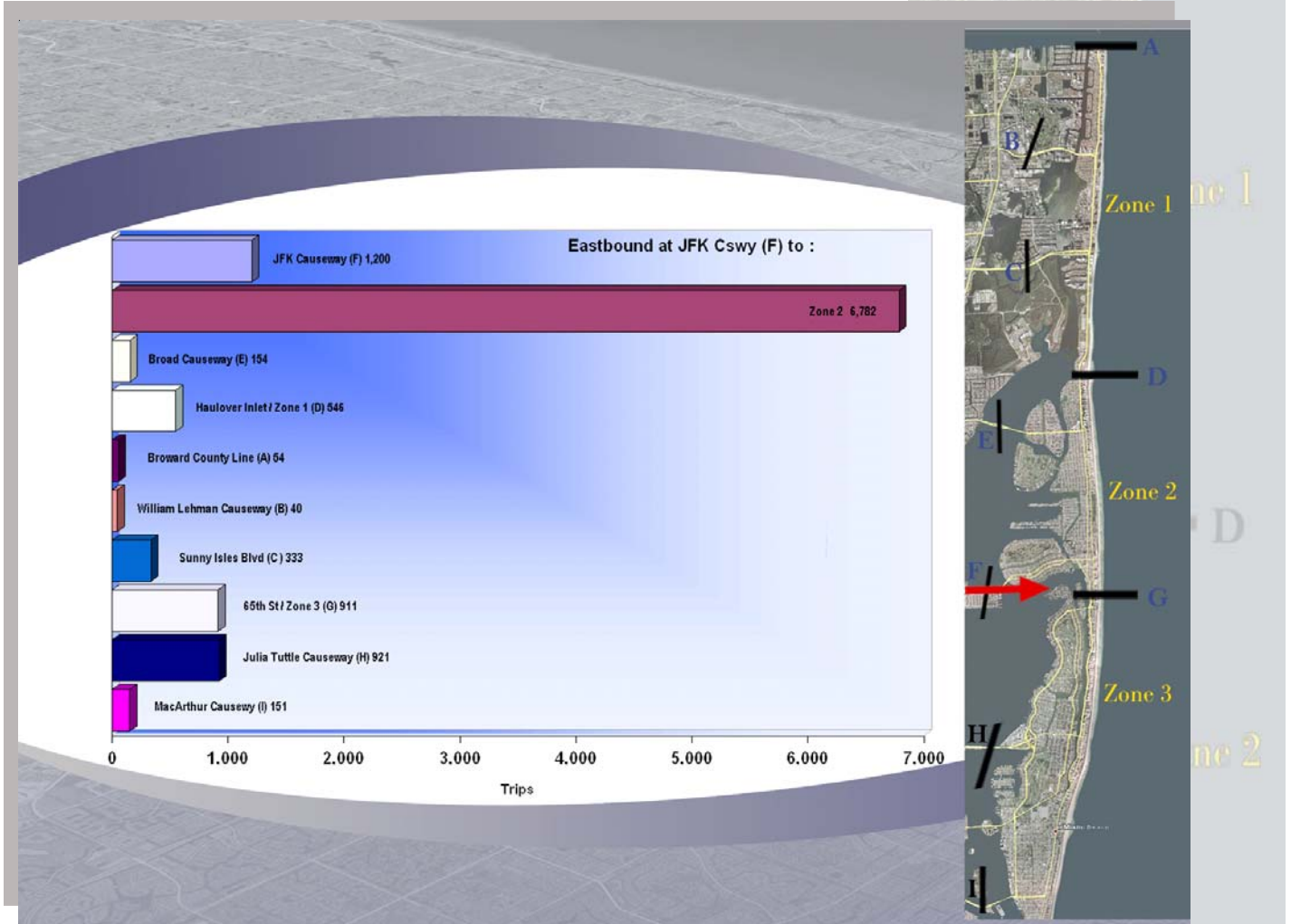
Very similar to the other two Zone 1 entrance locations, eastbound traffic on Sunny Isles Blvd generally stays in Zone 1. The four most common movements end either in one of the three zones, or through screenline A (Broward County Line). Traffic is entering the system as close as possible to its final destination.

Eastbound E: Broad Causeway



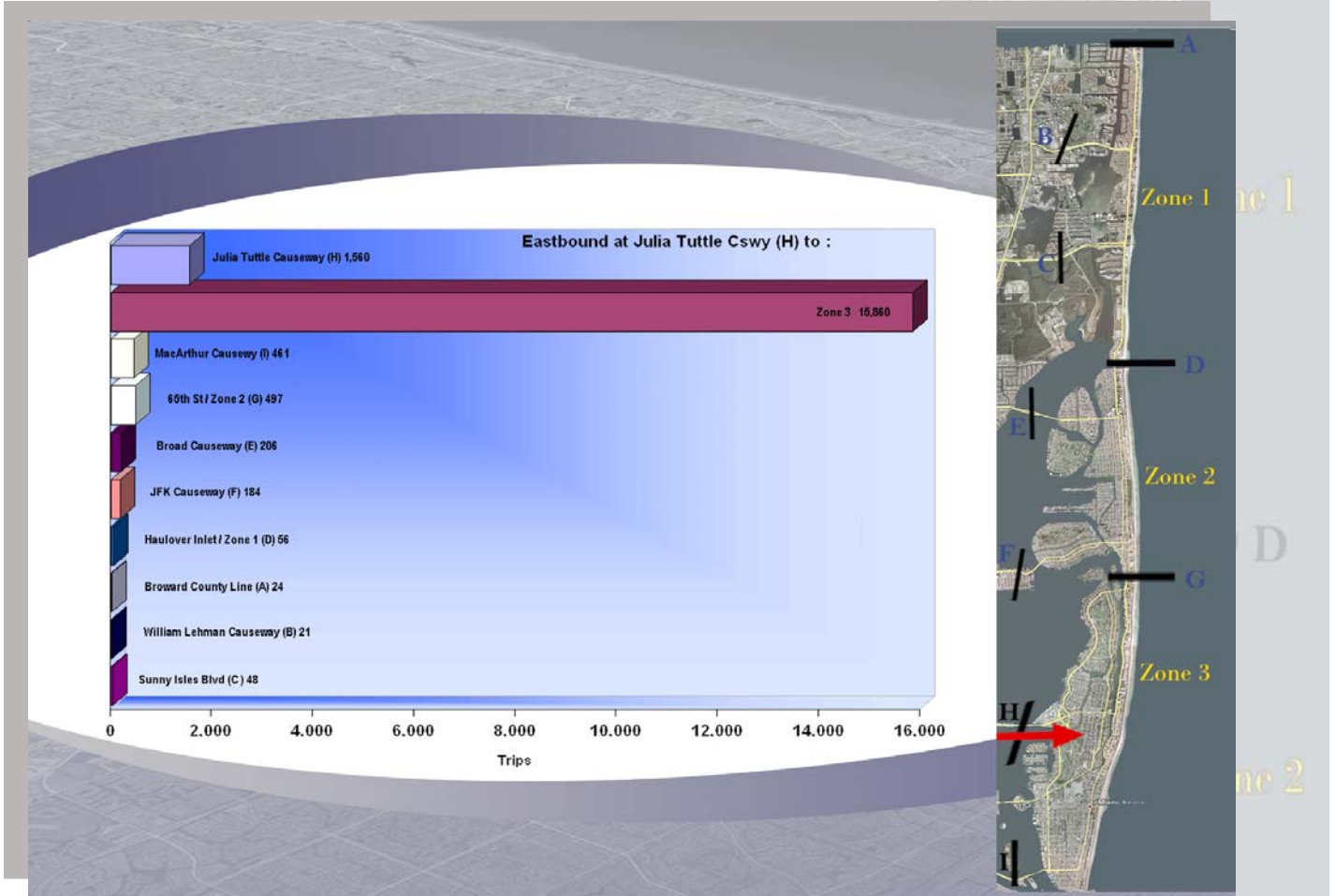
Eastbound traffic on the Broad Causeway follows suit with the previously mentioned screenlines. The most common movement is to stop in the home zone. The top movements in the location are to Zone 2, Zone 3, and leaving on the same Broad Causeway. The traffic seems to be entering the system at the causeway closest to its final destination.

Eastbound F: JFK Causeway



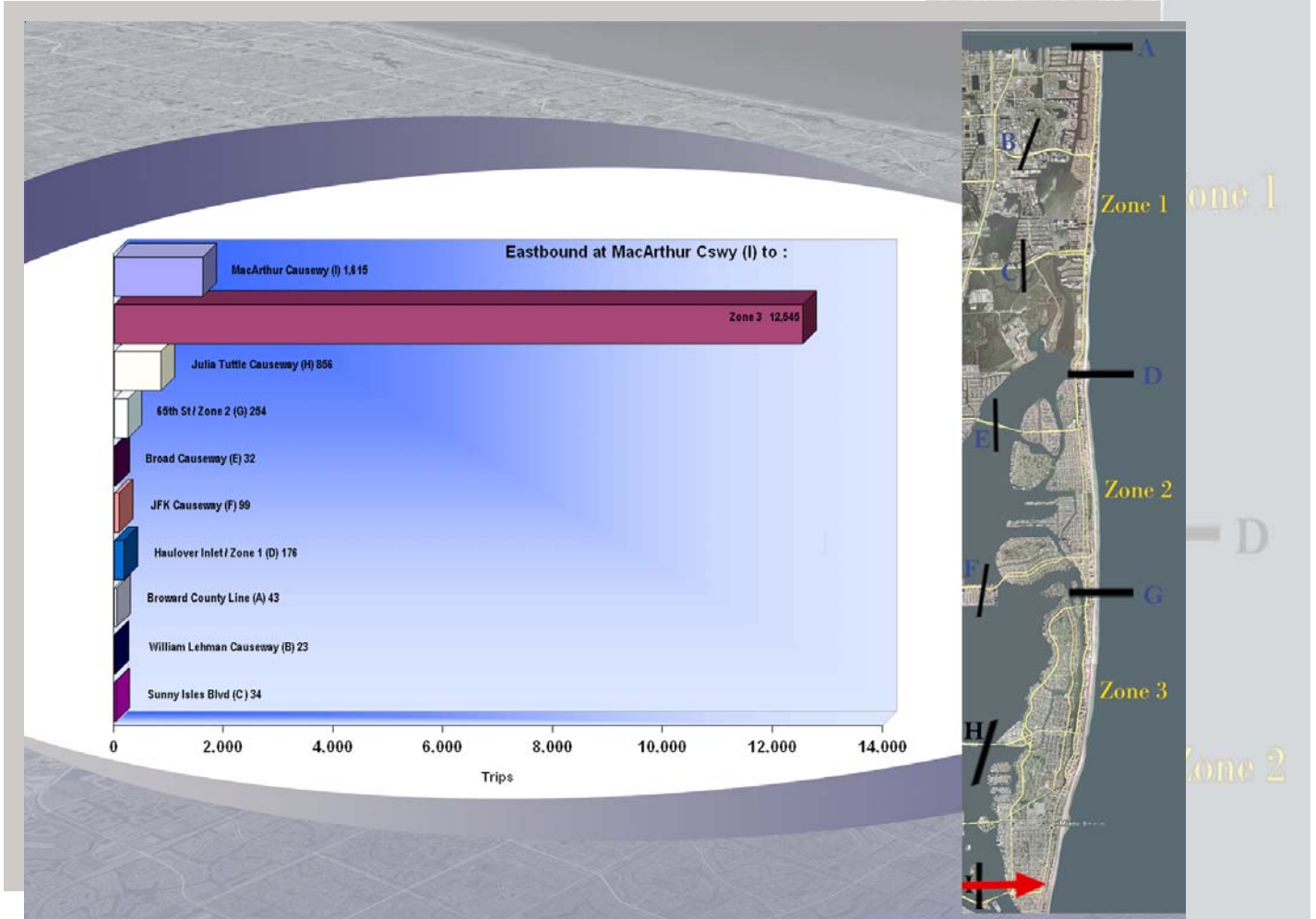
The traffic on the JFK Causeway is similar to all eastbound traffic on causeways to the north of it. The main movement is to stop in Zone 2, or its home zone. The other top movements are to Zone 3, to leave back on the JFK Causeway, and to the Julia Tuttle Causeway.

Eastbound H: Julia Tuttle Causeway



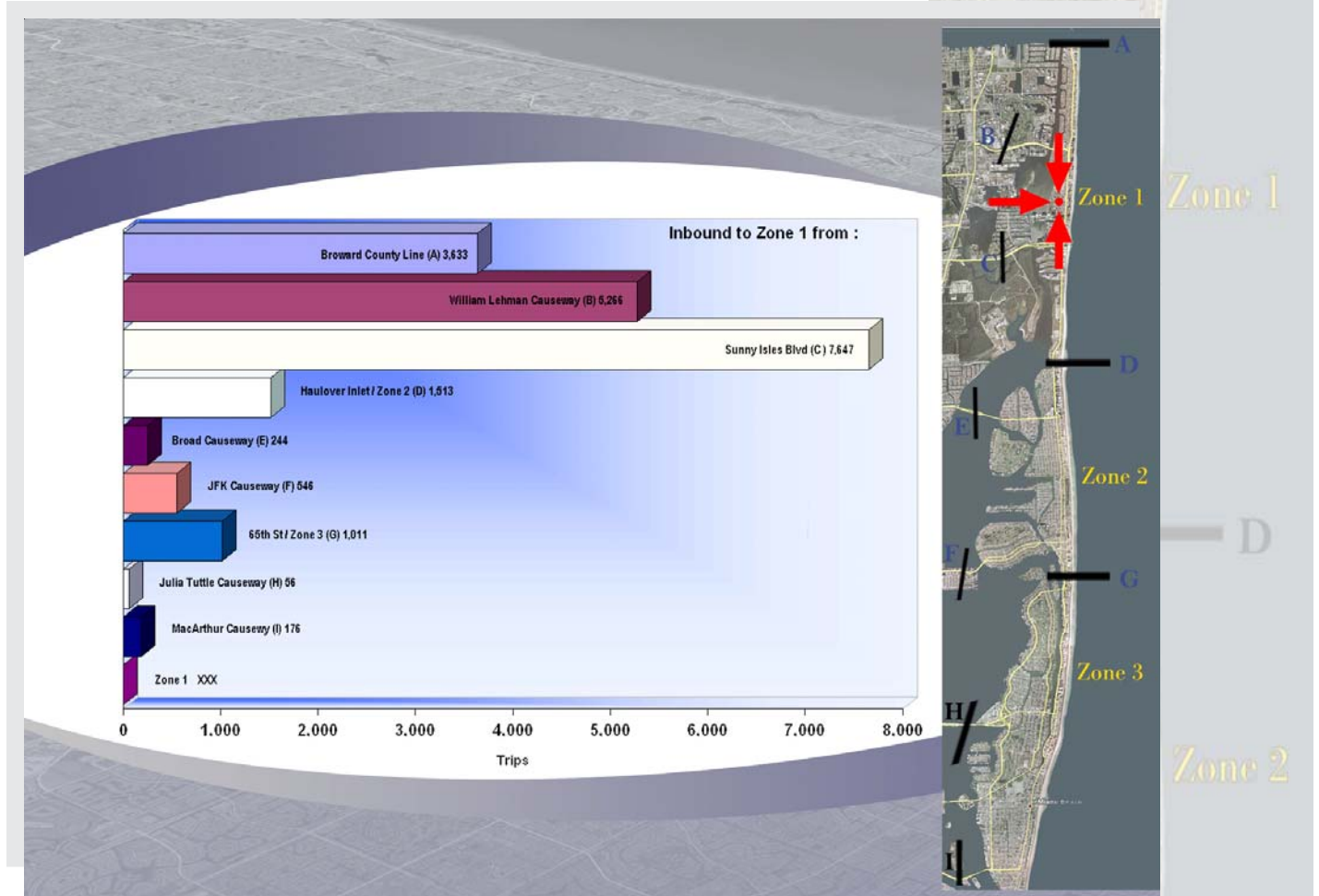
Eastbound traffic on the Julia Tuttle Causeway, as compared to the other causeways in this study, is much greater in total volume. Approximately 90% of the movements, however, cross the causeway and stop within its home zone (Zone 3). This larger volume of traffic is due to the large employment centers located in Zone 3 such as Mount Sinai Medical Center, Lincoln Road, Ocean Drive, and Washington Ave.

Eastbound I: MacArthur Causeway



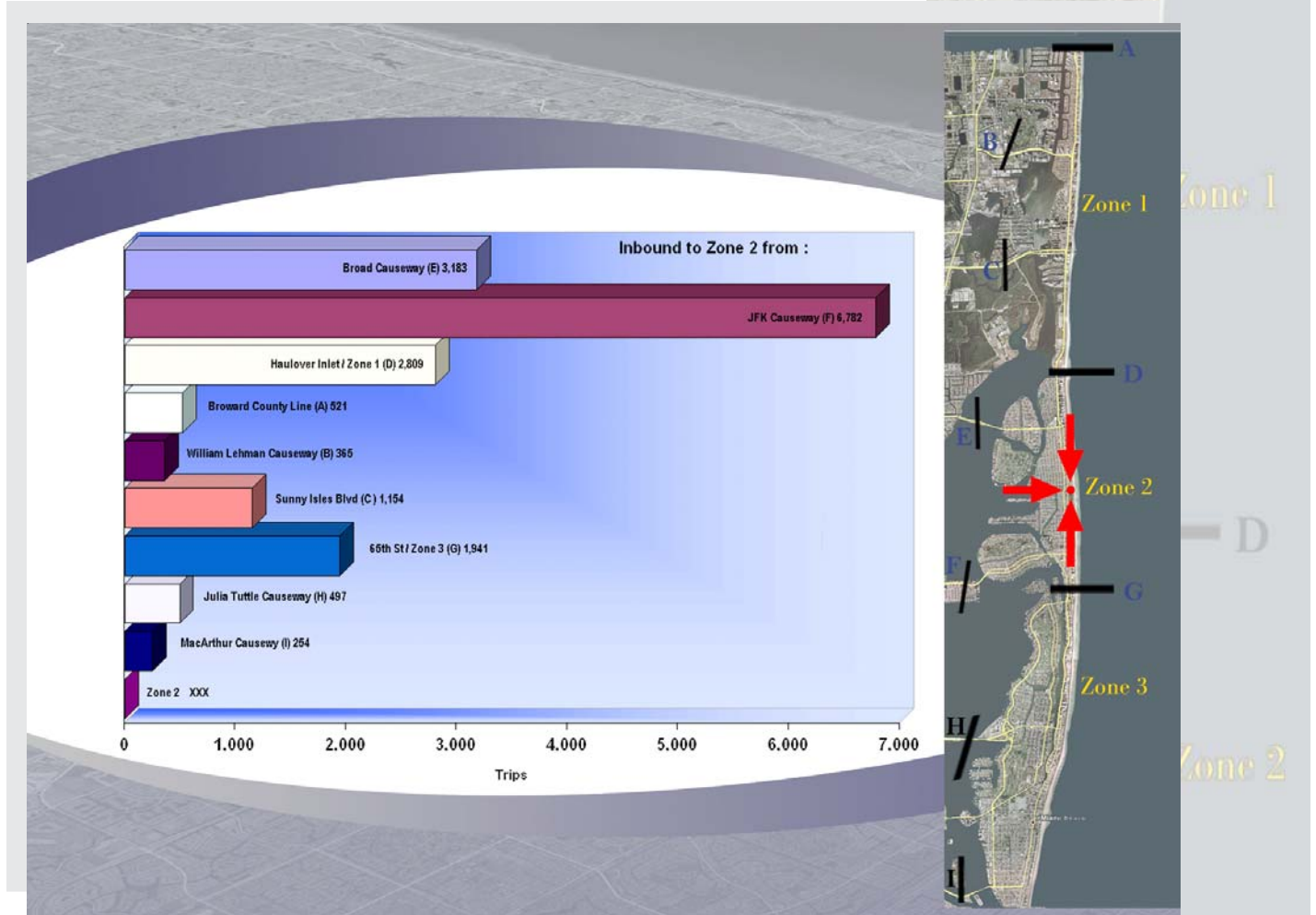
Much like the Tuttle Causeway directly north, The MacArthur Causeway has more volume than that of causeways in other zones. Yet, the eastbound traffic still follows the same pattern. The most common trip is to stop in the home zone (Zone 3). Again, this is due to the large employment centers located in the area such as, Mount Sinai Medical Center, Lincoln Road, Ocean Drive, and Washington Avenue.

Inbound-Zone 1



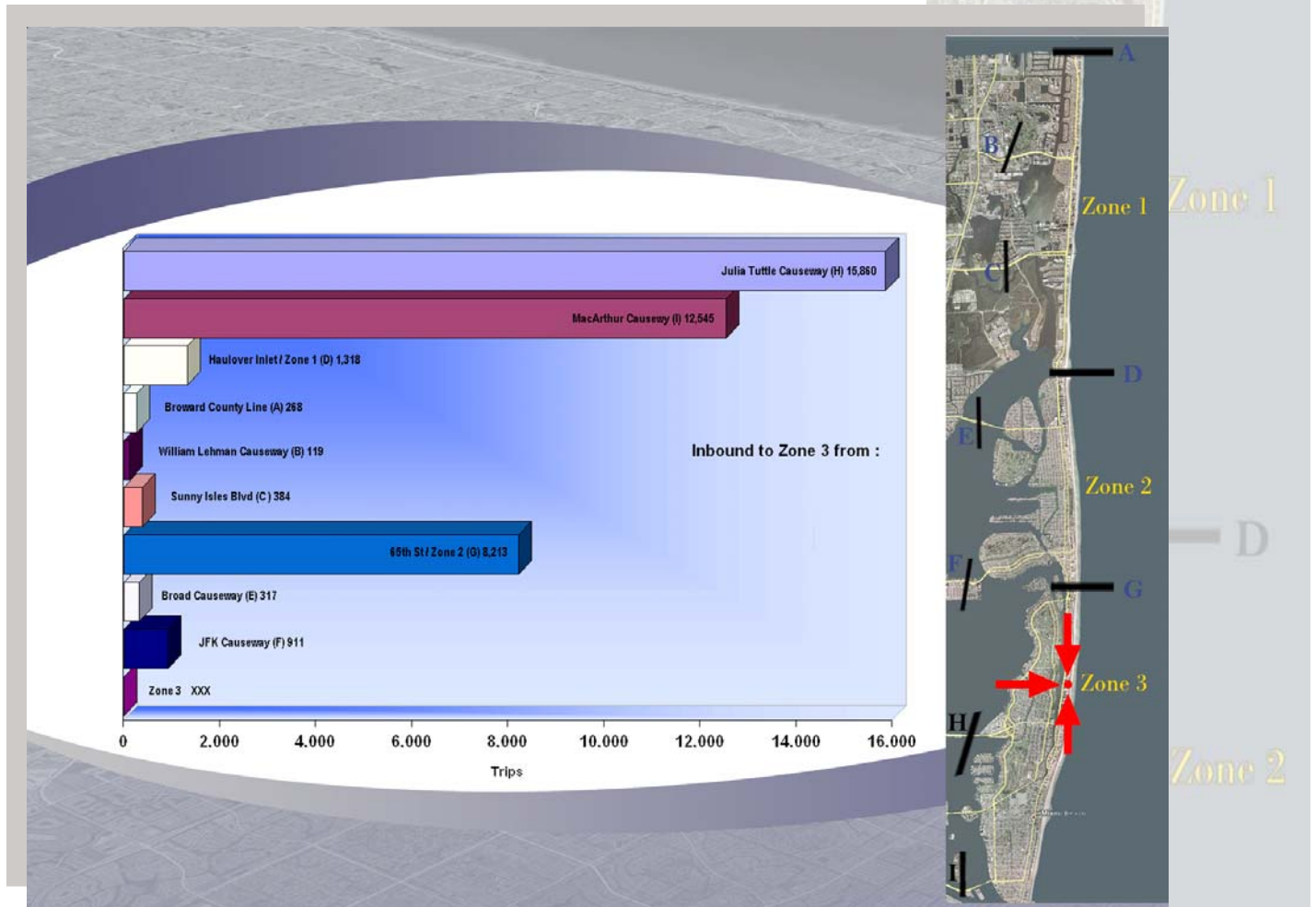
The traffic flowing into Zone 1 is generally from the nearest screenlines. The three screenlines in Zone 1 (A,B,C) are by far the three largest contributors to its traffic and its appeal as a destination. As a second tier of incoming traffic, Zones 1 and 2 are the next largest contributors. This shows that the majority of the east/west traffic is from the three causeways within the zone. And the north/south traffic is mainly due to traffic that starts internally in the network, meaning the other two zones.

Inbound-Zone 2



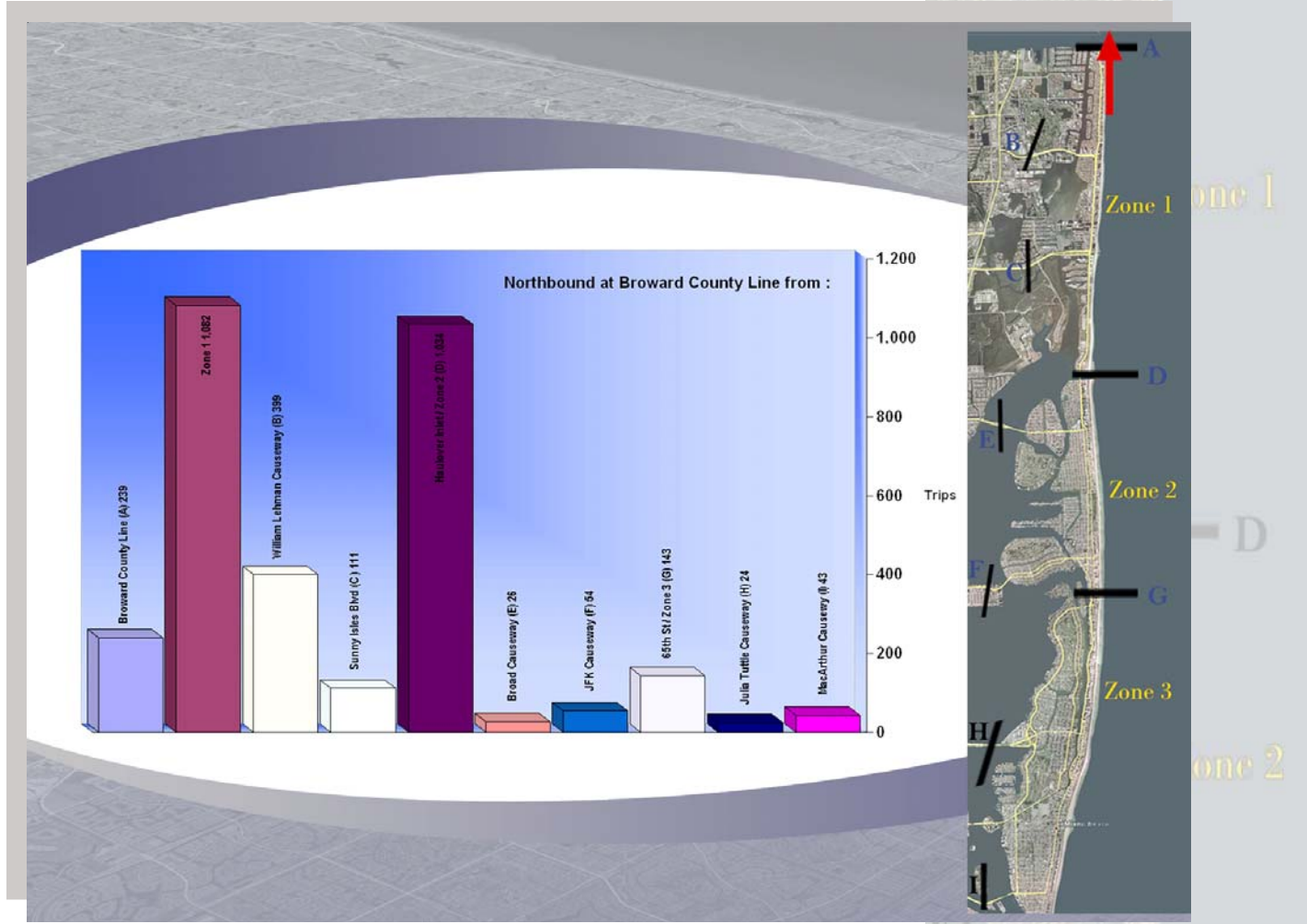
Inbound Zone 2 traffic is generally coming from the two causeways located within the zone, those being the Broad and JFK Causeways. The next level of contribution comes from Zone 1 and Zone 3 as well as somewhat significant traffic coming from Sunny Isles Blvd. This shows that most east-west traffic is from the two causeways in the zone, as well as some from Sunny Isles Blvd., which is the nearest causeway outside of the zone. The north/south traffic is also, again, coming from the other two zones, making it internal traffic to the system.

Inbound-Zone 3



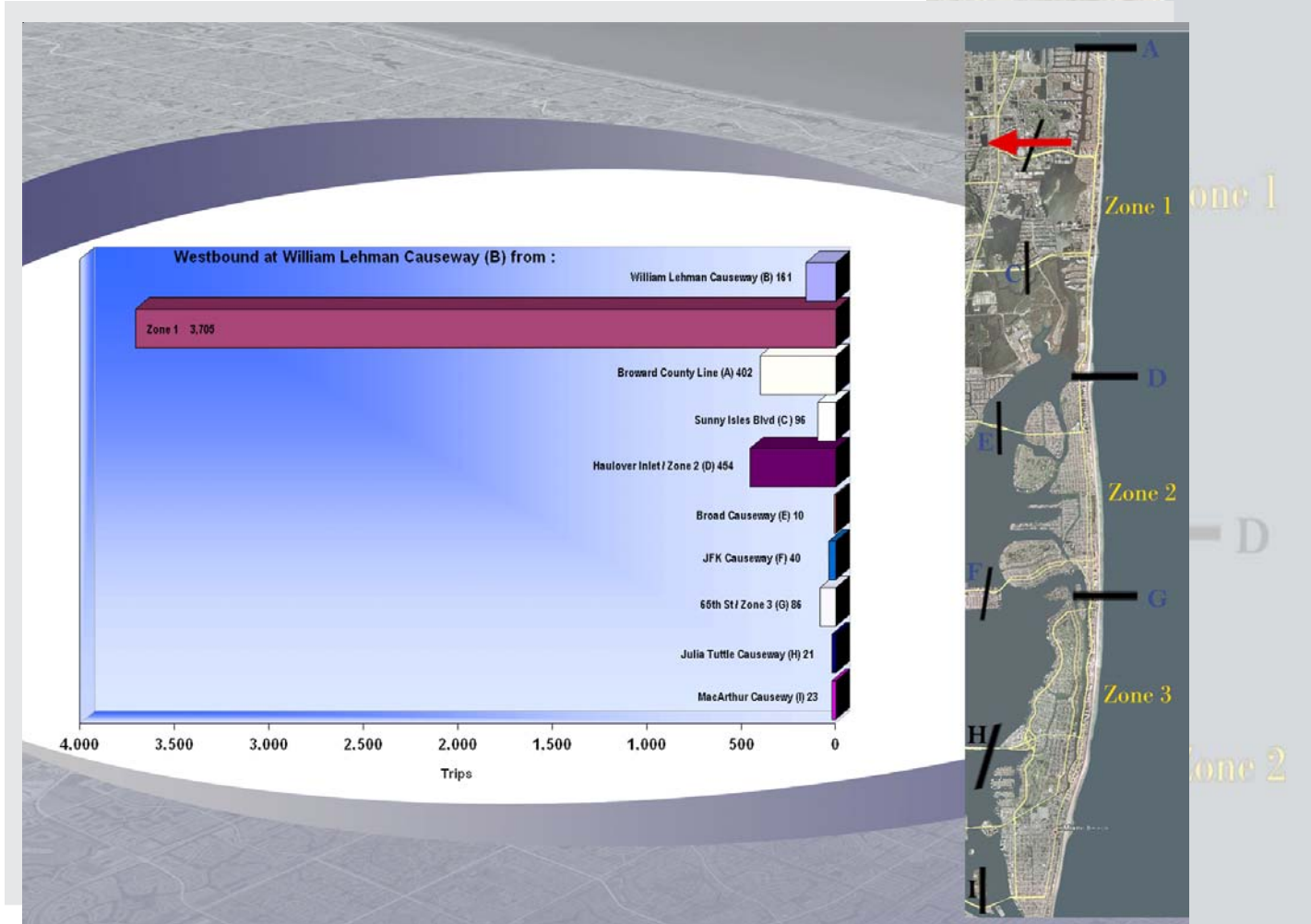
Zone 3 has the highest level of traffic of any of the zones. The two Causeways, Tuttle and MacArthur, are also the two highest volume causeways. The vast majority of traffic in this zone comes from these two causeways. The next tier of traffic comes from the neighboring Zone 2. Zone 3 has the highest traffic levels, the largest employment numbers, and the largest population of any zone.

Northbound A: Broward County Line



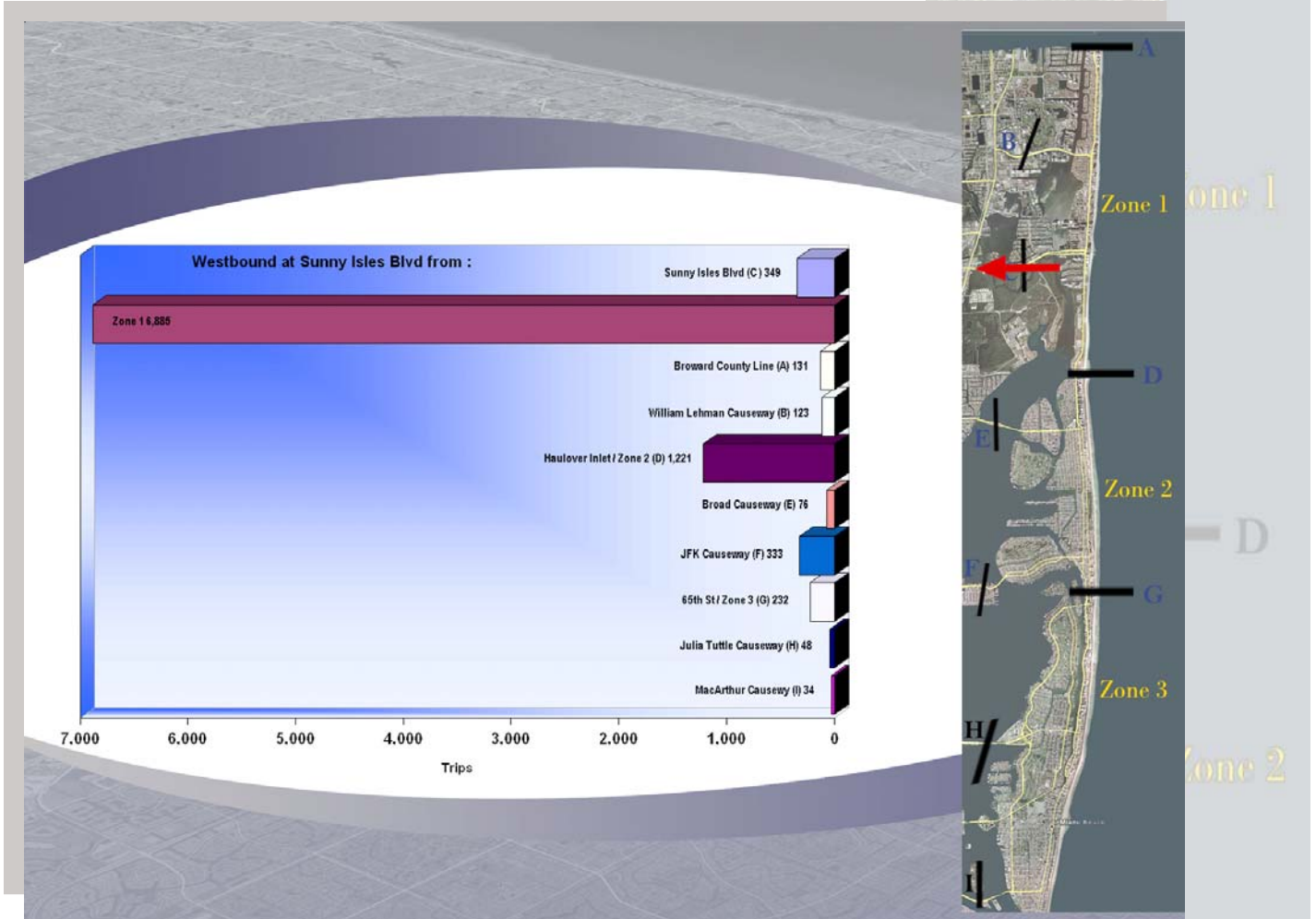
Northbound at the Broward County Line, the trips are mostly internal. Zones 1 and 2 provide large numbers of trips while most of the causeways do not. The two causeways that provide the most traffic are the Lehman Causeway and Sunny Isles Blvd. Those are also the two closest causeways.

Westbound B: William Lehman Causeway



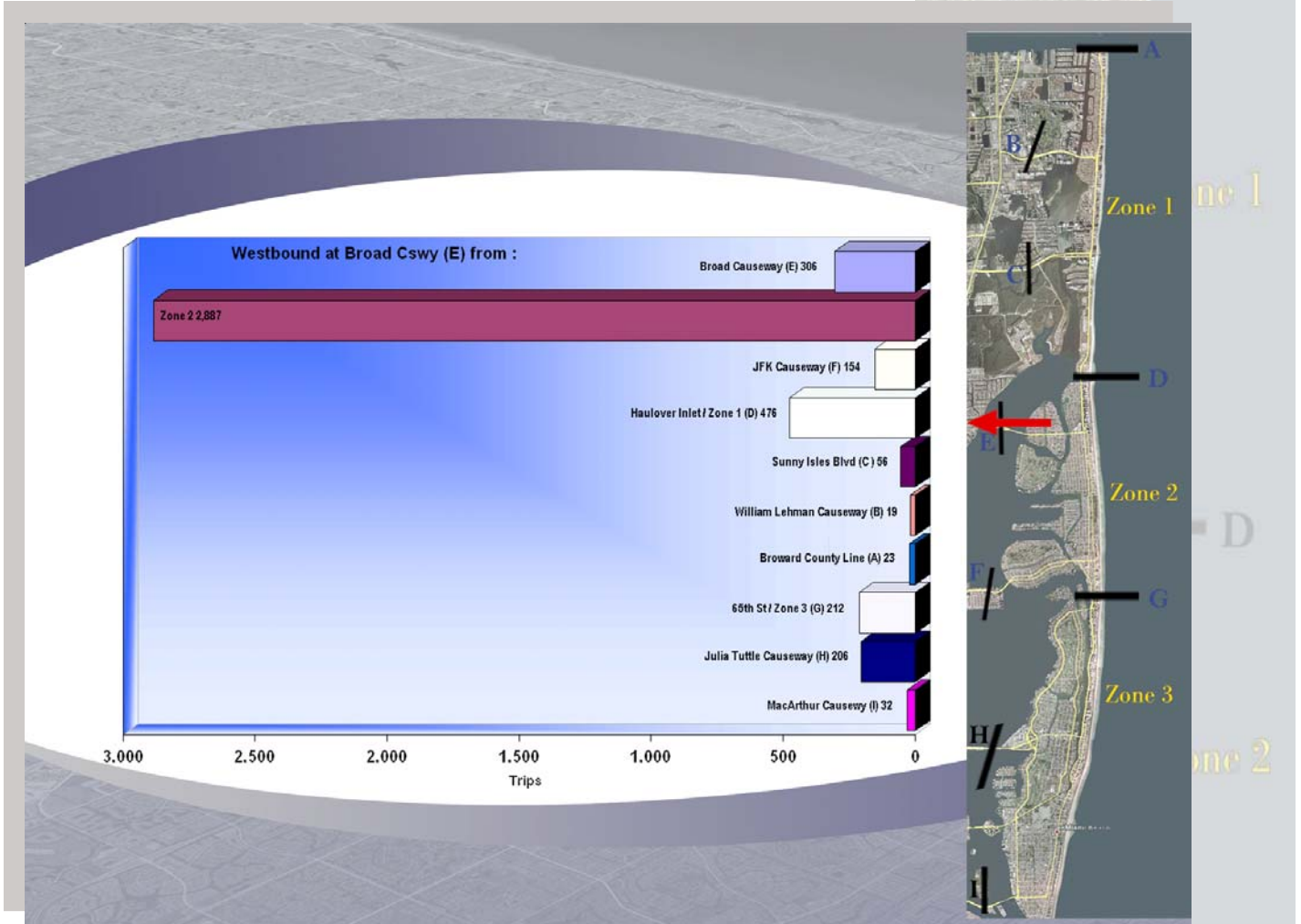
Westbound traffic on the William Lehman Causeway is coming almost exclusively 75% from Zone 1. The only other origins providing even the traffic volumes of 400 trips are Zone 2 and Broward County.

Westbound C: Sunny Isles Boulevard



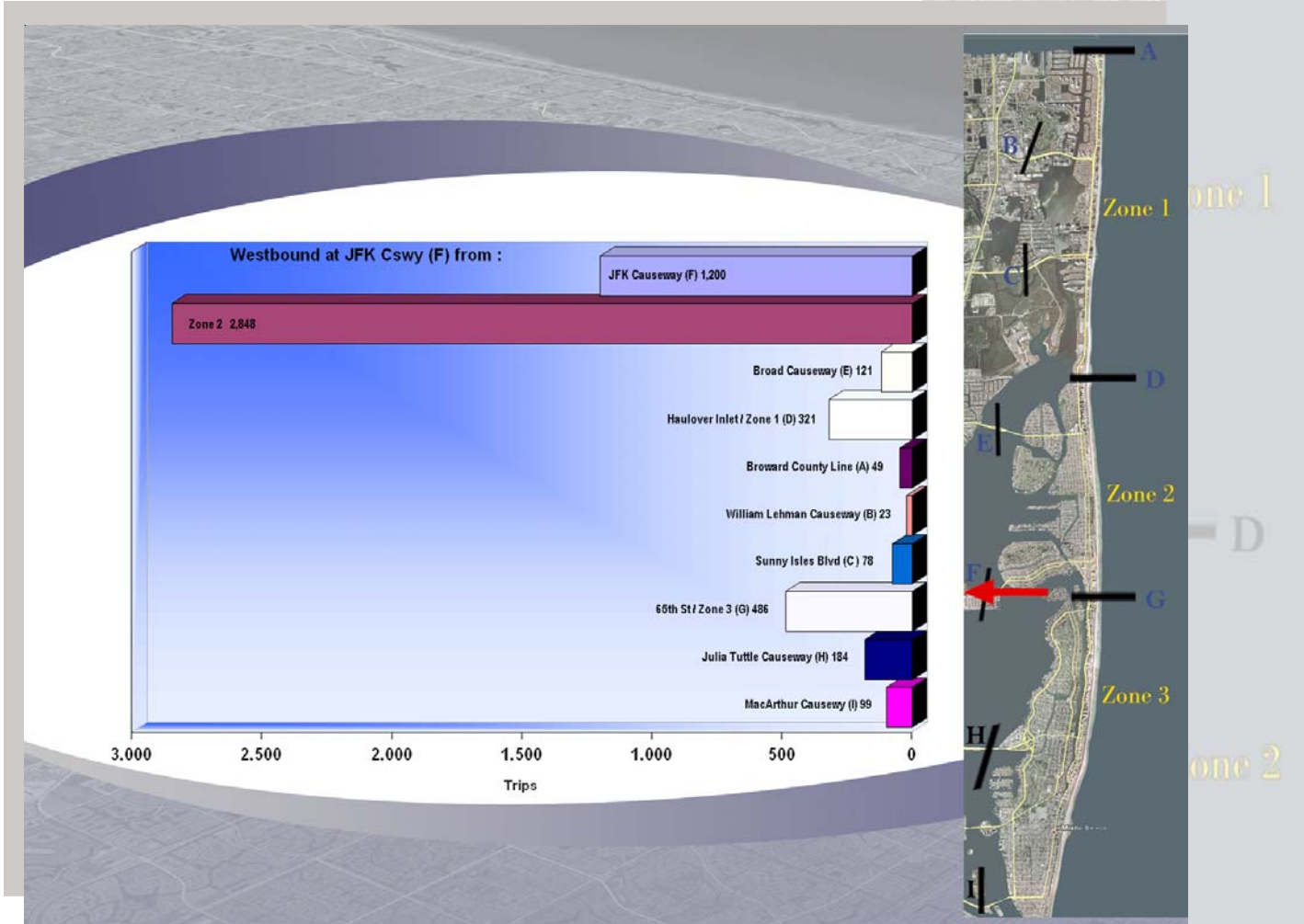
Approximately 75% of the westbound traffic on Sunny Isles Blvd is originating in Zone 1. The traffic is, again, choosing to leave the barrier islands at the closest causeway. The next largest contributor is Zone 1 at nearly 12%. Very little traffic westbound on Sunny Isles Blvd came from another causeway.

Westbound E: Broad Causeway



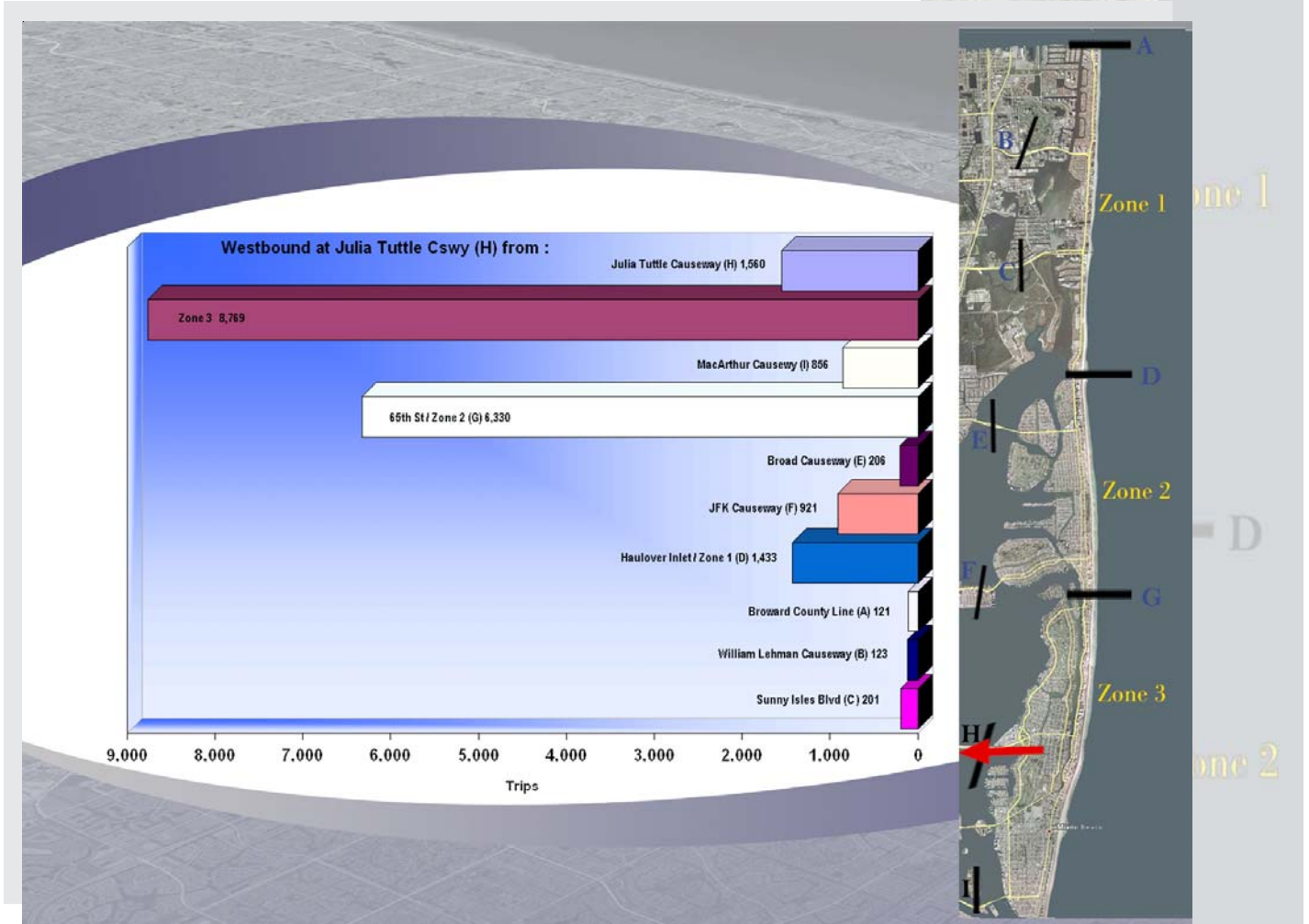
As with the causeways in Zone 1, the westbound traffic on the Broad Causeway is generated in the home zone. The traffic in Zone 2 is not as high as in Zone 1 or 3 due largely to the fact that Zone 2 has a smaller population than that of the other two zones.

Westbound F: JFK Causeway



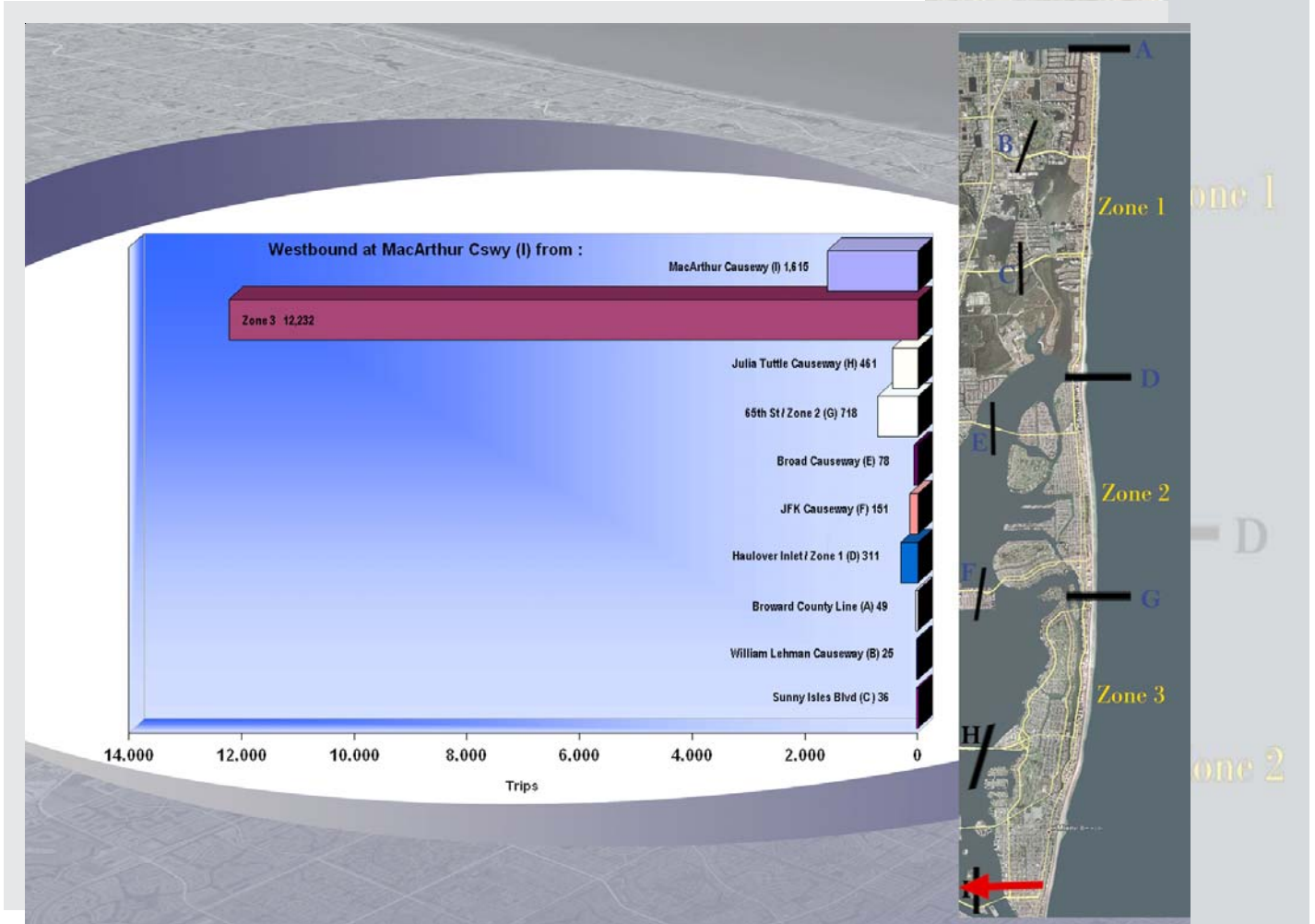
Most JFK Causeway traffic heading westbound also comes from the home zone. The Zone 2 traffic accounts for around 60% of all JFK westbound traffic. The only other significant contributors are the JFK causeway itself and Zone 3.

Westbound H: Julia Tuttle Causeway



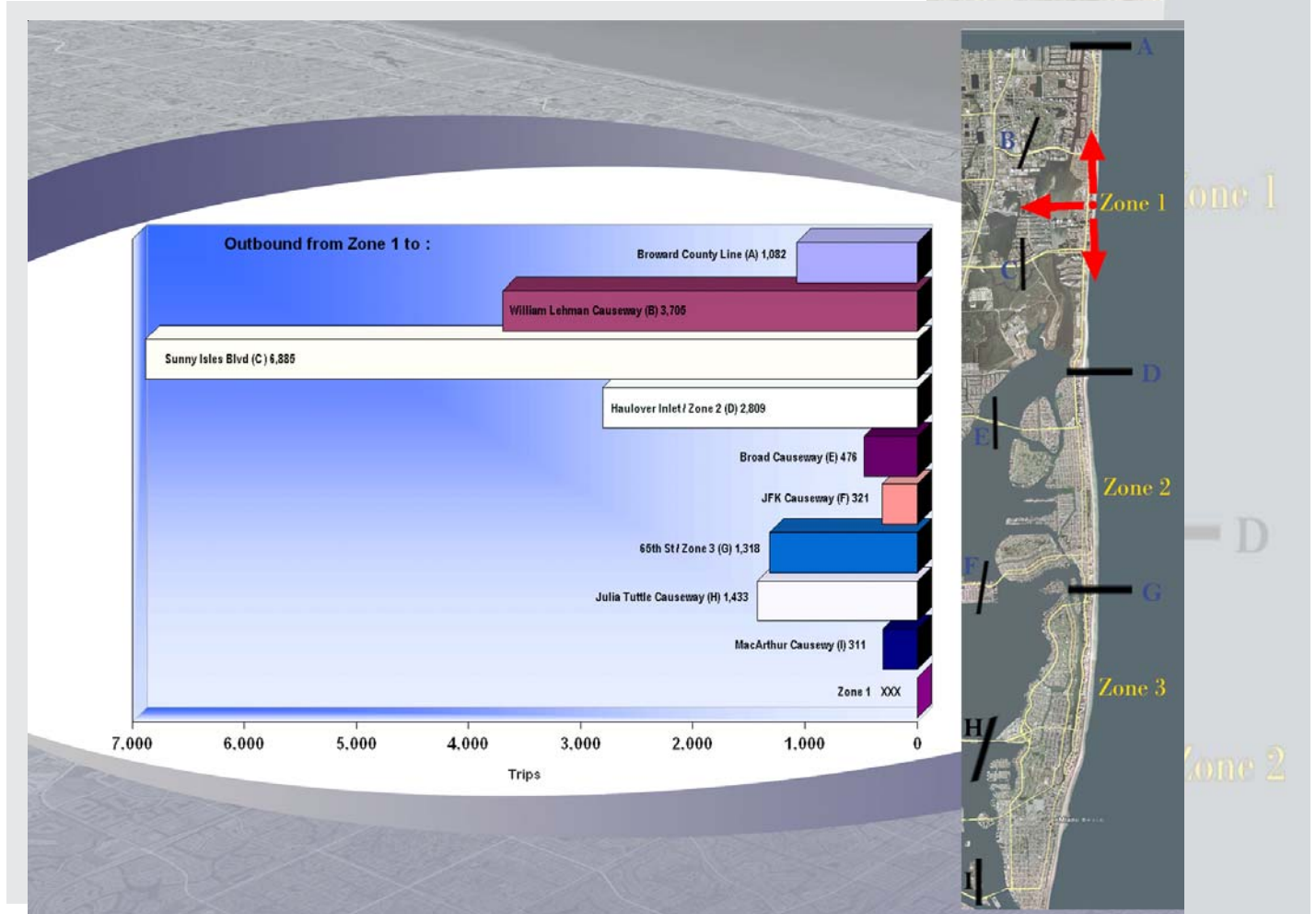
The traffic on the Julia Tuttle Causeway is mostly coming from the barrier islands. Zones 2 and 3 make up about 75% of the total westbound movements on the Tuttle. The large number coming from Zone 2 is most likely due to the causeway capacity and connectivity. As a whole, the Julia Tuttle westbound traffic numbers are the highest of any causeway.

Westbound I: MacArthur Causeway



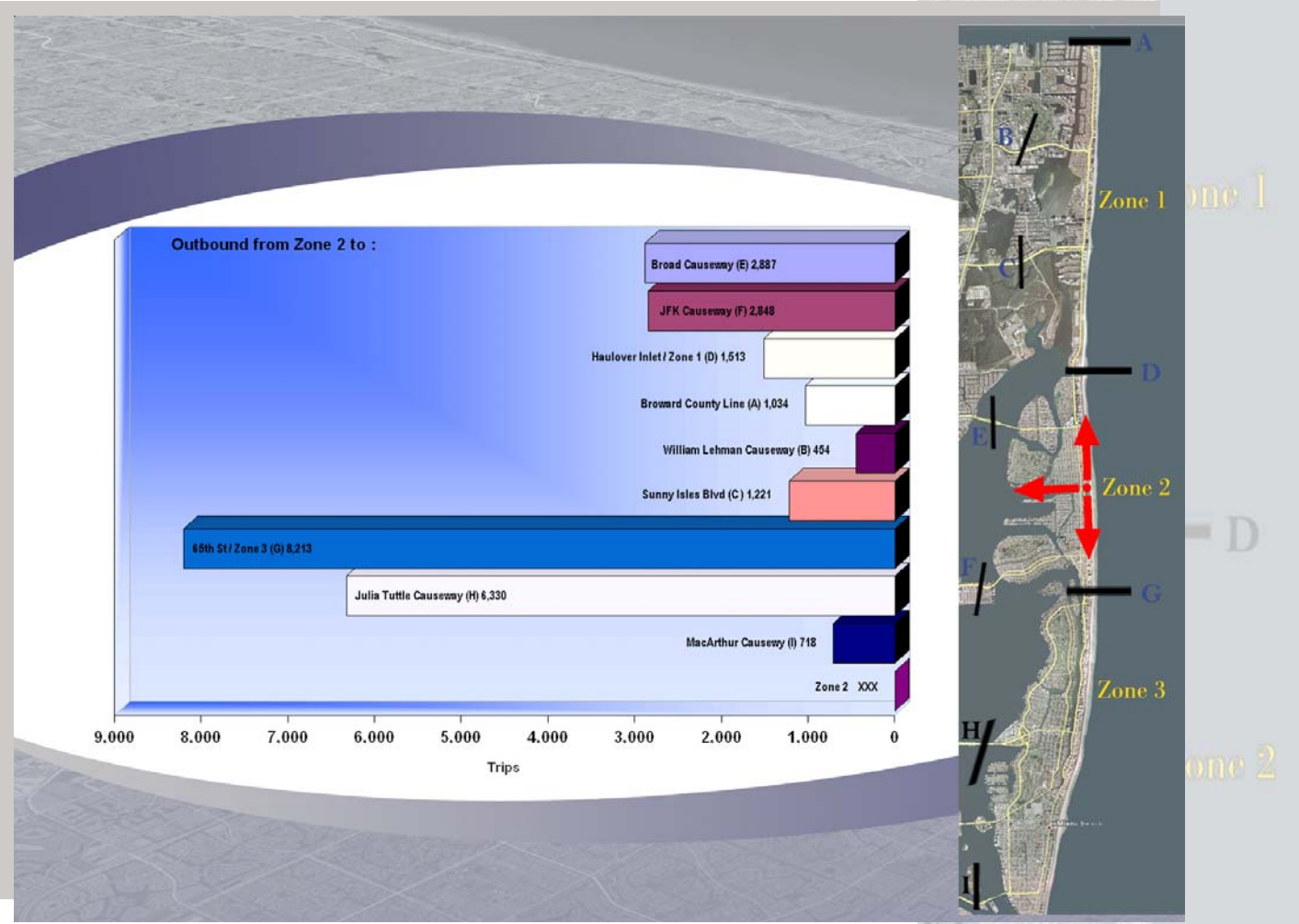
Westbound traffic on the MacArthur Causeway is almost entirely from the home zone of Zone 3. Over 12,000 trips are produced from this zone on the MacArthur. The traffic levels on this causeway are higher than any other causeway except the Tuttle. The probable reason for this is that Zone 3 has the largest population of all zones.

Outbound-Zone 1



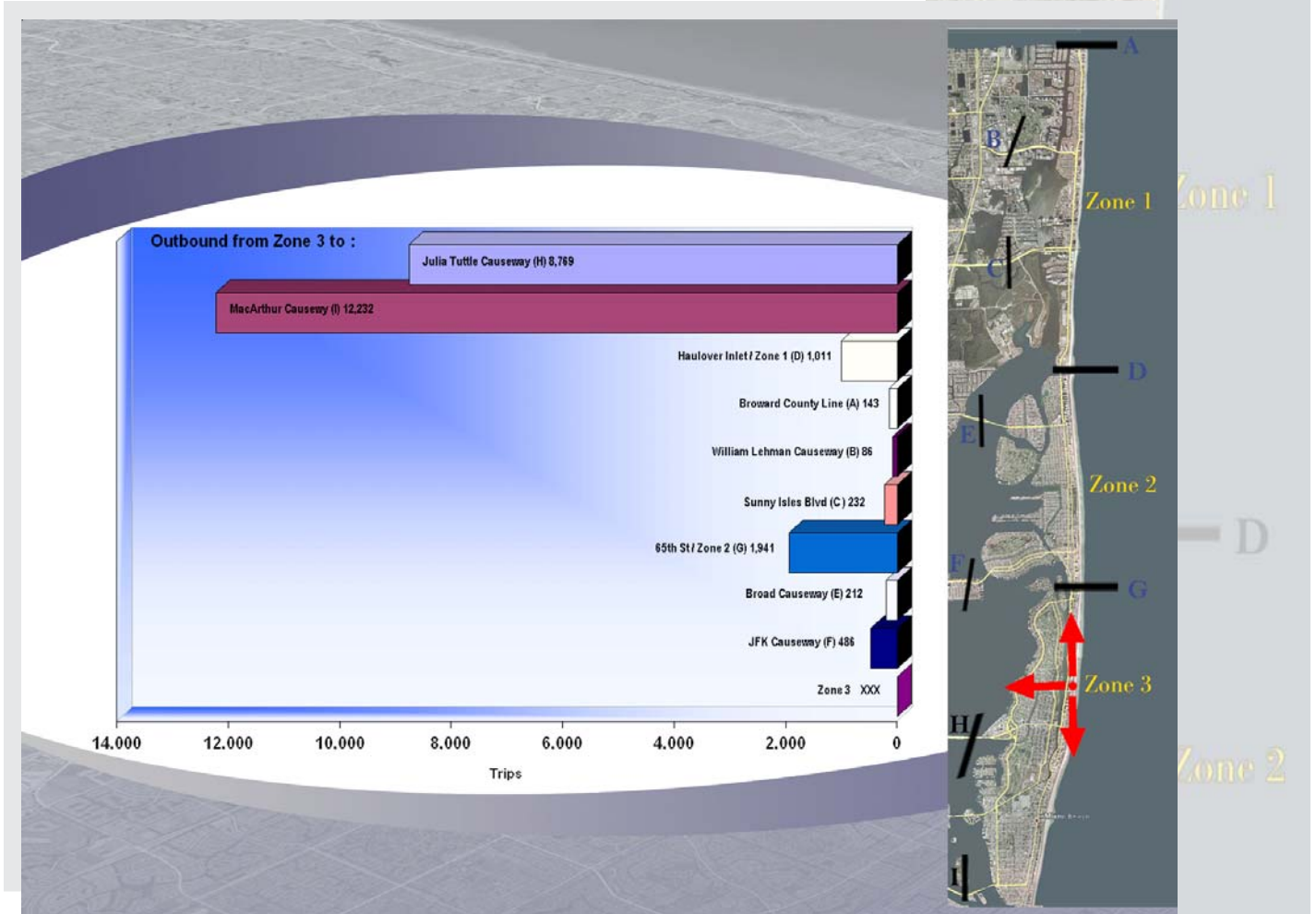
Most traffic leaving Zone 1 leaves it westbound, not north or south. The Lehman causeway and Sunny Isles Blvd are the two main routes out of the zone. Zone 2 also takes a large number of trips from Zone 1. Northbound to Broward county, and southbound to Zone 3 and the Tuttle Causeway also take significant levels of traffic, but not nearly as significant as the two Causeways.

Outbound-Zone 2



Traffic heading out of Zone 2 most commonly takes a southern route to Zone 3 and/or to the Tuttle Causeway. The JFK and Broad Causeways take large numbers of traffic as well, but little in comparison to that of the Zone 3 and Tuttle trips. Zone 3 has large employment centers making it a large destination.

Outbound-Zone 3



Zone 3 has more traffic due to population and employment levels than any of the other two zones. Between the Julia Tuttle Causeway and the MacArthur Causeway, more than 21,000 trips are headed westbound. The only other destination that has numbers over 1,000 are the other two zones. It is clear that the traffic from Zone 3 moves in an east-west pattern. The traffic is getting off the barrier islands at the closest possible causeway in almost all cases.

Transit Movement

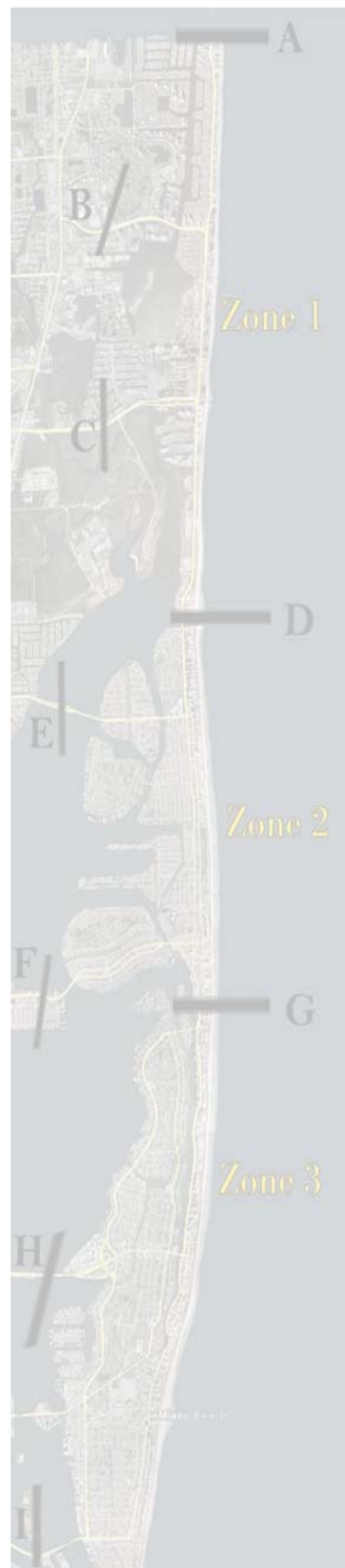
The Center for Urban Transportation Research has been conducting a similar study, but focused on the movement of transit patrons. Much of the analysis of both of these coordinated efforts are supportive of one another.

The goals of the Coastal Communities Transit Plan (CCTS) are to 1) analyze existing transit service in the coastal communities and identify areas for potential operational improvement, 2) determine if and how the existing route structure can be simplified along the A1A Corridor to improve operational efficiency and service and mitigate traffic impacts from buses, and 3) determine the locations and improvements necessary to provide transfers for the existing and modified route structure. Initial work has focused on analyzing data prior to public input.

The data sources include a 27,000-record database from an on-board survey taken in 2004 of all bus service and Metrorail service in the county. The data contains, by route, detailed data for origin-destination patterns, trip characteristics (modes, transfers), rider demographics, and attitudinal information. This data set has been used to determine origins and destination by route, and by the three defined study districts for the CCTS and the coordinated Coastal Communities Transportation Master Plan. In addition, the data set has been used to define transit rider demographics for each district, and transit rider transfer (changing buses) patterns by route and district, and transit rider attitudes towards transferring. Another data set, also performed in 2004, was a Miami Dade County-wide bus ridecheck, for which every stop for every route was surveyed to determine boarding's, debarkings, and on-time performance for each route by day of week and time of day. There are over one-million data records Miami Dade County-wide. This data is currently being re-parsed and queried to determine utilization and bus loads by roadway segment in the Coastal Communities. Most importantly, the data set will be used to determine routes that are considered to be split for east-west functions and A1A function, and how many riders make the turn on A1A (these are the riders that would be impacted by requiring an extra transfer).

The overall transit patterns of the transit riders in or to the Coastal Communities is consistent with the general findings of the Coastal Communities Transportation Master Plan Origin/Destination Survey. In general the findings show:

- 12% of transit trips (final origin to final destination, not for one bus route) are short trips that begin and end within one of the three study districts.
- 14% of the transit trips are regional but beginning and ending within the Coastal Communities, and are approximately north-south in direction
- 74% of transit trips cross Biscayne Bay



Existing data and additional data analysis will greatly add to this understanding, but these three statements essentially describe the general patterns at a macro level.

Data from Other Sources

To enhance the findings of the Origin and Destination Study, trip making patterns were researched from pertinent efforts, including the 2000 Census, 24 hour traffic counts and the MPO Regional Model.

Where do Coastal Residents Work?

The Federally mandated population Census from 2000 reports that a majority of people that live in the beach communities enjoy a short commute to work, choosing to remain east of I-95 (76%). Many people, in fact, choose to work within the beach area (44%). Yet, overall 56% of all of the home-to-work trips originating within the study area leave the study area. The Census data showed the following beach area trips go to:

- 44.26% of the work trips stay within the study area
- 22% of the work trips from the study area go to downtown Miami
- 12% of the trips go to Northwest Miami-Dade County
- 8.5% of the work trips go to the Civic Center Area
- 8.3% of the work trips go to the Airport/Doral Area
- 3.7% of the work trips go the Kendall/SW Dade Area, and
- Only 1% of the work trips go to the South Dade Corridor

Another source of information that was reviewed for this study came from the Miami-Dade County Metropolitan Planning Organization Region Model results. From this regional model we begin to get a Long Range Planning xxx picture of just where beach area residents are commuting to as they leave the study area. The regional model information provides us with a look at all types of vehicle trips people are making (Table 1) which include trips made for work, school, shopping, recreation and entertainment activities. The latter examines all trips, not just home/work. These include trips for recreation. Again as is seen with the analysis of where coastal residents work, the highest of trip making is internal to the study area (44%). Trips from other communities attracted to the study area come mainly from NW Dade (21%), Downtown/Brickell (11%), the Civic Center (7%), North Miami (7%), and Hialeah (3%). The huge geographic area of South Dade (about half of the county) only represents 5% of the trips coming in to the study area. There is definitely a connection in trip making to the northern one-third of the county, where all of the major employment centers are. The study area seems to attract from a broader area then it distributes to, confirming the area is a major employment center and recreational generator.

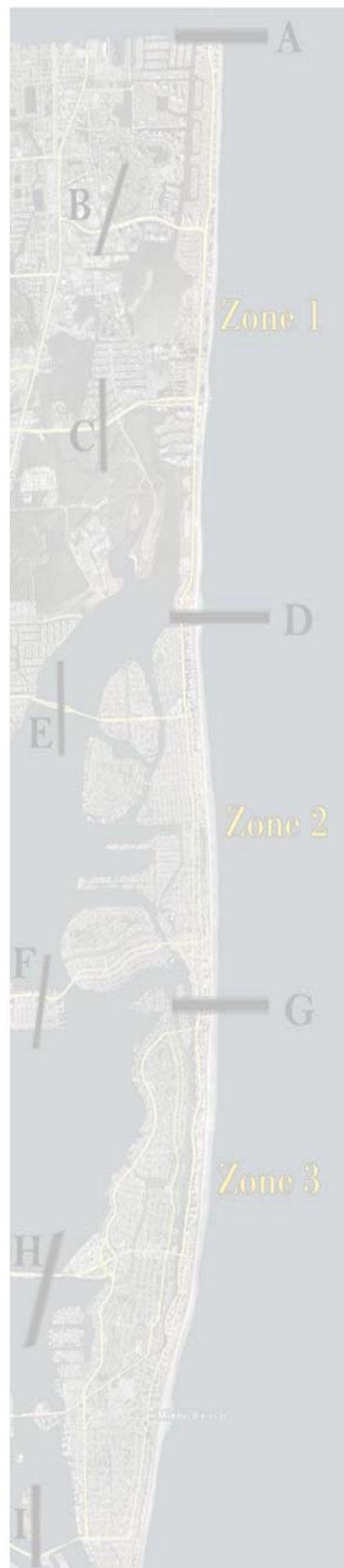


Table 2-1
MPO Regional Model Trip Results for the Coastal Communities

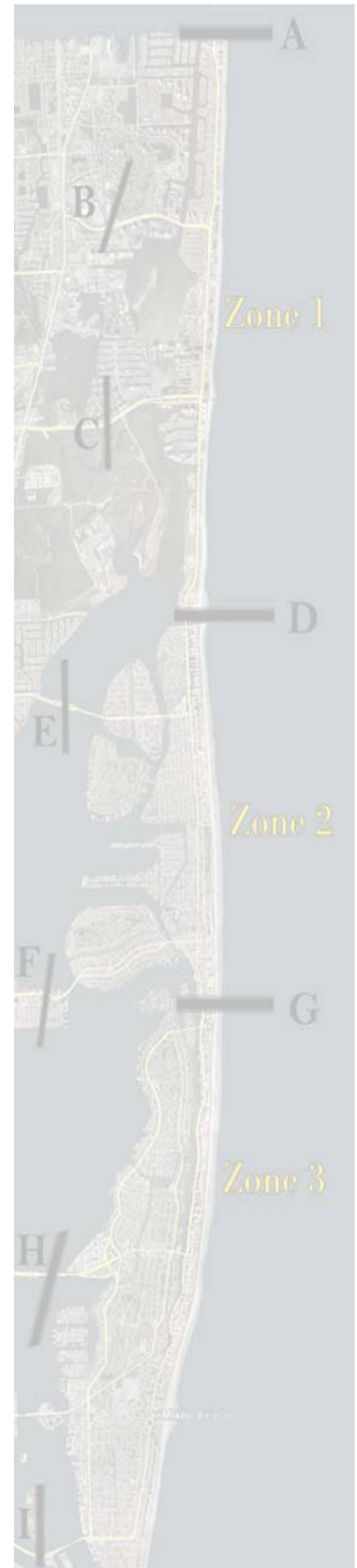
Zone	Trips Attracted to Coastal Communities From Other Areas	Trips Generated Within Coastal Communities Destined for Other Areas
Internal	38.82%	48.31%
Miami Gardens/NE Dade	20.75%	10.06%
Downtown Miami/Brickell	11.38%	16.05%
Civic Center	7.48%	9.25%
North Miami	6.93%	5.99%
Hialeah	3.14%	2.42%
FIU/Sweetwater	2.80%	0.94%
South Miami	1.99%	1.91%
Coral Gables	1.94%	1.35%
Kendall	1.48%	0.33%
Airport West/Doral	0.84%	2.97%
Miami International Airport	0.44%	0.05%
Pinecrest	0.56%	0.17%
Cutler Bay	0.77%	0.11%
Gould	0.40%	0.01%
Homestead	0.25%	0.02%

In addition to videotaping license plates, each screenline also had a tube count taken during a 24 hour period. Due to the need for daylight, video taping could not be done through the night.

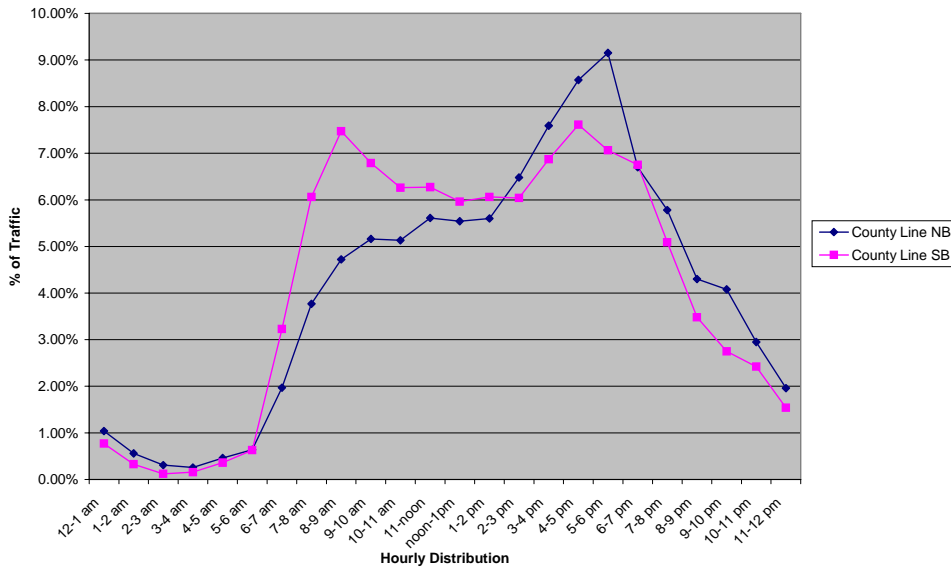
The 24 hour distribution of trips was important for this study as it attempts to know the exact hours the peaks are occurring, as well as what type of plateaus are happening and if traffic flow had a one-directional bias or not.

The peaks, or rush hours in traffic patterns are an indicator of roadways reaching their capacity limits. Twenty-four hour traffic counts are important to show what peaks might be occurring and how significant those peaks are. For instance, a 9% peak in traffic volume at any one time would be considered a sharp peak. This is seen in this study area at the north-south screen lines which were found to have fairly sharp peak hours with at least a 9% peak occurring. However, that was where the similarities ended on the north-south screen lines. The following observations were made regarding peak traffic patterns in the coastal communities planning area, related to actual traffic volumes.

At the Broward County line the peak hour for both directions occurred in the PM, with northbound traffic showing a 9% peak hour between 5-6 PM and the southbound maximum peak hour was 7.6% between 4-5 PM. Between 7 AM and 7 PM the traffic in the southbound direction stayed at either 6 or 7 %. (See Exhibit 2-7)

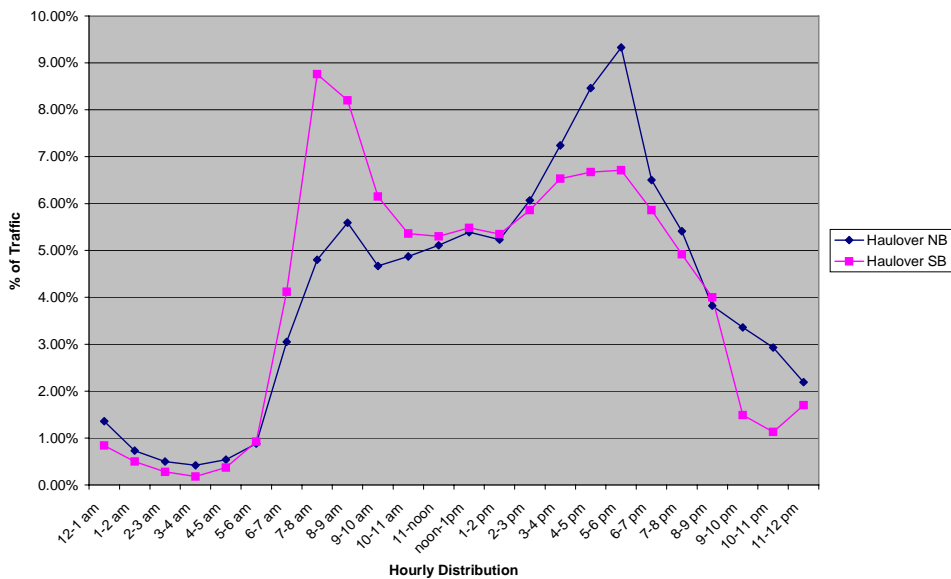


**Exhibit 2-7
County Line**



At Haulover Inlet there were much more defined peaks. The morning peak hour occurred between 8-9 AM in the southbound direction with over 8% of the traffic. The evening peak hour occurred in the northbound direction from 5-6 PM with 9.3% of the traffic. (See Exhibit 2-8)

**Exhibit 2-8
Haulover**



At 65th Street the peaks were the same. The morning peak hour occurred in the southbound direction between 8-9 AM carrying 9.3% of the traffic. The evening peak hour occurred in the northbound direction from 4-5 PM carrying almost 8% of the traffic. Even with the northbound peak at 8% the traffic distribution at this point is very evenly distributed. High the traffic volumes remain all night for the northbound trips leaving Miami Beach. (See Exhibit 2-9)

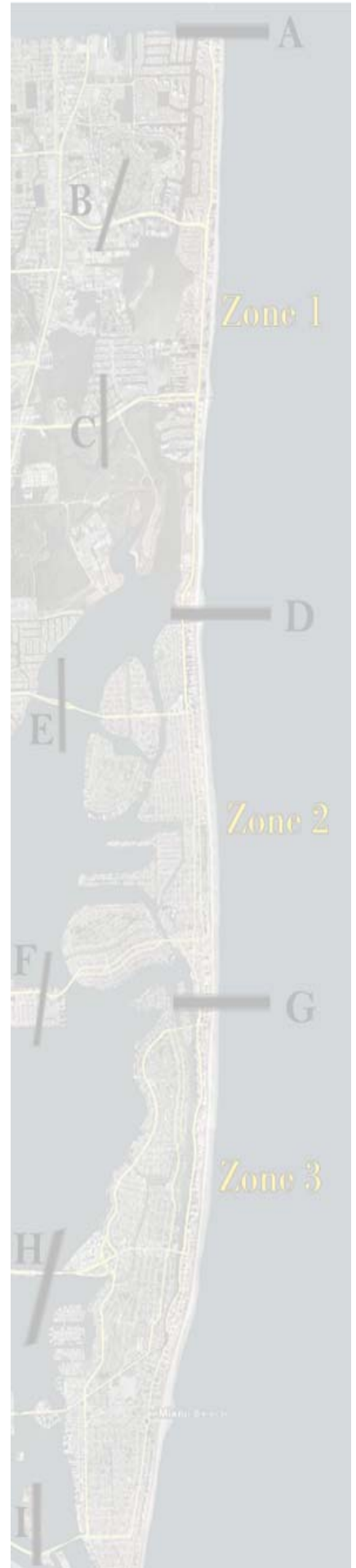


Exhibit 2-9 65th Street

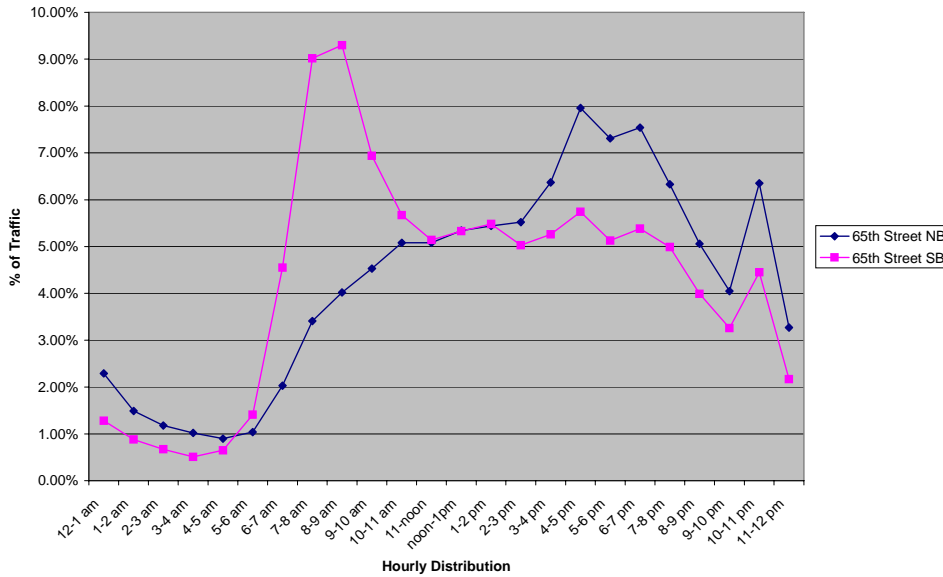


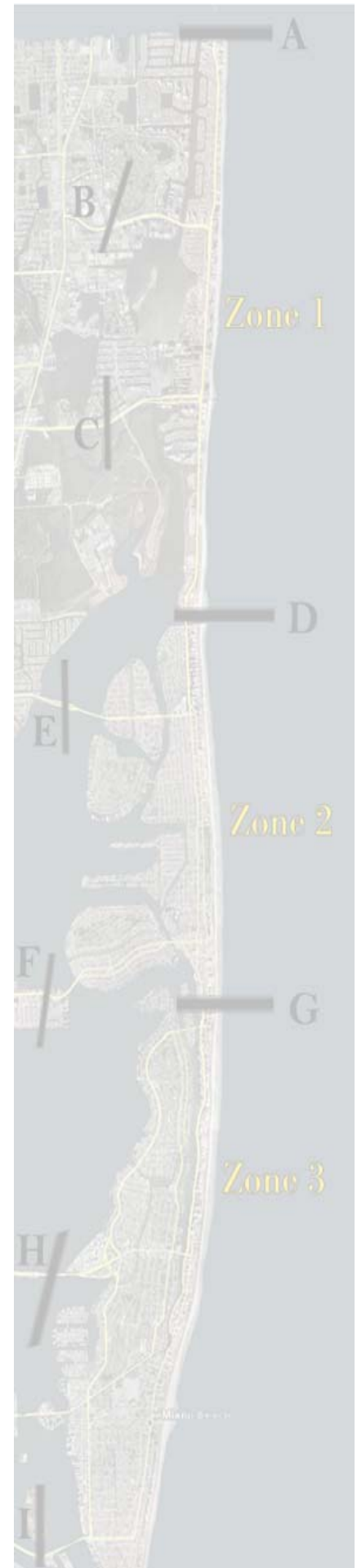
Table 2-2 is a summary of the hourly distribution of the north-south trips.

East-west traffic crossing the causeways is very similar, regardless of which causeway is crossed. The traffic on every causeway is at least 5% per hour from 8 AM to 8 PM. Only two causeways have a peak period that reaches 8%. On the MacArthur the peak hours only represent 6% of the traffic. Directional split throughout the day is also extremely even. The William Lehman and the Broad Causeways both have significantly lower volumes than the others. They are also the only two causeways that have an 8% peak hour and that have more than a 44-55% directional split at any time of the day. The hourly distribution percentages are graphically depicted in charts included in Appendix B of this report. North-south trips are shown on the first three charts titled, County line, Haulover and 65th Street.

Table 2-3 provides the hourly traffic distribution by direction for each of the causeways included in the study.

This information generally points to the fact that the southern end of the study area, not only contains housing and employment opportunities, but significant recreational opportunities. In total, the Coastal Communities represent an atypical transportation and land use situation. It is one of the densest areas in the entire state. The real-estate costs are some of the highest, the number of second homes or part time residences are high. There is a high proportion of hotels, and hence, transient visitors using them or taking advantage of the world class entertainment opportunities. Additionally, the significant need for employees to service the tourism industry, and the lack of workforce housing creates disparity.

The lack of directionality shows that the predominant peak of the traffic flow is only slightly higher in the morning and northbound in the evening. The



peaks are low and broad, generally between 7am and 10pm, and generally between 3% and 8% or daily traffic. This points to a thorough utilization of the roadway network. There is little latent capacity remaining on the system. It also evidences the fact that transportation demand management measures are occurring naturally as drivers use the system throughout the day. This points to a maturing transportation system, ripe for high quality transit.

Table 2-2
Hourly Distribution of North-South Trips

	County Line		Haulover		65 th Street	
	NB	SB	NB	SB	NB	SB
12-1 am	1.04%	0.77%	1.36%	0.84%	2.29%	1.28%
1-2 am	0.56%	0.33%	0.73%	0.50%	1.49%	0.88%
2-3 am	0.31%	0.12%	0.50%	0.28%	1.18%	0.67%
3-4 am	0.26%	0.16%	0.42%	0.18%	1.02%	0.51%
4-5 am	0.46%	0.36%	0.54%	0.37%	0.90%	0.65%
5-6 am	0.64%	0.63%	0.88%	0.92%	1.04%	1.41%
6-7 am	1.97%	3.23%	3.05%	4.12%	2.03%	4.55%
7-8 am	3.77%	6.06%	4.80%	8.76%	3.41%	9.02%
8-9 am	4.72%	7.47%	5.59%	8.20%	4.02%	9.30%
9-10 am	5.16%	6.79%	4.67%	6.15%	4.53%	6.94%
10-11 am	5.13%	6.26%	4.87%	5.36%	5.08%	5.67%
11-noon	5.61%	6.27%	5.11%	5.30%	5.08%	5.14%
noon-1pm	5.54%	5.96%	5.39%	5.48%	5.34%	5.33%
1-2 pm	5.60%	6.06%	5.23%	5.35%	5.44%	5.48%
2-3 pm	6.48%	6.04%	6.07%	5.86%	5.52%	5.03%
3-4 pm	7.59%	6.87%	7.24%	6.53%	6.37%	5.26%
4-5 pm	8.57%	7.61%	8.46%	6.67%	7.96%	5.74%
5-6 pm	9.15%	7.06%	9.33%	6.71%	7.31%	5.13%
6-7 pm	6.70%	6.75%	6.50%	5.86%	7.54%	5.38%
7-8 pm	5.78%	5.09%	5.41%	4.92%	6.33%	4.99%
8-9 pm	4.30%	3.48%	3.82%	4.00%	5.06%	3.99%
9-10 pm	4.08%	2.75%	3.36%	1.49%	4.05%	3.26%
10-11 pm	2.95%	2.42%	2.93%	1.13%	6.35%	4.45%
11-12 pm	1.96%	1.54%	2.19%	1.70%	3.27%	2.17%

Highlighted area denotes peaks

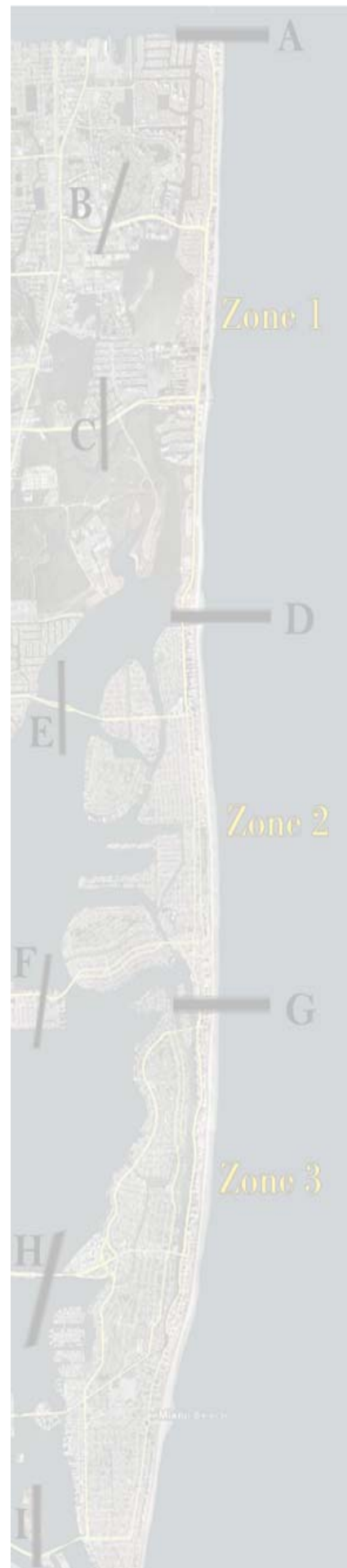


Table 2-3
Hourly Distribution of East-West Trips

	W. Lehman		Sunny Isles		Broad		Kennedy		Julia Tuttle		MacArthur	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12-1 am	1.89%	2.29%	1.07%	0.97%	0.68%	0.77%	1.27%	1.28%	1.23%	1.42%	1.71%	2.70%
1-2 am	0.84%	1.26%	0.62%	0.58%	0.42%	0.50%	0.68%	0.69%	0.59%	0.88%	1.13%	2.08%
2-3 am	0.45%	0.67%	0.40%	0.24%	0.22%	0.12%	0.46%	0.44%	0.34%	0.57%	0.76%	1.50%
3-4 am	0.33%	0.43%	0.38%	0.31%	0.18%	0.19%	0.44%	0.49%	0.33%	0.52%	0.68%	1.37%
4-5 am	0.24%	0.19%	0.44%	0.37%	0.25%	0.27%	0.54%	0.57%	0.54%	0.68%	0.74%	1.36%
5-6 am	0.51%	0.34%	0.96%	1.05%	0.88%	0.60%	1.11%	1.26%	1.54%	1.33%	1.54%	1.70%
6-7 am	0.95%	0.91%	2.92%	4.32%	2.70%	2.20%	3.48%	3.21%	4.49%	3.11%	3.47%	2.62%
7-8 am	3.25%	3.90%	5.54%	6.24%	6.54%	5.44%	6.19%	5.43%	6.77%	6.79%	4.46%	4.80%
8-9 am	7.39%	5.31%	6.80%	6.23%	7.88%	7.45%	6.71%	6.20%	7.22%	8.03%	5.03%	6.83%
9-10 am	8.06%	5.96%	6.01%	5.52%	5.97%	5.87%	5.76%	5.38%	5.97%	6.26%	5.26%	5.46%
10-11 am	7.29%	5.73%	5.86%	5.12%	5.85%	5.89%	5.03%	4.79%	5.32%	5.62%	4.88%	4.95%
11-noon	6.67%	5.29%	5.73%	5.43%	5.97%	6.29%	5.22%	4.98%	5.12%	5.36%	4.75%	5.17%
noon-1 pm	6.07%	5.21%	5.84%	5.82%	6.22%	6.31%	5.43%	5.57%	5.24%	5.20%	5.12%	5.06%
1-2 pm	5.70%	5.46%	6.33%	5.51%	6.81%	6.30%	5.67%	7.24%	5.24%	5.34%	5.21%	5.46%
2-3 pm	5.75%	5.10%	5.91%	5.77%	6.48%	6.58%	5.74%	7.25%	5.85%	6.01%	5.15%	5.83%
3-4 pm	6.12%	5.64%	7.92%	6.22%	6.38%	8.29%	6.70%	7.25%	5.88%	7.29%	5.08%	6.61%
4-5 pm	6.73%	6.51%	7.99%	6.82%	6.65%	7.70%	6.93%	7.66%	6.51%	7.63%	5.44%	6.14%
5-6 pm	7.03%	6.57%	7.43%	7.06%	6.60%	8.44%	7.23%	7.59%	7.22%	7.47%	6.10%	5.87%
6-7 pm	7.01%	6.40%	5.91%	7.23%	6.70%	6.57%	6.80%	6.44%	6.89%	5.86%	5.93%	5.68%
7-8 pm	5.68%	6.25%	5.21%	5.89%	5.42%	5.15%	5.78%	5.13%	5.38%	4.55%	5.20%	4.94%
8-9 pm	4.58%	6.56%	3.40%	4.57%	4.41%	3.45%	4.43%	3.84%	3.60%	3.02%	4.10%	3.86%
9-10 pm	2.97%	5.30%	2.77%	3.78%	3.04%	2.45%	3.45%	2.93%	3.14%	2.56%	3.60%	3.35%
10-11 pm	2.42%	4.73%	2.67%	3.09%	2.30%	1.75%	2.85%	2.49%	3.59%	2.24%	3.82%	3.27%
11-12 pm	1.89%	3.95%	1.87%	1.86%	1.46%	1.44%	2.11%	1.88%	2.00%	2.27%	2.61%	3.39%

Highlighted area denotes peaks

Task 3: Needs Assessment

The MPO Long Range Transportation Plan Model for 2015 and 2030 was examined for the study area to assess various levels of need, for various modes both in and adjacent to the coastal communities. Coupled with the analysis gained from the origin and destination study, as well as traffic counts and census data, areas of need were identified. These were organized into four categories:

- Alternative Mode
- Capacity
- Corridor Enhancement
- Policy

From this assessment a list of potential projects has been developed in subsequent tasks.

Traffic volume projections for the causeways and the main intersections of the barrier islands were made for years 2015 and 2030. These future traffic projections models were run assuming that the no transportation system projects would be built or implemented and the system remains essentially the same as it is today. Based on this scenario, the overall level of mobility through the barrier islands will continue to become congested by 2015. By 2030 the Level of Service (LOS) on all of the causeways will reach LOS F, except the William Lehman, which will deteriorate to LOS B. Further congestion will occur on most of the north/south routes which will also experience LOS F by 2030. The exception will be in the neighborhoods between the Kennedy and the Julia Tuttle Causeways which will be at LOS C and D. (See Tables 17 and 18)

Table 3-1
East / West Causeway Future Conditions

	LOS 2000	LOS 2015	LOS 2030
Mac Arthur	D	F	F
Julia Tuttle	E	F	F
Kennedy	D	E	F
Broad	D	D	F
Sunny Isles	E	E	F
Lehman	A	A	B

Table 3-2
North / South Roadway Segments Future Conditions

	LOS 2000	LOS 2015	LOS 2030
Alton Rd. at 5th Ave	F	F	F
A1A at 45th St	C	D	E
Alton at 45th St	C	D	E
A1A at 65th St	D	C	D
A1A at 89th St	E	E	F
A1A at 103rd St	D	E	F
A1A at Haulover	B	F	F
125th at I-95	F	F	F
A1A at County Line	C	E	F
Ives Dairy at I-95	F	F	F

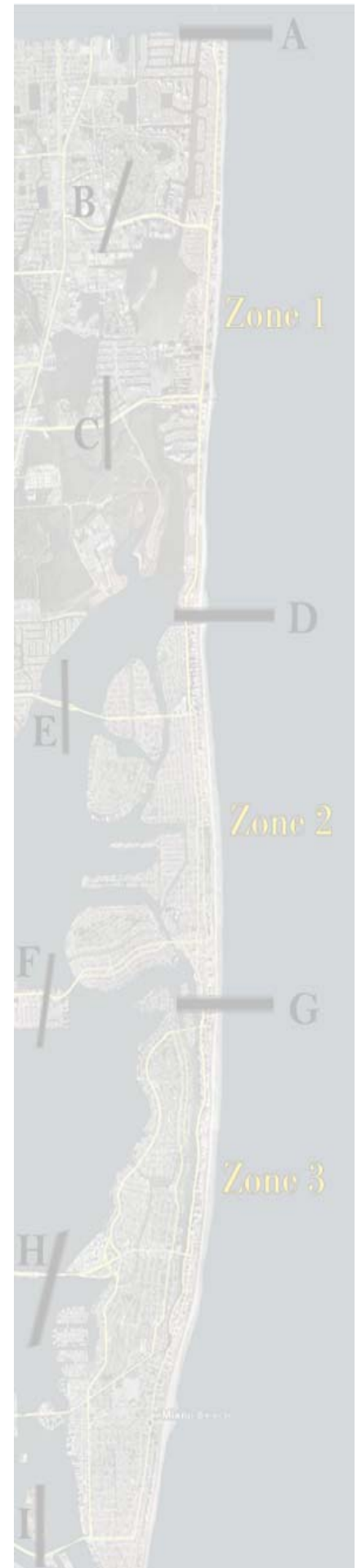
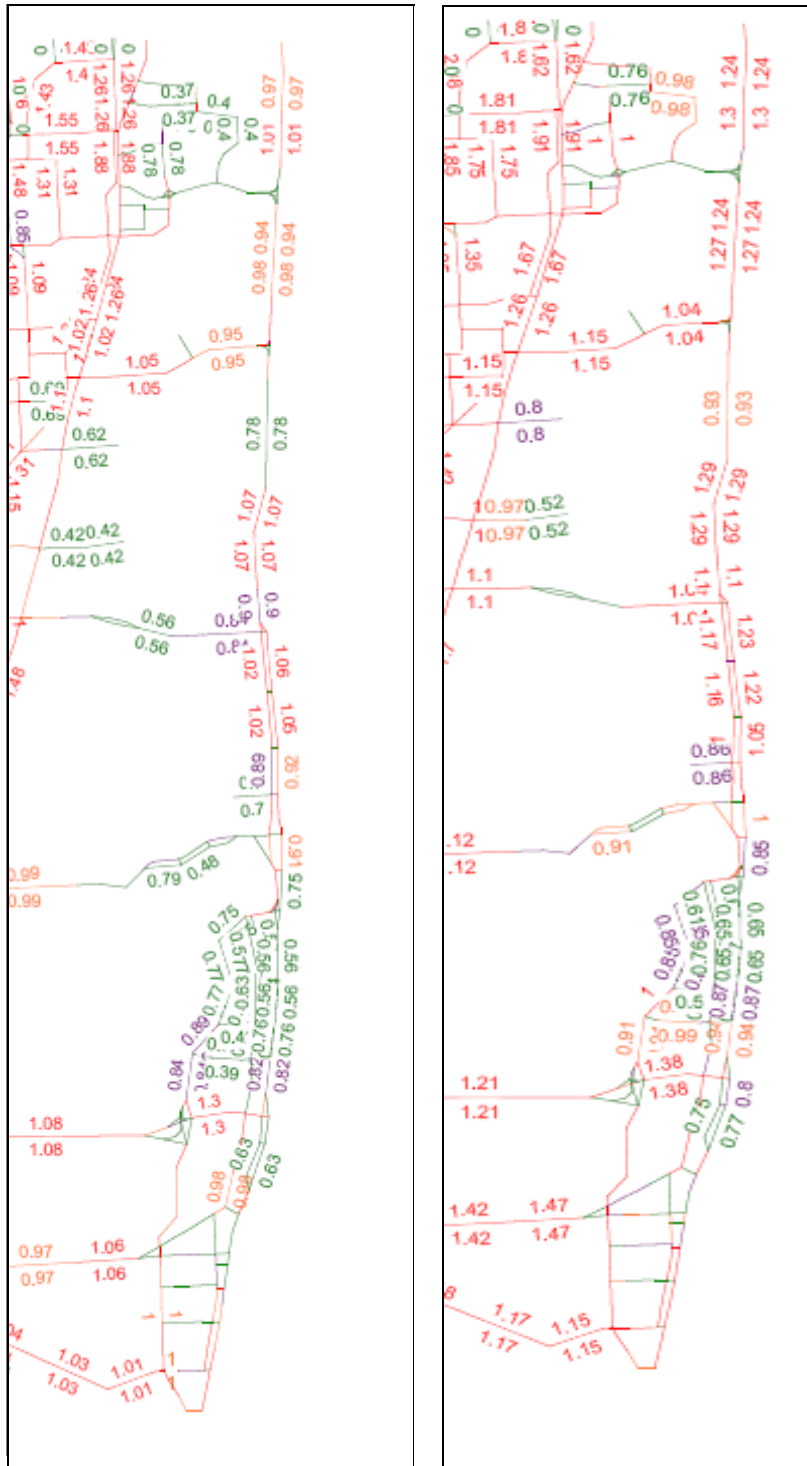
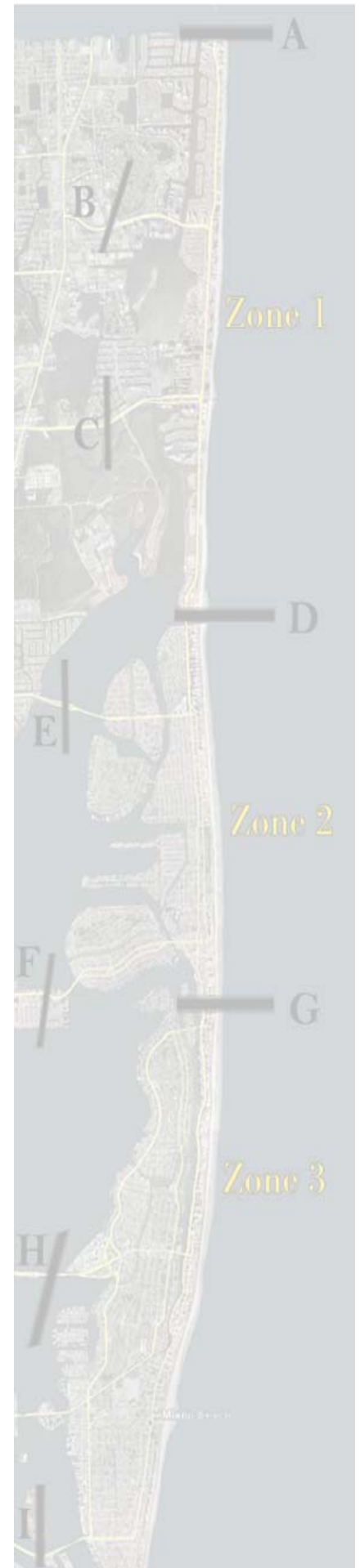


Exhibit 3-1
2015 MPO Model / 2030 MPO Model



—	LOS F TWOWAYVC>1
—	LOS E TWOWAYVC>.9 & TWOWAYVC<=1
—	LOS D TWOWAYVC>.8 & TWOWAYVC<=.9
—	LOS C to LOS A TWOWAYVC<=.8



Task 4: Development of Potential Projects

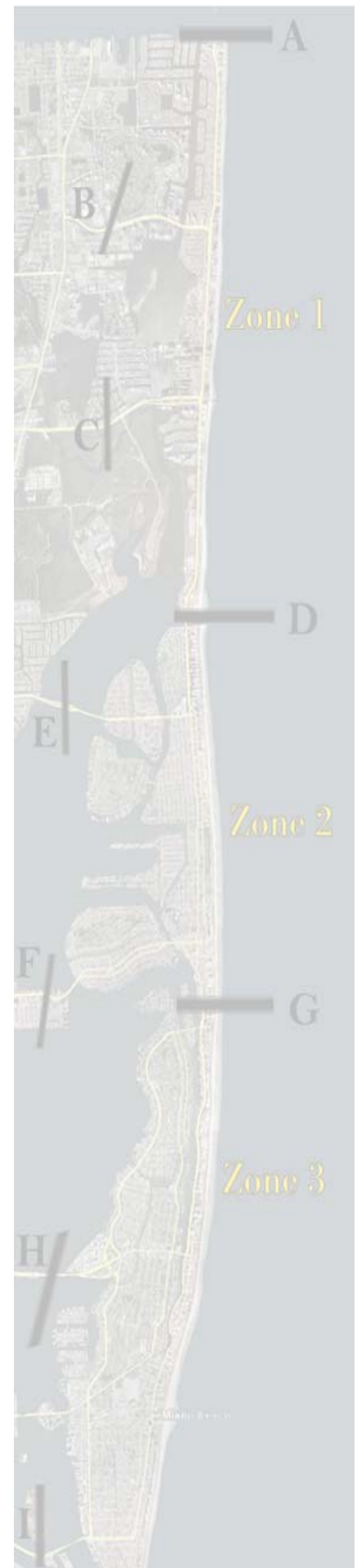
Introduction

The Coastal Communities Transportation Master Plan represents a fresh agenda regarding mobility on the barrier islands of Miami-Dade County. The ultimate goal is to more efficiently utilize the transportation system by increasing transit ridership and providing a more balanced modal split. This can be done by beginning to shift the primary focus of mobility from roadway development for cars to roadway development for transit, while enhancing transit amenities. It starts by building on the existing transit system incrementally. To do this a diverse array of projects has been developed centered on alternative mode, physical capacity, corridor enhancement, and policy initiatives. The desired outcome can be measurable, and will allow for a paradigm shift in the use of the automobile, by increasing transit ridership. The coastal communities are the area in Miami-Dade County that is most appropriate and most poised to make this shift. They are dense, compact and mixed in use.

A single mode of travel cannot supply enough capacity to service the need, yet if a variety of modes were effectively utilized, providing travel alternatives, the system would function in an improved manner. At its core, the community has acknowledged that the ability to implement greater physical capacity is limited. There are opportunities to make improvements to that system, but the major impactful gains are desired in the area of transit.

No transportation master plan can improve traffic. The fact is, that barring unforeseen economic calamities, congestion will get worse over time as more people continue to be attracted to the area. While the rate of growth is similar, the congestion is more noticeable because the limits of capacity are being reached. The next step must be to move more people in a smaller space. This can be done by providing enough alternatives to accommodate the increase in people using the system, ultimately resulting in roadway congestion increasing at a slower pace than it would have if left unattended. Key to being successful is a shift in thought. It is important to think about traffic not as cars, but as people. As the number of people who attempt to utilize the amenities of our region ever increases, the mechanism by which they access the area becomes integral to upholding or improving the existing quality of life relative to mobility.

Until now the simplest, cheapest, most convenient method of getting to and from the Coastal Communities has been by cars on the roads. As such, transportation funding has been heavily focused on the roadway system. The capacity of this system is being reached. Historically, the method of dealing with congestion is to build physical roadway capacity. This method

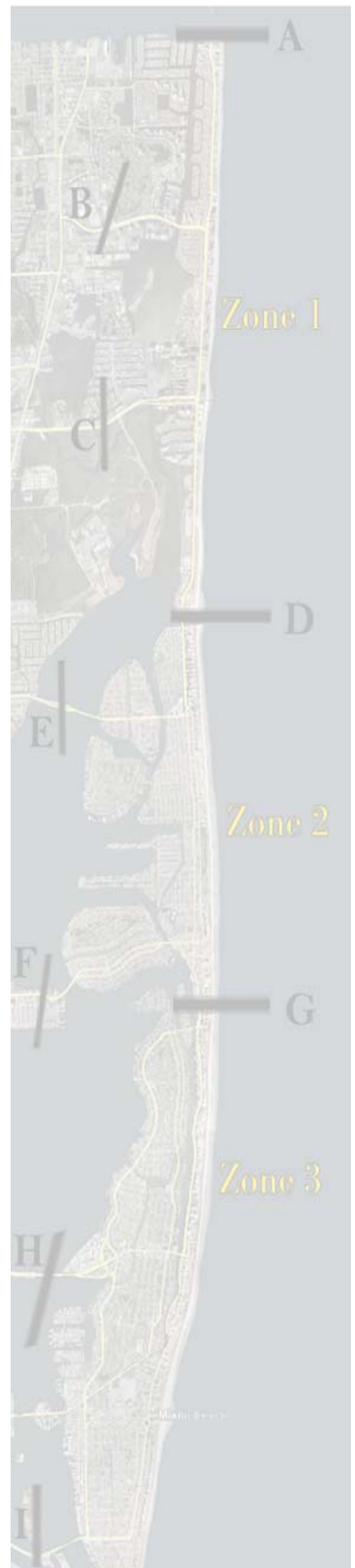


is diminishing as the space for the new roadways rarely exists. If we are to build out of our problem we will need to do so utilizing alternative modes, then encourage their use through a combination of transportation demand management and transportation system management techniques. There is very little available space to add vehicle lanes. And if that space were added, many more people could be carried on it if they traveled in higher capacity vehicles, making the investment more cost effective. Transit funding for major projects, on the other hand, is just as expensive as major roadway projects is highly competitive, dependant on outside parties, and unreliable. In the mid term, the coastal communities need to utilize the existing roadway for transit. By using the more reliable and traditional roadway funding stream to enhance roadway amenities and to more effectively accommodate higher quality transit like Bus Rapid Transit, marked efficiencies can be realized.

While the roadways will continue to be used, initially the future focus should be on the vehicles which carry people on those roadways. In the near term, transit buses can be used more effectively. It is essentially an issue of physical space. A bus carrying 40 people may utilize a 40' x 12' piece of roadway, while the same amount of people in automobiles may take up nearly 550' x 12' of roadway, (the length of 26 cars). The attractiveness and convenience of the bus system then needs to be enhanced. Ultimately development patterns may warrant a shift of funds to rail or other extraordinary transit. It is anticipated that though the incremental process the ultimate move towards those modes will be less costly and more easily attained.

In the near term, it is important to understand the travel patterns and build a multimodal transportation system that effectively responds to them. From a mass transit perspective this starts with the existing bus transit system. By reevaluating it and then restructuring it appropriately, over time it will look and behave like the future system it will eventually become. It is not merely enough to focus on the future development of rail projects, but to build to that through the incremental reformation of the existing system. Initially, route consolidation will be important, transforming the many similar routes in to fewer "super routes" from which to connect other aspects of the system at logical nodes. The route structures need to be simplified, over three time horizons creating linear routes more similar to that of rail transit. This improved operational efficiency is important so that the Coastal Communities bus routes function as a reaction to the local needs, and do not have to be directly tuned to the other aspects of the County Transit system, which are miles away.

As the increase functional efficiency and effectiveness of the route system is enhanced, a major emphasis should be placed on attracting more "choice" riders. In that sense, transit amenities need to be put on the buses, stops and stations. Additionally, the marketing of the system needs to be enhanced. Over time the system needs to present a more state of the art, polished rail-like look, feel and customer interface.



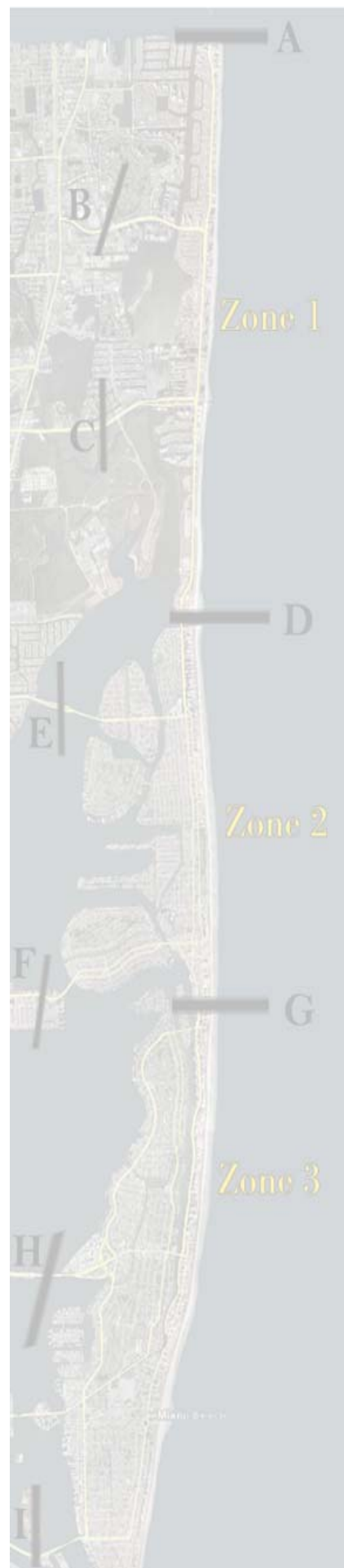
This plan encourages leadership to be open to reevaluating and potentially reprioritizing the mass transit needs county wide to more accurately service the need, and to manage growth by continuing incentivizing it in the urban cores of the county, while providing the transit to service it so that it is sustainable.

Aside from the provision of functionally competitive and attractive bus transit system, that evolves to more advanced modes such as bus rapid transit, light rail or heavy rail, the master plan focuses on providing incentives for potential riders to shift from the automobile to the other modes of transit. A fully implemented system would not require a person to own an automobile.

Roadway improvements will be focused on the bottlenecks in the transportation system, and the ability to mitigate operational issues with the system on a corridor or district basis, while retrofitting the roadway network to be more accommodating to transit and pedestrians. There is a call for the balance between pedestrian and vehicular level of service. The approach would be macro to micro, looking at districts, then corridors, then streets, then intersections in an increasingly narrowing manner, while overlaying functioning alternative modes. At the district level, an understanding of the function of each corridor is needed. Traffic circulation patterns can be examined to protect and enhance the necessary function of each. The exact working of the overall district will be detailed street by street and intersection by intersection in coordination. At the same time, parking strategies, such as advanced parking management systems that will allow drivers to know the status of parking capacity well in advance of arrival at their destinations, should be developed. In conjunction with intercept parking facilities serviced by transit at the edges of the community, an opportunity will exist to enter the area efficiently without an automobile.

Policy initiatives focused on Transportation Demand Management techniques, such as ride sharing, car sharing, flexible work hours, intelligent transportation systems, and other methods by which to more flexibly use the mobility system should be put in place.

As a performance measure, it is recommended that ambitious modal split goals be adopted by each community. These should be evaluated in their current state, and periodically measured to track performance. The goal of a more balanced mode split can be achieved by lessening the dependence on the automobile, through the provision of viable alternatives. Integral to the shift is the ability to more adequately fund alternative systems. Transit is universally subsidized by government. Few municipalities can afford this on their own, and the responsibility tends to be regional in nature. The development patterns in the coastal communities call for a higher level of service than the remainder of the Miami Dade County. This is a purposeful result of nearly two decades of Growth Management. It may be time to make a definite commitment and shift the allocation of concurrency management funds from roadway projects to transit projects in an effort to help MDT fund the needed and wanted improvements.

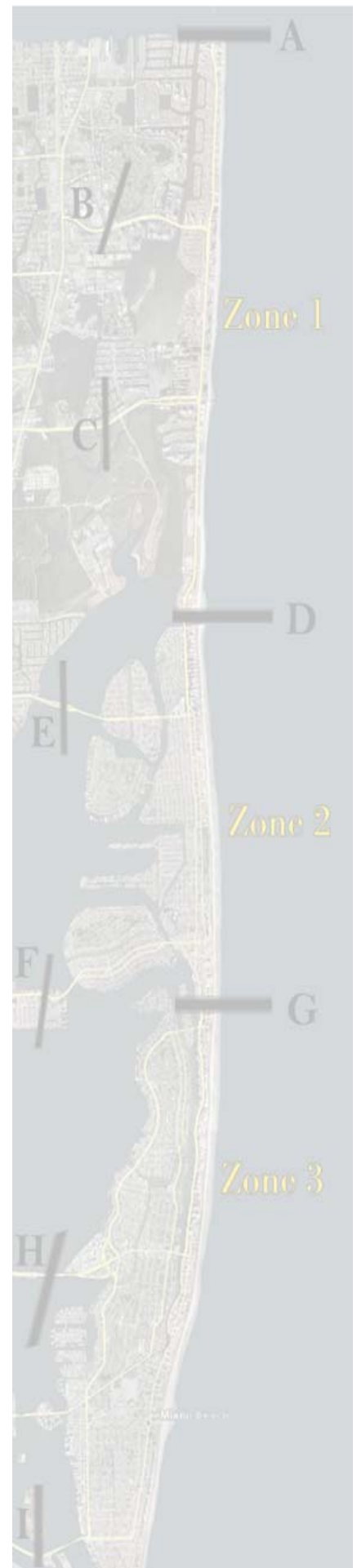


The transportation system, left un-treated will create economic consequences, symptoms of which are already being experienced. Transportation is but one aspect, and cumulatively, the lack of mobility, lack of affordable housing, deteriorating water quality and quantity, as well as skyrocketing property values and insurance rates are fast draining the viability from our communities. The projects listed herein were developed as part of this multi-tasked process. This included input from all levels of the public involvement process, As well as from analysis of the data, and through examination of existing resources including the long range planning tools. A list of multimodal projects has been developed to address the needs of the transportation system. Each project has been conceptually developed. This included the development of a project sheet for each project that provides:

- Purpose
- Need
- Description
- Cost
- Time Frame
- Priority

Projects have been developed and prioritized for three time horizons: near term, mid term and long term.

As this is a sub regional plan, there are few issues that any individual city is in sole control of. The coastal communities are influenced by issues that are regional in nature. Many of the issues that are faced are in the ultimate control of either Miami Dade County, FDOT, and the implementation of some will involve the federal government and significant dollars in potential funds. The Miami-Dade County Home Rule Charter dictates that there are few, if any local streets, that don't require county approval to improve. The coastal communities must seek to partner with the primary transportation providers, so as to have input to the transportation improvements that may be implemented in and around its borders. Many of the projects listed on subsequent page will need to be done in partnership with other entities. communities. It is imaginable that the delays experienced by commuters, shippers, and travelers cost our community significant amounts of money in lost time and productively, not to mention operation, maintenance, and even environmental costs.



Potential Projects

Alternative Mode

1. Intermodal Center Feasibility Study
2. Enhanced Bus Marketing
3. Enhanced Bus Amenities
4. Cross Bay Rail Transit Alternative Analysis
5. NE Corridor Alternatives Analysis
6. Implement Water Taxi
7. Integrated Municipal Shuttles
8. Improved Bus Service / Route Reorganization
9. Transit Bus Priority
10. Examine Transit Pre Payment System
11. Reexamine Bus Stop Locations on Pinetree Drive
12. Review Pedestrian Signals and Crossings
13. Enhance Bicycle/Pedestrian/Transit Linkages
14. Free Transit Passes for Municipal Employees
15. North Beach Circulator
16. Middle Beach Circulator
17. Pedestrian overpass on Mac Arthur Causeway
18. Intercept Parking Facilities Linked With Shuttles
19. MDT Transit Administration Liaison
20. South Beach Circulator
21. Coastal Communities Transit Development Plan

Corridor Enhancements

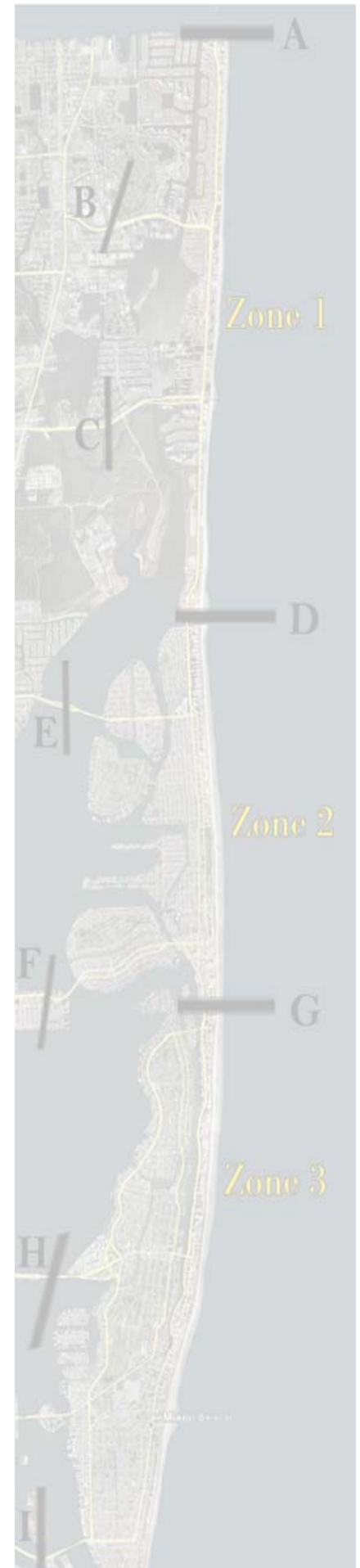
1. Biscayne Boulevard Corridor Study
2. Collins Avenue Corridor Study (63rd to 77th)
3. 41st Street Corridor Study
4. Re examine Collins / Harding One Way Pair

Capacity Projects

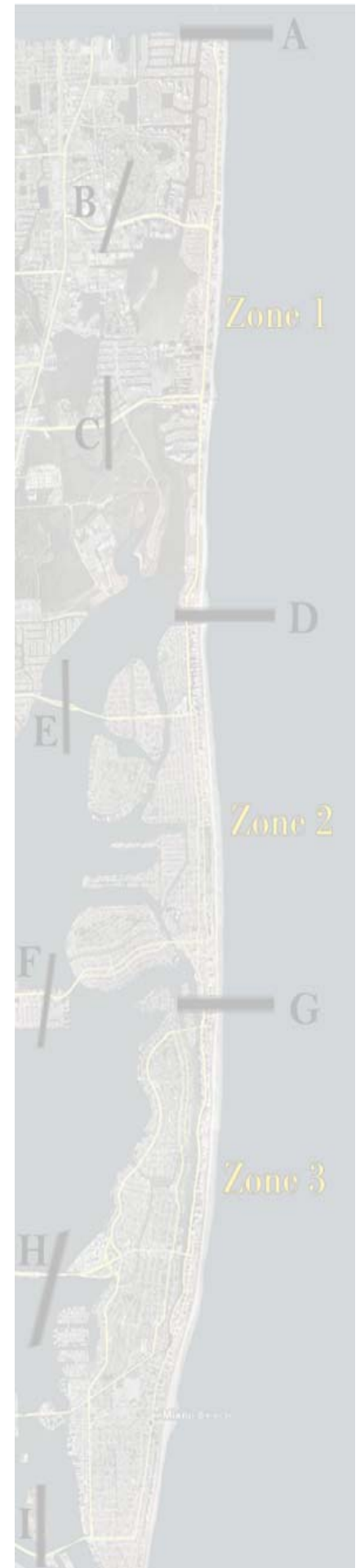
1. Causeway and East/West Flow Enhancements (all)
2. 96th Street/Harding
3. One-Way Residential Streets (South Beach)
4. Direct Connection from Lehman Causeway to Aventura Mall
5. Intersection Level of Service Improvements
6. Examine Appropriate Locations for On Demand Pedestrian Signal Phases
7. Enhance Capacity through On Street Parking Management
8. Neighborhood Shells
9. 63rd Street Travel Patterns
10. Implement Aventura's Biscayne Boulevard Intersection Modifications
11. Advanced Parking Management System

Policy Projects

1. Liaison with South Florida Regional Commuter Services



2. Transportation Demand Management (TDM)
3. Intelligent Transportation Systems (ITS)
4. Transportation Systems Management (TSM)
5. Police Enforcement to Enhance Traffic Flow and Modify Driver Behavior
6. Examine Parking Impact Fees
7. Reexamine Residential Parking Requirements
8. Increase Economic Diversity of Zone 2 (Haulover – 65th Street)
9. Closely Monitor Remaining Transportation Capacities
10. Personal Mobility Devices Policies
11. Shared Cars (Zip Cars)
12. Driver Behavior Campaign
13. Reassignment of Concurrency Fees to Transit



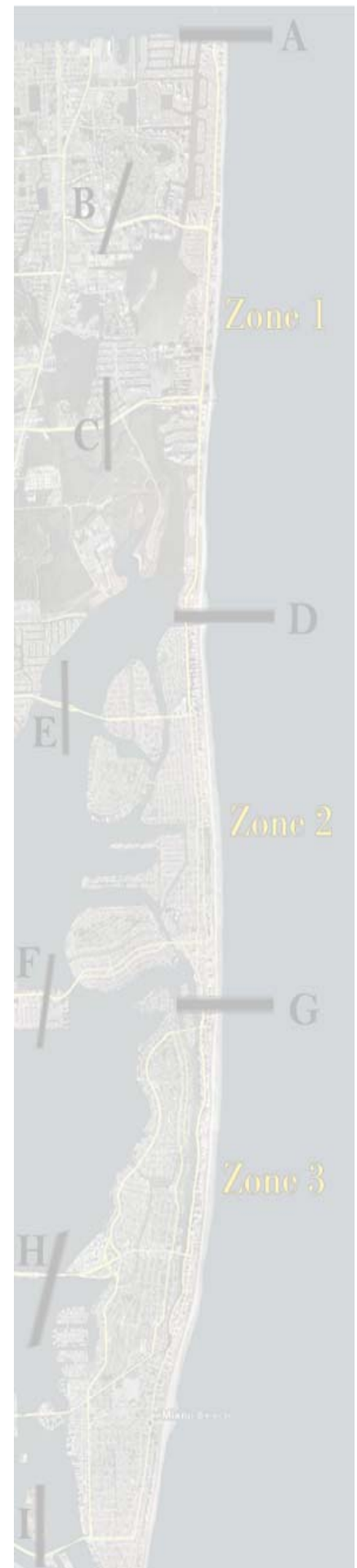
Task 5: Implementation Plan

Prioritization

A total of 49 projects have been developed for the project bank. Projects were prioritized within each category. In addition to the relative desire for the project by the public, this was done through the development of a matrix, which included several prioritization criteria by which each project was evaluated. These criteria were focused on addressing various aspects of the transportation system, specific to the project category. Capacity improvement criteria were related to how well the project satisfied the LOS standard, improved safety, facilitated evacuation, enhanced east/west mobility, achieved sub-regional impacts and improved the driving experience. Corridor criteria were related to how well the project promoted a casual flow of traffic, improved functional operations, enhanced pedestrian safety, how much the project cost, its sub-regional impact and how well it promoted the character of the individual communities in which it would be implemented. Alternative mode criteria related to how well the project promoted the use of alternative modes, promoted transit related development, how much it cost, its sub-regional impact and its ability to attract choice riders. Policy criteria were related to how well the policy focused on enhancing mobility, coordinated multi-jurisdictionally, created a sub-regional impact, if it would increase the modal split, whether it was consistent with growth management policies, and its cost. Each project was evaluated based on these criteria. Evaluation options were:

- (+) Positive
- (+/-) Neutral
- (-) Negative

Projects were ranked based on the evaluation. Each project list was segmented into three priorities; High, Medium and Low, depending on the projects actual ranking. Certain projects have longer time horizons because of their nature. Major transit investments may take a decade or more to plan, design and implement, while single intersection improvements may be completed in a matter of months. Opinions of conceptual costs for each project were developed, based on recent typical per unit cost estimates, and professional planning and engineering experience. It must be noted that planning, design and construction costs have increased dramatically over the past several years. This is directly related to rising petroleum costs and an especially large and rapidly growing market for construction in Florida impacting both the availability of materials (earthwork, asphalt, concrete, steel, etc.), and further straining an increasingly tight labor market in the area of road construction. Compounding the increases in costs, the Florida Department of Transportation (FDOT) has experienced reduced competition for its bid lettings.



Project prioritization criteria are as follows:

Project Prioritization

CAPACITY IMPROVEMENT CRITERIA

- Satisfies LOS Standard
- Improves Safety
- Facilitates Evacuation
- Enhances East/West Mobility
- Potential Cost
- Sub Regional Impact
- Improves Driving Experience

CORRIDOR CRITERIA

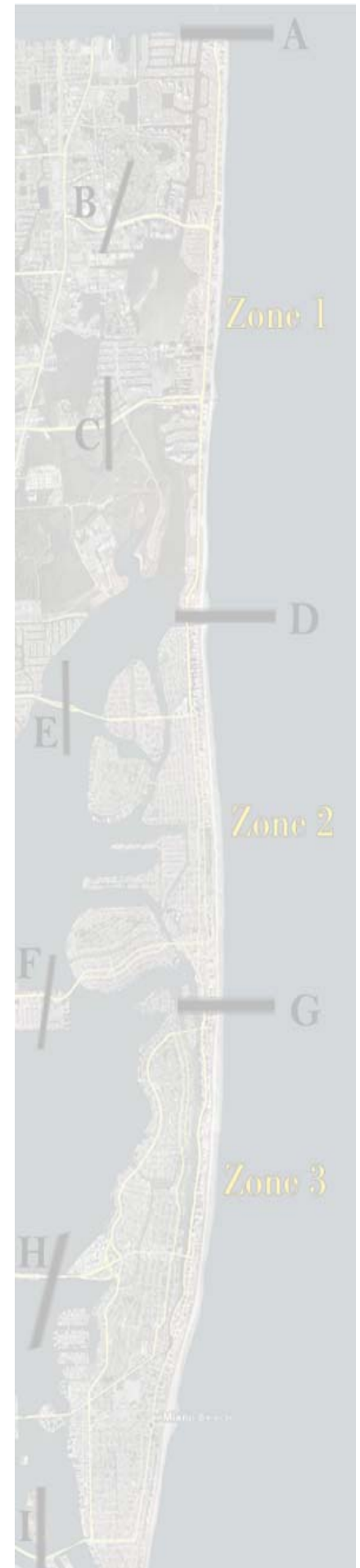
- Promotes Casual Flow
- Improves Functional Operations
- Enhances Pedestrian Safety
- Potential Cost
- Sub Regional Impact
- Promotes Character of Individual Communities

ALTERATIVE MODE CRITERIA

- Promotes Use of Alternative Modes
- Promotes Transit Related Development
- Potential Cost
- Sub Regional Impact
- Attracts Choice Riders

POLICY PROJECT CRITERIA

- Focuses on Enhancing Mobility
- Coordinates Multi-Jurisdictionally
- Sub Regional Impact
- Potential Cost
- More Balances Modal Split
- Consistent With Growth Management Policies



Project Prioritization Results

Exhibit 5-1

Project Prioritization - CAPACITY											
Projects	Causeway Flow Enhancements	96th St / Harding	One-Way Residential Streets	Direct Connection, Lehman Causeway to Aventura Mall	Intersection Level of Service Improvements	On Demand Pedestrian Signal Improvements	On Street Parking Management	Neighborhood Shells	63rd Street Travel Patterns	Aventura Biscayne Blvd Improvements	Advanced Parking Management System
Criteria											
Satisfies LOS Standard	+	+	-	+	+	+	+	-	+	+	+/-
Improves Safety	+/-	+	+	+	+	+	+	+	+	+	+/-
Facilitates Evacuation	+	+/-	+/-	+	+	+/-	+	-	+	+	+
Enhances East/West Mobility	+	+	-	+	+/-	+/-	-	-	-	-	+
Potential Cost	+/-	+	+	+/-	+	+	+	+/-	+	+	+
Sub Regional Impact	+	+/-	-	+	+/-	-	-	-	-	+	+
Improves Driving Experience	+	+	+/-	+	+/-	+	+	-	+	+	+

Exhibit 5-2

Project Prioritization - ALTERNATIVE MODE																					
Projects	Intermodal Feasibility Study	Intercept Parking Linked With Shuttles	Coastal Communities Transit Development Plan	MOT Liason	Enhance Bus Marketing	Enhanced Bus Amenities	Cross Bay Rail Transit Alternative Analysis	NE Corridor Alternatives Analysis	Water Taxi	Integrated Municipal Shuttles	Bus Route Reorganization	Transit Bus Priority	Transit Pk Payment System	Reexamine Bus Stop Locations on Pine Tree Dr	Review Pedestrian Signals and Crossings	Enhance Bicycle/Pedestrian/Transit Linkages	Free Transit Passes for Municipal Employees	North Beach Circulator	Pedestrian Overpass on Mac Arthur Cswy	Middle Beach Circulator	South Beach Circulator
Criteria																					
Promotes Use of Alternative Modes	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-	+	+	+	+	+	+
Promotes Transit Related Development	+	+	+	+	-	-	+	+	-	+	+	+	+	-	-	+/-	-	+/-	-	+/-	+/-
Potential Cost	+/-	+	+	+	+	+/-	-	+	+/-	+	+	+	+	+	+	+	-	+/-	-	+/-	+/-
Sub Regional Impact	+	+	+	+	+	+	+/-	+	+	+	+	+	+	-	+	+	+	-	-	-	-
Attracts Choice Riders	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+/-	+	+	+	+	+

Project Prioritization Results

Project Prioritization - CORRIDOR				
Projects	Biscayne Boulevard Corridor Study	Collins Avenue Corridor Study	41st Street Corridor Study	Re Examine Collins / Harding One Way Pair
Criteria				
Promotes Casual Flow	+	+	+	-
Improves Functional Operations	+	+	+	+/-
Enhances Pedestrian Safety	+	+	+	+
Potential Cost	+/-	+/-	+/-	+/-
Sub Regional Impact	+	+/-	+/-	+/-
Promotes Character of Individual Communities	+	+	+	+

Project Prioritization - POLICY													
Projects	Reassessing Concurrency Impact Fees To Transit	Liaison With South Florida Commuter Services	Transportation Demand / Systems Management	Intelligent Transportation Systems	Police Enforcement to Enhance Flow	Parking Impact Fees	Reexamine Residential Parking Requirements	Increase Economic Diversity of Zone 2	Monitor Remaining Capacities	Personal Mobility Devices Policies	Shared Cars	Driver Behavior Campaign	Reassignment of Concurrency Fees to Transit
Criteria													
Focuses on Enhancing Mobility	+	+	+	+/-	+/-	-	-	+	-	+	+	+	+
Coordinates Multi-Jurisdictionally	+	-	+	+/-	+/-	-	-	-	-	-	-	-	+/-
Sub Regional Impact	+	-	+	+/-	+/-	-	-	+	-	-	-	-	+/-
Potential Cost	+	+	+	+/-	+	+	-	+/-	+	+	+	+	+
More Balances Modal Split	+	+	+	+/-	-	-	-	-	-	+	-	+	+
Consistent With Growth Management Policies	+	+	+	+/-	-	+/-	+/-	+	+	-	+/-	-	+

Project Prioritization Results

Project Final Ranking and Costs					
Rank	Project	Planning Cost	Design Cost	Constrection Cost	Total Costs
ALTERNATIVE MODE					
1	Intermodal Feasibility Study	\$ 120,000	TBD	TBD	\$ 120,000
2	Enhance Bus Marketing	\$ 75,000	NA	TBD	\$ 75,000
3	Enhanced Bus Amenities	\$ 75,000	TBD	TBD	\$ 75,000
4	Cross Bay Rail Transit Alternative Analysis	\$ 1,500,000	TBD	TBD	\$ 1,500,000
5	Support NE Corridor Alternatives Analysis	NA	NA	NA	NA
6	Water Taxi	\$ 75,000	TBD	TBD	\$ 75,000
7	Integrated Municipal Shuttles	\$ 30,000	NA	NA	\$ 30,000
8	Bus Route Reorganization	\$ 300,000	NA	NA	\$ 300,000
9	Transit Bus Priority	\$ 55,000	NA	NA	\$ 55,000
10	Transit Pre Payment System	\$ 35,000	TBD	TBD	\$ 35,000
11	Reexamine Bus Stop Locations on Pine Tree Dr	\$ 10,000	\$ 30,000	\$ 300,000	\$ 340,000
12	Review Pedestrian Signals and Crossings	\$ 50,000	TBD	TBD	\$ 50,000
13	Enhance Bicycle/Pedestrian/Transit Linkages	\$ 45,000	TBD	TBD	\$ 45,000
14	Free Transit Passes for Municipal Employees	TBD	NA	NA	TBD
15	North Beach Circulators	\$ 90,000	\$ 400,000	NA	\$ 490,000
16	Middle Beach Circulators	\$ 90,000	\$ 400,000	NA	\$ 490,000
17	Coastal Communities Transit Development Plan	\$ 40,000	NA	NA	\$ 40,000
18	Intercept Parking Facilities linked with Shuttles	\$ 120,000	NA	NA	\$ 120,000
19	MDT Transit Administration Liason	\$ 75,000	NA	NA	\$ 75,000
20	South Beach Circulators	\$ 90,000	\$ 400,000	NA	\$ 490,000
21	Pedestrian Overpass on Mac Arthur Cswy	\$ 5,000	\$ 30,000	\$ 2,000,000	\$ 2,035,000
TOTAL					\$ 6,440,000

Project Final Ranking and Costs					
Rank	Project	Planning Cost	Design Cost	Constrection Cost	Total Costs
CORRIDOR					
1	Biscayne Boulevard Corridor Study	\$ 100,000	NA	NA	\$ 100,000
2	Collins Avenue Corridor Study	\$ 80,000	NA	NA	\$ 80,000
3	41st Street Corridor Study	\$ 80,000	NA	NA	\$ 80,000
4	Re Examine Collins / Harding One Way Pair	\$ 80,000	NA	NA	\$ 80,000
TOTAL					\$ 340,000

Project Prioritization Results

Project Final Ranking and Costs					
Rank	Project	Planning Cost	Design Cost	Construction Cost	Total Costs
CAPACITY					
1	Causeway Flow Enhancements **	\$ 60,000	\$ 1,200,000	\$ 12,000,000	\$ 13,260,000
2	96th St / Harding Improvemts	NA	\$ 35,000	\$ 300,000	\$ 335,000
3	One Way Residential Streets	\$ 50,000	TBD	TBD	\$ 50,000
4	Direct Connection, Lehman Causeway / Aventura Mall	\$ 60,000	\$ 700,000	\$ 7,000,000	\$ 7,760,000
5	Intersection LOS Improvements***	\$ 50,000	TBD	\$ 400,000	\$ 450,000
6	On Demand Pedestrian Signal Imps	\$ 30,000	TBD	TBD	\$ 30,000
7	On Street Parking Management	\$ 35,000	TBD	TBD	\$ 35,000
8	Neighborhood Shells	\$ 40,000	TBD	TBD	\$ 40,000
9	63rd Street Travel Patterns	\$ 60,000	TBD	TBD	\$ 60,000
10	Aventura, Biscayne Boulevard Imps	NA	NA	\$ 340,000	\$ 340,000
11	Advanced Parking Management System	\$ 25,000	\$ 100,000	\$ 400,000	\$ 525,000
TOTAL					\$ 22,885,000

Project Final Ranking and Costs					
Rank	Project	Planning Cost	Design Cost	Construction Cost	Total Costs
POLICY					
1	Liaison With South Florida Commuter Services	\$ 40,000	NA	NA	\$ 40,000
2	Transportation Demand Management	TBD	NA	NA	TBD
3	Intelligent Transportation Systems	TBD	NA	NA	TBD
4	Transportation Systems Management	TBD	NA	NA	TBD
5	Police Enforcement to Enhance Flow	TBD	NA	NA	TBD
6	Parking Impact Fees	\$ 35,000	NA	NA	\$ 35,000
7	Reexamine Residential Parking Requirements	\$ 40,000	NA	NA	\$ 40,000
8	Increase Economic Diversity of Zone 2	TBD	NA	NA	TBD
9	Monitor Remaining Capacities *	\$ 70,000	NA	NA	\$ 70,000
10	Personal Mobility Devices Policies	\$ 5,000	NA	NA	\$ 5,000
11	Shared Cars/Zip Cars	\$ 5,000	NA	NA	\$ 5,000
12	Driver Behavior Campaign	\$ 5,000	NA	NA	\$ 5,000
13	Reassignemnt of Concurrency fees to Transit	NA	NA	NA	NA
TOTAL					\$ 200,000

Description of Projects

Alternative Mode



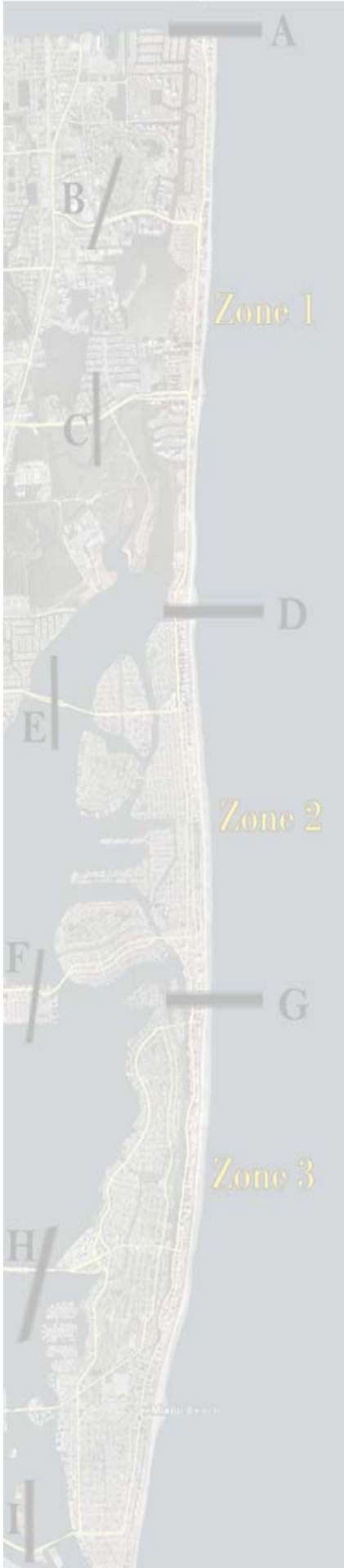
Corridors



Capacity



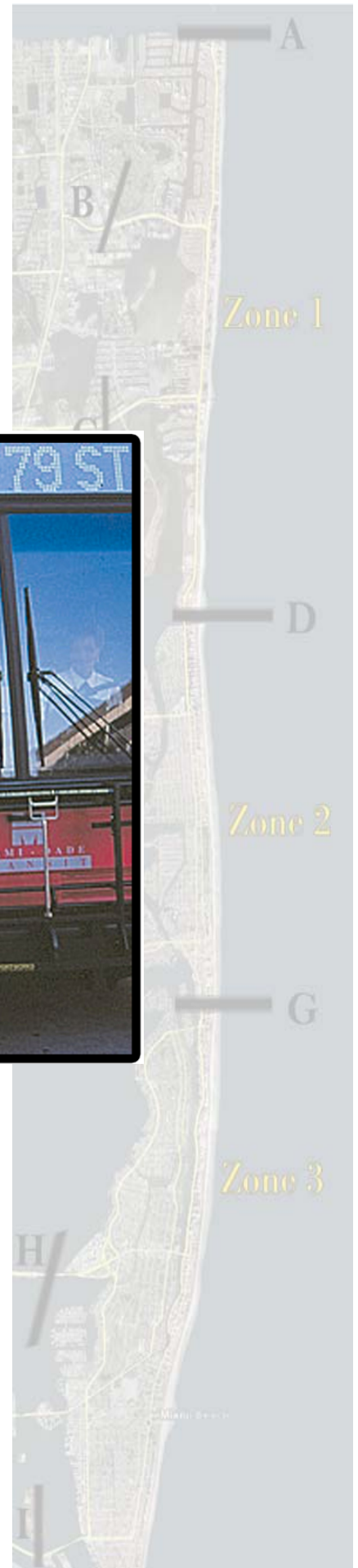
Policy



Alternative Mode Projects



Alternative Mode



Project Number: A-1
Project Name: Comprehensive Intermodal Center Feasibility Study Project
Category: Alternative Mode

Purpose:

This project is designed to improve the level of service along the major roadways within the study area by providing improved transit service and increasing options for modes of transportation other than a personal vehicle. Its purpose is to explore potential locations on both the mainland and beaches.

Need:

The coastal communities have a strong need for an improved sub-regional transit system that would be made up of transit centers along the causeway termini, on the beaches and at the mainland with frequent east/west bus service linking the beaches to a strong north/south regional spine when the Biscayne Boulevard Corridor. The need for increased capacity on the causeways was expressed, especially in the north beach communities and the need was reinforced by the findings from the origin/destination study which documented a high volume of commuters traveling south along the beach to utilize the Julia Tuttle causeway. The Tuttle causeway has the greatest vehicle capacity and most direct access to a wide regional distribution network of highways. Enhancing capacities on causeways other than the Julia Tuttle would enhance traffic flow.

Description:

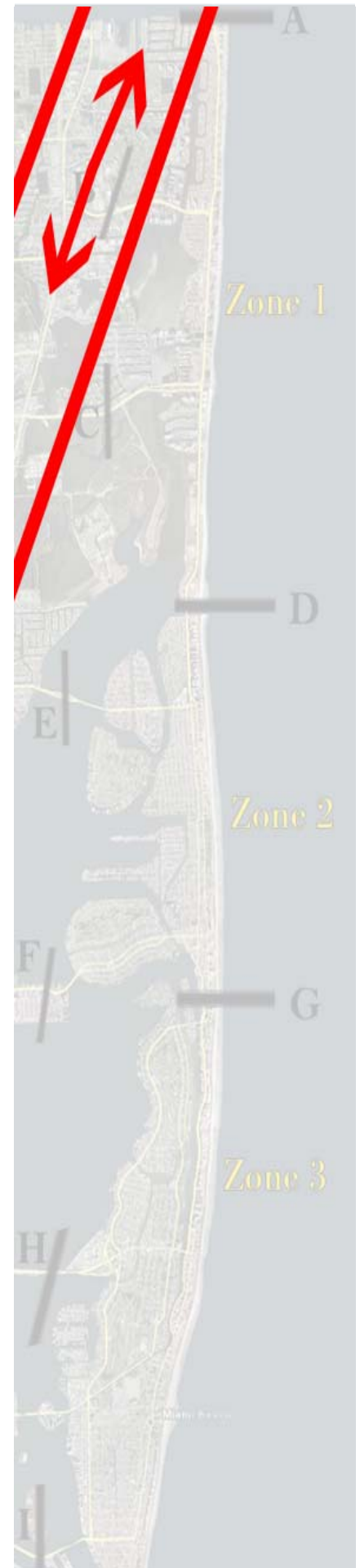
This project will be to examine development of intermodal centers adjacent to each end of each of the causeways. The exact locations will have to be further studied and identified. The intermodal facilities will serve all of the beach communities as transfer stations and transit loading areas for transit users that are making regional commutes to and from the beach. A conceptual intermodal center and appropriate programming would be developed. Tentative sites would be examined for their ability to accommodate the programming, their impact on the adjacent land uses and neighborhoods, their and proximity to transit uses. Potential sites would also be evaluated to determine the size of facility that would be necessary (Major or minor) at that location. It is anticipated that these would provide a direct link to any proposed transit in the Biscayne Boulevard Corridor, on the mainland. As well as provide a link to local Circulator Systems.

Cost:

Planning: \$120,000
 Design: TBD
 Construction: TBD

Time Frame: 1 -5 Years

Priority: High



Project Number: A-02
Project Name: Enhanced Bus Marketing
Project Category: Alternative Mode

Purpose:

Increase transit ridership by appealing to commuters that are either not aware of the transit system or not comfortable using it. Providing excellent quality transit throughout the coastal communities is essential to increasing options for modes of transportation other than a personal vehicle, yet informing the public of the options is crucial to boosting ridership, particularly to choice riders.

Need:

It was expressed that the general public could be better informed of the availability of transit options, services as well as existing routes and schedules. This will be integral to presenting to the public a bus transit system that is attractive to choice users.

Description:

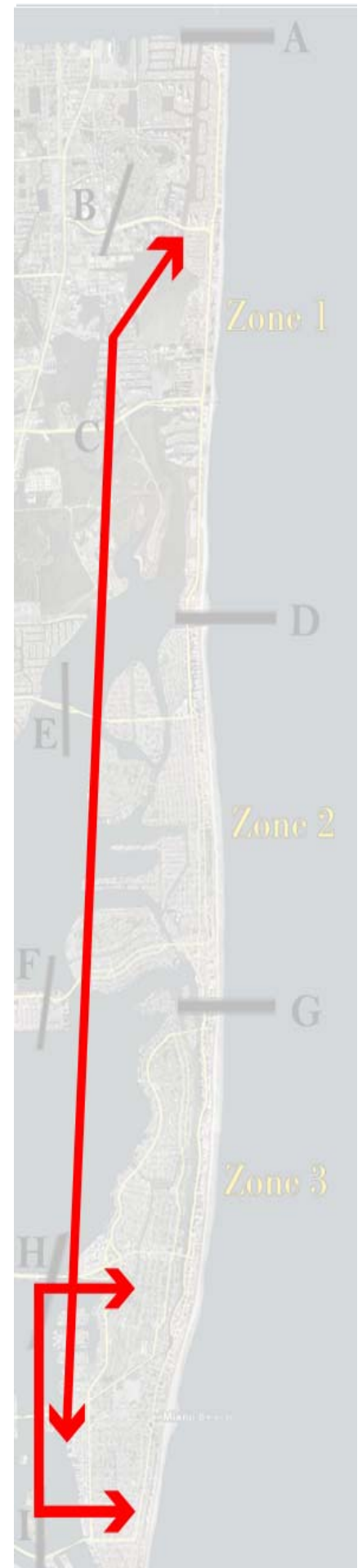
Develop ways to increase opportunities for the general public to have access to transit information including bus and rail line routes, schedules and facilities. In addition strategies would be developed to aggressively market transit service to choice riders. Target demographics, geographies and specific routes and modes will be selected. Concepts and designs for marketing materials would be developed. The cost to implement various programs including on site mapping, print, radio, television and internet services would be estimated. This is best developed concurrently with any route consolidation.

Cost:

Planning: \$75,000
Design: NA
Construction: NA

Time Frame: 1 -5 Years

Priority: High



Project Number: A-03
Project Name: Enhanced Bus Amenities
Project Category: Alternative Mode

Purpose:

The purpose of this project is to provide amenities on transit buses, stops and stations that would serve attractive to choice riders.

Need:

It is believed that improving the amenities of the transit infrastructure would help to encourage more commuters to use transit, thereby contributing to overall congestion relief within the area through a more balanced modal split. Ideas expressed included smaller buses on shorter routes. More shelters at stops of adequate design, with additional amenities, such as real time route performance and bus location information, as well as adequate bicycle and pedestrian amenities. On specialized routes buses stops and stations can be developed to mimic rail amenities, with elevated platforms, pre-paid fares, and multiple no-step-up bus entrances. Actual buses may have alternative bodies, of which examples replicate street cars, trolleys, or futuristic rail vehicles. Interior to the buses, amenities may include: internet access, electrical outlets, televisions, high back over the road coach type seats, and global positioning systems. Routes themselves would be designed to the same characteristics as light rail street car systems, with out the expense of the rail and overhead wiring systems. The roadway itself can be fit with bus pullouts, queue jumper lanes and signal prioritization. Stations and stops should be linked with adequate sidewalks, and noticed by appropriate signage.

Description:

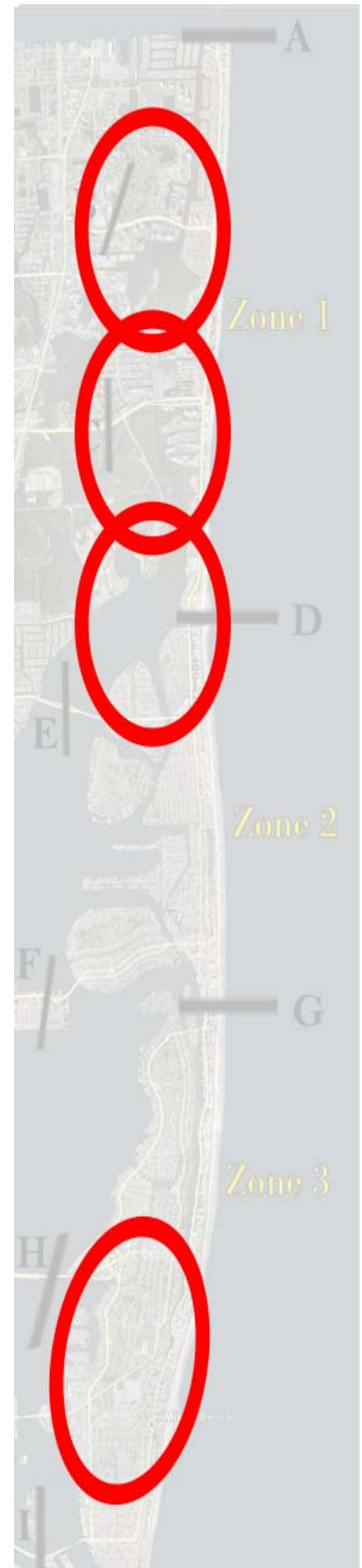
Initially this would examine state of the art technologies and look at examples of similar systems and the potential within the MDT system. The analysis would examine what specific amenities would be appropriate for buses, stops, stations and routes. A strategy for the development of a pilot project should be developed, along with three potential routes as well as the capital, operating and maintenance costs of such an effort for each. Evaluation criteria should be set up to measure the success of the system.

Cost:

Planning: \$75,000
Design: TBD
Construction: TBD

Time Frame: 1 -5 Years

Priority: High



Project Number: A-04
Project Name: Cross Bay Rail Transit Alternatives Analysis
Project Category: Alternative Mode

Purpose:

This project would study routes and modes available to provide a connection to the coastal communities as part existing and future rail system, linking the barrier island communities with the airport, the Port of Miami, Downtown Miami and beyond. This project is designed to improve the level of service along the major roadways within the study area by providing improved transit service.

Need:

As one of the densest areas of the County and State, the coastal communities have a strong need for an improved sub-regional transit system that would be made up frequent east/west service to distribute traffic from the densest part of the area to. This was reinforced by the results of the origin and destination study, which proved that the bulk of the trip making was using the causeways closest to the commuter’s beach origin or destination to enter or exit the study area. The origin/destination study documented a high volume of commuters traveling north and south along the beach to utilize the Julia Tuttle Causeway. The Tuttle Causeway has the greatest capacity and most direct access to a wide regional distribution network of highways.

Description:

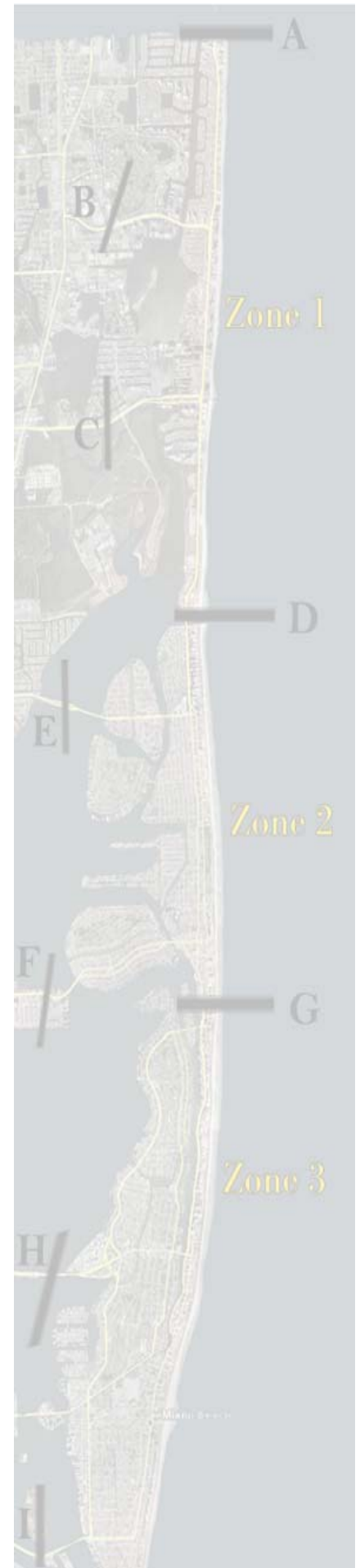
The Study would examine the most appropriate causeway and mode for the east/west mass transit connection. Logical connection points would be the Mac Arthur Causeway, or the Julia Tuttle Causeway which connects at 41st Street, the study areas largest employment center. All causeways should be throughout the study area should be examined.

Cost:

Planning: \$1,500,000
Design: TBD
Construction: TBD

Time Frame: 1 -5 Years

Priority: High



Project Number: A-05
Project Name: Support Northeast Corridor Alternatives Analysis
Project Category: Alternative Mode

Purpose:

Prioritize the Northeast Corridor, as the highest transit priority, so that it attains federal matching funds, and is subsequently designed and constructed in the nearest timeframe to begin to provide service.

Need:

The coastal communities are physically constrained to the extent that congestion relief is not available through conventional means. The provision of high capacity mass transit in the long term is seen as a way to effectuate a more balanced modal split in the study area. Since most trip making in the coastal communities is short, entering or exiting on the causeway closest to the study area origin or destination, connection and distribution via the a transit line on the mainland would enhance mobility. The Northeast Corridor is the only rail project near the study area.

Description:

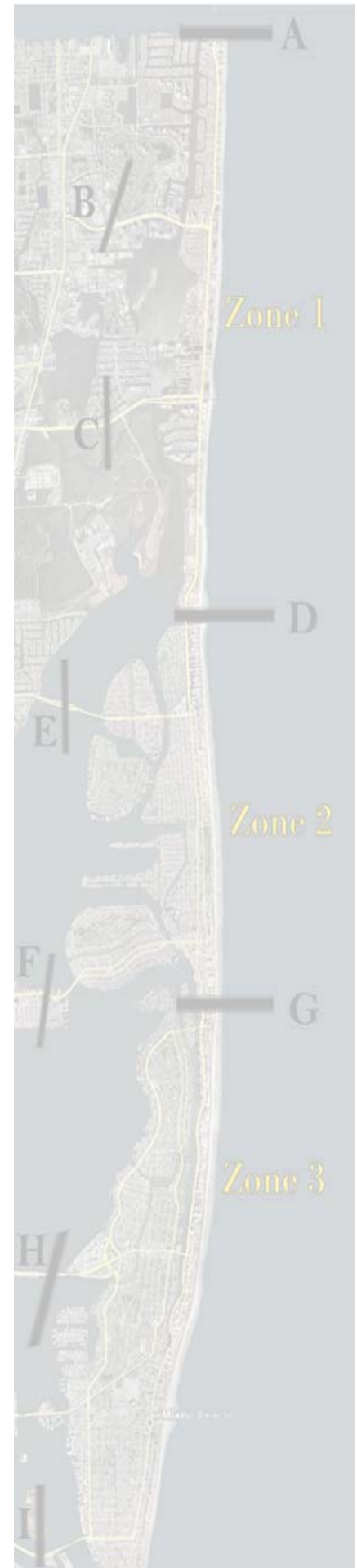
This project, under the name of “South Florida East Coast Corridor Transit Analysis Study (SFECCTA) is being undertaken now in regional cooperation, sponsored by the South Florida Regional Transit Authority, the MPO’s of Miami-Dade, Broward, and Palm Beach Counties, and FDOT. It is utilizing Federal Transit Administration Guidelines to determine what mode of transit would best service potential riders in the service area. Its Tier 1 Analysis of 38 alternatives was submitted in 2006. A Regional Record of Decision, allowing the study to progress to Tier 2, is expected in 2007. Tier 2 is expected to begin in 2007, and will draw conclusions as to corridor sections, types of transit, and station locations, culminating in a Sectional Record of Decision. The first segment could be available for service in 2012. The Coastal Communities, supports the ongoing SFECCTA study, and strongly urges the MPO to give the recommended regional transit alternative the highest priority of all potential projects in the planning process.

Cost:

Planning: NA
 Design: NA
 Construction: NA

Time Frame: 1 -5 Years

Priority: High



Project Number: A-6
Project Name: Water Taxi Service
Project Category: Alternative Mode

Purpose:

This project is designed to improve the level of service along the major roadways within the study area by providing various mobility options for commuters.

Need:

The existing north/south roadways have are reaching saturation with volumes at or near acceptable limits, and a steady flow of traffic for the majority of the day using more than 5% of daily volumes are evident for a 12hour period on most roadways. It is evident that commuters have adjusted their work hours to leave earlier, or later than the typical 9 to 5 work day. The need for alternatives to driving a personal vehicle is evident. Therefore, the opportunity to take advantage of the coastal communities' strategic location on the intercoastal for a commuter based water taxi service waterway. A water taxi service is a way to take advantage of one of the areas natural resources to provide relief to traffic congestion. This may be a viable alternative for local commuters and tourists coming to and from various points of interest.

Description:

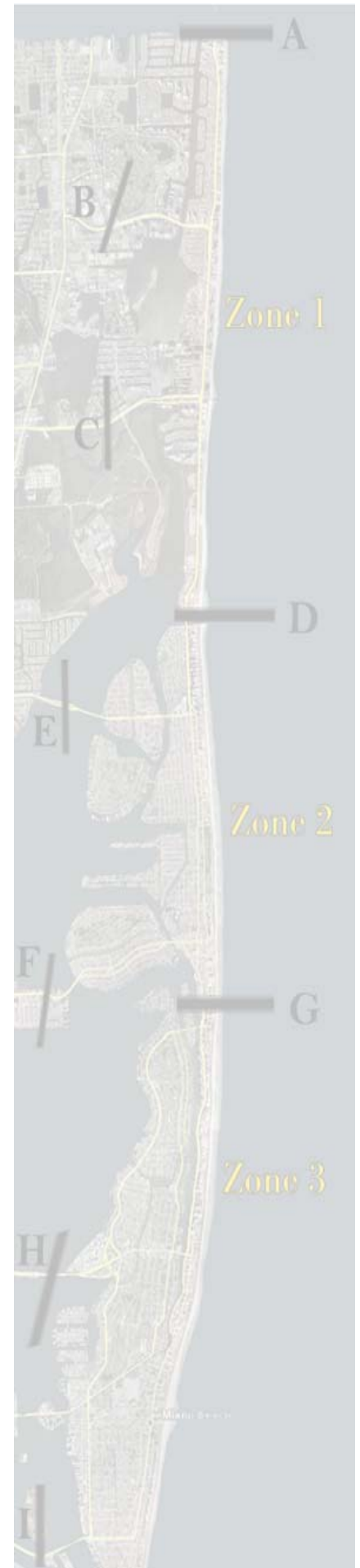
The service is envisioned to be primarily for the use of commuters up and down the beach communities and to and from downtown Miami, however, it may also be practical to run the service on the weekends as well. The taxi service will need to be frequent and fast enough to be an attractive alternative to driving. Building upon the 2004, MPO *Service Plan for Waterborne Transit*, it is recommended that a test project of the studies highest ranked alternative the South Beach Route, be considered as a pilot project.

Cost:

Planning: \$75,000
Design: TBD
Construction: TBD

Time Frame: 6 -10 Years

Priority: Low



Project Number: A-7
Project Name: Integrated Municipal Shuttles
Project Category: Alternative Mode

Purpose:

This project is designed to improve the level of service along the major roadways within the study area by providing various mobility options for commuters, and enhancing the efficiency of existing local municipal shuttles.

Need:

Most of the coastal communities currently have local circulators or community shuttle buses to provide a localized alternative form of transportation. Some of these shuttles frequent other cities to provide service to major attractors, such as the regional mall in Aventura. The need exists to provide coordination or consolidation between these various local bus systems to maximize their effectiveness and minimize duplication of service, while providing an alternative mode of transportation throughout the region.

Description:

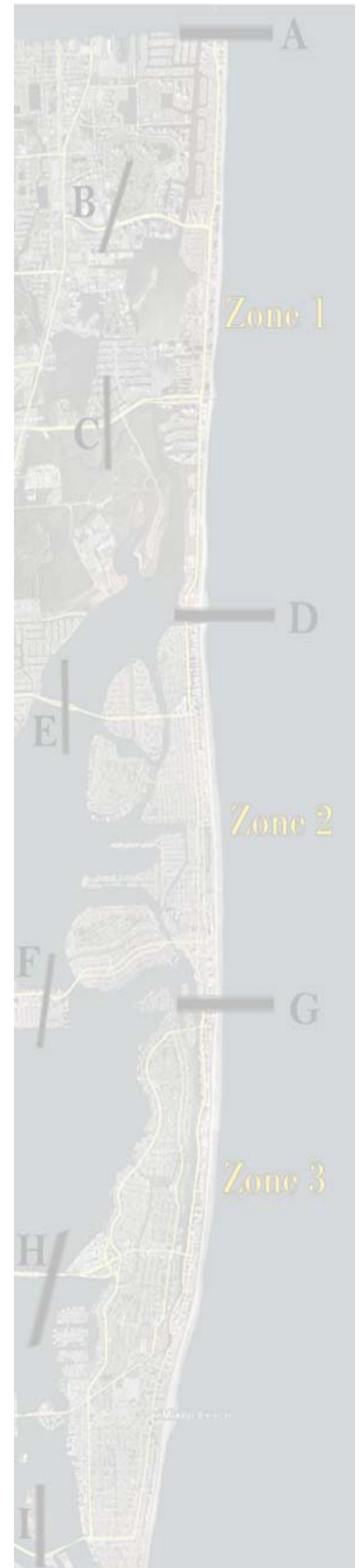
Effort would be required to work with the transit managers of each community, and develop a detailed circulator plan, including routing and coordination of bus schedules. Some adjustments may be required to certain routes in order to make this feasible. The local shuttle buses would meet at the planned intermodal centers to further maximize transportation options for users. The local community shuttle schedules should be made readily available to individuals outside of the local community in order to reach individuals who are already using transit.

Cost:

Planning: \$30,000
Design: TBD
Construction: TBD

Time Frame: 1 -5 Years

Priority: High



Project Number: A-8
Project Name: Improved Bus Service/Route Reorganization
Project Category: Alternative Mode

Purpose:

The purpose of this project is to improve the bus service in the study area by examining opportunities to increase frequency of service or reorganize the systems routing to more efficiently and effectively service the riding population. Details of this effort are explored in depth in the Coastal Communities Transit report.

Need:

Currently there are many routes that run at less than optimal headways and are not attractive to potential choice riders. There is also frequent redundancy in routes. While many routes focus on serving long haul riders from distant parts of the county, and cannot be disturbed on their mainland alignments, it may be possible to reorganize the route structure in the study area. At the very least the consolidation and increased frequency of the existing structure should be examined. At the most, concepts have been discussed regarding the provision of east/west routes to and from the mainland via the causeways, linking at intermodal stations, Miami International Airport, and longer service spine routes in the study area. At the very least the consolidation and increased frequency of the existing structure should be examined. Recommendations from the community have focused on extending the South Beach Local to Bell Isle and Collins Park. Linking the northern communities, and more adequate provision of service to Aventura Mall. Other routes that have been discussed as possible recognition Candidates include but are not limited to, routes A,C,E,G,H,J,K,L,M,R,S,T, V, and MC.

Description:

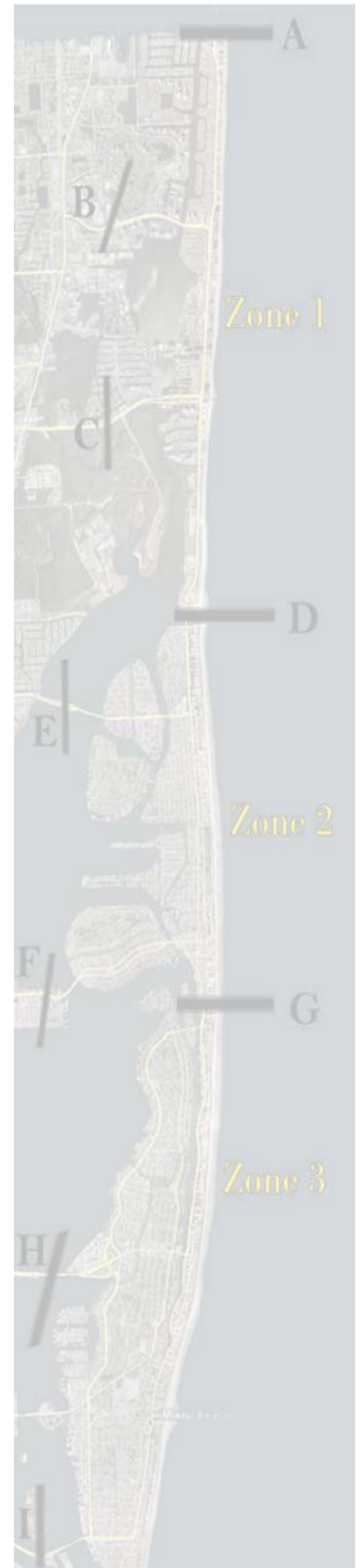
This project will undertake an evaluation of each route that exists in the study area. Recommendations will be made for consolidation. Cost and time savings will be quantified on a route by route basis and for the system as a whole. Ridership numbers will be projected. Other issues including those regarding the unions will be explored. Additionally three conceptual alternatives regarding a complete overhaul of the system will be designed and tested as to ridership, cost and effectiveness.

Cost:

Planning \$300,000
Design: TBD
Construction: TBD

Time Frame: 1 -5 Years

Priority: High



Project Number: A-9
Project Name: Transit Bus Priority
Project Category: Alternative Mode

Purpose:

An aspect of the attractiveness of transit is its ability to be competitive with the private automobile. Several factors go into the assessment of competitiveness. This seeks to examine methods of moving buses through traffic with priority over the private vehicle.

Need:

Speed of service is needed to provide a competitive advantage over other modes and attract choice riders to the system.

Description:

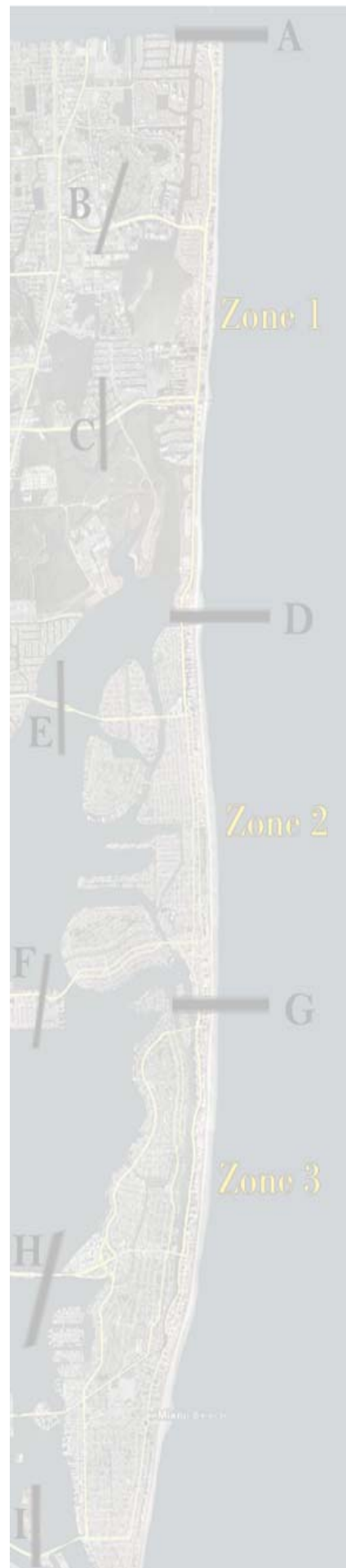
Technologies which could be used to move buses through the system faster than private vehicles will be explored. These include: special use lanes, bus pullouts, queue jumpers, signal prioritization, GPS, Medina/Shoulder Transitway and remote vehicle tracking and scheduling. The state of these technologies will be examined, as will examples of systems that are currently using them. Each will be evaluated as to their effectiveness and ease of implementation. For physical improvements to the system, actual locations will be identified and tested for their ability to accommodate the use.

Cost:

Planning: \$55,000
Design: TBD
Construction: TBD

Time Frame: 6 -10 Years

Priority: Medium



Project Number: A-10
Project Name: Examine Transit Pre-Payment System
Project Category: Alternative Mode

Purpose:

The purpose of this study is to evaluate different types of prepayment systems and methods of implementing them. These may take the form of daily, weekly, and monthly passes.

Need:

Many in the study area have expressed the need to attract more choice riders to the transit system. It is felt that by easing the payment procedures this goal could be accomplished more easily. A suggestion of more diverse forms of transit passes and be payment systems should be explored.

Description:

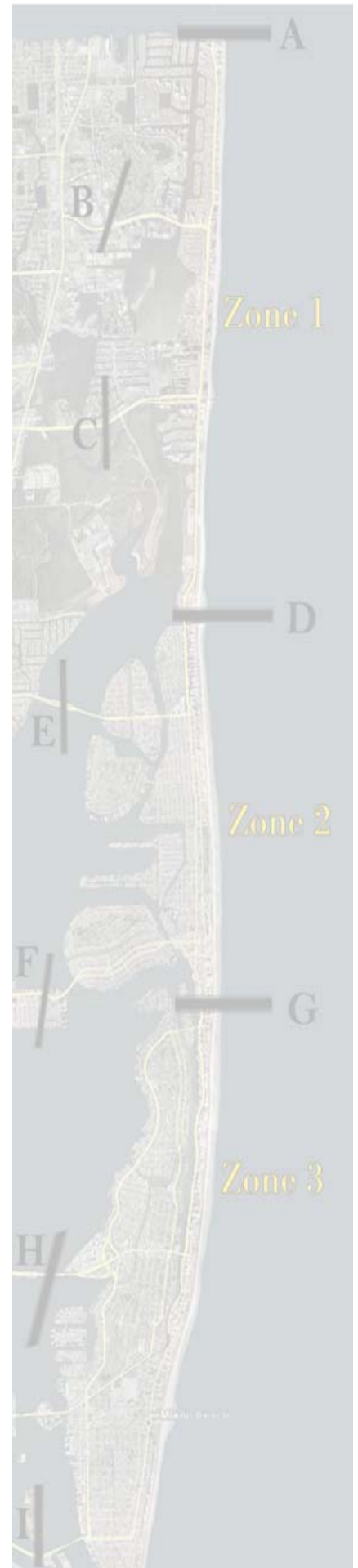
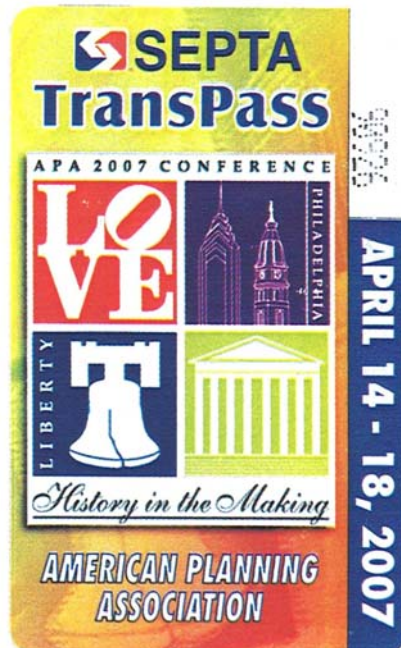
The scope of services for this study would evaluate various forms of transit passes, explore the costs and benefits for utilizing them, determine the form that the passes would take, and the method of fare collection.

Cost:

Planning: \$35,000
Design: TBD
Construction: TBD

Time Frame: 6 -10 Years

Priority: Medium



Project Number: A-11
Project Name: Reexamine Bus Stop Location on Pinetree Drive
Project Category: Alternative Mode

Purpose:

Because bus stop locations on Pinetree drive are difficult to access, it is believed that relocation to a more convenient location would provide greater safety and ease of use.

Need:

Many are concerned that the physical locations of the bus stops on this street create a safety concern that must be mitigated.

Description:

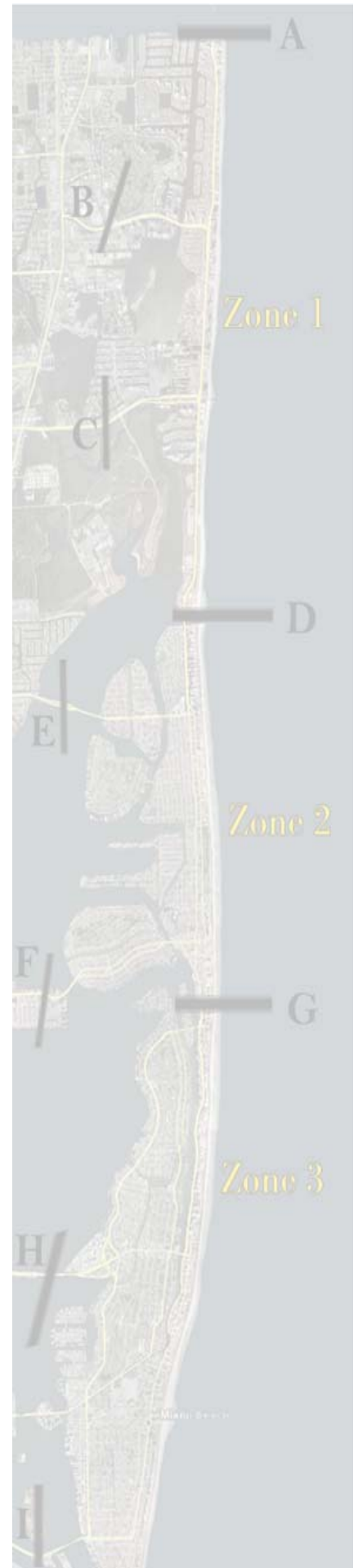
Physical evaluation of each bus stop location performed, and recommendations for more effective placement. This will lead to the design and replacement of stops.

Cost:

Planning: \$10,000
Design: \$30,000
Construction: \$300,000

Time Frame: 1 -5 Years

Priority: High



Project Number: A-12
Project Name: Review Pedestrian Signals and Crossings
Project Category: Alternative Mode

Purpose:

Two of the primary concerns to come from this study were the need to balance pedestrian and vehicular levels of service. An evaluation of the pedestrian signals would be helpful in achieving this balanced. The optimization of traffic signals often just examines the movement of vehicular traffic. The purpose of this study is to evaluate how to more effectively move pedestrians through various intersections. Options include evaluating pedestrian signal phasing, the use of count down pedestrian signals, and the implementation of pedestrian actuated or on demand phases, as well as various forms of textured, painted or lighted cross walks at high pedestrian intersections.

Need:

Due to the relatively high density of the study area, the number of pedestrians trying to access the recreational and commercial amenities, and the high amount of vehicular traffic, the need to make pedestrian flow more efficient and safe is paramount. It is believed that the evaluation of high pedestrian intersections would provide a higher level of safety and efficiency.

Description:

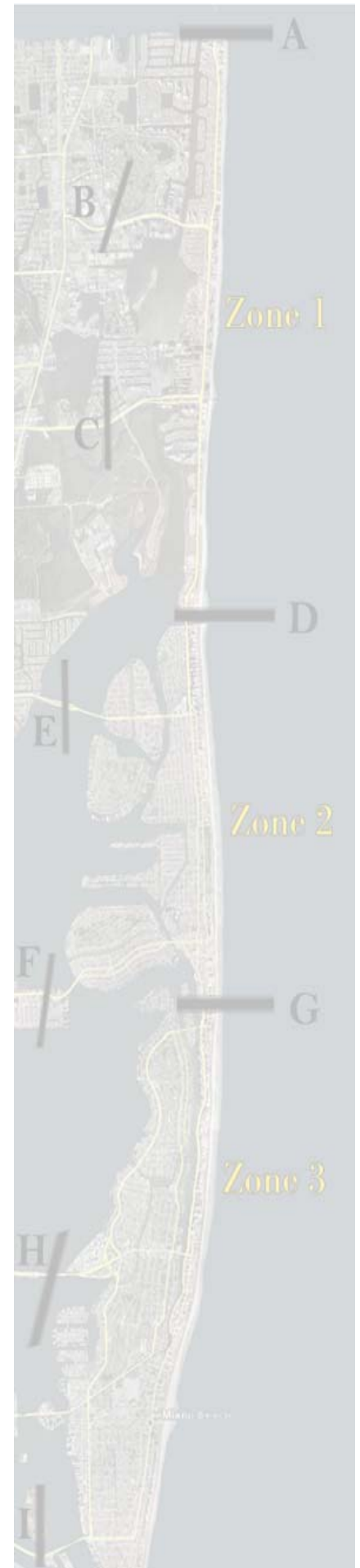
Research state of the art pedestrian crossing technology, including signals, phasing schemes, and crosswalks. Evaluate the primary technologies. Determine which have gained acceptance by Miami Dade County Public Works and FDOT. Inventory high pedestrian crossing locations and determine where these items would be of best use, and begin making changes as warranted.

Cost:

Planning: \$50,000
Design: TBD
Construction: TBD

Time Frame: 1 -5 Years

Priority: High



Project Number: A-13
Project Name: Enhance Bicycle/Pedestrian/Transit Linkages
Project Category: Alternative Mode

Purpose:

The purpose of this study is to assure that the transportation network is fully integrated, linking automobile, roadway, pedestrian, bicycle, and transit uses

Need:

The study area is highly dense, encouraging multiple modes of transportation in order to adequately move. The need to integrate these systems through appropriate linkages is paramount to assuring multimodal mobility.

Description:

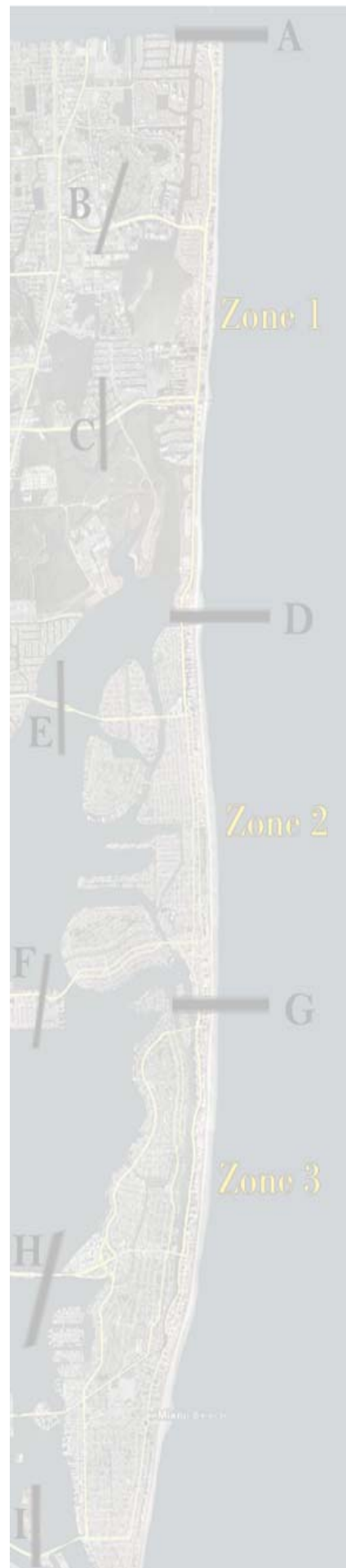
Review all previous plans including bikeway and pedestrian plans, roadway plans, plans for intermodal centers. Assure that the pedestrian and bicycle amenities are provided at key intermodal locations, traffic generators and transit stations. Inventory these facilities, assess the level of service for these amenities using FDOT Q/LOS criteria, recommend necessary improvements and cost of improvements.

Cost:

Planning: \$45,000
Design: TBD
Construction: TBD

Time Frame: 6 -10 Years

Priority: Medium



Project Number: A-14
Project Name: Free Transit Passes for Municipal Employees
Project Category: Alternative Mode

Purpose:

This project is designed to incentivize the use of transit.

Need:

The effort to making a large shift in Modal Split, begins by giving people a reason to try the bus system, free transit passes are one way to do this. If the product is competitive, many people will continue to use it.

Description:

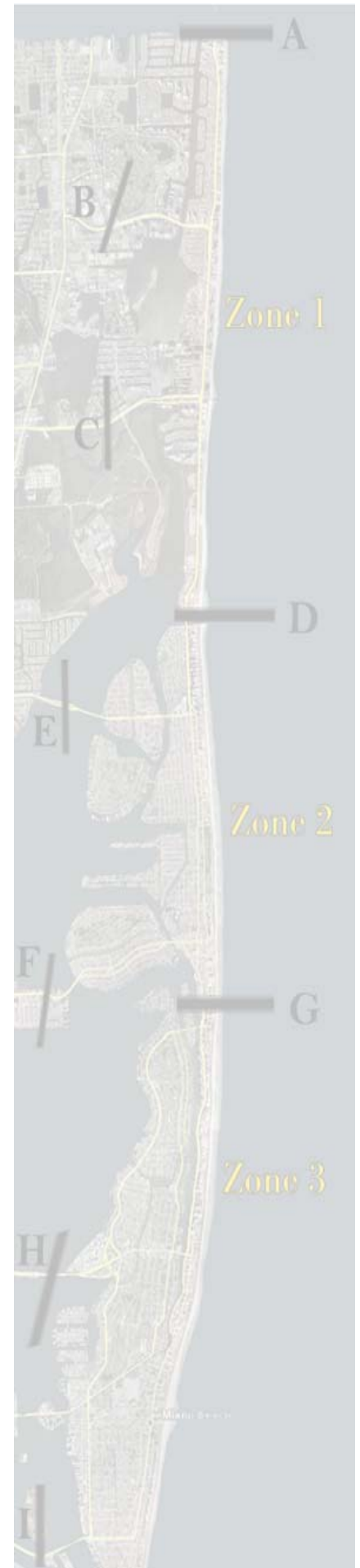
Transit passes can be used by municipal and private sector employees as a benefit to the employee.

Cost:

Planning: TBD
Design: TBD
Construction: TBD

Time Frame: 6 -10 Years

Priority: Medium



Project Number: A-15
Project Name: North Beach/ Miami Beach Circulator
Project Category: Alternative Mode

Purpose:

This project is designed to provide greater mobility in North Beach area of Miami Beach

Need:

All most all of the Coastal Communities have municipal circulators, many funded by each municipality's Peoples Transportation Plan dollars. North Beach has no such route. The community is trisected by major transportation thoroughfares, of Collins and Harding Avenues. These highly affective one way pair of street makes it difficult for pedestrians to circulate. Additionally the neighborhood is relatively dense by South Florida standards.

Description:

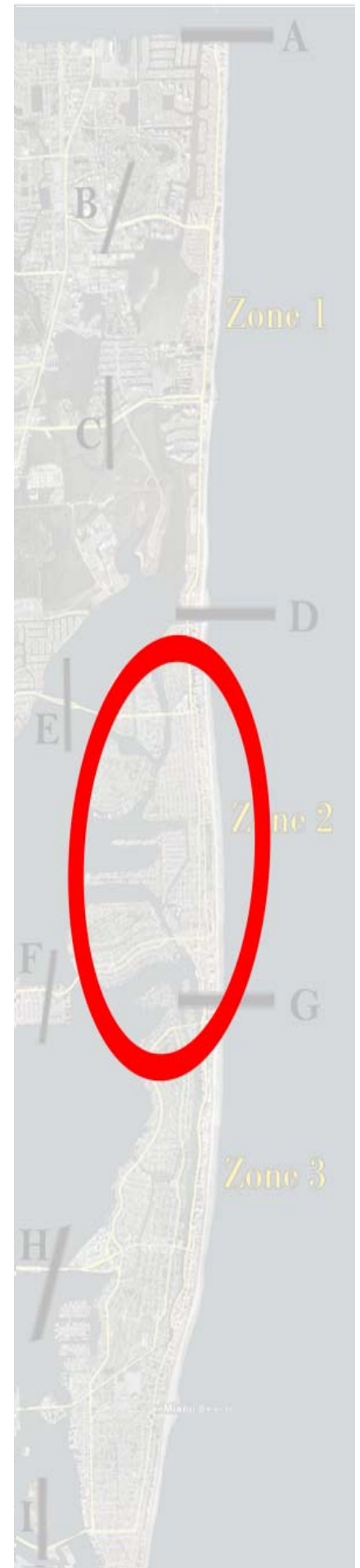
The feasibility of implementing a circulator will be provided, by moving through a two step process, which examines an initial service proposal and evaluation elements, then by doing a detailed feasibility assessment. The general feasibility will look at indicators of the need for transit service and indicators of community support. Once the need and support are determined positive, a detailed assessment will look at operations planning, and develop a management plan and a financial plan. After the circulator is implemented it should undergo periodic monitoring and evaluation to assure it is operating at peak efficiency.

Cost:

Planning: \$90,000
Design: 400,000
Construction: TBD

Time Frame: 1 - 5 Years

Priority: Medium



Project Number: A-16
Project Name: Middle Beach Circulator
Project Category: Alternative Mode

Purpose:

This project is designed to provide greater mobility in Middle Beach area of Miami Beach.

Need:

All most all of the Coastal Communities have municipal circulators, many funded by each municipality's Peoples Transportation Plan dollars. Middle Beach, particularly in the 41st Street area has no such route. The opportunity for people to circulate within the community via transit will be helpful in achieving more balanced modal splits.

Description:

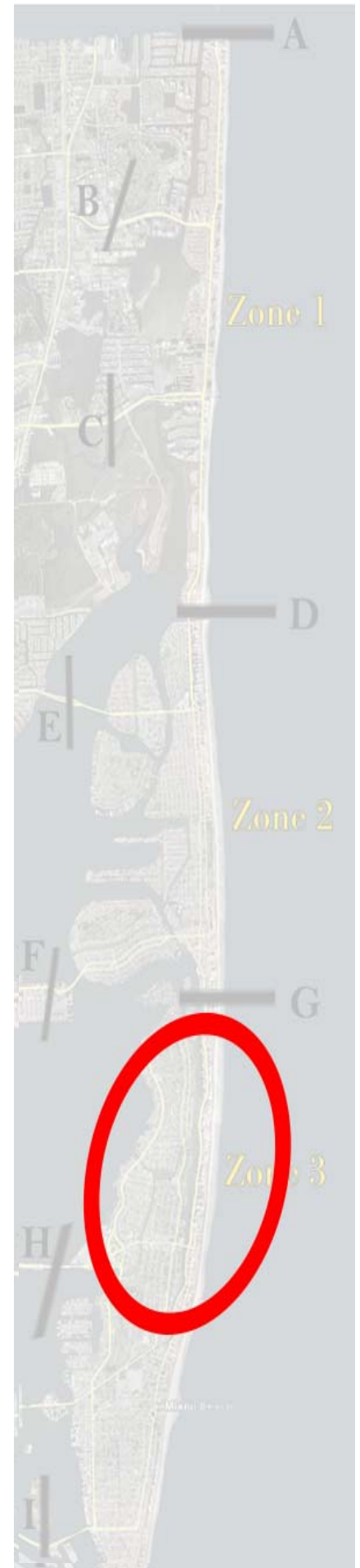
The feasibility of implementing a circulator will be provided, by moving through a two step process, which examines an initial service proposal and evaluation elements, then by doing a detailed feasibility assessment. The general feasibility will look at indicators of the need for transit service and indicators of community support. Once the need and support are determined positive, a detailed assessment will look at operations planning, and develop a management plan and a financial plan. After the circulator is implemented it should undergo periodic monitoring and evaluation to assure it is operating at peak efficiency.

Cost:

Planning: \$90,000
Design: \$400,000
Construction: TBD

Time Frame: 1 -5 Years

Priority: Medium



Project Number: A-17
Project Name: Coastal Communities Transit Development Plan
Project Category: Alternative Mode

Purpose:

Cities within the Coastal Communities have been very progressive in its transportation planning over the years. The next step is to develop a Transit Development Plan specifically related to operations in the Coastal Communities and how the system link with the peripheral communities. This report can be used as a basis for such a plan.

Need:

The Coastal Communities are experiencing increasing roadway congestion. To date most of the improvements specified by any city has been roadway oriented. Due to the nature of the transportation industry, small municipalities are rarely capable of operating or funding their own transit systems. This responsibility is generally regional. The need exists to develop a specific plan, in coordination with Miami Dade Transit, who will be required to operate the system. The plan should included methods of local funding and local plan oversight.

Description:

A transit development plan needs to address ::

- Routes
- Connections
- Headways
- Operations
- Maintinance

This must be developed in very close coordination with Miami Dade Transit. It is anticipated that an operating agreement in the form of an interlocal agreement will need to be developed to detail how the plan will be implemented. There is a probability that the plan will call for more intensive service that what is currently called for in the MDT plan for the area. In this event, the Coastal Communities need to be prepared to assist in the implementation through the contribution of funds for such a purpose. Administrative oversight of the program implementation will also be required by the communities.

Cost:

Planning: \$40,000
Design: NA
Construction: NA

Time Frame: 1 -5 Years

Priority: High



Project Number: A-18
Project Name: Intercept Parking Linked with Shuttles
Project Category: Alternative Mode

Purpose:

The purpose of this project has come from the acknowledgement that a higher level of transit service is needed, and that this needs to be actively sought. Additionally a method to do this is to provide ample space for automobile parking on the periphery of the most densely populated economically diverse areas so that drivers have an option of leaving their vehicles outside of urban areas. The goal of increasing transit ridership or achieving a more balanced modal split can be accomplished by providing specialized transit services.

Need:

The need here is to provide an alternative to having to enter Miami Beach with an automobile. Peripheral or intercept parking facilities serviced by transit, may assist in reducing the number of cars entering the most congested areas. As particular areas intensify, and traffic congestion worsens, the lack of alternative modes creates a need to continue to cater to automobile users. This strategy becomes impractical as congestion reaches a critical mass, and system failure is reached. An example of system failure can be seen with the Miami Beach Boat Show. Limited roadway capacity makes it difficult to enter the South Beach area. Finite parking leaves vehicles that have entered with no alternatives, other than to search indefinitely for parking, or exit the area for remote lots, and take specially provided transit in to the area. The congestion is a deterrent. A logical next step will be to assure that the buses can move as fast or faster, or are more comfortable than the automobile, to provide further incentive.

Description:

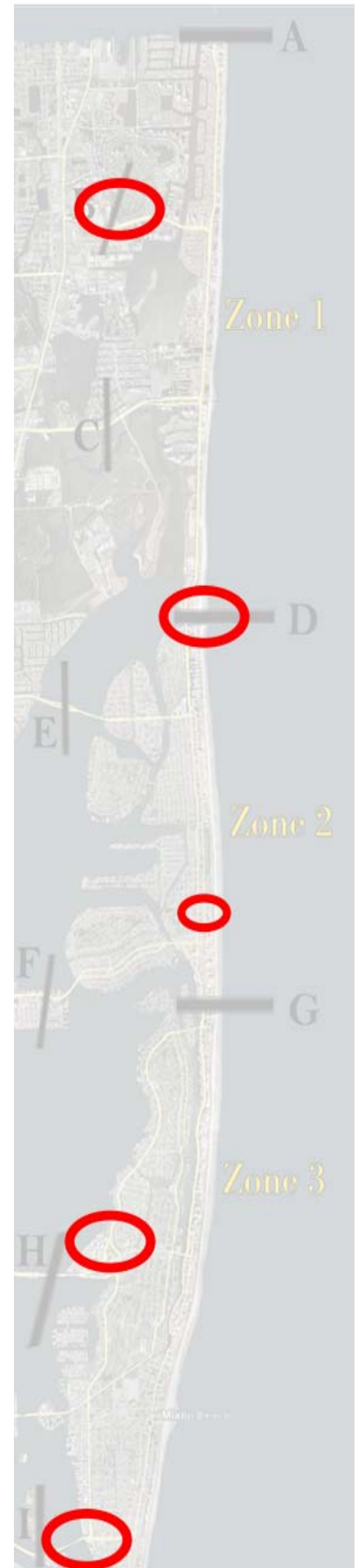
In conjunction with the identification of intermodal locations, this effort would focus on locating facilities at the edges or outside the community. It will be necessary to schedule regularly scheduled transit service from these locations to major generators in various districts.

Cost:

Planning: In conjunction with Intermodal Feasibility Study
Design: NA
Construction: NA

Time Frame: 1 -5 Years

Priority: High



Project Number: A-19
Project Name: MDT Transit Administration Liaison
Project Category: Alternative Mode

Purpose:

This is a staff position, which will provide technical and administrative oversight to the joint implementation of the Coastal Communities Transit Development Plan

Need:

If the Coastal Communities Transit Development Plan becomes a reality, and an agreement is reached by which to implement, operate and fund the plan, it is anticipated that the Communities shall need to provide assistance in the implementation.

Description:

This is envisioned as an administrative position geared to provide oversight to the implementation of the plan. The position would be responsible in assuring the plan is implemented in the priority order suggested. The position would report directly to the Coastal Communities or individual cities within them, and generally provide oversight.

Cost:

Planning: \$75,000/year
Design: NA
Construction: NA

Time Frame: 6 -10 Years

Priority: Medium



Project Number: A-20
Project Name: South Beach Circulator
Project Category: Alternative Mode

Purpose:

This project is designed to provide greater mobility in South Beach area of Miami Beach.

Need:

All most all of the Coastal Communities have municipal circulators, many funded by each municipality's Peoples Transportation Plan dollars. South Beach, has no such route. The opportunity for people to circulate within the community via transit will be helpful in achieving more balanced modal splits.

Description:

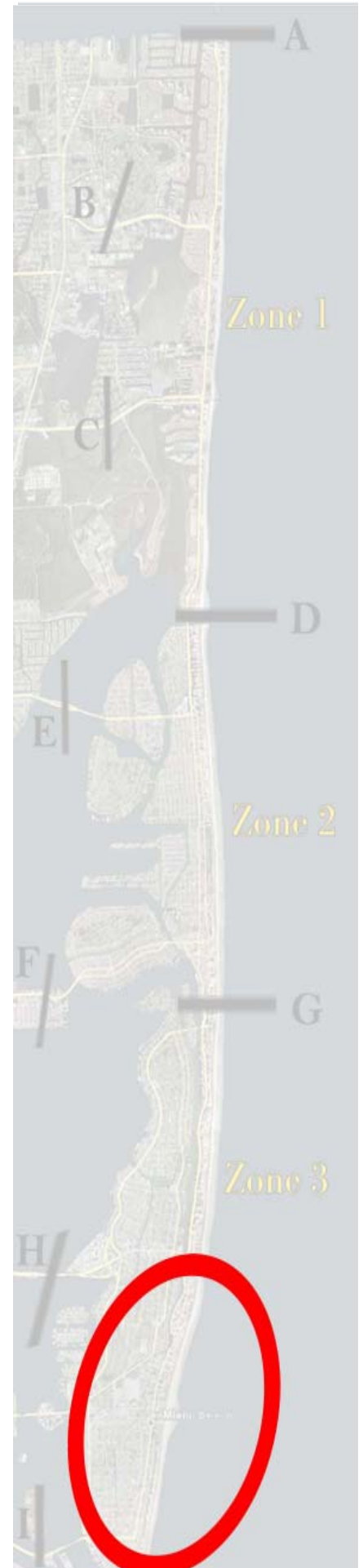
The feasibility of implementing a circulator will be provided, by moving through a two step process, which examines an initial service proposal and evaluation elements, then by doing a detailed feasibility assessment. The general feasibility will look at indicators of the need for transit service and indicators of community support. Once the need and support are determined positive, a detailed assessment will look at operations planning, and develop a management plan and a financial plan. After the circulator is implemented it should undergo periodic monitoring and evaluation to assure it is operating at peak efficiency.

Cost:

Planning: \$90,000
Design: \$400,000
Construction: TBD

Time Frame: 1 -5 Years

Priority: Medium



Project Number: A-21
Project Name: Pedestrian Overpass on Mac Arthur Causeway
Project Category: Alternative Mode

Purpose:

This project is designed to provide greater mobility between two generators of traffic, eliminating the requirement to use an automobile in the area.

Need:

The Mac Arthur Causeway splits two major trip generators, the Miami Children’s Museum and Parrot Jungle Island. Currently the only way to safely move between the two is by car, even though the actual distance between the two is minimal. Transit users attempting to access the school, often attempt to cross the road on foot.

Description:

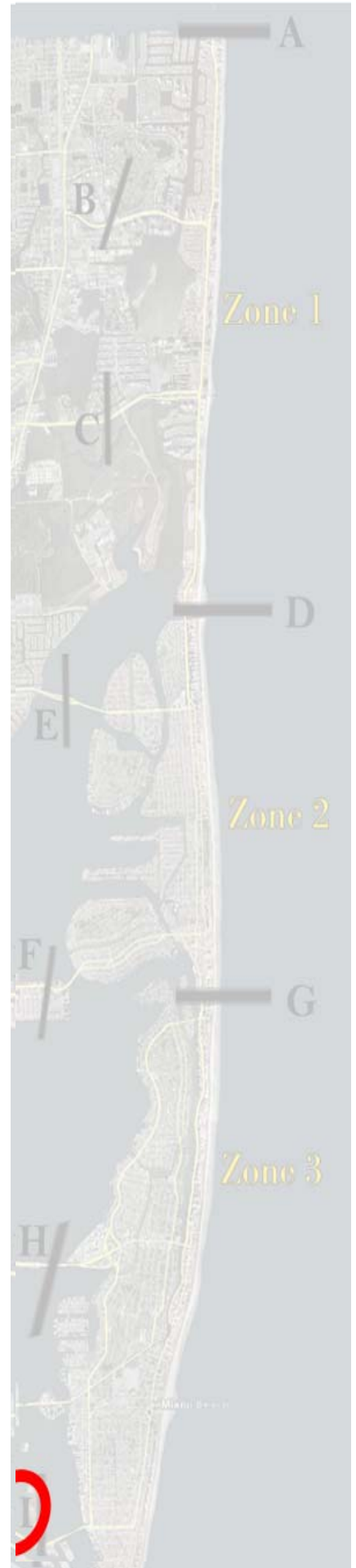
Assess actual need, design and construct a pedestrian overpass that connects Parrot Jungle Island and the Miami Children’s Museum

Cost:

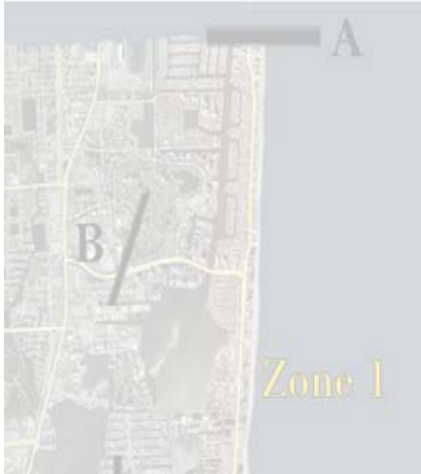
Planning: \$5,000
Design: \$30,000
Construction: \$2,000,000

Time Frame: 1 -5 Years

Priority: Low



CORRIDOR PROJECTS



Corridor



Project Number: CO-1
Project Name: Biscayne Boulevard Corridor Study
Project Category: Corridor Enhancements

Purpose:

This project will study ways to provide increased roadway capacity on Biscayne Blvd, focusing on improving mobility along the corridor from Aventura to downtown Miami in order to provide alternate north/south capacity.

Need:

Traffic performance is poor along this corridor and traffic bottlenecks are frequent. The performance will further deteriorate with future increases in volumes due to the many residential and commercial development projects currently under construction. There is a need for increased capacity along this corridor to relieve the traffic congestion within the northeastern communities of Miami-Dade County. Because this is a very urban corridor, providing additional travel lanes is not an option, therefore, there is a need for a corridor study to develop alternate strategies to increase capacity, including the near term implementation of Bus Rapid Transit as recommended in the MPO's Special Use Lanes Study, (2004).

Description:

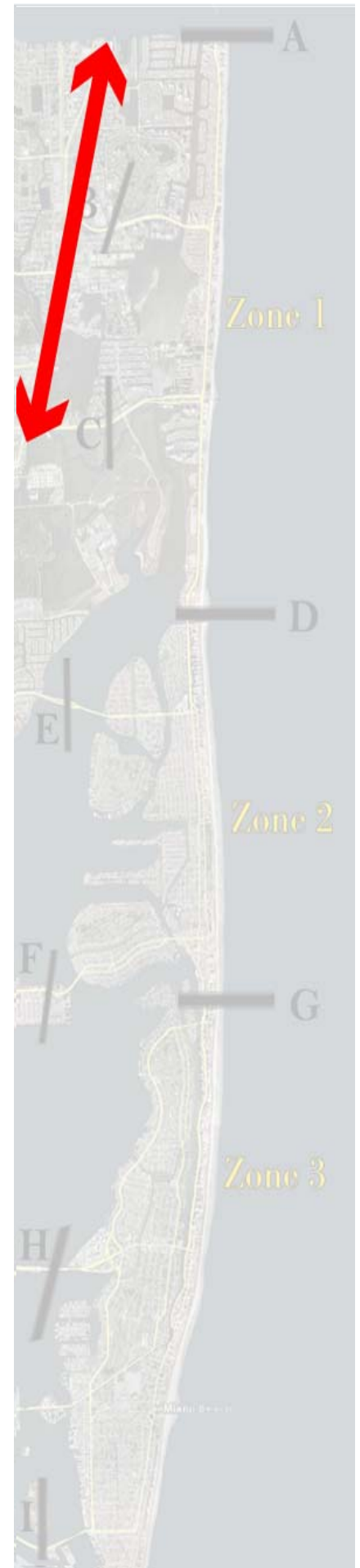
A comprehensive multi-modal transportation study of the Biscayne Blvd corridor will provide analysis of the feasibility of various strategies to improve capacity on this roadway without increasing the right-of-way in the near term. The study will look at signal progression analysis, intersection operational analysis, transit opportunities analysis, pedestrian and bicycle amenities, intermodal center locations, aesthetics and signage.

Cost:

Planning: \$100,000
Design: TBD
Construction: TBD

Time Frame: 1 -5 Years

Priority: High



Project Number: CO-2
Project Name: Collins Avenue Corridor Study
Project Category: Corridor Enhancements

Purpose:

This project will study ways to provide increased capacity on Collins Ave while identifying ways to calm traffic in residential areas and limit the traffic backups caused by commercial delivery trucks.

Need:

Residents in the neighborhoods that Collins Ave passes through have identified speeding as a major issue impacting the livability of their neighborhood. Other problems include concerns over delivery trucks which often impede the flow of traffic reducing the capacity. There is a need to regulate these activities to improve traffic flow.

Description:

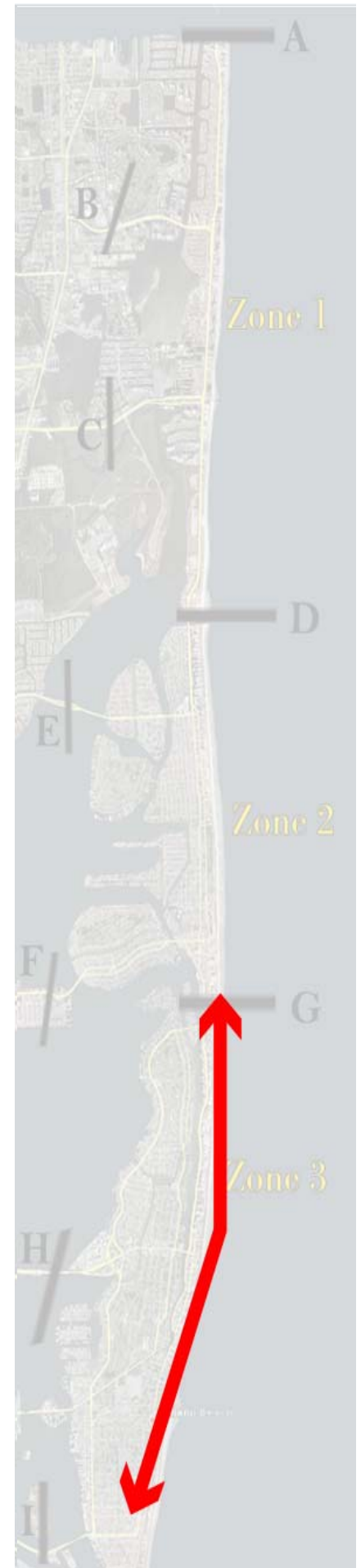
A comprehensive multi-modal transportation study of the Collins Ave corridor will provide analysis of the feasibility of various strategies to improve the livability of neighborhoods on this roadway without increasing the right-of-way. The study will look at signal progression analysis, intersection operational analysis, transit opportunities analysis, pedestrian and bicycle amenities, intermodal center locations, aesthetics and signage. This project will also focus on improving vehicle flow by regulating commercial deliveries to businesses, especially during peak traffic periods and analyze ways to provide a more balanced mix between vehicles and pedestrians. Enforcing parking and loading zone hours of operation will be critical to improving flow.

Cost:

Planning: \$80,000
Design: TBD
Construction: TBD

Time Frame: 1 -5 Years

Priority: High



Project Number: CO-3
Project Name: 41st Street Corridor Study
Project Category: Corridor Enhancements

Purpose:

This project will study ways to provide increased capacity on the 41st Street Corridor while identifying ways to calm traffic in residential areas.

Need:

The 41st Street corridor is the most intense employment center in the Coastal Communities, employing over 14,000 people and surrounded by 77,000 residents. It also represents the major sub regional conduit of traffic, as motorists heavily use the Julia Tuttle Causeway to enter and exit the Coastal Community transportation network. The need to more adequately move traffic in this area is paramount, as is the need to assure that the pedestrian and urban character of the area is upheld.

Description:

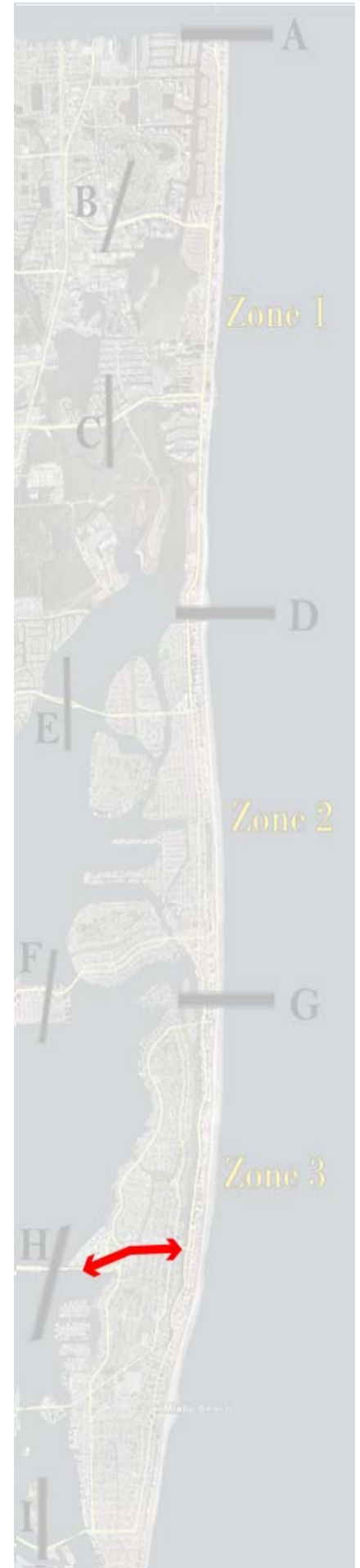
A comprehensive multi-modal transportation study of this corridor will provide analysis of the feasibility of various strategies to improve mobility for all modes of transportation on this roadway. The study will look at signal progression analysis, intersection operational analysis, transit opportunities analysis, pedestrian and bicycle amenities, intermodal center locations, parking evaluation and relocation possibilities, aesthetics and signage. This project will also focus on improving vehicle flow by regulating commercial deliveries to businesses, especially during peak traffic periods and analyze ways to provide a more balanced mix between vehicles and pedestrians.

Cost:

Planning: \$80,000
Design: TBD
Construction: TBD

Time Frame: 1 -5 Years

Priority: High



Project Number: CO-4
Project Name: Reexamine Collins / Harding One Way Pair
Project Category: Corridor Enhancements

Purpose:

In an effort to further diversify the land use mix in the central zone of the study area, the utilization of the parking lots between Collins Avenue and Harding Avenue in Miami Beach between 77th Street and 87th Street as an economic development area can be examined. The removal of the one way pair and reinstatement of both roads as two way facilities should be examined as it would better interact with this type of development.

Need:

Residents in the neighborhoods that Collins Avenue and Harding Avenue pass through have identified speeding as a major issue impacting the livability of their neighborhood. Pedestrian access, as well as residential or commercial development in the area may be better accommodated if the traffic patterns were reformed.

Description:

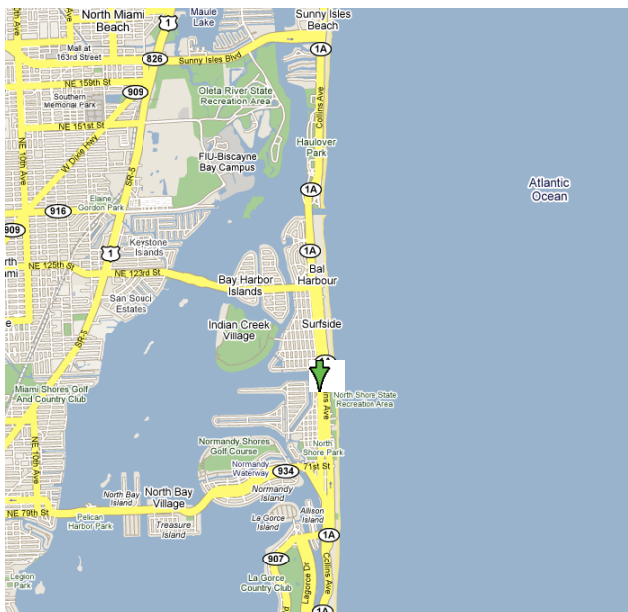
This analysis would review the conceptual design for the development in the area. It would evaluate the roadway network in its existing condition, develop three alternatives to the existing condition and measure the impact of those alternatives on the area transportation system out to 2030. A preferred alternative will be selected and an implementation plan provided.

Cost:

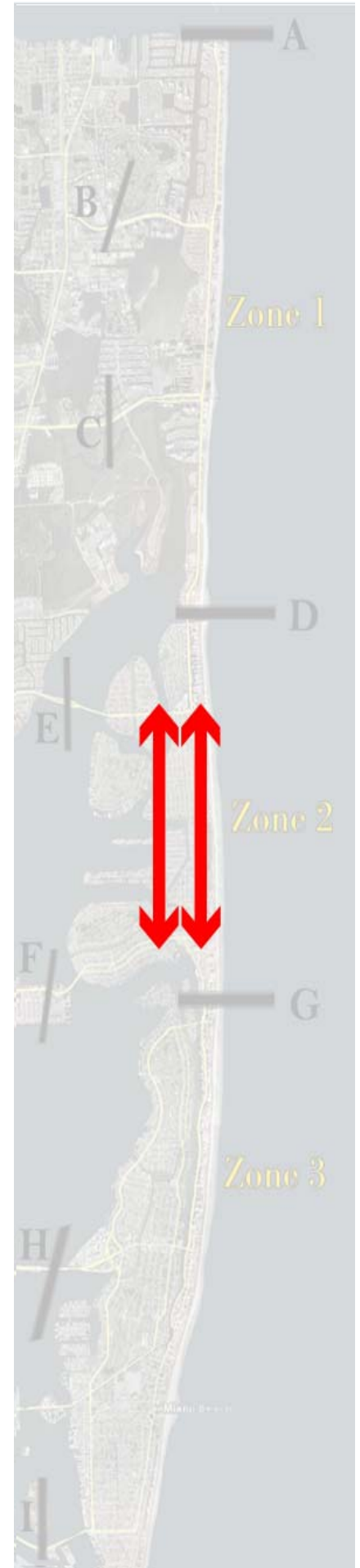
Planning: \$80,000
 Design: TBD
 Construction: TBD

Time Frame: 1 -5 Years

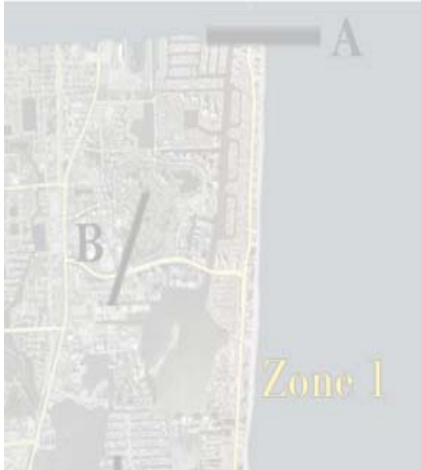
Priority: Medium



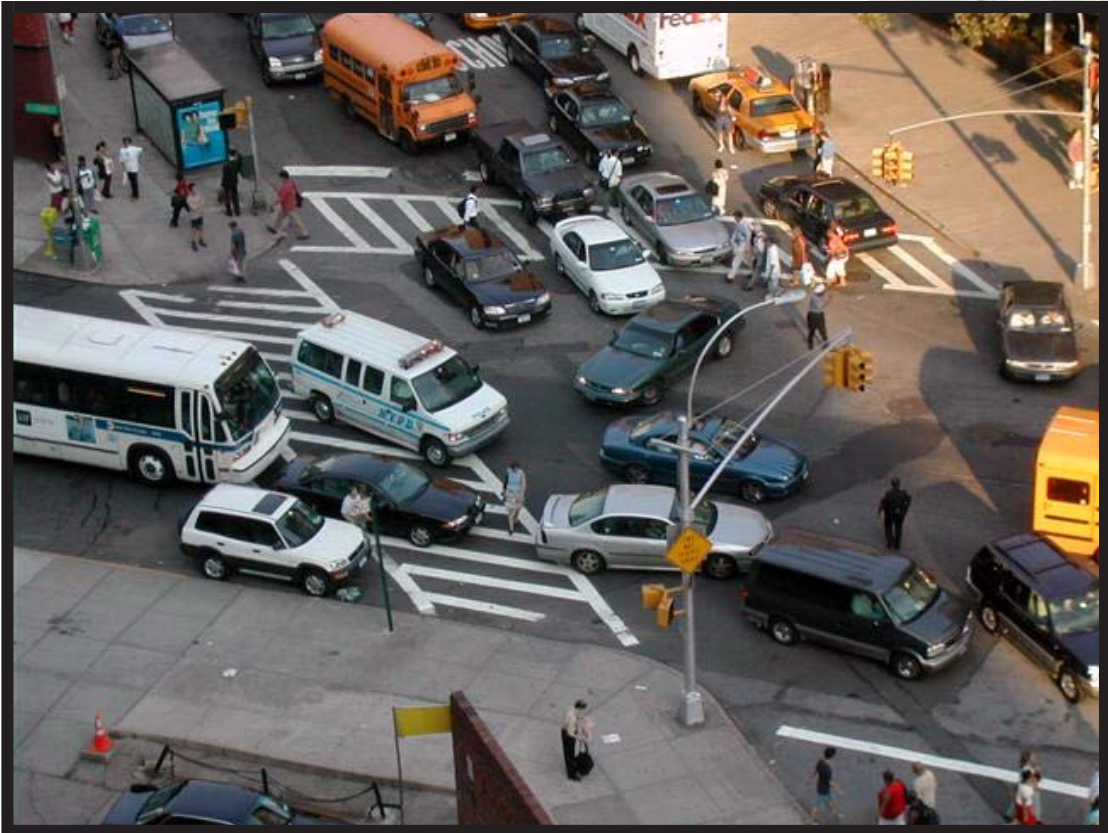
Final Report



Capacity Projects



Zone 1



D

Zone 2

G

Capacity



Zone 3

Project Number: CA-1
Project Name: Causeway and East/West Flow Enhancements
Project Category: Capacity

Purpose:

This project will study ways to provide increased capacity on each of the causeways focusing on improving regional mobility for the communities on the barrier islands.

Need:

The northern causeways and their respective east/west connections to I-95, especially Ives Dairy Road, NE 163rd Street and NE 125th Street are presently operating at a poor level of service during peak traffic periods. The data collected during the origin and destination study supported the need for improved level of service on these roads. The north/south roadways are also experiencing a greater volume of vehicles due to the fact that the causeways with the greatest capacity and most direct connections to I-95 are in the southern coastal communities. It is expected that the performance of these roads will further deteriorate with the current rate of development in NE Miami-Dade County.

Description:

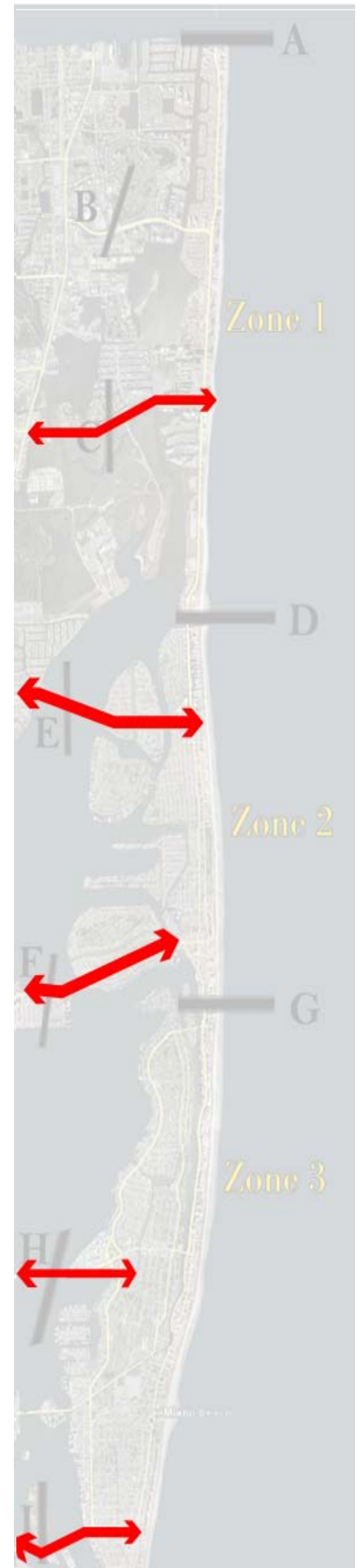
An analysis of the major east/west corridors is required to determine appropriate operational improvements. A variety of methods by which to gain additional physical capacity should be examined, including the use of shoulder lanes, reversible lanes or even Intelligent Transportation Systems, such as the feasibility of utilizing electronic message boards to inform commuters of traffic situations in advance will be studied.

Cost:

Planning: \$60,000
Design: TBD
Construction: TBD

Time Frame: 1 -5 Years

Priority: High



Project Number: CA-2
Project Name: NE 96th Street / Harding Avenue Intersection
Project Category: Capacity

Purpose:

The project will identify operational and geometrical improvements at the intersection of NE 96th Street and Harding Avenue. Improvements to this intersection will be focused on improving regional mobility for the coastal communities.

Need:

Traffic congestion at this intersection has been identified as a serious problem that is compromising safety and degrading the quality of life in the adjacent communities of Surfside, Bay Harbor Islands and Bal Harbour. This intersection is notorious for pedestrians crossing in the wrong places and against the lights (jaywalking is a serious problem). Other issues with this intersection include confusion for drivers due to poor directional signs and markings on the road and conflicts with merging buses because of a turn-out lane located too close to the intersection.

Description:

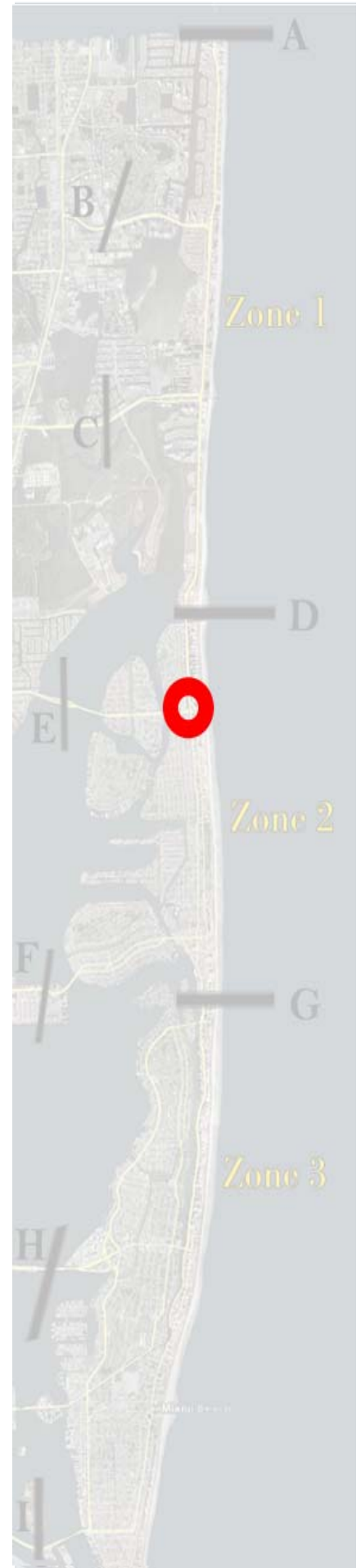
An operational study of the intersection of NE 96th Street and Harding Avenue would be required to determine the appropriate improvements to increase capacity. The study will coordinate with FDOT which is currently working with the municipalities to determine the best solution that will be acceptable to all of the stakeholders.

Cost:

Planning: NA
Design: \$35,000
Construction: \$300,000

Time Frame: 1 -5 Years

Priority: Low



Project Number: CA-3
Project Name: One-way Residential Streets (South Beach)
Project Category: Capacity Projects

Purpose:

This study is designed to test the traffic impact of converting two way streets into one-way streets in certain residential districts, particularly in South Beach. The potential may occur to increase the number of on-street parking spaces, by implementing angled parking, as opposed to parallel parking.

Need:

Parking in the Flamingo Neighborhood in South Beach, as in other residential areas of Miami Beach, is at a premium. Any increase in the number of spaces would provide a relief to the people who live in the area. By converting parallel parking to angled parking, a significant increase in parking could be attained. This could be done creating one-way roadways, and converting existing travel lanes to parking lanes.

Description:

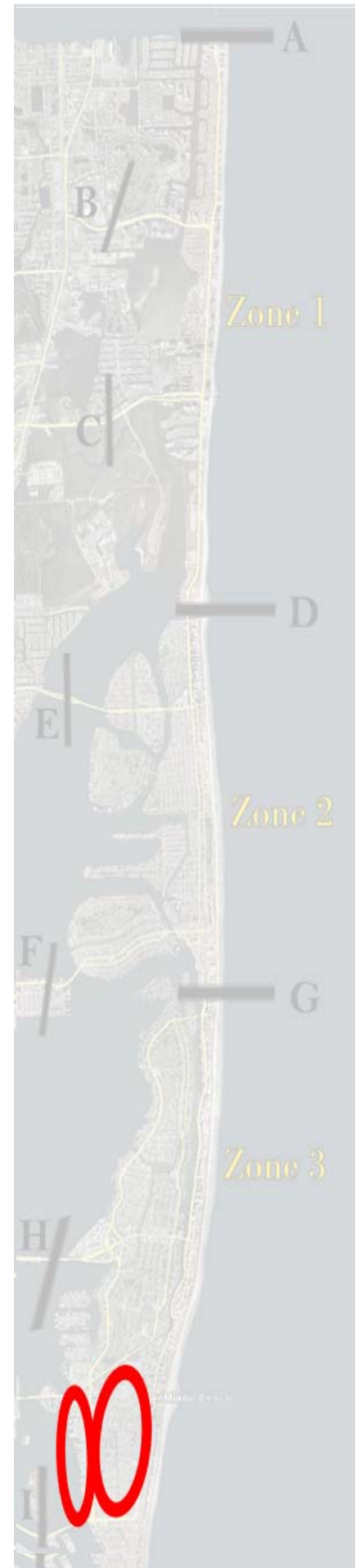
The scope of services for this project should focus on examining the Flamingo Neighborhood, by looking at right of way widths, travel lane widths, parking lane widths and number of parking spaces. On roadways where rights of way may accommodate the conceptual reconfiguration of parking will be examined. The number of additional spaces will be assessed. A traffic impact analysis will determine the impact to the roadway network of converting these roadways from two-way to one-way.

Cost:

Planning: \$50,000
Design: TBD
Construction: TBD

Time Frame: 1 -5 Years

Priority: Medium



Project Number: CA-4
Project Name: Lehman Causeway /Aventura Mall Connection
Project Category: Capacity

Purpose:

This project will study ways to provide increased capacity on Biscayne Boulevard, focusing on improved access to Aventura Mall.

Need:

Traffic performance is poor along the Biscayne Boulevard corridor and traffic bottlenecks are frequent. The performance will further deteriorate with future increases in volumes due to the many residential and commercial development projects currently under construction. There is a need for increased capacity along this corridor to relieve the traffic congestion within the northeastern communities of Miami-Dade County. One project that would provide significant relief would be to provide an exit off of the Lehman Causeway into the Aventura Mall which is a regional attraction.

Description:

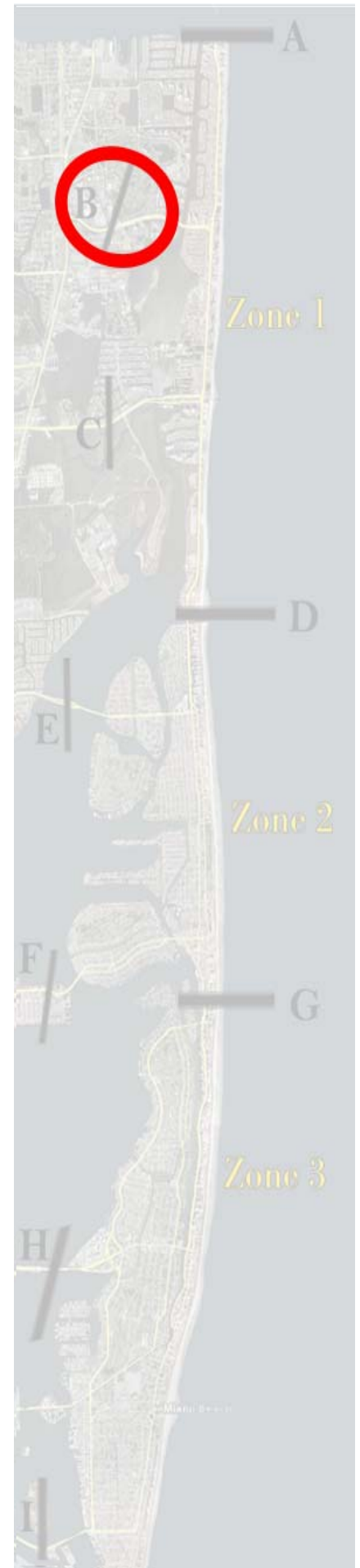
This will determine the feasibility of providing an exit ramp off of the Lehman Causeway directly to the Aventura Mall. An examination of traffic impacts, available right of way, alternative locations, cost and conceptual design will be provided.

Cost:

Planning: \$60,000
Design: \$700,000
Construction: \$7,000,000

Time Frame: 6 -10 Years

Priority: Medium



Project Number: CA-5
Project Name: Miami Beach Intersection Level of Service Improvements
Project Category: Capacity Projects

Purpose:

This study is designed to improve the level of service at major signalized intersection through various improvements.

Need:

Many of the signalized intersections in the coastal communities are exhibiting deteriorated levels of service, which may be improved through more in-depth analysis. Results may include, signal optimization, additional turn lanes, acceleration or deceleration lanes, pedestrian islands, or grade separations. Many in the community feel it is extremely important to mitigate these intersections so that vehicular traffic flows better. Study intersections include, but are not limited to:

Intersections
Alton/395/5 th Street
1-95 as it descends on to 41 st Street
Alton Road/17 th Street/Dade Boulevard
41 st Street/ Pinetree Drive/Collins Avenue, including the bridge
71 st Street and Dickens Avenue/Indian Creek/Normandy Drive
Collins Avenue from 63 rd Street to 77 th Street
Indian Creek/ Harding Avenue at 71 st Street
Harding Avenue/Indian Creek /72 nd Street intersection

Description:

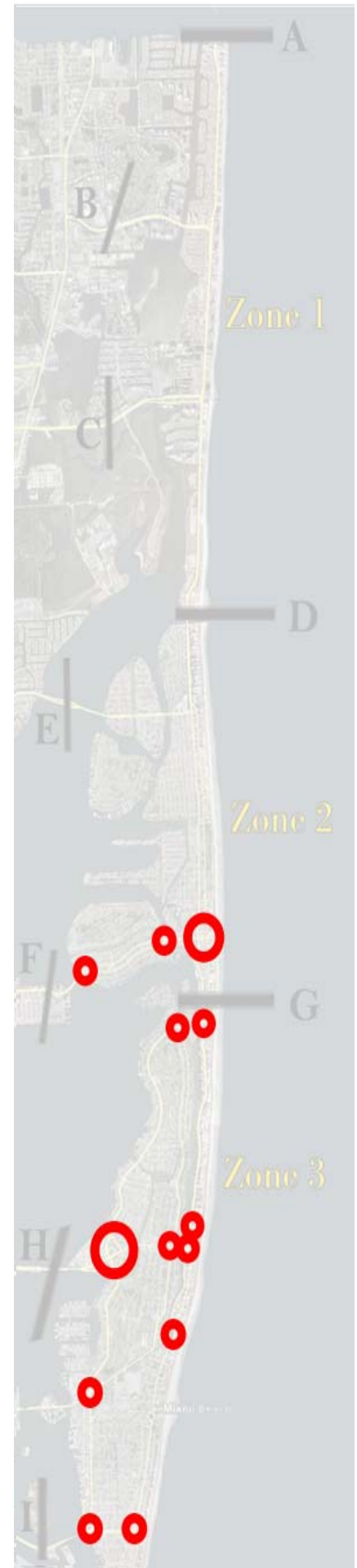
The scope of services for this project should focus on examining the existing traffic counts at intersections that are experiencing marginal levels of service. Existing right of way will be examined for each. A variety of recommendations including increased physical capacity through right of way acquisition, signal optimization, or other operational improvements will be made. Conceptual costs will be provided.

Cost:

Planning: \$50,000
 Design: TBD
 Construction: \$400,000

Time Frame: 1 -5 Years

Priority: Medium



Project Number: CA-6
Project Name: Examine Locations for On-Demand Pedestrian Signal Phases
Project Category: Capacity

Purpose:

The purpose of this effort is to identify intersections where it may be appropriate to eliminate the regular pedestrian phase of the traffic signal, making it on-demand instead of built into the phasing. This would free time in the regular cycle for the movement of automobiles.

Need:

Many in the community have focused on eliminating bottlenecks in the system and assuring the efficiency of movement for vehicles and pedestrians. One method of doing this is to convert the pedestrian phase of a traffic signal from built-in, to on-demand. This is most appropriate where pedestrian activity is sporadic. When present, pedestrians would simply push the pedestrian crossing button on street pole. During the next phase they would be provided time to cross. If not present, that pedestrian crossing time would be allocated to vehicular movement.

Description:

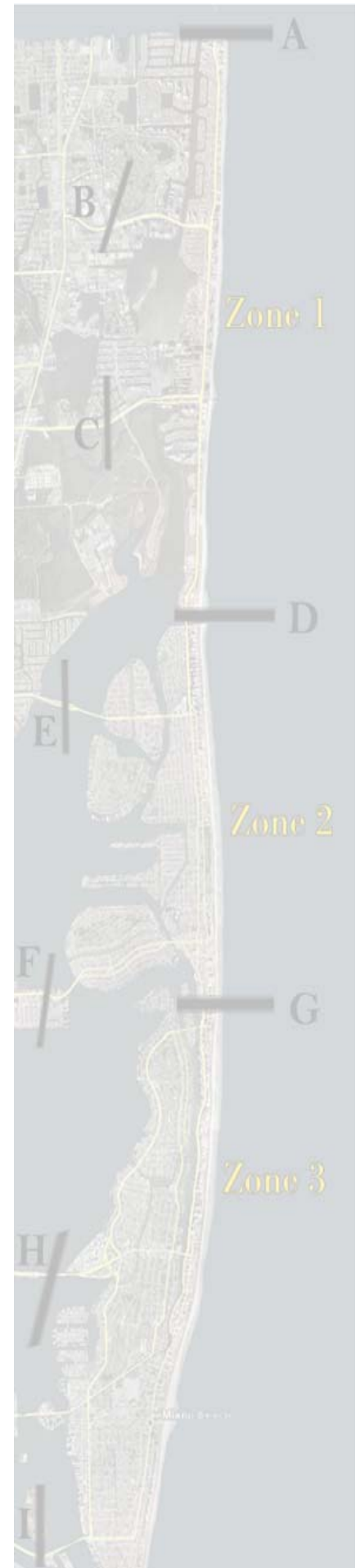
This study will take pedestrian counts at a dozen key intersections. Locations where pedestrian traffic is minimal, sporadic, and contain pedestrian crossing phases, will be converted to on-demand or pedestrian actuated signals. The impact of this conversion will be assessed.

Cost:

Planning: \$30,000
Design: TBD
Construction: TBD

Time Frame: 1 -5 Years

Priority: Low



Project Number: CA-7
Project Name: On Street Parking Management
Project Category: Capacity

Purpose:

This project will study ways to provide increased capacity through the management of on-street parking.

Need:

Roadway capacity is at a premium. In many locations additional capacity could be attained, particularly in the peak commuting hours through the management of on street parking. If parking were prohibited during peak commuting hours on streets which are heavily used for commuters, traffic flow would be enhanced.

Description:

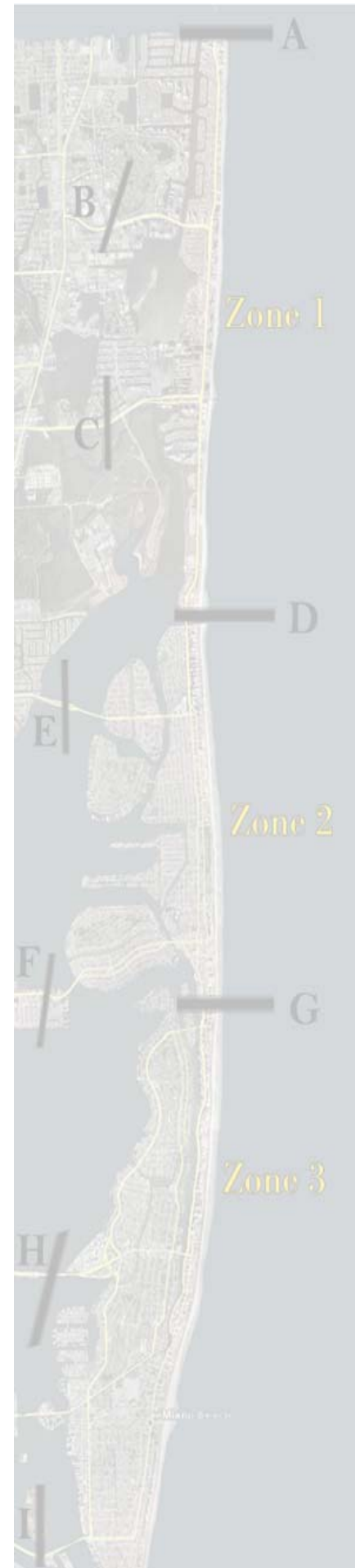
This study will determine the location of major transportation conduits, such as Collins Avenue, Harding Avenue, Alton Road, Indian Creek Boulevard, Sunny Isles Boulevard Kane Concourse and Normandy Drive and 71st Street. It will identify the presence of parking lanes, and examine any restrictions on parking. An examination of parking utilization will be undertaken. Potential down stream bottlenecks and other physical impediments to traffic flow will be identified. Examples of successful utilization of this in various cities will be provided. Recommendations as to the parameters of implementation areas will be made.

Cost:

Planning: \$35,000
Design: TBD
Construction: TBD

Time Frame: 1 -5 Years

Priority: Low



Project Number: CA-8
Project Name: Neighborhood Shells
Project Category: Capacity

Purpose:

The purpose of this type of project is to utilize hierarchy and functional classification of the roadway network and enhance the ability of certain types of roads to perform their function optimally. Essentially, this would aid flow on the periphery of neighborhoods, while protecting interior residential areas from traffic intrusion. These can be examined in the Flamingo and West Avenue neighborhoods, in the Middle Beach area between 63rd Street and 71st Street, and in North Beach between 72nd Street and the Miami Beach City Limits.

Need:

Due to the heavy volumes residential neighborhoods feel they experience cut-through traffic, which deteriorates their quality of life. The exploration of methods by which to segregate the traffic flow, enhancing the ability to flow on main corridors, and protecting the neighborhoods through a series of techniques may provide useful in mitigating the situation.

Description:

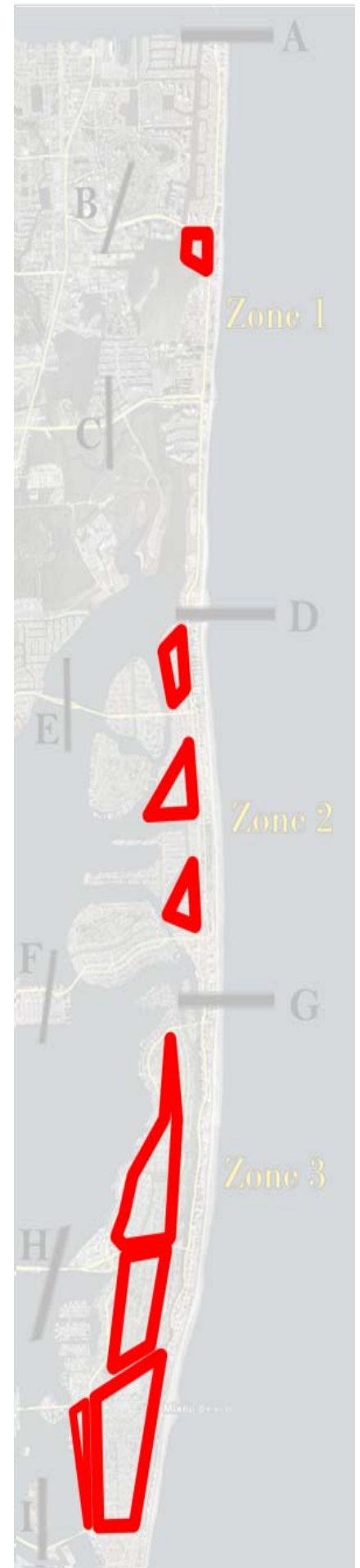
Projects of this nature would look at residential areas which are receiving cut through traffic, or are split by transportation facilities. An examination of functional classification of the roadway system will determine which roads should carry the bulk of the traffic flow. Movement should be enhanced on the thoroughfares, and constricted on the residential streets through the development of internal circulation plans. These would use techniques such as one way streets, traffic calming, bike lanes, right turn only at signalized intersections, parking regulations, and enhanced pedestrian crossings at intersections.

Cost:

Planning: \$40,000
Design: TBD
Construction: TBD

Time Frame: 1 -5 Years

Priority: Low



Project Number: CA-9
Project Name: 63rd Street Travel Patterns
Project Category: Capacity

Purpose:

The purpose of this project is to examine the travel patterns that result after the 63rd Street flyover construction is completed to determine if any efficiency can be gained by re routing.

Need:

Maintenance of traffic plans has re-routed vehicles during this construction. Many in the area feel that the existing pattern during the construction may relieve congestion if it is maintained.

Description:

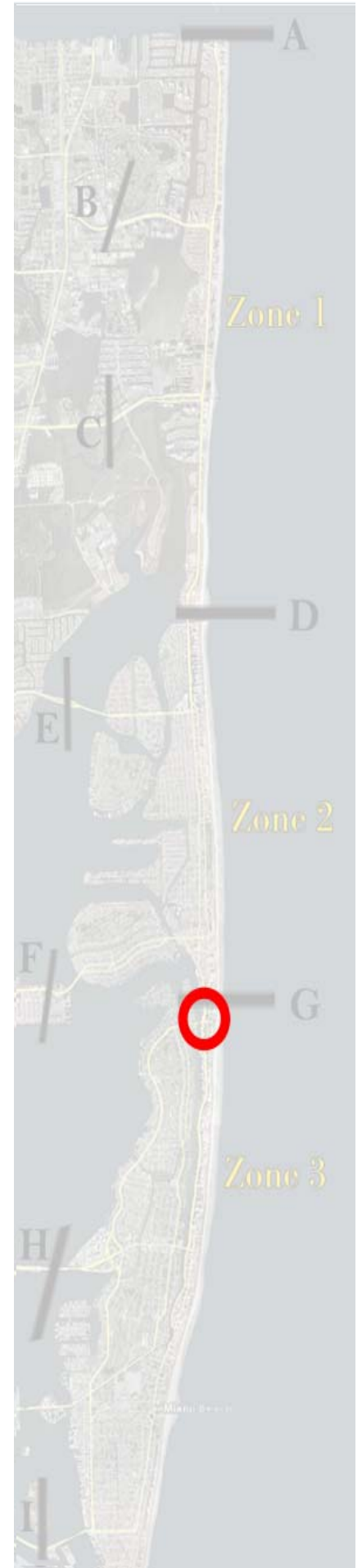
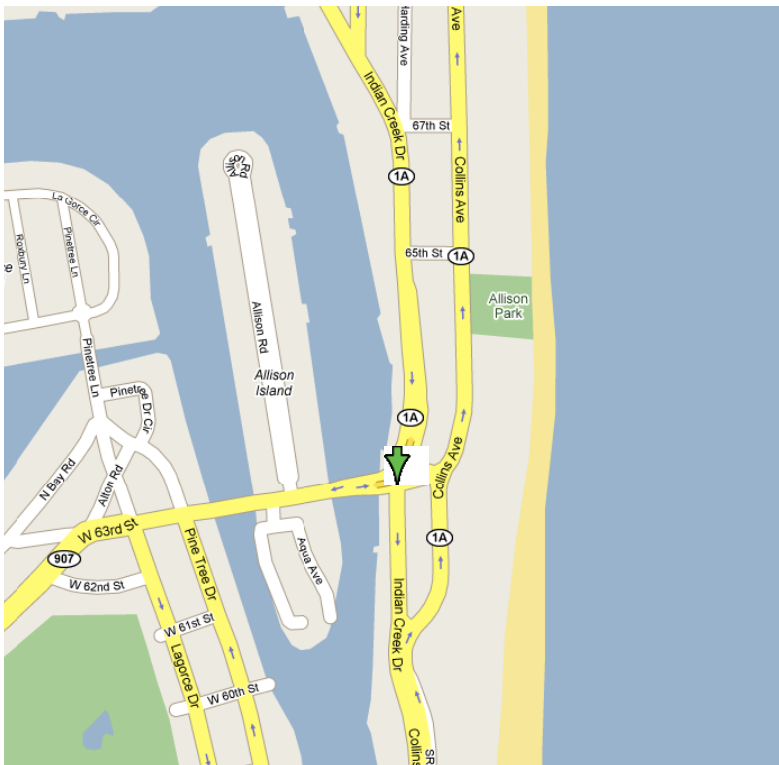
6 months after construction is completed the area should be analyzed. Traffic volumes on each road and turning movement counts at major intersection can be taken. Three alternatives for traffic movement will be analyzed in by using a micro-simulation tool. After public involvement with the community a preferred alternative shall be selected.

Cost:

Planning: \$60,000
Design: TBD
Construction: TBD

Time Frame: 1 -5 Years

Priority: Low



Project Number: CA-10
Project Name: Implement Aventura Biscayne Boulevard Intersection Modifications
Project Category: Capacity

Purpose:
 The purpose of this project is to implement the 2006 recommendations from the Biscayne Boulevard Intersection Study.

Need:
 Aventura has provided detailed analysis of traffic conditions in Biscayne Boulevard between N.E. 213th Street and N.E. 178th Street. The task encompassed the evaluation of all east-west roadway intersections to determine if modifications should be made to increase the turn land capacity and or lengths to improve traffic flow. Twelve projects were recommended. These were:

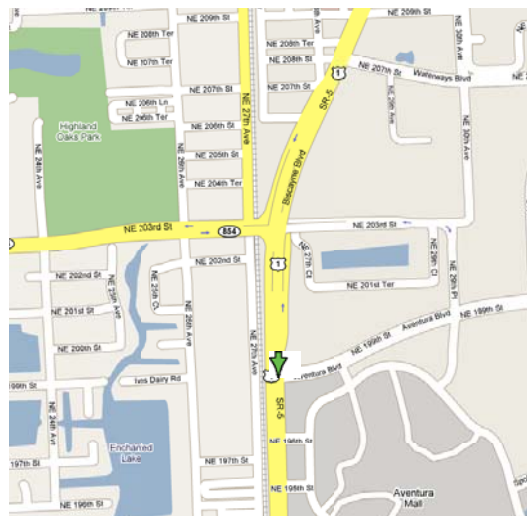
- ✓ **213 St** – Signal timing
- ✓ **209 St** – New westbound approach lane
- ✓ **203 St** – Dual right turn configuration (add 2nd eastbound right turn lane)
- ✓ **196 St/195St**– Improve the two intersections as part of Mall Expansion Program
- ✓ **Lehman Causeway** – Continue to Explore Direct Access to Mall
- ✓ **192 St** – Raised Curb
- ✓ **191 St** – Provide triple westbound left turns and one exclusive right turn lane in addition to signal timing
- ✓ **187 St** – Eliminate parallel parking on north side of 187, Eliminate northbound left turn on Miami Garden Drive
- ✓ **183 St** – Second westbound left turn lane, striping, signal timing, eliminate southbound left turn movement to shopping center
- ✓ **182 St** – Signal timing
- ✓ **187 St** – New signage, signal timing
- ✓ **203 St** – Driveway modifications at shopping center intersection

Description:
 Coordinate with FDOT and MDCPW, then bid the design aspect of the projects. Upon a completed set of design plans, bid the construction and implement the projects.

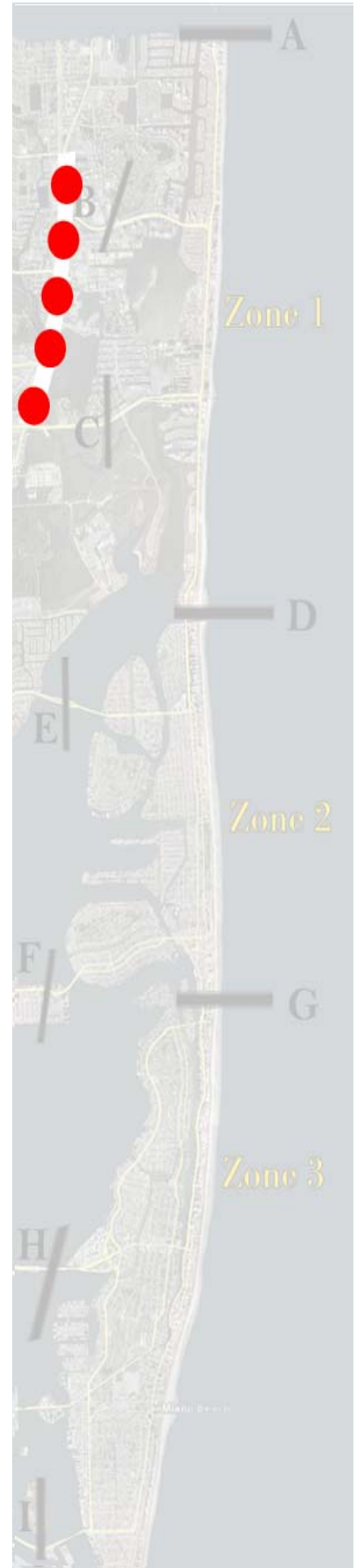
Cost:
 Planning: Completed
 Design / Construction: \$340,000

Time Frame: 1 -5 Years

Priority: Medium



Final Report



Project Number: CA-11
Project Name: Advanced Parking Management System
Project Category: Capacity

Purpose:

The purpose of this effort is to develop an intelligent parking management system which measures the available space in various garages and lots and displays that information to drivers as they move through the community.

Need:

This effort is needed to direct drivers to facilities that are open, so they do not waste time and utilize roadway capacity searching for space that is unavailable. If used in conjunction with parking intercept facilities located at the periphery of the communities that are served by transit. The opportunity exists for people to enter the community without their automobile.

Description:

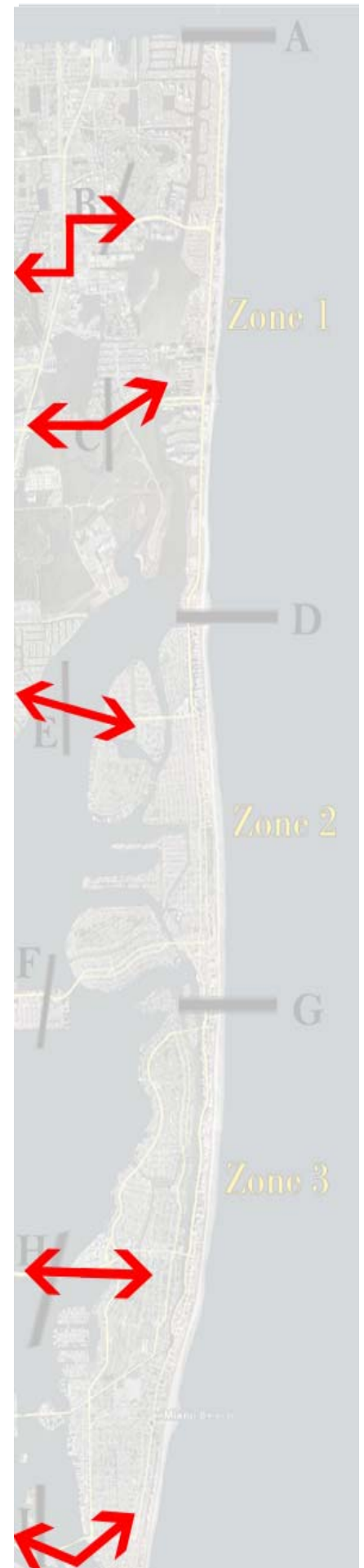
This would research available technologies, and assign potential development and implementation costs to realizing such an intelligent management system.

Cost:

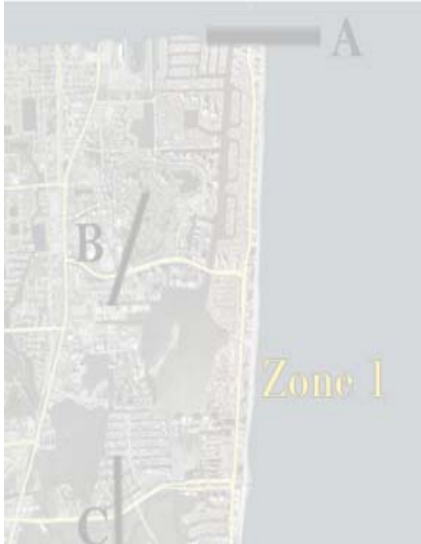
Planning: \$25,000
Design: \$100,000
Construction: \$400,000

Time Frame: 1 -5 Years

Priority: High



Policy Projects

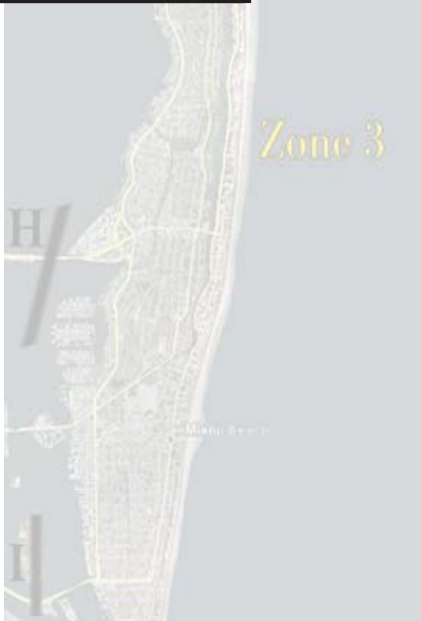


D

Zone 2

G

Policy



Zone 3

Project Number: P-1
Project Name: Liaison with South Florida Regional Commuter Services
Project Category: Policy

Purpose:

To coordinate and manage transportation in the coastal communities, this position would act as a liaison between the cities, the citizens, the development community, local employers, and other local, county and state transportation authorities. The primary focus would be to manage concurrency, oversee developer activity, and interface with businesses to implement Transportation Demand Management (TDM) strategies.

Need:

The data suggest that with very broad peak hours that the transportation system is maturing, and is ready for high quality transit and TDM. There is little latent capacity, as people are using the system throughout the day. In addition there are significant residential and business areas, and areas of concentration of the commuting public. This effort would further encourage activity that is beginning to occur naturally. Heightened attention to this may change driver behavior resulting in less vehicular traffic at particular times of the day, further spreading volumes.

Description:

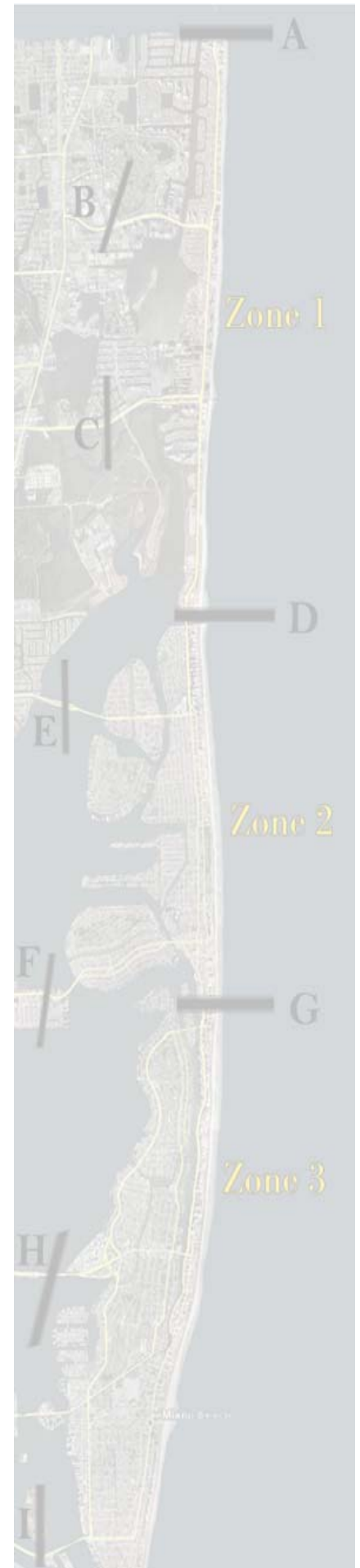
This position would coordinate Transportation Demand Management strategies with local employers, act as a liaison, with MDCPW, MDT, MPO, and FDOT, in an attempt to develop and implement projects as a result of this report. This could be an additional position, or one which could be added to an existing position.

Cost:

Planning: \$10,000 – 40,000 per year, depending on formalized description of services
Design: NA
Construction: NA

Time Frame: 1 -5 Years

Priority: High



Project Number: P-2
Project Name: Transportation Demand Management (TDM)
Project Category: Policy

Purpose:

Transportation Demand Management programs will provide incentives, disincentives and market management to affect travel behavior to shift to non-motorized and/or higher occupancy modes in order to reduce congestion on the roadways in the coastal communities.

Need:

There is significant traffic congestion in the coastal communities generally between 8:00 am and 8:00 pm. The utilization of techniques like van pools, HOV lanes, telecommuting and flexible work schedules would free capacity at the most critical times of the day.

Description:

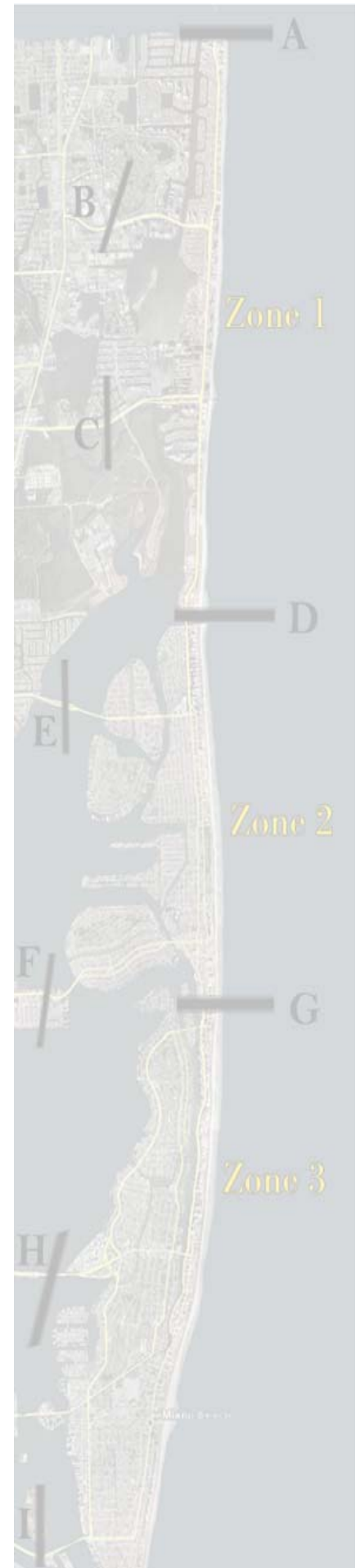
Transportation Demand Management strategies would utilize the services offered by the South Florida Commuter Services by encouraging businesses to take advantage of the programs.

Cost:

Planning: TBD
Design: NA
Construction: NA

Time Frame: 1 -5 Years

Priority: Medium



Project Number: P-3
Project Name: Intelligent Transportation Systems (ITS)
Project Category: Policy

Purpose:

The purpose of this project is to utilize technology to improve the existing transportation network and relieve traffic congestion.

Need:

There is significant traffic congestion in the coastal communities that would benefit from technological advances to monitor the flow of traffic in the area.

Description:

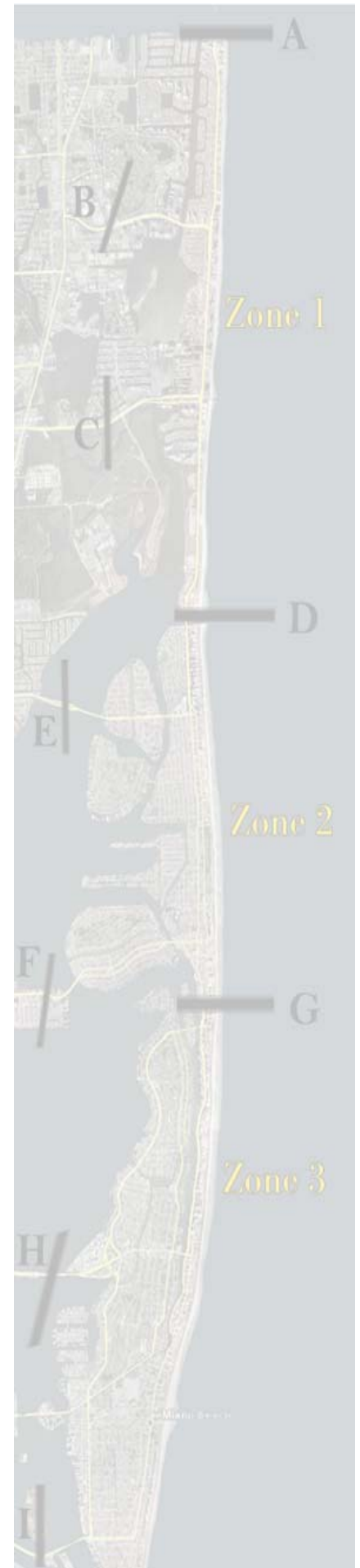
Intelligent Transportation Systems include such things as installing cameras to monitor the flow of traffic and be able to view accidents in real time. This is beneficial because it will speed up the time it takes emergency responders to arrive on the scene. Additional systems could include electronic messages boards to inform drivers of congestion before they reach it, to allow them to take alternate routes and avoid contributing to the delays.

Cost:

Planning: TBD
Design: NA
Construction: NA

Time Frame: 6 -10 Years

Priority: Low



Project Number: P-4
Project Name: Transportation Systems Management (TSM)
Project Category: Policy

Purpose:

Transportation Demand Management programs will provide incentives, and market management to affect travel behavior to shift to non-motorized and/or higher occupancy modes in order to reduce congestion on the roadways in the coastal communities.

Need:

There is significant traffic congestion in the coastal communities generally between 8:00 am and 8:00 pm. The utilization of techniques like van pools, HOV lanes, telecommuting and flexible work schedules would free capacity at the most critical times of the day.

Description:

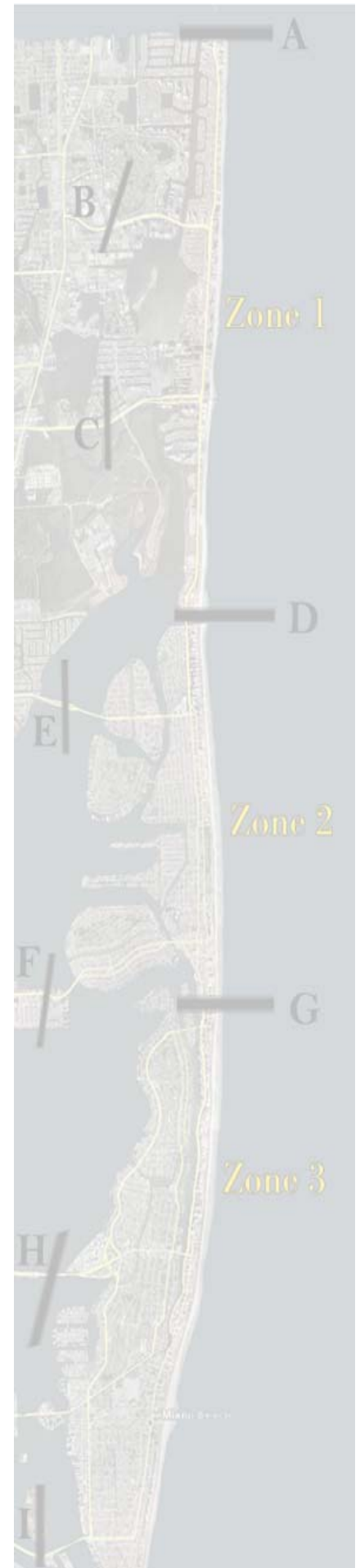
Transportation Demand Management strategies would utilize the services offered by the South Florida Commuter Services by encouraging businesses to take advantage of the programs.

Cost:

Planning: TBD
Design: NA
Construction: NA

Time Frame: 1 -5 Years

Priority: Medium



Project Number: P-5
Project Name: Police Enforcement to Enhance Traffic Flow
Project Category: Policy

Purpose:

The purpose of this is to provide more strict and consistent enforcement of parking, and delivery regulations on the major corridors within the study area.

Need:

Many corridors and streets are besieged by a variety of prohibited activities, such as rush hour deliveries or illegal parking. This policy would enforce existing regulations to remove unwarranted obstacles from the roadway network, thereby enhancing traffic flow.

Description:

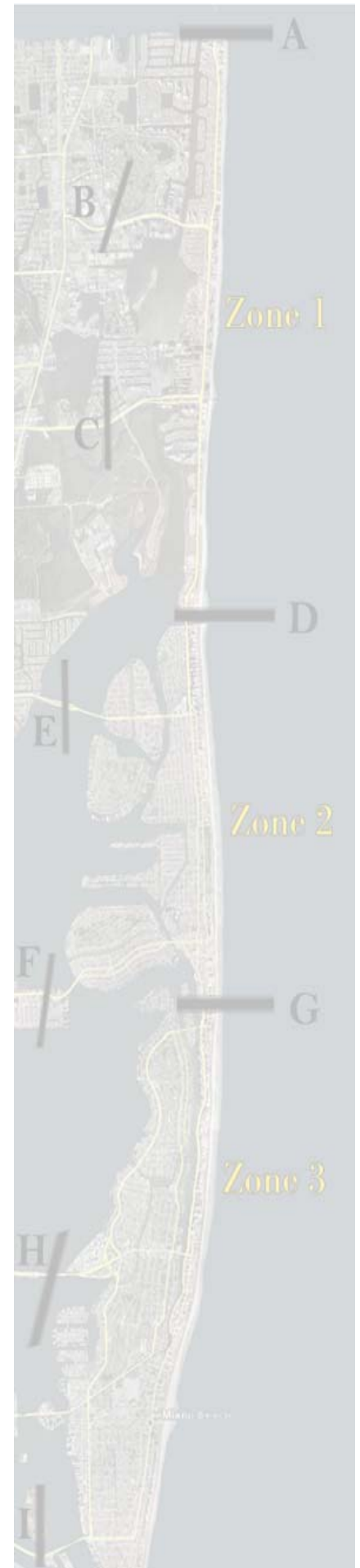
Implementation of this policy is a commitment on keeping vehicles from blocking thoroughfares at prohibited times.

Cost:

Planning: TBD
Design: NA
Construction: NA

Time Frame: 1 -5 Years

Priority: Medium



Project Number: P-6
Project Name: Examine Parking Impact Fees
Project Category: Policy

Purpose:

The purpose of this is to examine the feasibility of instituting parking impact fees to pay for various transportation improvements.

Need:

Projects to be implemented in the study area, need to be part of a financially feasible capital improvements element, as a result of SB 360, the 1995 growth management legislation. Sources of funding may be needed to assure that the transportation infrastructure necessary to continue the economic development of the Coastal Communities.

Description:

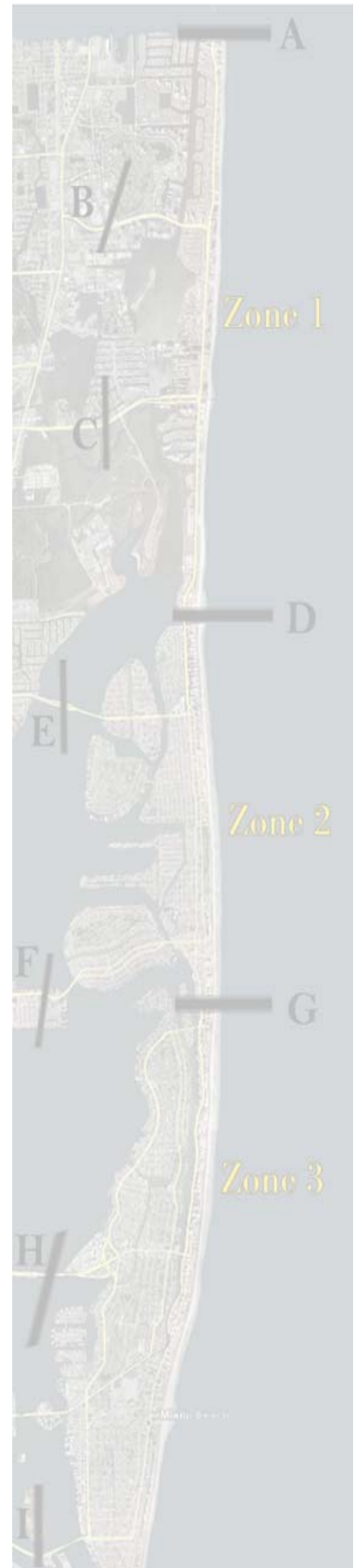
Evaluate the need and desire for the various participating communities to implement parking impact fees. A draft fee structure should be developed.

Cost:

Planning: \$35,000

Time Frame: 1 -5 Years

Priority: Low



Project Number: P-7
Project Name: Re-Examine Residential Parking Requirements
Project Category: Policy

Purpose:

The purpose of this is to evaluate the residential parking requirements and make recommendations to modify them if necessary.

Need:

Many communities can provide incentives for the use of alternative modes by limiting the number of parking spaces available in certain area. Urban areas tend to have less space available for residential parking in large part because not as many cars are needed. North Beach residents have suggest re-examining the standard in an effort to lower the number of spaces required by code.

Description:

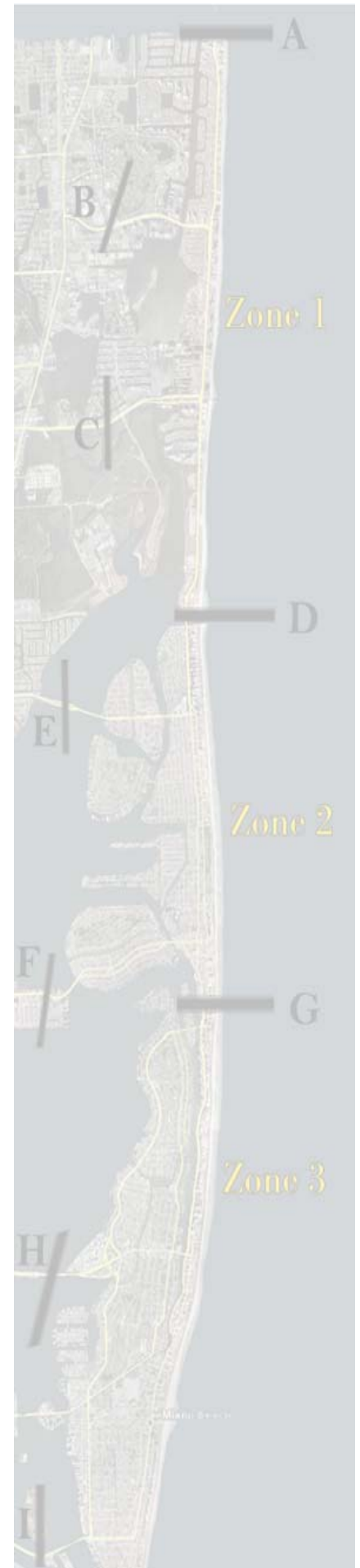
This study will undertake a demographic analysis to measure the number of vehicles per household in the North Beach area. A comparison will be made with other areas in the coastal communities, and across the nation. An assessment of the number of parking spaces in the North Beach area per household will be made. A determination of whether the supply meets the demand will be made. The impacts of a policy change will be examined and any prudent changes recommended.

Cost:

Planning: \$40,000

Time Frame: 1 -5 Years

Priority: Low



Project Number: P-8
Project Name: Increase Economic Diversity of Zone 2
Project Category: Policy

Purpose:

The purpose is to mitigate through trips in Zone 2, between Haulover and 65th Street.

Need:

Zone 2 between Haulover and 65th Street has four and a half times as many residents as jobs. (55,000 residents and 12,000 jobs.) In comparison the northern zone, has about 3 times as many residents as jobs, and the southern zone has about 2 times as many residents as jobs. The fact that there are not as many destinations creates a higher percentage of through traffic. This is traffic is not invested in the community through the use of it as an origin or a destination. It merely moves through only causing congestion. Fifty eight percent of the traffic passes through zone two, as compared to 42% each for the other zones. An increased number of destinations would balance the trip split in the area.

Description:

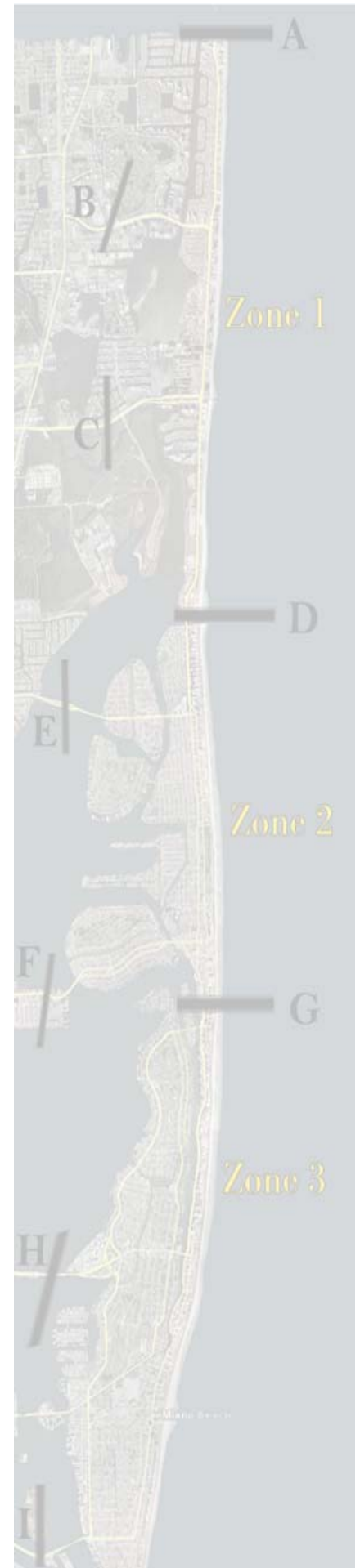
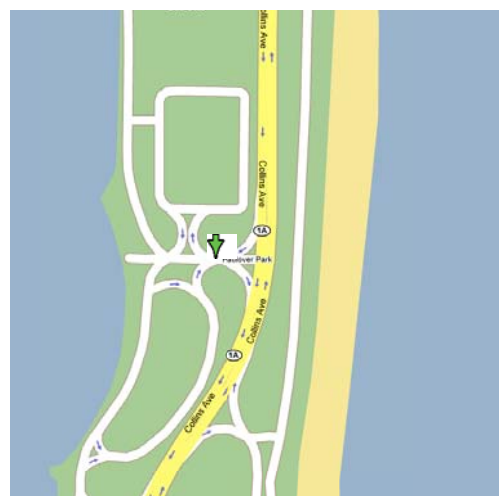
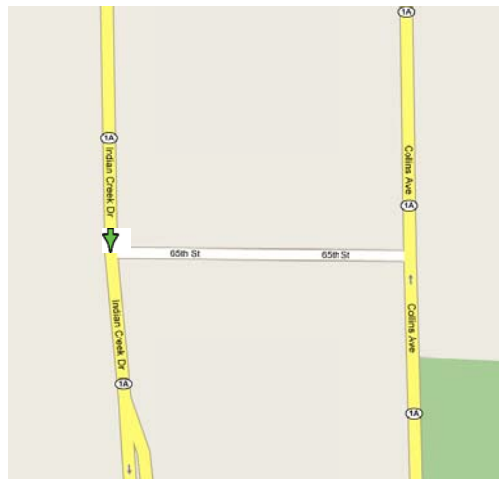
A policy should be implemented focusing on the continued economic development of the area. Business incubators, tax incentives, tax increment financing, and increased marketing are all methods that can be used to attract commercial uses.

Cost:

Planning: TBD
 Design: N/A
 Construction: N/A

Time Frame: 6 -10 Years

Priority: High



Project Number: P-9
Project Name: Closely Monitor Remaining Transportation Capacities
Project Category: Policy

Purpose:

The purpose of this is to assure that adequate transportation capacity is available to support future development, and to satisfy the requirements of SB 360.

Need:

Cities in the Coastal Communities should closely monitor the remaining capacities in the transportation network by updating their concurrency management systems on a bi-annual basis. Monitoring through working Concurrency Management Systems is mandated by SB 360, the 2005 growth management legislation. These will be integral in assuring that sufficient infrastructure exists concurrent to future development. These will be integral to the development and approval of financially feasible capital improvements elements, as required by the Department of Community Affairs.

Description:

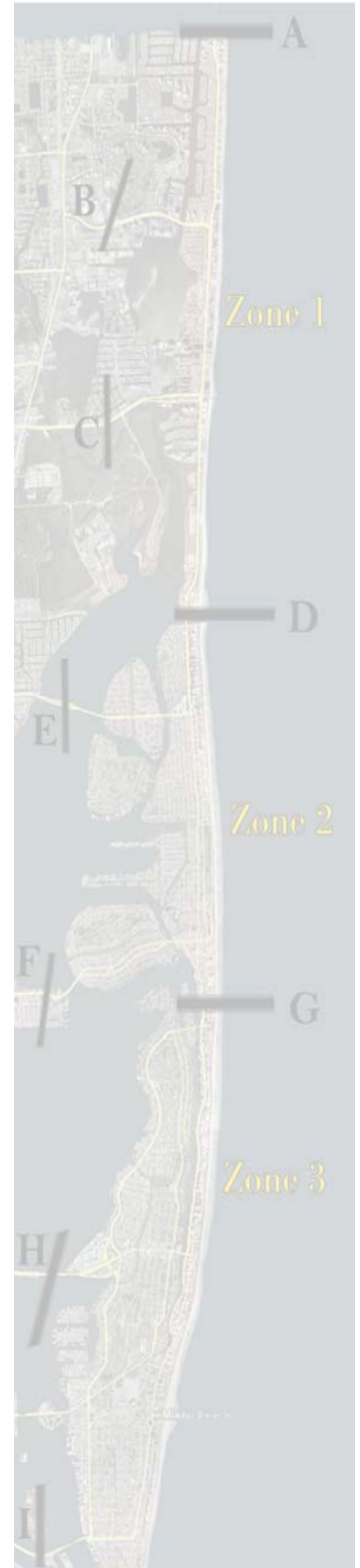
Each community should implement a concurrency management system if it does not already have one. This is done by measuring the ultimate capacity of the transportation facilities as dictated by their approved level of service standard. The difference between the ultimate capacity and the existing utilization is the available capacity. This should be tracked each time a new development subtracts capacity, and a new capital or transit project adds capacity. The baseline should be updated with new counts and ultimate capacity evaluation every two years.

Cost:

Planning: \$20,000 - \$70,000 per jurisdiction

Time Frame: 1 -5 Years

Priority: Low



Project Number: P-10
Project Name: Motorized Personal Mobility Devices Policies
Project Category: Policy

Purpose:

The purpose of this project is to provide incentives for the use of alternative modes of transportation, like scooters, mopeds and segways.

Need:

With automobile levels of service deteriorating, the use of scooters for local transportation could take large numbers of automobiles off of the roads.

Description:

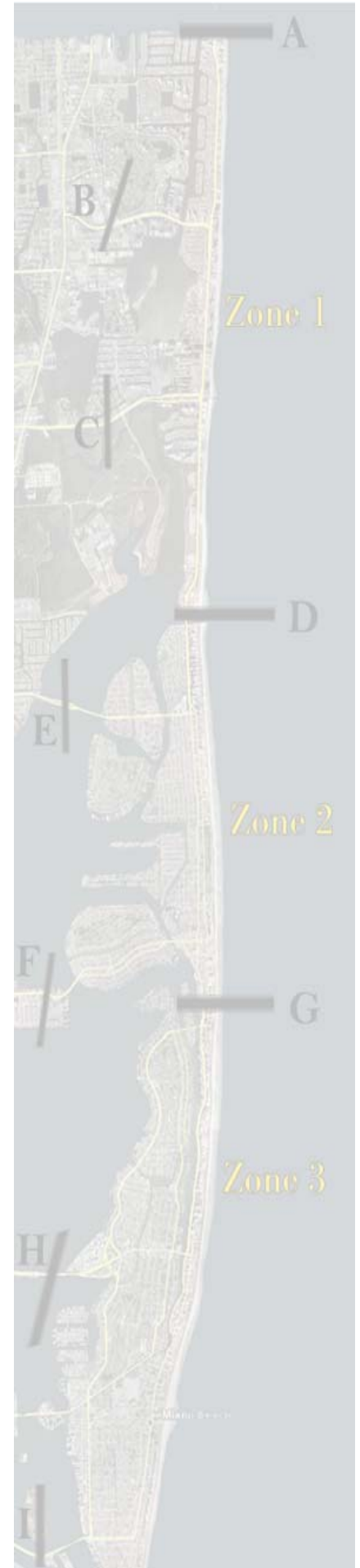
This effort would examine policies for alternative modes of transportation like, bicycles, scooters or segways. The examination should look at how other communities manage their use.

Cost:

Planning: \$5,000
Design: NA
Construction: NA

Time Frame: 1 -5 Years

Priority: Low



Project Number: P-11
Project Name: Shared Cars/Zip Cars
Project Category: Policy

Purpose:

The use of shared cars will provide reliable and convenient access to on-demand transportation, complementing other means of mobility.

Need:

The Coastal Communities area, is one of the most densely populated, mix use areas in the state. As this master plan attempts to identify to more balance the modal split by providing alternatives, this program provides an alternative that will use the automobile. By having use of an automobile in a reliable and confining manner, the necessity of ownership is minimized. The Coastal Communities area is ripe for this type of alterative, which exists in no less than nine locations across the nation.

Car sharing is a system where a fleet of cars (or other vehicles) is jointly-owned by the users in distinction from car rental or cars in private ownership. The fleet is made available for use by members of the car share group in a wide variety of ways. The costs and troubles of vehicle purchase, ownership and maintenance are transferred to a central organizer. The concept has been around in various forms for more than half a century, but it is only in the last decade that it has begun to gather force as a viable alternative to car ownership. Today there are more than six hundred cities in the world where people can car share. In the larger services that are increasingly coming into existence, participants are typically city-dwellers whose transportation needs are largely met by public transit, walking, or cycling. Car sharing is not only a way for individuals or groups to meet their specific mobility requirements, but it is also a key strategy in this master plan which combines Transportation Demand Management (TDM) strategies and measures for containing, channeling and limiting private car traffic in cities, with support of a “bouquet” of alternative transportation arrangements. These include utility cycling, walking, public space improvement, electronic substitutes for travel (such as telework, telecommuting or e-work) and a variety of shared and public transport strategies. Car sharing permits people to give up their cars and in the process make fuller use of these other ways of getting around in cities.

Description:

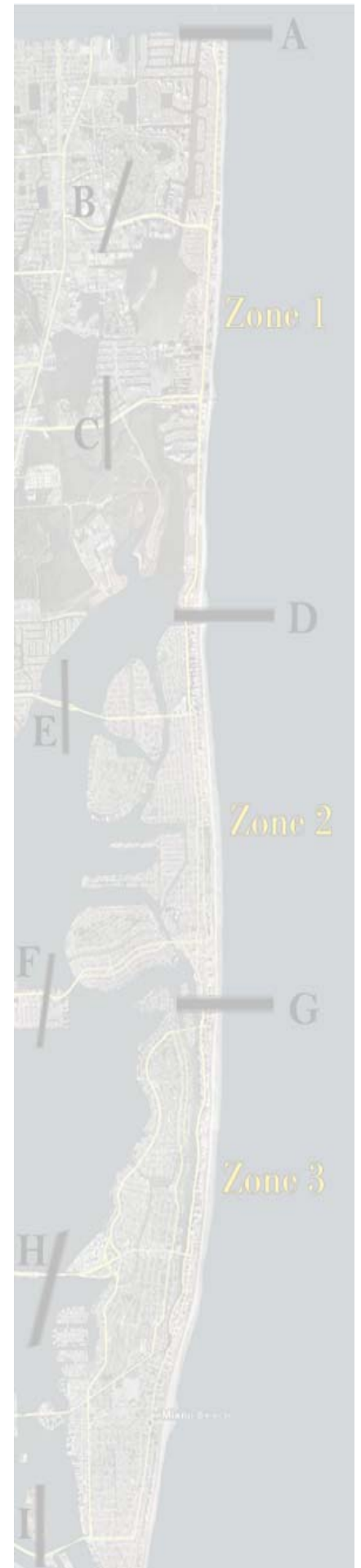
Research various car sharing approaches and select one that best fits the coastal communities. Implement a program quickly.

Cost:

Planning: \$5,000
Design: NA
Construction: NA

Time Frame: 1 -5 Years

Priority: Low



Project Number: P-12
Project Name: Driver Behavior Campaign
Project Category: Policy

Purpose:

Many in the community desire to remind drivers of their responsibilities and to better adhere to the rules of the road and common courtesy.

Need:

As more drivers compete for less space, poor driving is noticed more, and becomes more dangerous. Along with enforcement programs, a driver behavior campaign, implemented through various programs should be undertaken. Issues like a “don’t block the box” signage or campaign to keep drivers from entering intersections without ample space to fully clear the intersections, would aid in driver safety, and reduce gridlock.

Description:

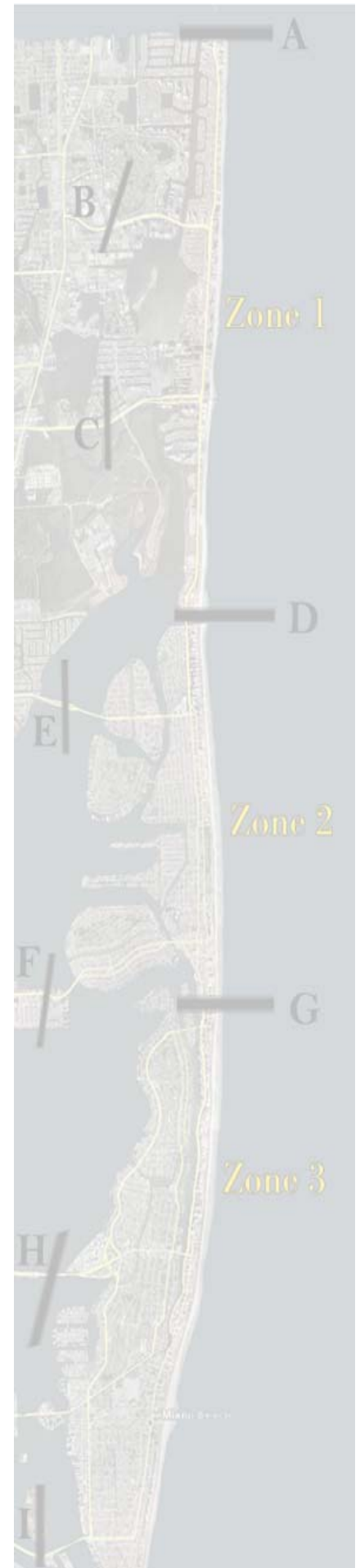
This project would research similar programs implemented by cities across the country.

Cost:

Planning: \$5,000
Design: NA
Construction: NA

Time Frame: 1 -5 Years

Priority: Low



Project Number: P-13
Project Name: Reassignment of Concurrency Fees to Transit
Project Category: Policy

Purpose:

The purpose of this is to more adequately fund the planning, design and development of alternative modes of transportation.

Need:

There is an imbalance in the use of the mobility system, heavily skewed to automobile use. While completely appropriate up to this time, it is important that as the system reaches a critical mass of congestion, that alternatives be provided for those inclined for whatever reason, (cost, convenience, amenities) to utilize transit. Currently Miami Beach contributes fees derived from concurrency to roadway elements. There are finite gains to be made from the enhancement of physical roadway capacity. Further focusing projects in this manner will have limited positive impact on the transportation system. A shift to the addition of transit capacity will ultimately be more impactful.

Description:

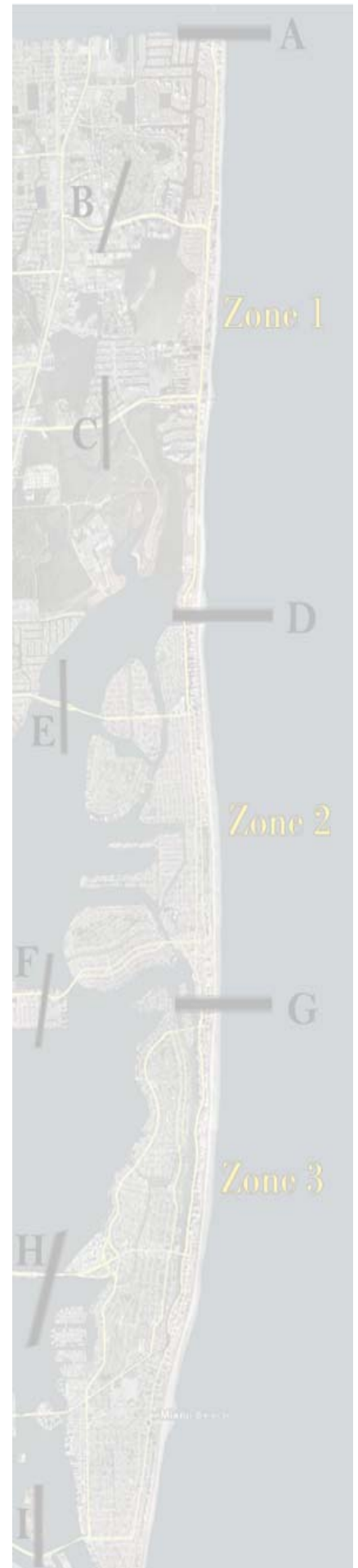
Shift the utilization of concurrency fees paid by the development community to the development of transit capacity projects, instead of roadway capacity projects. Measurement of person trips instead of vehicle trips can show how adequate mitigation is being provided.

Cost:

Planning: NA
Design: NA
Construction: NA

Time Frame: 1 -5 Years

Priority: High



Appendix A

Public Involvement

STUDY TECHNICAL STEERING COMMITTEE MEMBERS
for the
COASTAL COMMUNITIES TRANSPORTATION MASTER PLAN (CCTMP)
Updated February 15, 2006

City of Aventura:

Joanne Carr, AICP, Planning Director
19200 W. Country Club Drive, Aventura, Florida 33180
(305) 466-8940
carrj@cityofaventura.com

City of Sunny Isles Beach:

Jeff Maxim, Assistant City Manager
18770 Collins Avenue, Sunny Isles Beach, Florida 33160
(305) 947-0606, Ext. 1906
JMaxim@sibfl.net

Town of Bal Harbour Village & Town of Bay Harbor Islands

Michael Miller, Town Planner
Miller Planning Associates
7522 Wiles Road B-203, Coral Springs, FL 33067
(954) 757-9909
mmiller@michaelmillerplanning.com

Town of Surfside

Jody Roodman
Special Projects Coordinator
9293 Harding Ave., Surfside, Florida 33154
(305) 861-4863 Ext. 209
jroodman@townofsurfsidefl.gov

City of North Bay Village

Robert Pushkin, Asst. City Manager
7903 East Drive, North Bay Village, Florida 33141
(305) 756.7171
bob.pushkin@nbvillage.com

City of Miami Beach:

Fernando Vazquez, City Engineer
1700 Convention Center Drive
4th Floor
Miami Beach, Florida 22139
(305) 673-7000, Ext. 6399
fernandovazquez@miamibeachfl.gov

Maria Echeverry, Alternate
Transportation Manager
(305) 673-7000, Ext. 6883
mecheverry@miamibeachfl.gov

Mark Weithorn, MB Transportation and Parking Committee
1130 Stillwater Dr., Miami Beach 33141
(305) 866-3092
markw@dpi-miami.com

Jeffrey Bradley, MB Transportation and Parking Committee
5333 Collins Avenue #1106

Miami Beach, FL 33140, (305) 868-8272
Bravo9@the-beach.net

Metropolitan Planning Organization (MPO):

Wilson Fernandez, MPO Project Manager
111 NW 1st Street, Suite 910, Miami, Florida 33128
(305) 375-1886
Wilson@miamidade.gov

Miami-Dade Transit (MDT):

David Fialkoff
Chief of Service Planning & Scheduling
3300 N.W. 32nd Avenue
Miami, Florida 33152-0887
(305) 637-3740
FIAL@miamidade.gov

Robert Pearsall, alternate
Manager of Transit Planning
(305) 637-3740
dpear@miamidade.gov

Florida Department of Transportation (FDOT):

Marie Suzie Papillon, Transportation Planner
1000 NW 111th Avenue, Room 6112-B, Miami, Florida 33172
(305) 470-5886
marie.papillon@dot.state.fl.us -

NOTE: The following persons requested to be notified of all CCTMP TSC meetings:

Nan Markowitz, Exec. Director
OCITT
111 NW 1st Street, Suite 1010
Miami, Florida 33128
(305) 375-1357
NanM@miamidade.gov

Mark Gambrill
Growth Management Director
City of Hallandale Beach
400 S Federal Hgwy,
Hallandale 33009
(954) 457-1376
mgambrill@hallandalebeach.org

COASTAL COMMUNITIES TRANSPORTATION MASTER PLAN
Technical Steering Committee

MEETING ANNOUNCEMENT

Place: Miami Beach City Hall
1700 Convention Center Dr.
Mayor’s Conference Room – 3rd Floor

Date: Wednesday February 15, 2006

Time: 3:00 pm to 5:00 pm

AGENDA

1. Introductions
2. Scope of Service Review
3. Schedule
4. Origin/Destination Study
5. Questions
6. Next meeting
7. Adjourn

Coastal Communities Transportation Master Plan

Technical Steering Committee Meeting

February 15, 2006

Meeting opened by Fernando Vazquez, City of Miami Beach Public Works Department.

1st Order of Business

Introduction of Jean Owen, Deputy City Attorney, City of Miami Beach Legal Department presented rules of meeting for appointed Board Members

- Advisory committee governed and bound by Florida Sunshine Law;
 - Any action of board or committee must be publicly noticed, and minutes must be taken;
 - Two or more members may not discuss business that will foreseeably come before this committee outside of this meeting, which includes any non-public communication either direct or indirect (including e-mail or telephone conversations);
 - Meetings/communications held with other committee members/ consultants may not be directed to other appointed Board Members;
 - Questions regarding Sunshine Law should be directed to Fernando Vazquez
- There are 11 committee members; 6 would be a quorum for voting
- Public Records Law applicable to consultants
 - Documents made or received must be kept as a matter of public record
 - Individual notes generally are not considered public record
 - Public Records requests are to be submitted to Fernando Vazquez

2nd Order of Business:

Selection of Chairperson; quorum not present, selection of Chairperson tabled.

Introduction of members present:

- Joseph M Corradino, The Corradino Group (Study Consultant)
- Joanne Carr, Planning Director, City of Aventura
- Jody Roodman, Special Projects Coordinator, Town of Surfside
- Mark Weithorn, representative of City of Miami Beach Transportation Parking Committee and President of North Beach Development Corporation
- Fernando Vasquez, City Engineer, City of Miami Beach Public Works Department
- Bob Pearsall, Manager of Service Planning, Miami-Dade Transit and alternate to David Fialkoff
- Gary Wohlforth, Economic Development Coordinator, City of North Miami Beach
- Larry Foutz, The Corradino Group
- Frank DelVecchio, 301 Ocean Drive Miami Beach, Retired
- Amelia Johnson, Transportation Coordinator, City of Miami Beach
- Maria Echeverry, Transportation Manager, City of Miami Beach

Joseph M Corradino to present Scope of Service and project schedule.

Intent of Study:

- To look at the existing transportation network for the barrier islands in a sub-regional manner to get a sense of what is happening on the islands;
- Develop a multi-modal project list consisting of projects that can help mitigate issues;
- Provide costs to plan, design and construct each project; and develop a priority list

Major part of study will be Public Involvement. This will be split into four main processes.

1. Meetings to get direction from Committee Members
2. Stakeholders Meetings

3. Community Workshops
4. Agency Presentations

Recommended that committee meetings be held at critical points during study to look at methodology, discuss stakeholder data collection and analysis, recommendation of projects/priorities (approximately 5 meetings).

In keeping with Florida Sunshine Law; The Corradino Group will e-mail all committee members with brief synopsis of stakeholder meetings. If anything arouses concern, a committee meeting can be called, if necessary.

After data collection, analysis of all data will look at excessive variance levels in whatever mode necessary; alternative modes, roadway capacity, economic development projects, and corridor enhancement projects. Project development will include purpose, need and cost, along with implementation. Anticipated duration of project to be 9 months; final recommendations should be end of 2006 or early 2007.

Question: Will study encompass only A1A or will it include Biscayne Blvd?
Answer: Biscayne Blvd is just outside study area for Coastal Communities.

Origin and destination study is approximately 1/2 of the entire project budget and 1/2 of the work effort. As part of the methodology portion, a camera company will be brought in and record license plate numbers for every single lane. Cordons will be set up at 9 different locations. Zone 3 will encompass cordon locations at:

- Across A1A at the County line
- Across western edge of William Lehman Causeway
- Sunny Isles Blvd
- East West line for north/south traffic right before bridge at Haulover on A1A

This creates the northern most zone and will record, in a number of different ways, trips coming into this zone as well as trips moving through the zone.

Zone 2 will encompass cordon locations:

- Between Haulover Bridge and 71st Street (Northern part of Miami Beach and the Bal Harbour, Indian Creek / Surfside area)
- Broad Causeway
- Kennedy Causeway

This Zone will record vehicles coming in from the two causeways and the north/south traffic connecting all the points.

Zone 1 will encompass cordons at:

- SR 112 (Julia Tuttle Causeway)
- MacArthur Causeway

The program will match vehicles that come into or move between any of the cordons from which we will be able to develop a large matrix of all the vehicles that are recorded at each crossing point. This will then enable us to determine trips that come into a Zone and then cross at a specific point, as well as trips that just show up at a point which have originated within its zone and are moving toward a specific direction.

Recordings can only be taken during daylight and will be taken over a 6 hour period. One 6 hour sampling for both directions will be recorded on either a Tuesday or Wednesday in the morning from approximately 7am (or as soon as it is light enough to capture the license plates) to 1pm and then it will be assumed that there will be a mirror image going the opposite direction in the evening. This study will be data intensive because it will reflect 100% sample of all the trips coming into or leaving the Coastal Communities and/or crossing these cordons.

The Origination/Destination Study is not a traffic study; its concern is how many trips are coming through the Coastal Communities and the distances traveled between the Zones in order to develop a long range transit solution for the Beach.

Additional information that will be looked at the larger picture will include:

- 2000 Census, containing origination/destination for work trips,
- 2001-2002 South Florida Regional Travel Survey, and
- Tri-County Transportation Modeling Study.

It is necessary to get the camera company under contract so that they can come in and get set up to do data collection survey done by March 15 to get the entire impact of the season.

Introduction of Jeff Bradley; quorum now available.

There is also additional regional trip data available to be looked at:

- Bus travel information accumulated approximately 2 years ago, counted 80% of everyone riding buses set by time and bus route; and
- Traffic counts by FDOT and the individual Cities on an hourly basis to identify volume.

Question: Will it be possible to identify the types of vehicular traffic, such as commercial vehicles?

Answer: Since everything will be recorded, we will e-mail vendor to see if they can distinguish between these types of vehicles.

Question: Where will study go with this information?

Answer: Will have an excellent idea of what the trip patterns are within the Coastal Communities. This will provide a legitimate data source without a preconceived solution prior to figuring out the specific problems.

From there, and within light of other level of service data, one will be able to realistically develop and prioritize the list of projects for consideration; alternative routes, transit use enhancements, roadway capacity enhancements, structuring economic development projects, etc.

Question: What is the total budget, have we gotten Notice to Proceed, who is participating in budget and who is the contract with?

Answer: Total budget is \$275,000.00 total budget; Contract is with the City of Miami Beach and available as public record.

Camera's will be out the end of March and then begin holding the Stakeholders meetings for public involvement, so if there are any specific groups that anyone feels should be identified please let The Corradino Group know; otherwise it will begin with the individual communities.

The north part of Miami Beach has some specific issues with Harding Avenue and the southbound traffic that leaves and goes into the neighborhood. Issues and problems arise due to schools and children that are affected by this traffic. Stakeholders for that area need to be talked to and suggest the North Shore Youth Center or Biscayne Elementary be considered for an individual meeting. If the Principal of Biscayne Elementary could be called, he will be happy to help set up a meeting.

The Committee needs to look at the various communities on an advisory basis and get the specific groups and contact information to The Corradino Group for setting and scheduling the Stakeholders meetings, since there may be certain groups that will need more individual attention. Other groups and committees, such as the Transportation Parking Committee and Planning & Zoning Board, that have multi-constituencies, can be excellent vehicles for identifying the stakeholder meetings,

Suggestions from this committee should be brought to next meeting for consideration of individual and/or specific neighborhood associations to be included. Clarification is needed as to whether meetings with neighborhood associations need to be publicly advertised or dissemination through the association will be sufficient.

Question: What will be asked at the Stakeholder meetings? What kind of information are you trying to gather?

Answer: What is the perception of the problem and how it might be fixed.

It is anticipated that there will be a Public Workshop in each of the Zones, first to address the project to the public and later to identify findings/results. These Public Workshops will be advertised in the local papers. Individual communities with database information for various neighborhood associations need to assist with information sharing in order to reach out to these specific groups.

It will also be necessary to attend public meetings such as City Council and Commission meetings for each of the Cities. It will also be necessary to go to the larger entities such as the DPC and MPO. From there it will be necessary to look at the Public Workshops and budget before getting into specific neighborhood association groups.

Observation: This issue appears to be below everyone's "radar." This steering committee meeting was publicly advertised and only two residents not directly affiliated with the committee showed up. Possible failure of "public workshop" process.

Floor opened for nomination of Chairperson:

- Nomination Fernando Vazquez; nomination seconded and carried by quorum

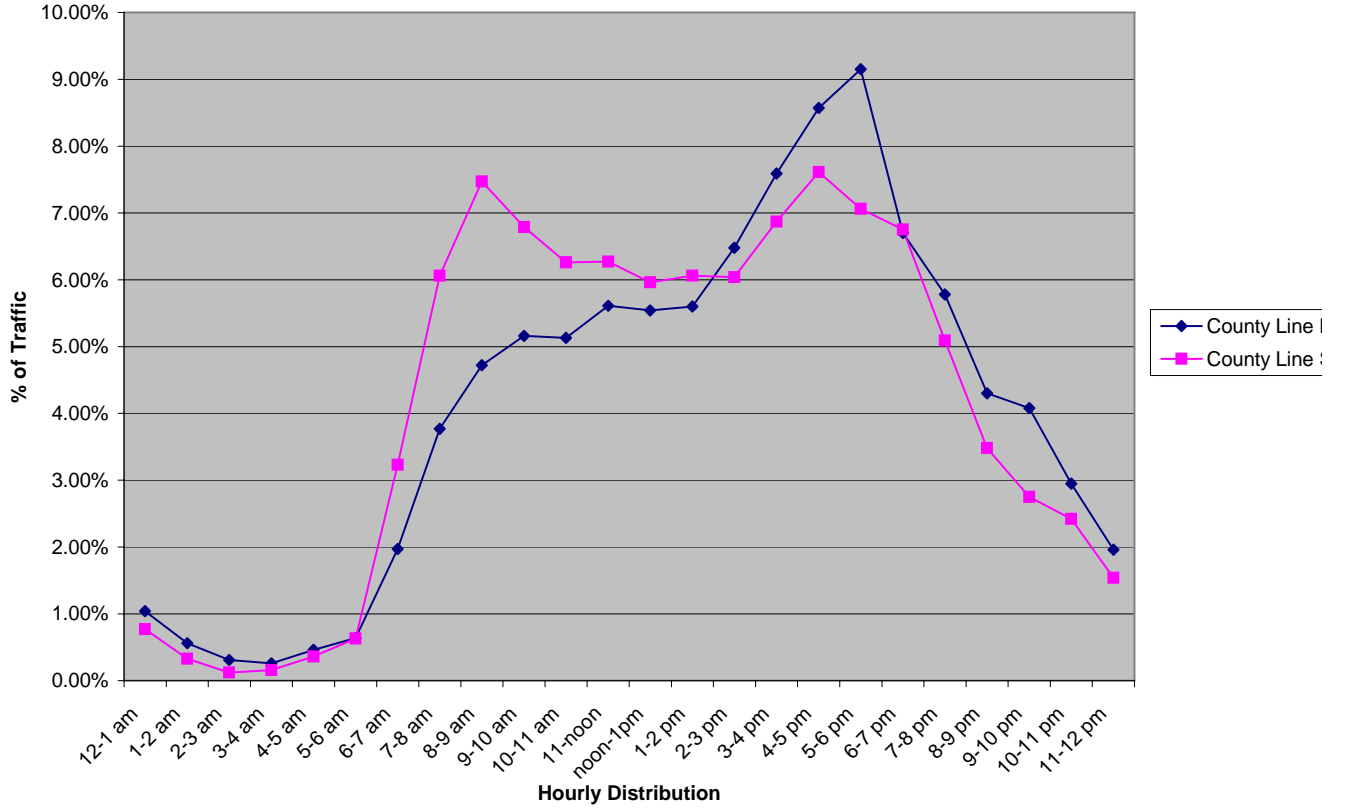
Next meeting scheduled for 1 month, approximately March 15th, primary discussion to be scheduling Public Involvement; recommend cities invite their Commissioners to attend. E-mail will be sent to all Steering Committee Members as soon as camera work is completed and actual date for next meeting to be set.

The Corradino Group will begin to contact each Committee Member to get someone in an official position with their City in order to obtain an appointment and bring a list of scheduled appointments to next meeting to ensure that no one critical to project is missed.

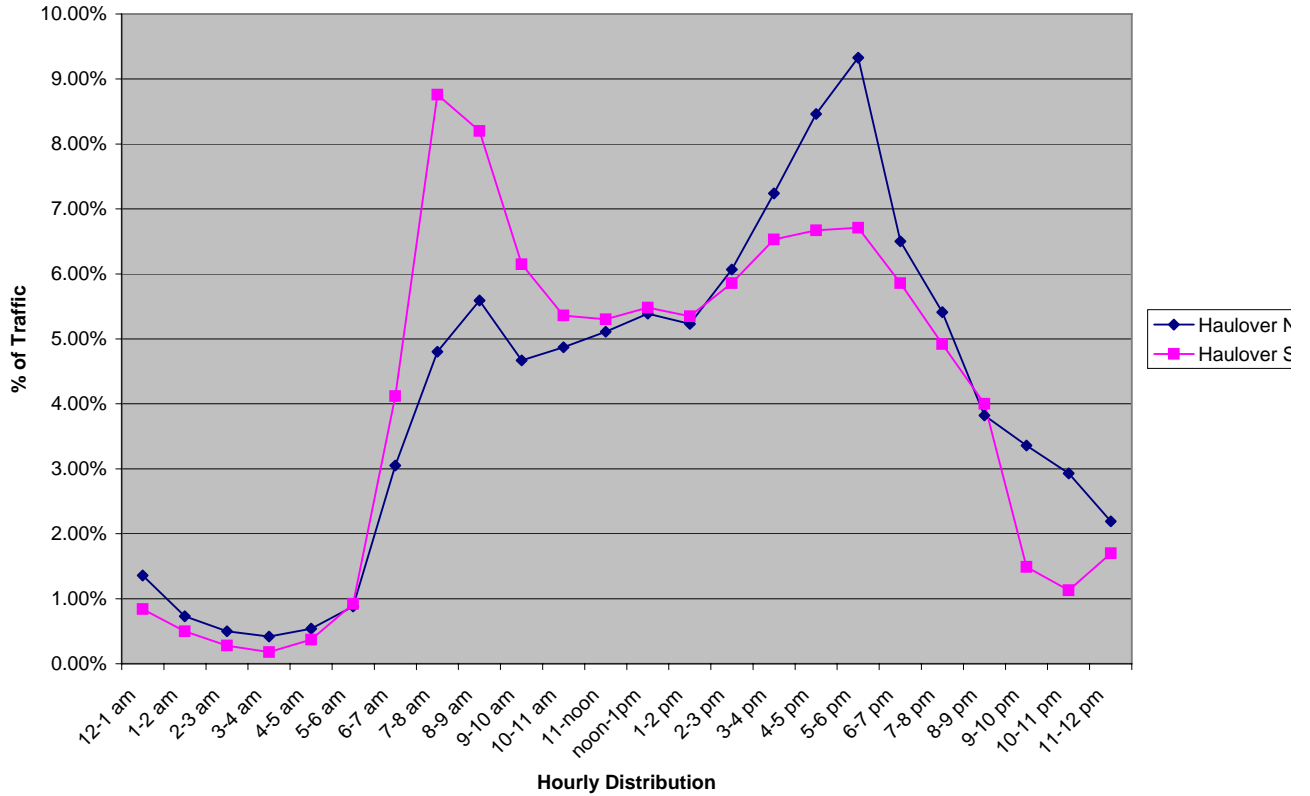
Appendix B

24 Hour Traffic Count, Hourly Trip Distribution by Screenline

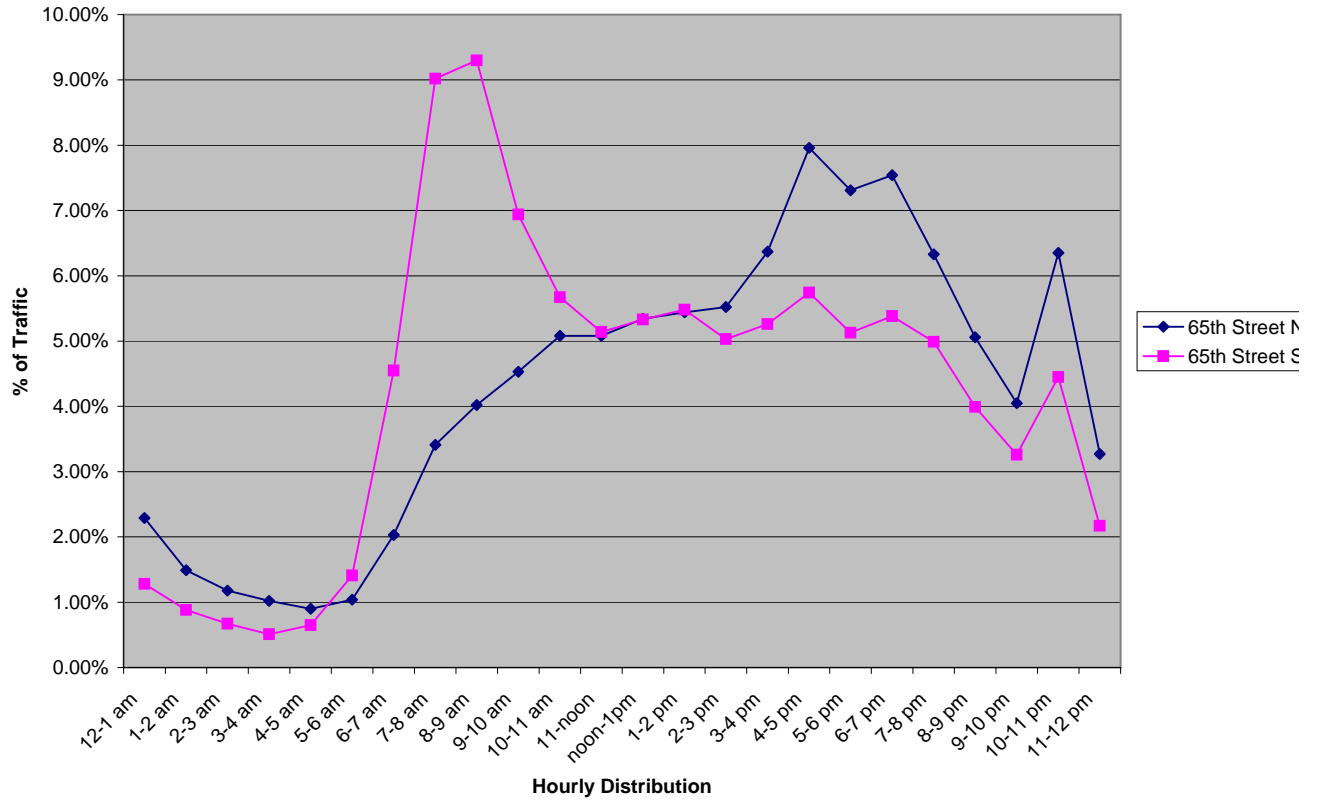
County Line



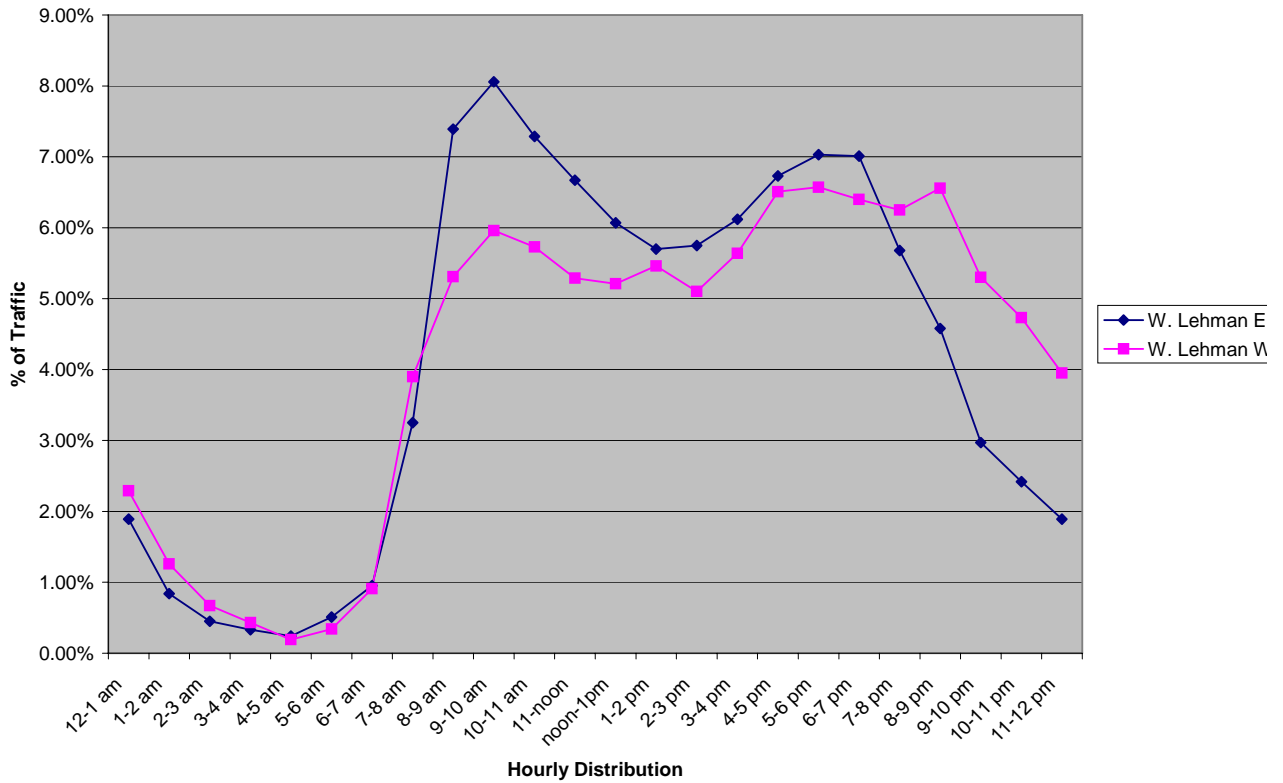
Haulover



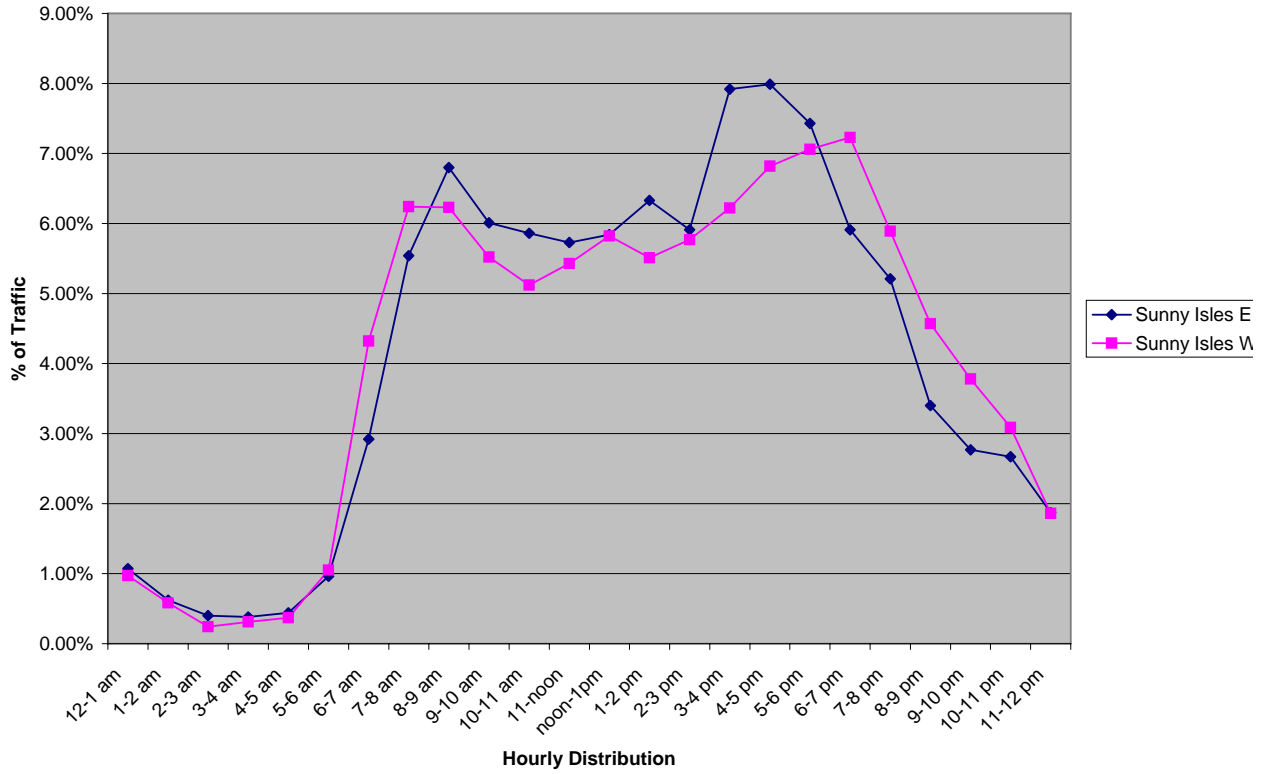
65th Street



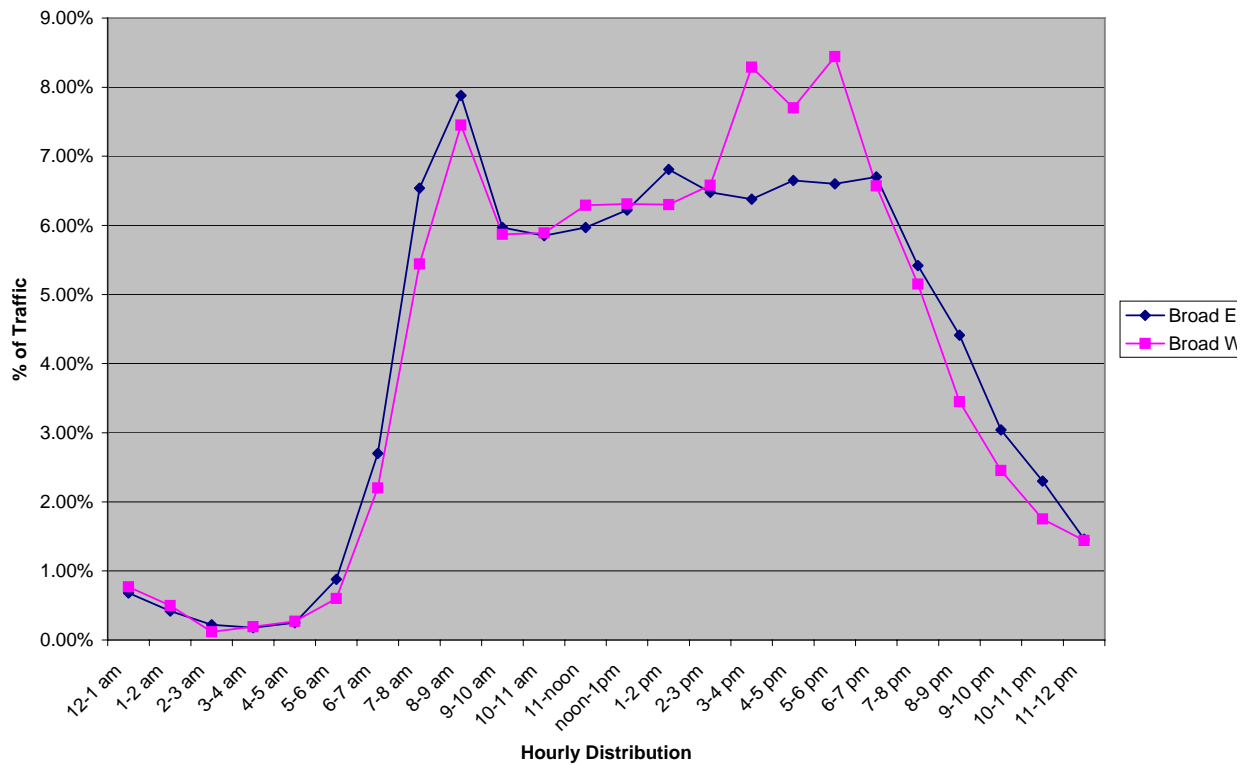
William Lehman



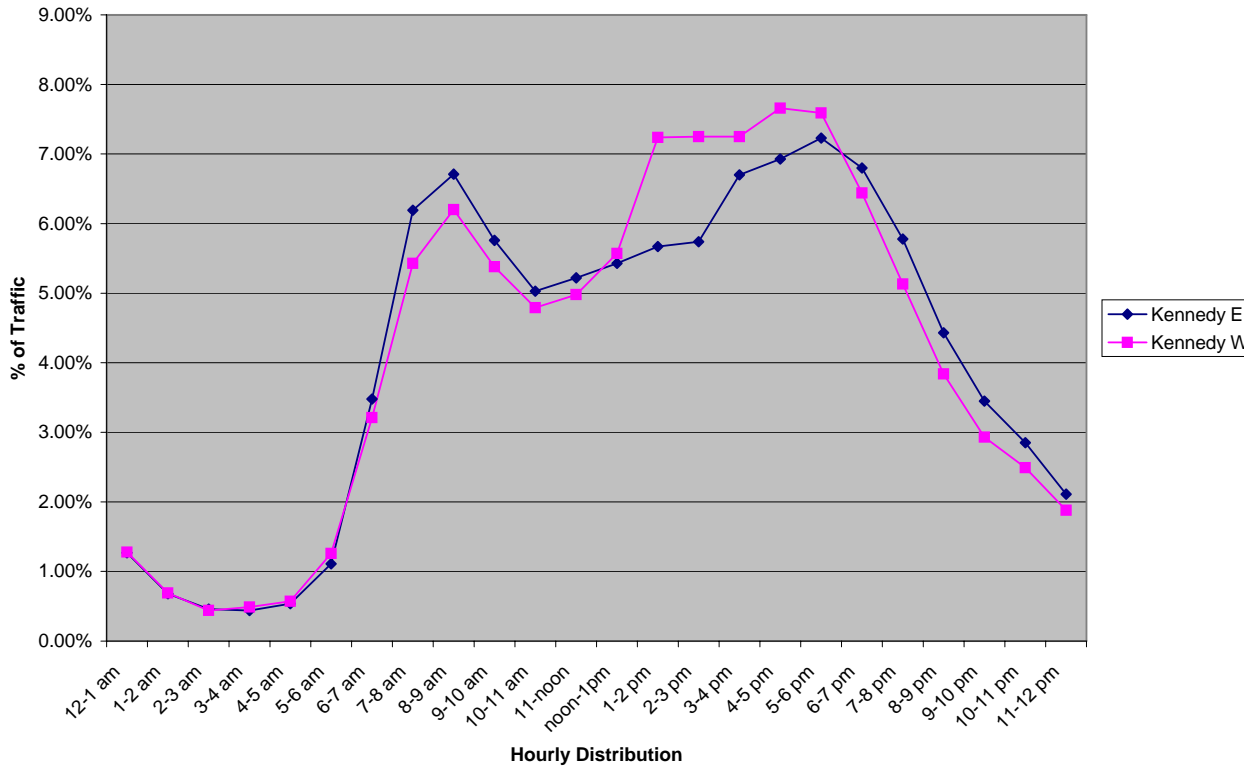
Sunny Isles



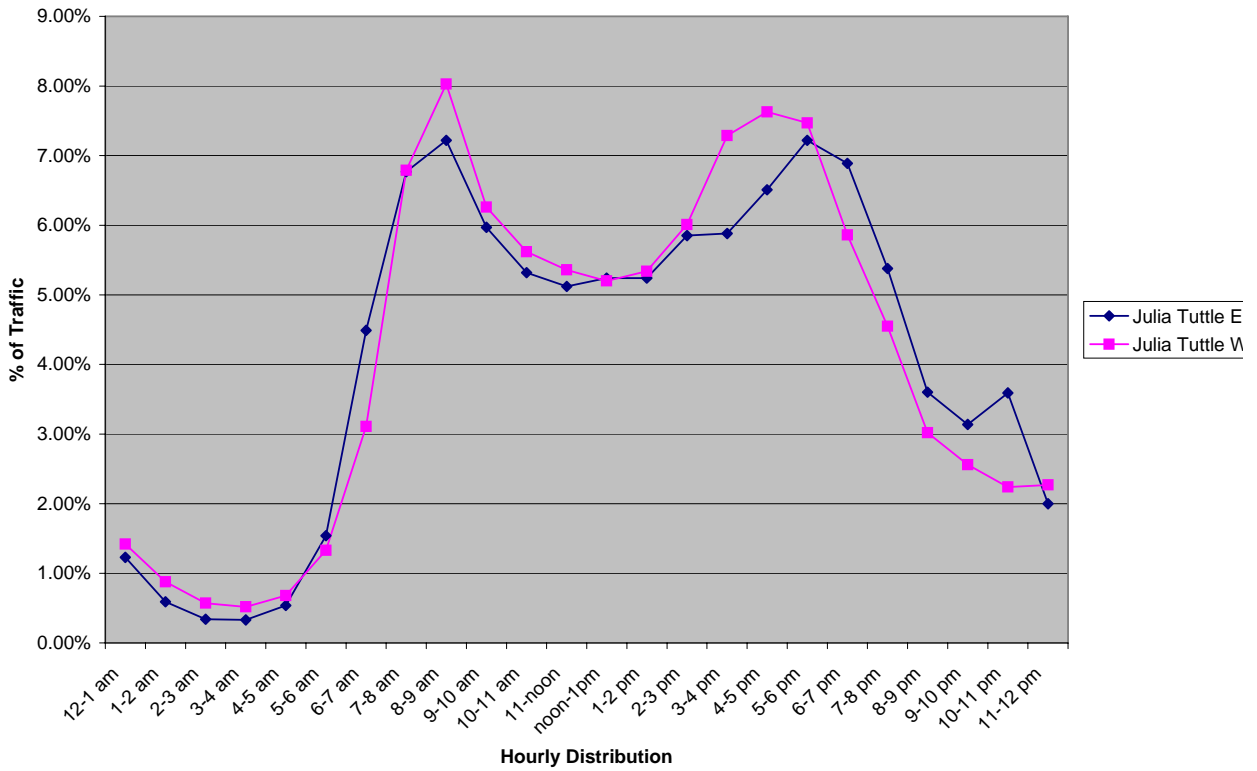
Broad



Kennedy



Julia Tuttle



MacArthur

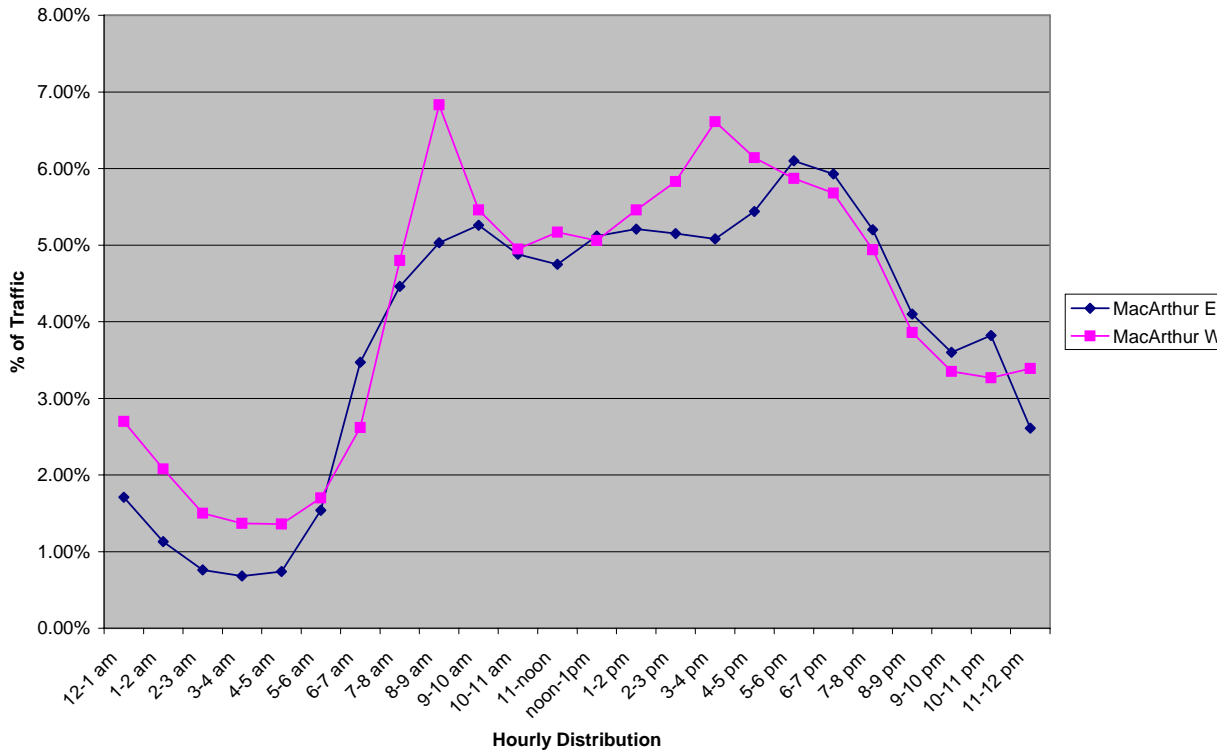
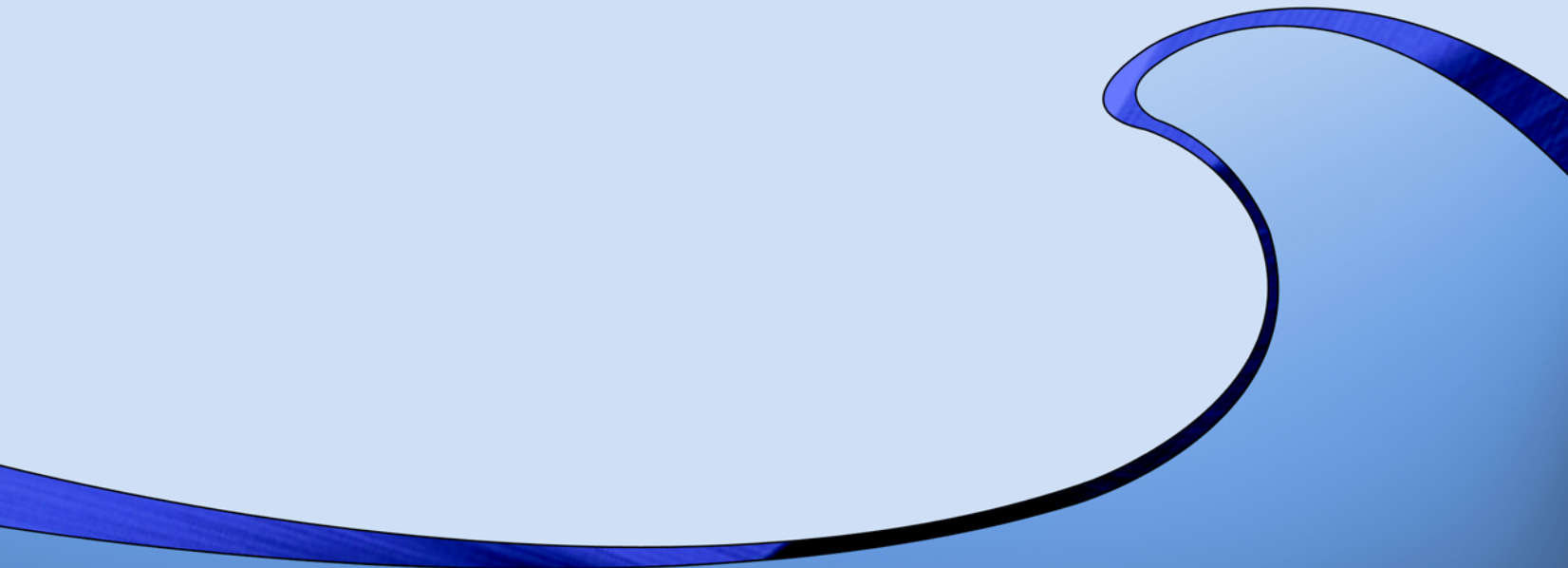


Table 4
Hourly Distribution of East-West Trips

	W. Lehman		Sunny Isles		Brood		Kennedy		Julia Tuttle		MacArthur	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12-1 am	1.89%	2.29%	1.07%	0.97%	0.68%	0.77%	1.27%	1.28%	1.23%	1.42%	1.71%	2.70%
1-2 am	0.84%	1.26%	0.62%	0.58%	0.42%	0.50%	0.68%	0.69%	0.59%	0.88%	1.13%	2.08%
2-3 am	0.45%	0.67%	0.40%	0.24%	0.22%	0.12%	0.46%	0.44%	0.34%	0.57%	0.76%	1.50%
3-4 am	0.33%	0.43%	0.38%	0.31%	0.18%	0.19%	0.44%	0.49%	0.33%	0.52%	0.68%	1.37%
4-5 am	0.24%	0.19%	0.44%	0.37%	0.25%	0.27%	0.54%	0.57%	0.54%	0.68%	0.74%	1.36%
5-6 am	0.51%	0.34%	0.96%	1.05%	0.88%	0.60%	1.11%	1.26%	1.54%	1.33%	1.54%	1.70%
6-7 am	0.95%	0.91%	2.92%	4.32%	2.70%	2.20%	3.48%	3.21%	4.49%	3.11%	3.47%	2.62%
7-8 am	3.25%	3.90%	5.54%	6.24%	6.54%	5.44%	6.19%	5.43%	6.77%	6.79%	4.46%	4.80%
8-9 am	7.39%	5.31%	6.80%	6.23%	7.88%	7.45%	6.71%	6.20%	7.22%	8.03%	5.03%	6.83%
9-10 am	8.06%	5.96%	6.01%	5.52%	5.97%	5.87%	5.76%	5.38%	5.97%	6.26%	5.26%	5.46%
10-11 am	7.29%	5.73%	5.86%	5.12%	5.85%	5.89%	5.03%	4.79%	5.32%	5.62%	4.88%	4.95%
11-noon	6.67%	5.29%	5.73%	5.43%	5.97%	6.29%	5.22%	4.98%	5.12%	5.36%	4.75%	5.17%
noon-1pm	6.07%	5.21%	5.84%	5.82%	6.22%	6.31%	5.43%	5.57%	5.24%	5.20%	5.12%	5.06%
1-2 pm	5.70%	5.46%	6.33%	5.51%	6.81%	6.30%	5.67%	7.24%	5.24%	5.34%	5.21%	5.46%
2-3 pm	5.75%	5.10%	5.91%	5.77%	6.48%	6.58%	5.74%	7.25%	5.85%	6.01%	5.15%	5.83%
3-4 pm	6.12%	5.64%	7.92%	6.22%	6.38%	8.29%	6.70%	7.25%	5.88%	7.29%	5.08%	6.61%
4-5 pm	6.73%	6.51%	7.99%	6.82%	6.65%	7.70%	6.93%	7.66%	6.51%	7.63%	5.44%	6.14%
5-6 pm	7.03%	6.57%	7.43%	7.06%	6.60%	8.44%	7.23%	7.59%	7.22%	7.47%	6.10%	5.87%
6-7 pm	7.01%	6.40%	5.91%	7.23%	6.70%	6.57%	6.80%	6.44%	6.89%	5.86%	5.93%	5.68%
7-8 pm	5.68%	6.25%	5.21%	5.89%	5.42%	5.15%	5.78%	5.13%	5.38%	4.55%	5.20%	4.94%
8-9 pm	4.58%	6.56%	3.40%	4.57%	4.41%	3.45%	4.43%	3.84%	3.60%	3.02%	4.10%	3.86%
9-10 pm	2.97%	5.30%	2.77%	3.78%	3.04%	2.45%	3.45%	2.93%	3.14%	2.56%	3.60%	3.35%
10-11 pm	2.42%	4.73%	2.67%	3.09%	2.30%	1.75%	2.85%	2.49%	3.59%	2.24%	3.82%	3.27%
11-12 pm	1.89%	3.95%	1.87%	1.86%	1.46%	1.44%	2.11%	1.88%	2.00%	2.27%	2.61%	3.39%

Table 5
Hourly Distribution of North-South Trips

	Haulover		65 th Street		County Line	
	NB	SB	NB	SB	NB	SB
12-1 am	1.36%	0.84%	2.29%	1.28%	1.04%	0.77%
1-2 am	0.73%	0.50%	1.49%	0.88%	0.56%	0.33%
2-3 am	0.50%	0.28%	1.18%	0.67%	0.31%	0.12%
3-4 am	0.42%	0.18%	1.02%	0.51%	0.26%	0.16%
4-5 am	0.54%	0.37%	0.90%	0.65%	0.46%	0.36%
5-6 am	0.88%	0.92%	1.04%	1.41%	0.64%	0.63%
6-7 am	3.05%	4.12%	2.03%	4.55%	1.97%	3.23%
7-8 am	4.80%	8.76%	3.41%	9.02%	3.77%	6.06%
8-9 am	5.59%	8.20%	4.02%	9.30%	4.72%	7.47%
9-10 am	4.67%	6.15%	4.53%	6.94%	5.16%	6.79%
10-11 am	4.87%	5.36%	5.08%	5.67%	5.13%	6.26%
11-noon	5.11%	5.30%	5.08%	5.14%	5.61%	6.27%
noon-1pm	5.39%	5.48%	5.34%	5.33%	5.54%	5.96%
1-2 pm	5.23%	5.35%	5.44%	5.48%	5.60%	6.06%
2-3 pm	6.07%	5.86%	5.52%	5.03%	6.48%	6.04%
3-4 pm	7.24%	6.53%	6.37%	5.26%	7.59%	6.87%
4-5 pm	8.46%	6.67%	7.96%	5.74%	8.57%	7.61%
5-6 pm	9.33%	6.71%	7.31%	5.13%	9.15%	7.06%
6-7 pm	6.50%	5.86%	7.54%	5.38%	6.70%	6.75%
7-8 pm	5.41%	4.92%	6.33%	4.99%	5.78%	5.09%
8-9 pm	3.82%	4.00%	5.06%	3.99%	4.30%	3.48%
9-10 pm	3.36%	1.49%	4.05%	3.26%	4.08%	2.75%
10-11 pm	2.93%	1.13%	6.35%	4.45%	2.95%	2.42%
11-12 pm	2.19%	1.70%	3.27%	2.17%	1.96%	1.54%



THE CORRADINO GROUP