APPENDIX J
TRANSPORTATION

This appendix describes in greater detail the highway transportation systems referenced in the text and tables presented in Sections 3.10 and 4.10.

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Table J-1
Major Thoroughfares Within the City of Biloxi

North-South Thoroughfares		East-West Thoroughfares	
Interstate Highways		**Interstate Highways**	
I-110	- US 90 to Back Bay Bridge	none	
Principal Arterial Streets		**Principal Arterial Streets**	
none		Pass Road	- West Biloxi city limits to Keesler AFB
		US 90	- West to east Biloxi city limits
Minor Arterial Streets		**Minor Arterial Streets**	
Beauvoir Street	- US 90 to Pass Road	Division Street	- Porter Avenue to Oak Ridge
Caillavet Street	- US 90 to Division Street	Howard Avenue	- Porter Avenue to Reynoir Street
Iberville Drive	- Irish Hill Drive to Pass Road	Howard Avenue	- Dukate Street to Oak Street
Main Street	- US 90 to Division Street	Irish Hill Drive	- Iberville Drive to Porter Avenue
Oak Street	- US 90 to Bayview Avenue	Washington Loop	- Reynoir Street to Dukate Street
Old Highway 67	- I-10 to North City Limits		
Popps Ferry Road	- Pass Road to Back Bay Bridge		
Porter Avenue	- US 90 to Division Street		
Rodenberg Avenue	- US 90 to Pass Road		
Veterans Avenue	- US 90 to Pass Road		
Collector Streets		**Collector Streets**	
Big Lake Road	- Pass Road to Atkinson Road	Atkinson Road	- Big Lake Road to Jim Money Road
Caillavet Street	- Division Street to Bayview Avenue	Bayview Avenue	- Keesler AFB to Oak Street
Eisenhower Drive	- US 90 to Pass Road	Division Street	- Forrest Avenue to Portland Avenue
Forrest Avenue	- Judge Sekul Avenue to Bayview Avenue	Howard Avenue	- Lameuse Street to Dukate Street
Jim Money Road	- Pass Road to Atkinson Road	Howard Avenue	- Oak Street to Myrtle Street
Lameuse Street	- US 90 to Esters Boulevard	Jackson Street	- Caillavet Street to Main Street
Lee Street	- US 90 to Bayview Avenue	Judge Sekul Street	- Keesler AFB to Porter Avenue
Main Street	- Division Street to Bayview Avenue	Michaels Blvd.	- Oak Street to Mississippi Sound
Myrtle Street	- US 90 to Howard Avenue	Robertson Street	- Keesler AFB to Porter Avenue
Reynoir Street	- US 90 to Howard Avenue		
Rodenberg Avenue	- Pass Road to Keesler AFB		
White Avenue	- US 90 to Irish Hills Drive		

Table J-2
Major Thoroughfares in the ROI (Not Located Within the City of Biloxi)

North-South Thoroughfares		East-West Thoroughfares	
HARRISON COUNTY (D'IBERVILLE)		**HARRISON COUNTY (D'IBERVILLE)**	
Interstate Highways		**Interstate Highways**	
I-110	- Back Bay Bridge to I-10	I-10	- West city limits to east city limits
Principal Arterial Streets		**Principal Arterial Streets**	
Old Highway 67	- I-10 to North City Limits	none	
Minor Arterial Streets		**Minor Arterial Streets**	
Auto Mall Parkway	- Popps Ferry Road to Rodriquez Street	Lemoyne Boulevard	- Lamey Bridge Road to east county line
Cedar Lake Road	- Popps Ferry Road to I-10	Popps Ferry Road	- Back Bay Bridge to Auto Mall Parkway
D'Iberville Boulevard	- Auto Mall Parkway to Lamey Bridge Road		
Rodriquez Street	- Auto Mall Parkway to Lamey Bridge Road		
Collector Streets		**Collector Streets**	
Auto Mall Parkway	- Bayshore Drive to Rodriquez Street	Bay Shore Drive	- Auto Mall Parkway to Laney Bridge Road
Auto Mall Parkway	- Popps Ferry Road to North City Limits	Big Ridge Road	- Auto Mall Parkway to East County Line
Cedar Lake Road	- Brodie Road to Popps Ferry Road	Brodie Road	- Cedar Lake Road to Auto Mall Parkway
Gorenflo Avenue	- Race Track Road to East County Line	Quave Road	- Lamey Bridge Road to East County Line
Lamey Bridge Road	- Bay Shore Drive to Rodriquez Street	Race Track Road	- Lamey Bridge Road to East County Line
Lamey Bridge Road	- Lemoyne Boulevard to North County Line		

Table J-2 (continued)
Major Thoroughfares in the ROI (Not Located Within the City of Biloxi)

North-South Thoroughfares		East-West Thoroughfares	
HARRISON COUNTY (GULFPORT)		**HARRISON COUNTY (GULFPORT)**	
Interstate Highways		**Interstate Highways**	
none		I-10	- west city limits to east city limits
Principal Arterial Streets		**Principal Arterial Streets**	
Lorraine Road	- Pass Road to I-10	Pass Road	- 25th (US 90) to city limits
25th Avenue (US 90)	- US 90 to northern city limits	US 90	- west city limits to east city limits
HARRISON COUNTY (LONG BEACH)		**HARRISON COUNTY (LONG BEACH)**	
Interstate Highways		**Interstate Highways**	
none		none	
Principal Arterial Streets		**Principal Arterial Streets**	
none		US 90	- west city limits to east city limits
HARRISON COUNTY (PASS CHRISTIAN)		**HARRISON COUNTY (PASS CHRISTIAN)**	
Interstate Highways		**Interstate Highways**	
none		none	
Principal Arterial Streets		**Principal Arterial Streets**	
none		US 90	- west city limits to east city limits
HANCOCK COUNTY (including BAY ST. LOUIS)		**HANCOCK COUNTY (including BAY ST. LOUIS)**	
Interstate Highways		**Interstate Highways**	
none		I-10	- county line to county line
Principal Arterial Streets		**Principal Arterial Streets**	
none		US 90	- county line to county line

Table J-2 (continued)
Major Thoroughfares in the ROI (Not Located Within the City of Biloxi)

North-South Thoroughfares		East-West Thoroughfares	
JACKSON COUNTY (including OCEAN SPRINGS)		**JACKSON COUNTY (including OCEAN SPRINGS)**	
Interstate Highways		**Interstate Highways**	
none		I-10	- county line to county line
Principal Arterial Streets		**Principal Arterial Streets**	
none		US 90	- west city limits to east city limits
JACKSON COUNTY (GAUTIER)		**JACKSON COUNTY (GAUTIER)**	
Interstate Highways		**Interstate Highways**	
none		none	
Principal Arterial Streets		**Principal Arterial Streets**	
none		US 90	- west city limits to east city limits
JACKSON COUNTY (PASCAGOULA)		**JACKSON COUNTY (PASCAGOULA)**	
Interstate Highways		**Interstate Highways**	
none		none	
Principal Arterial Streets		**Principal Arterial Streets**	
Chicot Avenue	- Ingalls Avenue to US 90	Ingalls Avenue	- Market Street to Chicot Road
Main Street	- Short Cut Road to Elder Ferry Road	US 90	- county line to county line
Market Street	- Ingalls Avenue to US 90		
SR 63	- US 90 to county line		
SR 613	- US 90 to Elder Ferry Road		

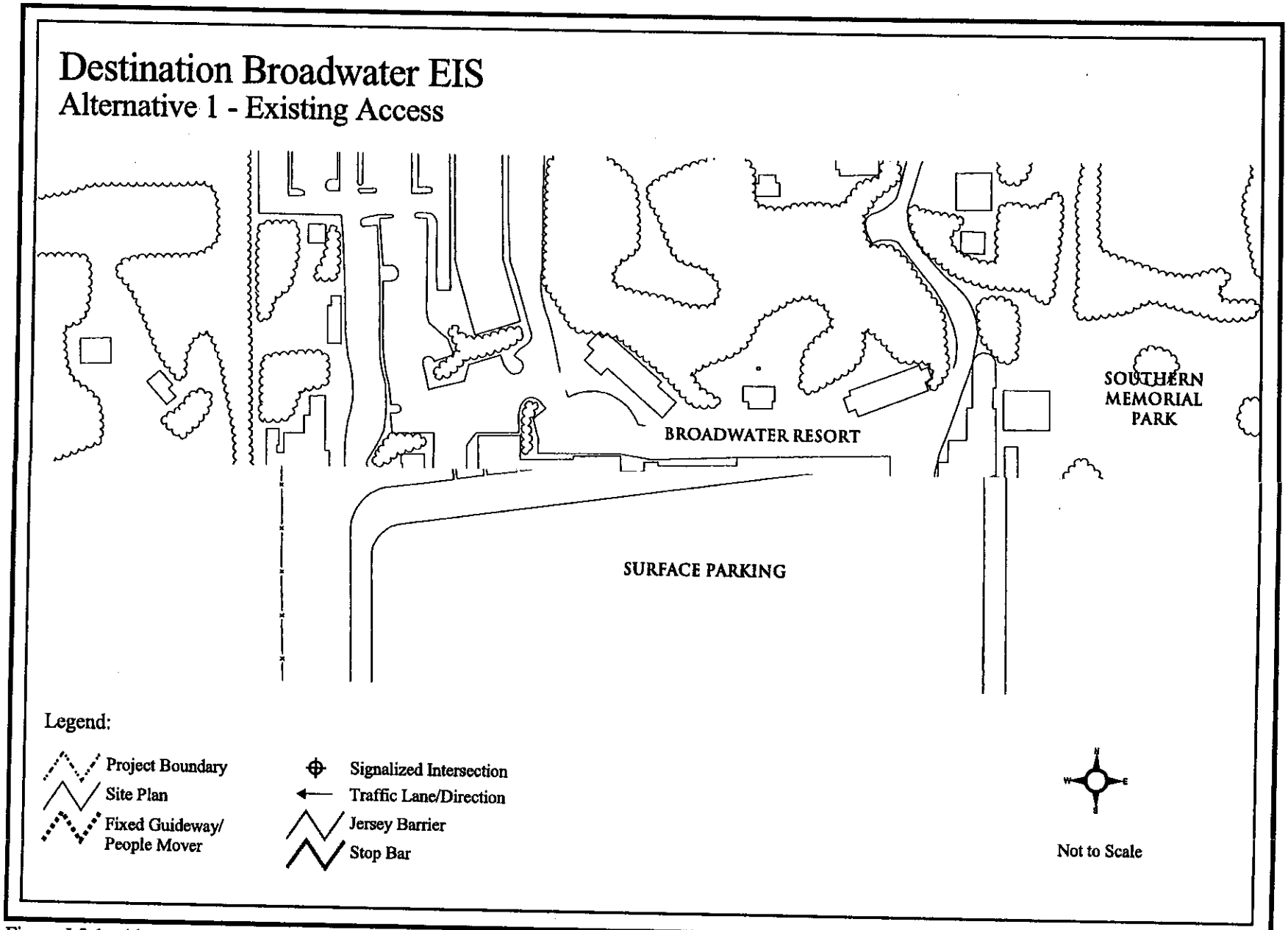


Figure J.5-1: Alternative 1 - Existing access

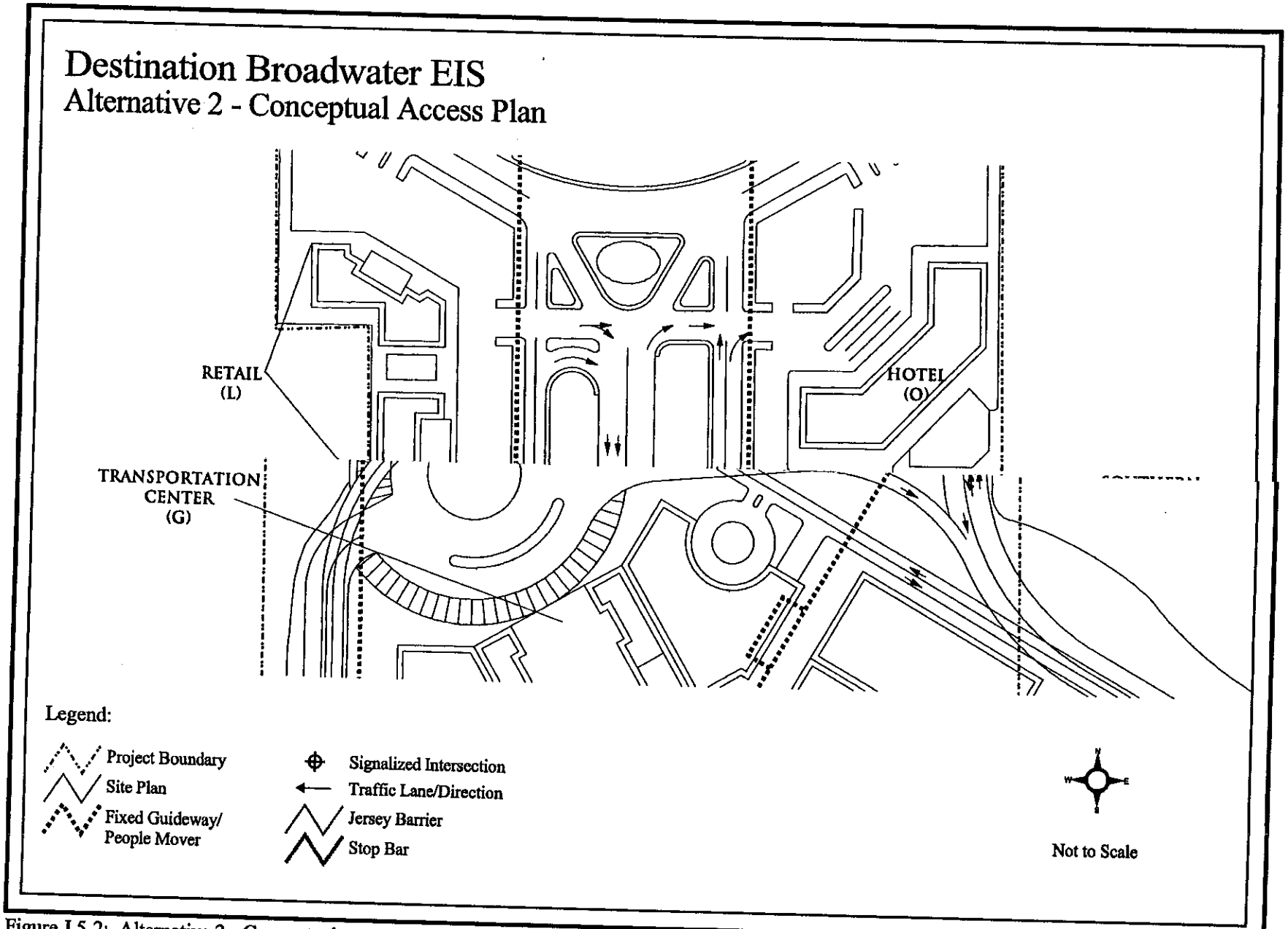
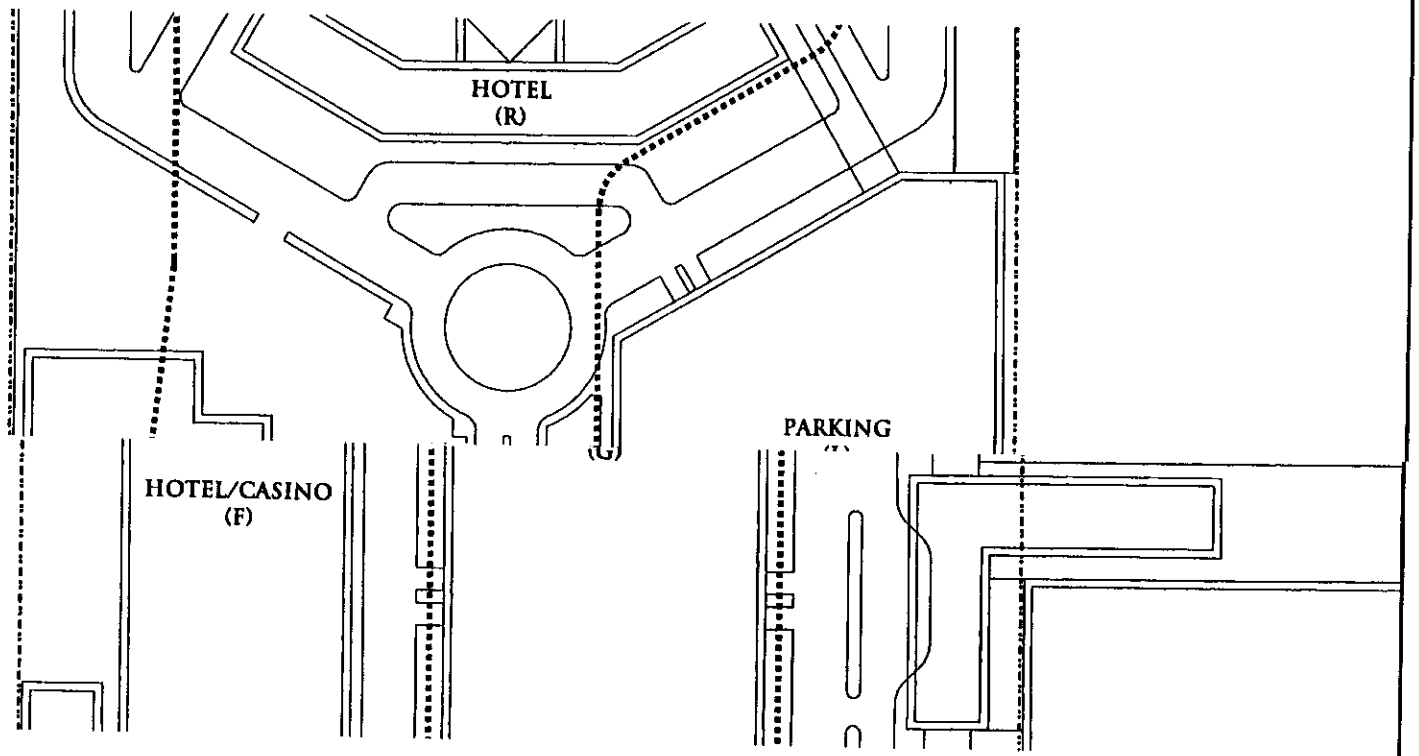


Figure J.5-2: Alternative 2 - Conceptual access plan (letters refer to Table 2.2-2)

Destination Broadwater EIS
Alternative 4 - Conceptual Access Plan



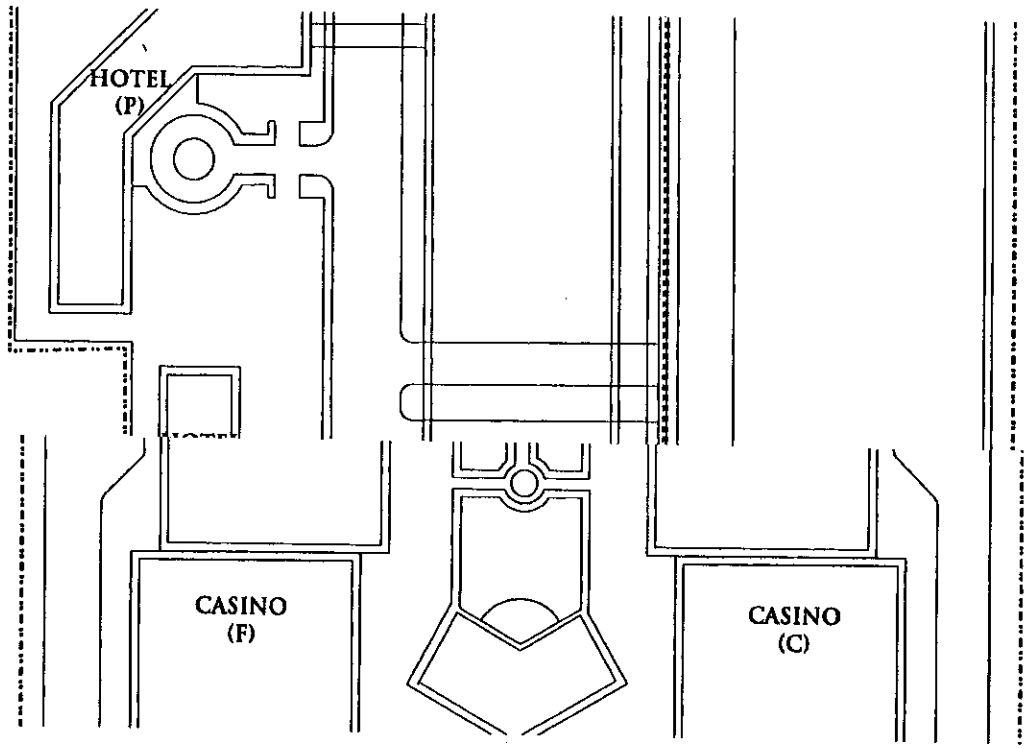
Legend:

- Project Boundary
- Site Plan
- Fixed Guideway/ People Mover
- Signalized Intersection
- Traffic Lane/Direction
- Jersey Barrier
- Stop Bar

Not to Scale

Figure J.5-3: Alternative 4 - Conceptual access plan (letters refer to Table 2.2-6)

Destination Broadwater EIS
Alternative 5 - Conceptual Access Plan



Legend:

- Project Boundary
- Site Plan
- Fixed Guideway/ People Mover
- Signalized Intersection
- Traffic Lane/Direction
- Jersey Barrier
- Stop Bar

Not to Scale

Figure J.5-4: Alternative 5 - Conceptual access plan (letters refer to Table 2.2-7)

J.1 DESCRIPTION OF MAJOR THOROUGHFARES IN HARRISON COUNTY

J.1.1 North-South Thoroughfares

Several north-south thoroughfares are located in the ROI, but few of the routes are continuous. Individual descriptions of these north-south thoroughfares are presented below.

Interstate Highways

- **I-110** is a four-lane interstate highway connecting US 90, I-10, and MS 15. It has a full-service, grade-separated interchange at Auto Mall Parkway and additional grade-separated interchanges providing partial access to Bayview Avenue and Division Street. Current (1998) traffic volumes range from 47,000 AADT on the I-110 bridge to 29,000 AADT south of I-10.

Principal Arterial Roadways

- **Old Highway 67** is the northerly extension of I-110. It is a four-lane thoroughfare to the northern D'Iberville city limits. Current traffic volume (1998) north of I-110 is 8,500 AADT. The Year 2000 Cost Feasible Plan shows realignment and reconstruction of SR 67 as a four-lane divided roadway from I-110 to US 49.

Minor Arterial Roadways

- **Auto Mall Parkway** is a two-lane roadway located in D'Iberville and extending from Popps Ferry Road to Rodriquez Street. Current (1998) traffic volume is 8,800 AADT between D'Iberville Boulevard and Rodriquez Street.

- **Beauvoir Road** is a two-lane roadway connecting US 90 and Pass Road. The current (1998) traffic volume count is 10,000 AADT south of Pass Road.

- **Caillavet Street** connects US 90 with Bayview Avenue. It is a designated minor arterial between US 90 and Division Street. Caillavet has four lanes south of the CSX railroad, but only two lanes north of the railroad. It is signalized at its major intersections and has an electronic signal at the CSX railroad. Current (1998) traffic volumes range from 10,000 AADT south of Division Street to 5,600 AADT south of Bayview Avenue.

- **Cedar Lake Road** is a two-lane designated minor arterial roadway between Popps Ferry Road and I-10. Current (1998) traffic volume is 11,000 AADT south of I-10. The Year 2000 Cost Feasible Plan shows the widening of Cedar Lake Road to four lanes between Popps Ferry Road and I-10.

- **D'Iberville Boulevard** is a D'Iberville thoroughfare located between Auto Mall Parkway and Lamey Bridge Road. It is a two-lane roadway with a current traffic volume of 13,000

AADT (east of Auto Mall Parkway). The Year 2020 Cost Feasible Plan shows the widening of D'Iberville Boulevard to four lanes between Rodriquez Street and Lemoyne Road.

- **Iberville Drive** is located in Biloxi between Irish Hill Drive and Pass Road. It is a two-lane roadway with a current (1998) traffic volume of 7,600 AADT between Perry Drive and Pass Road.

- **Main Street** is a four-lane roadway from US 90 to the CSX railroad. South of the CSX railroad, and for a short distance between US 90 and Water Street, Main Street has only two lanes. Current (1998) traffic volumes range from 2,600 AADT north of Bradford Street to 2,300 AADT north of the CSX Railroad.

- **Oak Street** is a principal north-south, four-lane thoroughfare extending from US 90 to Bayview Avenue. On-street parking and a narrow grade crossing of the CSX railroad reduces Oak Street's effective capacity to two lanes south of the railroad. Current traffic volumes range from 5,500 AADT south of Howard Avenue to 4,200 AADT north of 7th Street.

- **Popps Ferry Road** is a two-lane primary arterial extending north from Pass Road with a two-lane bridge across the Biloxi Back Bay. At Riverview Drive, Popps Ferry Road turns east and parallels I-10 to a dead end at Old Highway 15 (Automall Parkway) in D'Iberville. The current (1998) traffic volume count ranges from 16,000 AADT south of Carter Road to 8,400 AADT east of Lamey Street. The Year 2000 Cost Feasible Plan shows reconstruction of Popps Ferry as a new four-lane roadway from US 90 to Pass Road.

- **Porter Avenue** is a two-lane roadway connecting US 90 and Bayview Avenue. The available current (1998) traffic volume count is 4,000 AADT south of Cherokee Street.

- **Rodenberg Avenue** is a two-lane roadway connecting US 90 and Arnold Vandenberg Drive. It is a designated minor arterial between US 90 and Pass Road. The available current (1998) traffic volume count is 5,100 AADT north of US 90.

- **Rodriquez Street** is a two-lane roadway located between Auto Mall Parkway and Lamey Bridge Road. The current (1998) traffic volume is not available.

- **Veterans Avenue** is a two-lane roadway connecting US 90 and Atkinson Road. The available current (1998) traffic volume count is 9,000 AADT north of Irish Hill Drive.

J.1.2 East-West Thoroughfares

Interstate Highways

- **I-10** is a six-lane interstate highway connecting the Gulfport-Biloxi area to points along the entire Gulf coast from New Orleans to Tallahassee. In the ROI, I-10 has grade-separated interchanges at MS 67, Cedar Lake Road, and I-110. Current (1998) traffic volumes range from 43,000 AADT east of I-110 to 31,000 AADT east of the Hancock County line. The

Year 2000 Cost Feasible Plan shows the widening of I-10 to six lanes between Exit 28 and Exit 58.

Principal Arterial Roadways

- **Pass Road** is a four-lane principal arterial located approximately midway between US 90 and Bayview Avenue. It extends from Debuys Road on the west to Ploesti Drive on the east. Current (1998) traffic volumes range from 29,000 AADT east of McArthur Avenue to 19,000 AADT west of St. Mary Boulevard.

- **US 90** is a four-lane divided highway adjacent to the Mississippi Sound for the entire length of the three-county region. Most of its length permits uncontrolled access, although there is a raised median between Beach Drive and Venetian Gardens (west of DeBuys Road) in the study area. Roadway improvement constraints include sections of the roadway that are lined with large live oak trees and other roadway sections that lie very near the beach. Most major intersections on US 90 have been upgraded with turn lanes and multi-phase traffic signals. Current (1998) traffic volumes range from 46,000 AADT west of I-110 to 14,000 AADT at Henderson Point, east of the Hancock County line. The Year 2010 Cost Feasible Plan shows the widening of US 90 to six lanes through the ROI.

Minor Arterial Roadways

- **Division Street** is a two-lane roadway extending from Keesler AFB on the west to Oak Street on the east. It has a partial interchange with I-110. Current (1998) traffic volumes range from 7,700 AADT east of Iroquois Street to 4,100 AADT East of Strangi Avenue.

- **Howard Avenue** is a designated minor arterial between Porter Avenue and Reynoir Street and between Dukate Street and Oak Street. It is a two-lane facility with traffic volumes ranging from 6,800 AADT east of Oak Grove Place to 6,500 east of Dorries Street.

- **Irish Hill Drive** is a two-lane thoroughfare between Iberville Drive and Porter Avenue. Current traffic volumes are not available.

- **Lemoyne Boulevard** is a two-lane roadway between Lamey Bridge Road and the east Harrison County line. Current (1998) traffic volume is 10,000 AADT between Lamey Bridge Road and Gorenflo Avenue.

- **Popps Ferry Road** (see description of north-south roadways).

- **Washington Loop** is a two-lane thoroughfare between Reynoir Street and Dukate Street. Current (1998) traffic volume is 6,300 AADT between Lameuse Street and Dukate Street.

J.2 COMMITTED TRANSPORTATION IMPROVEMENTS

J.2.1 Mississippi Department of Transportation Statewide Transportation Improvements Program, FY 1997

- **I-10** - Widen from four to six lanes from one mile west of Red Creek Road interchange to east of Biloxi River.

- **I-10** - Widen from four to six lanes from Biloxi River to Jackson County line.

- **MS 67** - Reconstruct to four lanes from I-110 to U.S 49 near Saucier.

- **US 49** - Reconstruct from Saucier to Stone County line.

- **US 90** - Replace Henderson Point Bridge.

- **Lorraine Road** - Reconstruct four-lane extension from I-10 to MS 67.

J.2.2 Mississippi Gaming Roads Capacity Analysis (1996)

- **MS 67** - Upgrade to four lanes from I-110 to US 49 near Saucier.

- **Lorraine Road** - Upgrade to four lanes from I-10 to MS 67.

- **I-10** - Widen from four to six lanes from Beatline Road to MS 57 in Jackson County.

- **Eastern N-S Connector** - Construct new four-lane, controlled access facility from US 90 to I-10 (near Popps Ferry Road).

- **Central N-S Connector** - Construct new four-lane, controlled access facility from US 90 to I-10 (near Canal Road).

- **US 90** - Reconstruct Henderson Point Bridge with 12-foot lanes and shoulders.

J.2.3 Other Improvements

- **East-West Corridor** - Construct new four-lane arterial in general area parallel to CSX Railroad.

- **Pass Road** - Widen from four to six lanes.

- **Bayview Avenue** - Widen and reconstruct from two to four lanes from Croesus Street to Oak Street.

- **Bayview/ I-110** - interchange improvements.

- **Lorraine Road** - widen from two to four lanes from US 90 to I-10.

- **Caillavet Street** - widen from two to four lanes from US 90 to Bayview Avenue.

- **East Harrison Connector** – new four-lane freeway from US 90 to I-10.

- **US 49** – reconstruct from Saucier to Stone County.

J.2.4 3/3/00 Memorandum – DBEIS Transportation Plan Assumptions

The following memo (3/30/00) records decisions made by state and local transportation officials on 3/28/00 regarding the inclusion of certain of these projects in the existing + committed/authorized network to be used as the baseline for transportation planning models of the Metropolitan Planning Organization used in impact analysis for Destination Broadwater.

EDAW, Inc.
3475 Lenox Road, Suite 100
Atlanta, Georgia 30326
(404) 365-1110

MEMORANDUM

To: Billy Barton, MDOT - (601) 359-7920
Jim Wilkinson, GRPC - (228) 864-1167
Susan Rees, USACOE, Mobile District - (334) 694-4141
Ron Krizman, USACOE, Mobile District - (334) 694-4141
Rick Hall, HPE - (850) 222-2277
Ted Mack, HPE- (850) 222-2277
Paul Leonard, EDAW - (404) 365-1110

From: Gary Cornell, EDAW

Date: March 30, 2000

Subject: Telephone conference 3/28/00
DBEIS Transportation Plan Assumptions

On March 28 the persons named above conferred by telephone concerning the set of assumptions that would guide the further analysis of the transportation system for the Draft EIS for Destination Broadwater. The primary purpose of the call was to discuss four planned transportation improvements in the study area:

1. East Harrison Connector
2. East-West improvements in the CSX Railroad corridor
3. Bayview Avenue Extension, and
4. Improvements to US 90 in Biloxi.

We also answered concerns voiced at the March 1-2 agency consultations concerning the transportation model assumptions underlying EDAW's draft transportation analysis.

For each of the above projects, we agreed to identify the current status of the project in the Gulf Regional Transportation Plan and the State Transportation Improvements Program and to determine how each project would be represented in the 2010 network used to test the impacts of the proposed Destination Broadwater and its alternative configurations in the DBEIS. This telephone conference was necessary because of the questions raised about the Transportation Element in the meetings with Cooperating Agencies reviewing the Preliminary DEIS in Biloxi on March 1-2.

- East Harrison Connector - the project is currently in the STIP for location and environmental study. The DEIS is in progress based on a set of alternative locations. However, the project is not currently in the adopted Long Range plan. However, a 'generic' form of the project is included in the GRPC Existing + Committed network. There is public debate about whether the roadway should be at grade or elevated, but the proponent intends to construct the

roadway as a four-lane section which is grade-separated and limited access. For purposes of the DBEIS, the project will be assumed to be completed by 2010 and the alternative locations can be generalized as being either east of the west of the proposed Destination Broadwater Casino site. The Destination Broadwater DBEIS should analyze how the alternative locations affect the impacts of the casino on traffic congestion.

- E-W Connector in CSX Corridor - the project is currently in Preliminary Engineering by the City of Biloxi as a four-lane facility from Texas Road, one block west of Courthouse Road to Veterans Avenue. Funding would be subject to voter approval of a one percent sales tax referendum proposed for November, 2000. The project is in the Existing + Committed network and is in the Regional Transportation Plan from Jeff Davis Avenue to Oak Street and would be tied into Irish Avenue. However, the environmental study has not been prepared, and Susan Rees explained that any project that has not been given environmental clearance cannot be presented with a specific location in our EIS unless we prepare an environmental study. Therefore, EDAW will assume that the project is completed by 2010 but in an unspecified alignment, roughly between Texas Avenue and Veterans Avenue.

- Bayview Avenue Extension - the project is in the Existing + Committed network and will be assumed to be completed before 2010 using local funding. Caillivet and Oak are also being improved.

- US 90 Improvements - There was agreement that there are no plans or intentions by any public agency to add capacity to US 90 in Biloxi. Local officials are anticipating that President Casinos would make improvements at its expense to portions of US 90 as a part of its proposed access plan. As shown in the Permit Application, Alternative 2 proposes to add elevated ramps, add auxiliary lanes alongside the current four lanes to safely accommodate entering and exiting traffic, and to remove two existing traffic lights opposite existing entrances to the hotel and marina. The extent of these improvements would be generally opposite its proposed driveways and the approaches to these driveways.

  EDAW will study the impacts of these improvements on intersection level of service and travel delay in the US 90 corridor, and will determine the approximate areas where additional right of way would be required. Billy Barton offered to send EDAW right of way drawings for the pertinent portion of US 90. Billy Barton agreed that it would be acceptable to analyze the traffic levels of service at intersections for the proposed transportation plan using the latest Highway Capacity Manual software. HPE will also perform Arterial Section Analysis for a logical section of US 90 including at least Coliseum to Treasure Bay. Alternatives 4 and 5 would be studied in a similar fashion. These alternatives would carry traffic across US 90 on grade-separated bridges, but the left and right turns would be made at grade with signal controls for left turns in and out of the project.

In summary, the meeting accomplished two important objectives:

1. We confirmed that the transportation model assumptions underlying the transportation analysis in the Preliminary Draft EIS were essentially correct.

2. We achieved consensus concerning the assumptions and the method of analysis to be used in the additional transportation analysis requested in the March 1-2 meetings with cooperating agencies in Biloxi.

J.3 TRAFFIC GENERATION ASSUMPTIONS

Before structuring the transportation demand model, EDAW surveyed a group of expert traffic engineers serving on an ITE Committee on Casino Trip Generation to ask how to estimate trip generation for casinos, hotels, retail, and parking structures that may be clustered in various configurations. They agreed that the estimation of traffic impacts for casinos is still in its infancy. There are no reliable trip generation data that separate the effects of clustering casinos with and without hotels or separating them from parking or from one another in various configurations as proposed for this project. Several experts recommended the May 1992, ITE Journal article, "Trip Generation Rates for Las Vegas Area Hotel-Casinos" by Ackeret and Hosea, but cautioned that the Proposed Action and its alternatives may be a unique situation that is not represented in the existing data base. Knowing that it would be physically impossible to empirically derive the necessary data, this analysis took the best available information and adjusted it to explicitly account for varying levels of internal trip capture corresponding to each of the four configurations of casinos, hotels, retail, and parking. Every effort was made to separate the issue of primary trip generation for individual uses and internal trip capture of the complex without double-counting. However, greater weight was given to the ability of the model to show sensitivity to the spatial and architectural configurations represented in the alternatives than to precisely estimate the number of trips for any one alternative.

Basic vehicle trip generation assumptions used in the traffic analysis are listed below:

- Site traffic generation was based on the afternoon peak hour of adjacent street traffic (one hour between 4 and 6 p.m.).

- Where available, Institute of Transportation Engineers (ITE) equations were used instead of ITE rates due to their more accurate representation of trips.

- Where site design reflected walkability, generated trips were adjusted using site specific assumptions for internal capture.

Vehicle trip generation rates for full service casino/hotels were derived from the ITE Journal article *Trip Generation Rates for Las Vegas Area Hotel-Casinos* (Ackeret and Hosea, 1992).

- The sixteen Las Vegas strip casinos studied are similar in character to the Biloxi casinos along US 90 and Back Bay. Used in this analysis was a fitted curve equation (T=0.386 (X) + 5.529 (Y) + 33.990) showing PM peak hour trips based both on the number of hotel rooms in the casino/hotels and on casino floor area.

- Not used in this analysis was ITE Code 473, "Casino/Video Lottery Establishments" (Trip Generation, ITE, 1997, pp. 741-742). This vehicle trip generation rate is inappropriate for the Biloxi area because it is based on six studies of South Dakota casino/video lottery facilities that did not include full service casinos or casino/hotel facilities.

- Where hotels were widely separated from casinos, hindering walkability, hotel trips were calculated using ITE Code 330, "Resort Hotels" (Trip Generation: 6th Edition, ITE, 1997, p. 587). Stand-alone casino trips were calculated using the previously referenced fitted curve equation from the Las Vegas article.

- Marina trips were calculated using ITE Code 420 "Marina," based on the number of berths (Trip Generation: 6th Edition, ITE, 1997, p. 666)

- Depending on their characteristics, retail uses were calculated based either on ITE Code 814 "Specialty Retail Center" (Trip Generation: 6th Edition, ITE, 1997, p.1225) or ITE Code 820 "Shopping Center" (Trip Generation: 6th Edition, ITE, 1997, p. 1339).

- The theater was considered to be an outside performance venue, and ITE Code 441 "Live Theater" was used (Trip Generation: 6th Edition, ITE, 1997, p. 712).

- Hurricane Park was considered to be a water theme park, and ITE Code 414 "Water Slide Park" was used (Trip Generation: 6th Edition, ITE, 1997, p. 620).

- Because it is an existing facility, no additional trips were assigned to the Broadwater Resort golf course.

J.3.1 Tables 2-A, 3-A, 4-A, and 5-A: Trip Generation by Land Use for Alternatives 2-5

Table 2-A: Trips Generated by Alt 2 - Destination Broadwater Resort President Casinos

EDAW / Hall Planning & Engineering

01/07/2000

	x Rate/Equation Variable	y Gaming Area	Trips / Unit PM Peak Avg. Rate	Trips / Unit PM Peak Equation	Calculated Trips by Rate/Equation	Base Trip Generation			Internal Capture	Captured Trips	Net New Trips
Hotel/Casino - Parcel A	300 Rooms	70000 Sq Ft	N/A	T=0.386(X)+5.529(Y)+33.990	537	Entering	49%	263	40%	105	158
						Exiting	51%	274	40%	110	164
Hotel/Casino - Parcel B	700 Rooms	70000 Sq Ft	N/A	T=0.386(X)+5.529(Y)+33.990	691	Entering	49%	339	40%	135	203
						Exiting	51%	353	40%	141	212
Hotel/Casino - Parcel C	500 Rooms	70000 Sq Ft	N/A	T=0.386(X)+5.529(Y)+33.990	614	Entering	49%	301	40%	120	181
						Exiting	51%	313	40%	125	188
Hotel/Casino - Parcel D	500 Rooms	70000 Sq Ft	N/A	T=0.386(X)+5.529(Y)+33.990	614	Entering	49%	301	40%	120	181
						Exiting	51%	313	40%	125	188
Hotel/Casino - Parcel E	700 Rooms	70000 Sq Ft	N/A	T=0.386(X)+5.529(Y)+33.990	691	Entering	49%	339	40%	135	203
						Exiting	51%	353	40%	141	212
Hotel/Casino - Parcel F	300 Rooms	70000 Sq Ft	N/A	T=0.386(X)+5.529(Y)+33.990	537	Entering	49%	263	40%	105	158
						Exiting	51%	274	40%	110	164
Hotel - Parcel H ITE Code 330	300 Rooms		N/A	LN(T)=1.437LN(X)-3.621	97	Entering	40%	39	30%	12	27
						Exiting	60%	58	30%	17	41
Hotel - Parcel I ITE Code 330	500 Rooms		N/A	LN(T)=1.437LN(X)-3.621	202	Entering	40%	81	30%	24	57
						Exiting	60%	121	30%	36	85
Hotel - Parcel N ITE Code 330	750 Rooms		N/A	LN(T)=1.437LN(X)-3.621	362	Entering	40%	145	30%	43	101
						Exiting	60%	217	30%	65	152
Hotel - Parcel O ITE Code 330	750 Rooms		N/A	LN(T)=1.437LN(X)-3.621	362	Entering	40%	145	30%	43	101
						Exiting	60%	217	30%	65	152
Hotel - Parcel P ITE Code 330	1000 Rooms		N/A	LN(T)=1.437LN(X)-3.621	548	Entering	40%	219	30%	66	153
						Exiting	60%	329	30%	99	230
Transportation Center - Parcel G				N/A	0	Entering		0		0	0
						Exiting		0		0	0
Marina - Parcel J ITE Code 420	400 Berths		0.19	N/A	76	Entering	50%	38	50%	19	19
						Exiting	50%	38	50%	19	19
World Harbor Entertainment Complex - Parcel K ITE Code 441	5000 Seats		0.02	N/A	100	Entering	50%	50	40%	20	30
						Exiting	50%	50	60%	30	20
Retail - Parcel L ITE Code 814	20000 Sq. Ft.		2.59	N/A	52	Entering	60%	31	25%	8	23
						Exiting	40%	21	25%	5	16
Retail Complex - Parcel Q Shop. Ctr. ITE Code 820	225000 Sq. Ft.		3.74	LN(T)=0.660LN(X)+3.403	1072	Entering	50%	536	50%	268	268
						Exiting	50%	536	50%	268	268
Hurricane Park - Parcel R	600 Parking Sp.		1.67	N/A	1002	Entering	29%	291	25%	73	218
						Exiting	71%	711	25%	178	534
Golf Course ITE Code 430	18 Holes		2.74	N/A	49	Entering	44%	22	50%	11	11
						Exiting	56%	28	50%	14	14
					Project Trip Generation	Entering		3401		1309	2092
						Exiting		4206		1548	2657
						Total		7607		2857	4749
						(average total capture)				**0.376**	
						Daily Volume from 8% Peak of Daily					59368

Table 3.1 A: Trips Generated by Site 1 Alt 3 - Destination Broadwater Resort President Casinos

EDAW / Hall Planning & Engineering

01/07/2000

	x Units/ Sq. Ft.	y Second Variable	Trips / Unit PM Peak Avg. Rate	Trips / Unit PM Peak Equation	Calculated Trips by Rate	Calculated Trips by ITE Equation	Calculated Trips by Rate/Equation
Hotel/Casino - SITE 1	1000 Rooms	70000 Sq Ft	N/A	T=0.386(X)+5.529(Y)+33.990	N/A	807	807
Hotel - Parcel P ITE Code 330	800 Rooms		N/A	LN(T)=1.437LN(X)-3.621	N/A	397	397
Marina - Parcel J ITE Code 420	90 Berths		0.19	N/A	17	N/A	17
Retail - Parcel L ITE Code 480	40000 Sq. Ft.		2.59	N/A	104	N/A	104

Base Trip Generation				Internal Capture	Captured Trips	Net New Trips
Hotel/Casino - SITE 1	Entering	49.0%	395	15.0%	59	336
	Exiting	51.0%	412	15.0%	62	350
Hotel - Parcel P ITE Code 330	Entering	40.0%	159	25.0%	40	119
	Exiting	60.0%	238	25.0%	60	179
Marina - Parcel J ITE Code 420	Entering	50.0%	9	30.0%	3	6
	Exiting	50.0%	9	30.0%	3	6
Retail - Parcel L ITE Code 480	Entering	60.0%	62	40.0%	25	37
	Exiting	40.0%	41	40.0%	17	25
Project Trip Generation	Entering		625		126	499
	Exiting		700		140	559
	Total		1325		267	1058
	(aveage total capture)				0.201	
	Daily Volume from 8% Peak of Daily				13,226	

Table 3.2 A: Trips Generated by Site 2 Alt 3 - Destination Broadwater Resort EDAW / Hall Planning & Engineering

President Casinos

01/07/2000

	x Units/ Sq. Ft.	y Second Variable	Trips / Unit PM Peak Avg. Rate	Trips / Unit PM Peak Equation	Calculated Trips by Rate/Equation	Base Trip Generation			Internal Capture	Captured Trips	Net New Trips
Hotel/Casino - SITE 2	1000 Rooms	70000 Sq Ft	N/A	T=0.386(X)+5.529(Y)+33.990	807	Entering	49.0%	395	15.0%	59	336
						Exiting	51.0%	412	15.0%	62	350
Marina - Parcel J ITE Code 420	60 Berths		0.19	N/A	11	Entering	50.0%	6	25.0%	1	4
						Exiting	50.0%	6	25.0%	1	4
Retail - Parcel L ITE Code 480	45000 Sq. Ft.		2.59	N/A	117	Entering	60.0%	70	40.0%	28	42
						Exiting	40.0%	47	40.0%	19	28
					Project Trip Generation	Entering		471		89	382
						Exiting		464		82	382
						Total		935		171	764
						(average total capture)				0.182	
						Daily Volume from 8% Peak of Daily				9556	

Table 3.3 A: Trips Generated by Site 3 Alt 3 - Destination Broadwater Resort President Casinos

EDAW / Hall Planning & Engineering

01/07/2000

	x Units/ Sq. Ft.	y Second Variable	Trips / Unit PM Peak Avg. Rate	Trips / Unit PM Peak Equation	Calculated Trips by Rate/Equation	Base Trip Generation			Internal Capture	Captured Trips	Net New Trips
Hotel/Casino - SITE 3	650 Rooms	70000 Sq Ft	N/A	T=0.386(X)+5.529(Y)+33.990	672	Entering	49.0%	329	15.0%	49	280
						Exiting	51.0%	343	15.0%	51	291
Hotel - Parcel P ITE Code 330	650 Rooms		N/A	LN(T)=1.437LN(X)-3.621	295	Entering	40.0%	118	30.0%	35	83
						Exiting	60.0%	177	30.0%	53	124
Hotel - Parcel P ITE Code 330	1500 Rooms		N/A	LN(T)=1.437LN(X)-3.621	981	Entering	40.0%	392	30.0%	118	275
						Exiting	60.0%	588	30.0%	176	412
Marina - Parcel J ITE Code 420	100 Berths		0.19	N/A	19	Entering	50.0%	10	30.0%	3	7
						Exiting	50.0%	10	30.0%	3	7
Retail Complex - Parcel Q Shop. Ctr. ITE Code 820	225000 Sq. Ft.		3.74	LN(T)=0.660LN(X)+3.403	1072	Entering	50.0%	536	50.0%	268	268
						Exiting	50.0%	536	50.0%	268	268
Theater - Parcel I	5000 Seats		0.02	N/A	100	Entering	50.0%	50	50.0%	25	25
						Exiting	50.0%	50	50.0%	25	25
					Project Trip Generation	Entering		1435		498	937
						Exiting		1704		577	1127
						Total		3139		1075	2063
						(average total capture)				0.343	
						Daily Volume from 8% Peak of Daily				25,792	

Table 3.4 A: Trips Generated by Site 4 Alt 3 - Destination Broadwater Resort
President Casinos

EDAW / Hall Planning & Engineering

01/07/2000

	x Units/ Sq. Ft.	y Second Variable	Trips / Unit PM Peak Avg. Rate	Trips / Unit PM Peak Equation	Calculated Trips by Rate	Calculated Trips by ITE Equation	Total Trips PM Peak of Street	Base Trip Generation			Internal Capture	Captured Trips	Net New Trips
Hotel/Casino - SITE 4	800 Rooms	70000 Sq Ft	N/A	T=0.386(X)+5.529(Y)+33.990	N/A	730	730	Entering	49.0%	358	15.0%	54	304
								Exiting	51.0%	372	15.0%	56	316
Marina - Parcel J ITE Code 420	30 Berths		0.19	N/A	6	N/A	6	Entering	50.0%	3	30.0%	1	2
								Exiting	50.0%	3	30.0%	1	2
Retail - Parcel L ITE Code 480	30000 Sq. Ft.		2.59	N/A	78	N/A	78	Entering	60.0%	47	25.0%	12	35
								Exiting	40.0%	31	25.0%	8	23
								Project Trip Generation	Entering	407		66	341
									Exiting	406		64	342
									Total	813		131	683
										(average total capture)		0.161	
										Daily Volume from 8% Peak of Daily		8,533	

President Casino is located in TAZ # 188

Table 3.5 A: Trips Generated by Site 5 Alt 3 - Destination Broadwater Resort President Casinos

EDAW / Hall Planning & Engineering

01/07/2000

	x Units/ Sq. Ft.	y Second Variable	Trips / Unit PM Peak Avg. Rate	Trips / Unit PM Peak Equation	Calculated Trips by Rate	Calculated Trips by ITE Equation	Total Trips PM Peak of Street	Base Trip Generation			Internal Capture	Captured Trips	Net New Trips
Hotel/Casino - SITE 5	750 Rooms	70000 Sq Ft	N/A	T=0.386(X)+5.529(Y)+33.990	N/A	711	711	Entering	49.0%	348	15.0%	52	296
								Exiting	51.0%	362	15.0%	54	308
Hotel - Parcel P ITE Code 330	200 Rooms		N/A	LN(T)=1.437LN(X)-3.621	N/A	54	54	Entering	40.0%	22	30.0%	7	15
								Exiting	60.0%	33	30.0%	10	23
Hotel - Parcel P ITE Code 330	200 Rooms		N/A	LN(T)=1.437LN(X)-3.621	N/A	54	54	Entering	40.0%	22	30.0%	7	15
								Exiting	60.0%	33	30.0%	10	23
Marina - Parcel J ITE Code 420	100 Berths		0.19	N/A	19	N/A	19	Entering	50.0%	10	30.0%	3	7
								Exiting	50.0%	10	30.0%	3	7
Retail - Parcel L ITE Code 480	40000 Sq. Ft.		2.59	N/A	104	N/A	104	Entering	60.0%	62	25.0%	16	47
								Exiting	40.0%	41	25.0%	10	31
						Project Trip Generation		Entering		463		84	380
								Exiting		478		87	391
								Total		942		171	771
										(average total capture)		0.181	
								Daily Volume from 8% Peak of Daily				9,635	

Table 3.6 A: Trips Generated by Site 6 Alt 3 - Destination Broadwater Resort President Casinos

EDAW / Hall Planning & Engineering

01/07/2000

	x Units/ Sq. Ft.	y Second Variable	Trips / Unit PM Peak Avg. Rate	Trips / Unit PM Peak Equation	Calculated Trips by Rate/Equation	Base Trip Generation			Internal Capture	Adjusted Trips	Net New Trips
Hotel/Casino - SITE 6	800 Rooms	70000 Sq Ft	N/A	T=0.386(X)+5.529(Y)+33.990	730	Entering	49.0%	358	40.0%	143	215
						Exiting	51.0%	372	40.0%	149	223
Retail - Parcel L ITE Code 480	30000 Sq. Ft.		2.59	N/A	78	Entering	60.0%	47	25.0%	12	35
						Exiting	40.0%	31	25.0%	8	23
					Project Trip Generation	Entering		404		155	250
						Exiting		403		157	247
						Total		808		311	496
								(average total capture)		0.386	
								Daily Volume from 8% Peak of Daily		6202	

Table 4-A. Trips Generated by Alt 4 - Destination Broadwater Resort President Casinos

EDAW / Hall Planning & Engineering

01/07/2000

	x Units/ Sq. Ft.	y Second Variable	Trips / Unit PM Peak Avg. Rate	Trips / Unit PM Peak Equation	Calculated Trips by Rate	Calculated Trips by ITE Equation	Total Trips PM Peak of Street	Base Trip Generation			Internal Captur	Adjusted Trips	Net New Trips
Hotel/Casino - Parcel A	700 Rooms	70000 Sq. Ft.	N/A	T=0.386(X)+5.529(Y)+33.990	N/A	691	691	Entering	49.0%	339	40.0%	135	203
								Exiting	51.0%	353	40.0%	141	212
Hotel/Casino - Parcel B	500 Rooms	70000 Sq. Ft.	N/A	T=0.386(X)+5.529(Y)+33.990	N/A	614	614	Entering	49.0%	301	40.0%	120	181
								Exiting	51.0%	313	40.0%	125	188
Hotel/Casino - Parcel C	300 Rooms	70000 Sq. Ft.	N/A	T=0.386(X)+5.529(Y)+33.990	N/A	537	537	Entering	49.0%	263	40.0%	105	158
								Exiting	51.0%	274	40.0%	110	164
Hotel/Casino - Parcel D	300 Rooms	70000 Sq. Ft.	N/A	T=0.386(X)+5.529(Y)+33.990	N/A	537	537	Entering	49.0%	263	40.0%	105	158
								Exiting	51.0%	274	40.0%	110	164
Hotel/Casino - Parcel E	500 Rooms	70000 Sq. Ft.	N/A	T=0.386(X)+5.529(Y)+33.990	N/A	614	614	Entering	49.0%	301	40.0%	120	181
								Exiting	51.0%	313	40.0%	125	188
Hotel/Casino - Parcel F	700 Rooms	70000 Sq. Ft.	N/A	T=0.386(X)+5.529(Y)+33.990	N/A	691	691	Entering	49.0%	339	40.0%	135	203
								Exiting	51.0%	353	40.0%	141	212
Hotel - Parcel K ITE Code 330	750 Rooms		N/A	LN(T)=1.437LN(X)-3.621	N/A	362	362	Entering	40.0%	145	30.0%	43	101
								Exiting	60.0%	217	30.0%	65	152
Hotel - Parcel M ITE Code 330	500 Rooms		N/A	LN(T)=1.437LN(X)-3.621	N/A	202	202	Entering	40.0%	81	30.0%	24	57
								Exiting	60.0%	121	30.0%	36	85
Hotel - Parcel N ITE Code 330	750 Rooms		N/A	LN(T)=1.437LN(X)-3.621	N/A	362	362	Entering	40.0%	145	30.0%	43	101
								Exiting	60.0%	217	30.0%	65	152
Hotel - Parcel O ITE Code 330	750 Rooms		N/A	LN(T)=1.437LN(X)-3.621	N/A	362	362	Entering	40.0%	145	30.0%	43	101
								Exiting	60.0%	217	30.0%	65	152
Hotel - Parcel Q ITE Code 330	300 Rooms		N/A	LN(T)=1.437LN(X)-3.621	N/A	97	97	Entering	40.0%	39	30.0%	12	27
								Exiting	60.0%	58	30.0%	17	41
Hotel - Parcel R ITE Code 330	1000 Rooms		N/A	LN(T)=1.437LN(X)-3.621	N/A	548	548	Entering	40.0%	219	30.0%	66	153
								Exiting	60.0%	329	30.0%	99	230
Transportation Center - Parcel H ITE Code 441												0	0
												0	0
Theater - Parcel I	5000 Seats		0.02	N/A	100	N/A	100	Entering	50.0%	50	40.0%	20	30
								Exiting	50.0%	50	60.0%	30	20
Marina - Parcel J ITE Code 420	400 Berths		0.19	N/A	76	N/A	76	Entering	50.0%	38	30.0%	11	27
								Exiting	50.0%	38	30.0%	11	27
Parking - Parcel L												0	0
												0	0
Retail - Parcel L ITE Code 480	20000 Sq. Ft.		2.59	N/A	52	N/A	52	Entering	60.0%	31	25.0%	8	23
								Exiting	40.0%	21	25.0%	5	16
Retail Complex - Parcel Q Shop. Ctr. ITE Code 820	225000 Sq. Ft.		3.74	LN(T)=0.660LN(X)+3.403	842	1072	1072	Entering	48.0%	515	50.0%	257	257
								Exiting	52.0%	558	50.0%	279	279
Hurricane Park - Parcel R ITE Code 414	600 Parking Sp.		1.67	N/A	1002	N/A	1002	Entering	29.0%	291	25.0%	73	218
								Exiting	71.0%	711	25.0%	178	534
Golf Course ITE Code 430	18 Holes		2.74	N/A	49	N/A	49	Entering	44.0%	22	50.0%	11	11
								Exiting	56.0%	28	50.0%	14	14
Project Trip Generation								Entering		3486		1322	2163
								Exiting		4386		1599	2787
								Total		7872		2922	4950
								(average total capture)				0.371	
								Daily Volume from 8% Peak to Daily					61878

Table 5-A: Trips Generated by Alt 5 - Destination Broadwater Resort
President Casinos

EDAW / Hall Planning & Engineering

01/07/2000

	x Units/ Sq. Ft.	y Second Variable	Trips / Unit PM Peak Avg. Rate	Trips / Unit PM Peak Equation	Calculated Trips by Rate	Calculated Trips by ITE Equation	Total Trips PM Peak of Street	Base Trip Generation			Internal Capture	Adjusted Trips	Net New Trips
Hotel - Parcel J ITE Code 330	1000 Rooms		N/A	LN(T)=1.437LN(X)-3.621	N/A	548	548	Entering	40.0%	219	40.0%	88	131
								Exiting	60.0%	329	40.0%	131	197
Hotel - Parcel K ITE Code 330	1000 Rooms		N/A	LN(T)=1.437LN(X)-3.621	N/A	548	548	Entering	40.0%	219	40.0%	88	131
								Exiting	60.0%	329	40.0%	131	197
Hotel - Parcel L ITE Code 330	750 Rooms		N/A	LN(T)=1.437LN(X)-3.621	N/A	362	362	Entering	40.0%	145	40.0%	58	87
								Exiting	60.0%	217	40.0%	87	130
Hotel - Parcel M ITE Code 330	750 Rooms		N/A	LN(T)=1.437LN(X)-3.621	N/A	362	362	Entering	40.0%	145	40.0%	58	87
								Exiting	60.0%	217	40.0%	87	130
Hotel - Parcel N ITE Code 330	1000 Rooms		N/A	LN(T)=1.437LN(X)-3.621	N/A	548	548	Entering	40.0%	219	40.0%	88	131
								Exiting	60.0%	329	40.0%	131	197
Hotel - Parcel O ITE Code 330	1000 Rooms		N/A	LN(T)=1.437LN(X)-3.621	N/A	548	548	Entering	40.0%	219	40.0%	88	131
								Exiting	60.0%	329	40.0%	131	197
Hotel - Parcel P ITE Code 330	750 Rooms		N/A	LN(T)=1.437LN(X)-3.621	N/A	362	362	Entering	40.0%	145	30.0%	43	101
								Exiting	60.0%	217	30.0%	65	152
Hotel - Parcel Q ITE Code 330	800 Rooms		N/A	LN(T)=1.437LN(X)-3.621	N/A	397	397	Entering	40.0%	159	30.0%	48	111
								Exiting	60.0%	238	30.0%	72	167
Casino - Parcel A	70000 Sq Ft		2.59	N/A	181	N/A	181	Entering	43.0%	78	10.0%	8	70
								Exiting	57.0%	103	10.0%	10	93
Casino - Parcel B	70000 Sq Ft		2.59	N/A	181	N/A	181	Entering	43.0%	78	10.0%	8	70
								Exiting	57.0%	103	10.0%	10	93
Casino - Parcel C	70000 Sq Ft		2.59	N/A	181	N/A	181	Entering	43.0%	78	10.0%	8	70
								Exiting	57.0%	103	10.0%	10	93
Casino - Parcel D	70000 Sq Ft		2.59	N/A	181	N/A	181	Entering	43.0%	78	10.0%	8	70
								Exiting	57.0%	103	10.0%	10	93
Casino - Parcel E	70000 Sq Ft		2.59	N/A	181	N/A	181	Entering	43.0%	78	10.0%	8	70
								Exiting	57.0%	103	10.0%	10	93
Casino - Parcel F	70000 Sq Ft		2.59	N/A	181	N/A	181	Entering	43.0%	78	10.0%	8	70
								Exiting	57.0%	103	10.0%	10	93
Marina -Parcel G ITE Code 420	400 Berths		0.19	N/A	76	N/A	76	Entering	50.0%	38	30.0%	11	27
								Exiting	50.0%	38	30.0%	11	27
Circulation - Parcel H													
Retail/Parking - Parcel I	367000 Sq. Ft.		3.74	LN(T)=0.660LN(X)+3.403	1373	1481	1481	Entering	48.0%	711	50.0%	355	355
								Exiting	52.0%	770	50.0%	385	385
Theater/Parking - Parcel R ITE Code 441	5000 Seats		0.02	N/A	100	N/A	100	Entering	50.0%	50	40.0%	20	30
								Exiting	50.0%	50	60.0%	30	20
Hurricane Park - Parcel S ITE Code 414	600 Parking Sp.		1.67	N/A	1002	N/A	1002	Entering	29.0%	291	25.0%	73	218
								Exiting	71.0%	711	25.0%	178	534
Golf Course ITE Code 430	18 Holes		2.74	N/A	49	N/A	49	Entering	44.0%	22	50.0%	11	11
								Exiting	56.0%	28	50.0%	14	14
Project Trip Generation								Entering		2999		1055	1944
								Exiting		4372		1486	2885
								Total		7370		2541	4829
									(average total capture)		**captured**	**0.345**	
									Daily Volume from 8% Peak to Daily				60365.6

J.4 TRIP DISTRIBUTION AND TRIP ASSIGNMENT ASSUMPTIONS AND ANALYSIS

J.4.1 Trip Distribution and Trip Assignment Assumptions

- 2010 trips were distributed to major roadways and roadways shown to carry project traffic in excess of 10% of roadway capacity.

- Trip distribution was performed for both site traffic alone, and total traffic (including site traffic plus background traffic).

- To determine peak hour, peak direction traffic for 2010, total traffic was multiplied by a "k" factor of 8 percent and a "D" factor of 50 percent. These "k" and "D" factors are normally used by Mississippi DOT for traffic analyses in the Biloxi area. "K" and "D" factors are used to convert the most commonly available data (Average Annual Daily Traffic, or AADT) to PM peak hour traffic for impact assessment of site traffic. "K" stands for "peak hour"; "K" factors give the ratio of total average daily traffic that takes place in the peak hour for a given facility or facility type on an average day. In other words, according to the best available data for US 90 from the Mississippi DOT, on average, 8 percent of the daily (24-hour) traffic takes place in the single worst hour of the afternoon. "D" stands for "direction"; "D" factors give the proportion of peak hour traffic that is assumed to be headed in the "peak" direction (the heaviest flow). In the case of US 90, the "D" factor is 50/50, meaning that the flow of traffic is evenly balanced in the peak hour between westbound and eastbound. That suggests that there is a lot of through traffic going in both directions and local traffic is being distributed evenly, back and forth on US 90 between north-south routes on either side of the Biloxi peninsula.

- The percent of site traffic using each link was calculated using MPO traffic assignments of site related travel.

- Total traffic assignment loadings were compared to traffic flows at level of service "D". Links exceeding LOS "D" were shown to be "adverse". Mississippi DOT has a policy to design for LOS "D" in Urbanized Areas such as Biloxi.

- If site trips load a link more than 5 percent of its LOS "D" flow rate, the links are considered to be significantly loaded.

J.4.2 Documentation of TRANPLAN and ART-PLAN Model Structure and Network Assumptions

Traffic analysis performed for a project as substantial as the Broadwater complex requires a sophisticated travel estimating model. The most appropriate model to use at this scale is the Metropolitan Planning Organization (MPO) model currently used for long-range transportation planning for the Gulf Coast region. The Gulf Coast Regional Planning Council serves as staff to

the MPO and maintains the TRANPLAN set of computer models to simulate future travel.

As is true in all major cities, the roadway system included in the regional transportation planning model covers the major roadways, not every local street and alley. Not all vehicle trips use the major roadways, but over 90% of the traffic generated by land uses in the study area is accounted for in this model. This does not indicate a specific margin of error, but recognizes that there is a level of approximation in the best available information. It does not introduce any bias in the results with respect to the comparison of alternatives.

The TRANPLAN model follows the traditional four-step modeling process of trip generation, trip distribution, mode share, and traffic assignment.

Trip Generation

Specific trip generation for each casino alternative was performed first using trip rates and equations developed by the Institute of Transportation Engineers (ITE). For this analysis, the ITE rates are more precise than the MPO model trip generation rates since they are newer and were measured at sites with both hotels and casinos. After ITE rates and equations are applied to each alternative scenario, the resulting trips were input to the MPO modeling process, via special generator rates. This procedure insured that the manual application of ITE rates and the MPO model gave almost identical results.

Traffic Assignment

The existing, valid trip distribution and mode split models were applied as validated in the latest MPO Update. Traffic assignment was performed on a computer simulated network using the Existing plus Committed (E+C) streets and highways within the region. Committed projects are those likely to be constructed within the 5 to 10 year time frame.

Two roadways of particular interest to this analysis are the East Harrison Connector, which was coded along the Alternative J alignment of its corridor study. Another key roadway is the east/west four-lane roadway that parallels the railroad tracks one half mile north of the coast beginning near Irish Hill Drive on the east and continuing to the west.

Peak season travel is generated by the computer traffic assignment process since all hotels, dwelling units and commercial facilities are assumed to be operating at peak season levels.

Project Traffic Development

When casinos are analyzed, the trip generation relationships from ITE are considered more accurate than the existing trip generation models for the Gulf Coast Regional travel model. Therefore, the ITE trip generation volumes determined through spreadsheet analysis were used for the Broadwater EIS Traffic Analysis. The trip distribution pattern established through the MPO models, however, is the most accurate distribution method available. Using this strong trip distribution forecasting tool, the ITE generated trips were distributed according to the patterns set

forth by the MPO model. Trips to and from each casino site were isolated with the TRANPLAN software to show only casino-related trips on the computer traffic network. These trip volumes were converted to percentages and multiplied by the ITE trip generation levels. This yielded project trips distributed effectively through the Gulf Coast region.

ART-PLAN traffic analysis software was used in the earlier stages of DBEIS transportation work because it was an economical way to look at a broad set of development alternatives. ART-PLAN is a LOTUS 1-2-3 template replicating arterial Level of Service determination procedures from Chapter 11 of the Highway Capacity Manual (Special Report 209, Transportation Research Board, National Research Council). The software was developed by the Florida Department of Transportation and is designed for conducting detailed traffic planning analysis of a specific arterial roadway with interrupted flow. ART-PLAN is considered a planning model but it approaches a traffic operations model in depth.

J.4.3 Tables 2-B, 3-B, 4-B, and 5-B: Trip Distribution Analysis for Alternatives 2-5

Table 2-B: Trip Distribution Analysis Alt 2 - Destination Broadwater Resort President Casinos

EDAW / Hall Planning & Engineering

01/07/2000

New Trips 2092 Entering Trips
2657 Exiting Trips

Alternative 2 Roadway Segment	No. Lanes	Peak Dir.	MDOT / GRPC Number	Traffic Volume: Base AADT 1999	Assignment AADT 2010	K-factor	D-factor	Background + Project 2010 PkHr Trips	Traffic Assignment Ratios	New Project Trips	Adversity Test: LOS	Service Volume @ Standard	Adverse?	Significance Test: 5% of LOS Standard	% Project @ LOS D	Significant?	Significant & Adverse Impact?
US 90 East of Site																	
Treasure Bay to Site	4LD	WB	#2148	47000	27000	0.08	0.50	2156	0.476	996	D	1710	YES	85.5	58.2%	YES	YES
Site to Treasure Bay	4LD	EB			26900	0.08	0.50	2156	0.476	1265							
Camelia Street to Treasure Bay	4LD	WB	#2148	47000	27000	0.08	0.50	2156	0.968	964	D	1710	YES	85.5	56.4%	YES	YES
Treasure Bay to Camelia Street	4LD	EB			26900	0.08	0.50	2156	0.968	1225							
East Harrolson Connector to Camelia Street	4LD	WB	#2148	47000	27000	0.08	0.50	2156	0.575	555	D	1710	YES	85.5	32.4%	YES	YES
Camelia Street to E. Harrison Connector	4LD	EB			26900	0.08	0.50	2156	0.575	705							
Veterans Avenue to E. Harrison Connector	4LD	WB	#2148	47000	15500	0.08	0.50	1248	0.419	233	D	1710	NO	85.5	13.6%	YES	NO
E. Harrison Connector to Veterans Avenue	4LD	EB			15700	0.08	0.50	1248	0.419	295							
Rodenberg Avenue to Veterans Avenue	4LD	WB	#2148	47000	15500	0.08	0.50	1248	0.637	148	D	1710	NO	85.5	8.7%	YES	NO
Veterans Avenue to Rodenberg Avenue	4LD	EB			15700	0.08	0.50	1248	0.637	188							
White Avenue to Rodenberg Avenue	4LD	WB	#380	38000	15600	0.08	0.50	1248	0.765	113	D	1710	NO	85.5	6.6%	YES	NO
Rodenberg Avenue to White Avenue	4LD	EB			15800	0.08	0.50	1248	0.765	144							
Porter Avenue to White Avenue	4LD	WB	#390	44000	17200	0.08	0.50	1368	0.961	109	D	1710	NO	85.5	6.4%	YES	NO
White Avenue to Porter Avenue	4LD	EB			17000	0.08	0.50	1368	0.961	138							
I-110 to Porter Avenue	4LD	WB	#395	46000	17000	0.08	0.50	1348	0.980	107	D	1710	NO	85.5	6.2%	YES	NO
Porter Avenue to I-110	4LD	EB			16700	0.08	0.50	1348	0.980	135							
Main Street to I-110	6LD	WB	#400	38000	18500	0.08	0.50	1468	0.519	55	D	2580	NO	129	2.1%	NO	NO
I-110 to Main Street	6LD	EB			18200	0.08	0.50	1468	0.519	70							
Holley Street to Main Street	4LD	WB	#405	36000	18500	0.08	0.50	1468	0.987	55	D	1710	NO	85.5	3.2%	NO	NO
Main Street to Holley Street	4LD	EB			18200	0.08	0.50	1468	0.987	69							
Oak Street to Holley Street	4LD	WB	#405	36000	19700	0.08	0.50	1564	1.004	55	D	1710	NO	85.5	3.2%	NO	NO
Holley Street to Oak Street	4LD	EB			19400	0.08	0.50	1564	1.004	70							
Biloxi Bay Bridge to Oak Street	4LD	WB	#410	38000	24600	0.08	0.50	1936	0.691	38	D	1710	YES	85.5	2.2%	NO	NO
Oak Street to Biloxi Bay Bridge	4LD	EB			23800	0.08	0.50	1936	0.691	48							
US 90 West of Site																	
Site to Beauvoir Avenue	4LD	WB	#355	32000	27000	0.08	0.50	2156	0.524	1393	D	1710	YES	80	87.1%	YES	YES
Beauvoir Avenue to Site	4LD	EB			26900	0.08	0.50	2156	0.524	1097							
Beauvoir Avenue to Eisenhower Drive	4LD	WB	#355	32000	23000	0.08	0.50	1836	0.627	873	D	1710	YES	80	54.6%	YES	YES
Eisenhower Drive to Beauvoir Avenue	4LD	EB			22900	0.08	0.50	1836	0.627	688							
Eisenhower Drive to Debuys Road	4LD	WB	#355	32000	18800	0.08	0.50	1508	0.525	459	D	1710	NO	80	28.7%	YES	NO
Debuys Road to Eisenhower Drive	4LD	EB			18900	0.08	0.50	1508	0.525	361							
Debuys Road to Cowan-Lorraine	4LD	WB	#355	32000	22100	0.08	0.50	1772	1.160	532	D	1710	YES	80	33.2%	YES	YES
Cowan-Lorraine to Debuys Road	4LD	EB			22200	0.08	0.50	1772	1.160	419							
Cowan-Lorraine to US 49	4LD	WB	#355	32000	21900	0.08	0.50	1780	0.597	318	D	1710	YES	80	19.9%	YES	YES
US 49 to Cowan-Lorraine	4LD	EB			22600	0.08	0.50	1780	0.597	250							

Alternative 2 **Roadway Segment**	No. Lanes	Peak Dir.	MDOT / GRPC Number	Traffic Volume: Base AADT 1999	Assignment AADT 2010	K-factor	D-factor	Background + Project 2010 PkHr Trips	Traffic Assignment Ratios	New Project Trips	Adversity Test: LOS	Service Volume @ Standard	Adverse?	Significance Test: 5% of LOS Standard	% Project @ LOS D	Significant?	Significant & Adverse Impact?
Pass Road																	
Eisenhower Drive to Debuys Road	4LD	WB	#5220	25000	21200	0.08	0.50	1684	1.670	0	D	1710	NO	80	0.0%	NO	NO
Debuys Road to Eisenhower Drive	4LD	EB			20900	0.08	0.50	1684	1.670	166							
Popps Ferry Road to Eisenhower Drive	4LD	WB	#5030	31000	19600	0.08	0.50	1544	0.968	0	D	1710	NO	80	0.0%	NO	NO
Eisenhower Drive to Popps Ferry Road	4LD	EB			19000	0.08	0.50	1544	0.750	99							
Beauvoir Avenue to Popps Ferry Road	4LD	WB	#5035	32000	13900	0.08	0.50	1088	0.669	0	D	1710	NO	80	0.0%	NO	NO
Popps Ferry Road to Beauvoir Avenue	4LD	EB			13300	0.08	0.50	1088	0.669	132							
Veterans Avenue to Beauvoir Road	4LD	WB	#5035	32000	15100	0.08	0.50	1184	0.000	0	D	1710	NO	80	0.0%	NO	NO
Beauvoir Road to Veterans Avenue	4LD	EB			14500	0.08	0.50	1184	0.000	20							
Rodenberg Avenue to Veterans Avenue	4LD	WB	#5050	22000	16300	0.08	0.50	1272	0.000	0	D	1710	NO	80	0.0%	NO	NO
Veterans Avenue to Rodenberg Avenue	4LD	EB			15500	0.08	0.50	1272	0.000	4							
Irish Hill Drive																	
Rodenberg Avenue to Veterans	2LD	WB	#5400	10000	6400	0.08	0.50	508	0.613	50	D	790	NO	40	6.2%	YES	NO
Veterans to Rodenberg Avenue	2LD	EB			6300	0.08	0.50	508	0.613	63							
White Avenue to Rodenberg Avenue	2LD	WB	#5400	10000	6500	0.08	0.50	520	0.609	30	D	790	NO	40	3.8%	NO	NO
Rodenberg Avenue to White Avenue	2LD	EB			6500	0.08	0.50	520	0.609	39							
Porter Avenue to White Avenue	2LD	WB	#5400	10000	10600	0.08	0.50	816	1.114	34	D	790	YES	40	4.2%	NO	NO
White Avenue to Porter Avenue	2LD	EB			9800	0.08	0.50	816	1.114	43							
Division Street																	
I-110 to Porter Avenue	2LD	WB	5110	9500	2300	0.08	0.50	180		0	D	790	NO	40	0.0%	NO	NO
Porter Avenue to I-110	2LD	EB			2200	0.08	0.50	180		0							
Debuys Road																	
US 90 to Pass Road	2LD	NB	#2114	11000	8200	0.08	0.50	636	0.401	184	D	790	NO	40	23.0%	YES	NO
Pass Road to US 90	2LD	SB			7700	0.08	0.50	636	0.401	145							
Eisenhower Drive																	
US 90 to Pass Road	2LD	NB	#5635	9000	9300	0.08	0.50	756	0.363	317	D	790	NO	40	39.6%	YES	NO
Pass Road to US 90	2LD	SB			9600	0.08	0.50	756	0.363	250							
Beauvoir Avenue																	
US 90 to Pass Road	2LD	NB	#1240	11000	8600	0.08	0.50	688	0.372	0	D	790	NO	40	0.0%	NO	NO
Pass Road to US 90	2LD	SB			8600	0.08	0.50	688	0.372	198							
Rodenberg Avenue																	
US 90 to Pass Road	2LD	NB	#5215	6200	5400	0.08	0.50	432	0.261	49	D	790	NO	40	6.1%	YES	NO
Pass Road to US 90	2LD	SB			5400	0.08	0.50	432	0.261	39							
East Harrison Connector																	
US 90 to Pass Road	4LD	NB			11800	0.08	0.50	924	0.581	322	D	3270	NO	80	20.1%	YES	NO
Pass Road to US 90	4LD	SB			11300	0.08	0.50	924	0.581	409							
Pass Road to I-10	4LD	NB			26800	0.08	0.50	2120		322	D	3270	NO	80	20.1%	YES	NO
I-10 to Pass Road	4LD	SB			26200	0.08	0.50	2120		409							

Alternative 2 **Roadway Segment**	No. Lanes	Peak Dir.	MDOT / GRPC Number	Traffic Volume: Base AADT 1999	Traffic Volume: Assignment AADT 2010	Traffic Volume: K-factor	Traffic Volume: D-factor	Traffic Volume: Background + Project 2010 PkHr Trips	Traffic Volume: Traffic Assignment Ratios	Traffic Volume: New Project Trips	Adversity Test: LOS	Adversity Test: Service Volume @ Standard	Adversity Test: Adverse?	Significance Test: 5% of LOS Standard	Significance Test: % Project @ LOS D	Significance Test: Significant?	Significant & Adverse Impact?
Veterans Avenue																	
US 90 to Pass Road	2LD	NB	#5060	6700	8600	0.08	0.50	688	0.349	81	D	790	NO	40	10.1%	YES	NO
Pass Road to US 90	2LD	SB			8600	0.08	0.50	688	0.349	103							
Porter Avenue																	
Us 90 to Irish Hill Drive	2LD	NB	#5075	5500	3800	0.08	0.50	230	0.051	7	D	790	NO	40	0.9%	NO	NO
Irish Hill Drive to US 90	2LD	SB			1950	0.08	0.50	230	0.051	6							
Irish Hill Drive to Division Street	2LD	NB	#5080	7400	3800	0.08	0.50	230	1.512	11	D	790	NO	40	1.3%	NO	NO
Division Street to Irish Hill Drive	2LD	SB			1950	0.08	0.50	230	1.512	8							
I-110																	
Us 90 to Division Street	4LD	NB	#2149	21000	10500	0.08	0.50	824		0	D	3270	NO	80	0.0%	NO	NO
Division Street to US 90	4LD	SB			10100	0.08	0.50	824		0							
Division Street to Bayview Avenue	4LD	NB	#1710	44000	16300	0.08	0.50	1188		0	D	3270	NO	80	0.0%	NO	NO
Bayview Avenue to Division Street	4LD	SB			13400	0.08	0.50	1188		0							
Bayview Avenue to I-10	4LD	NB	#1710	44000	32400	0.08	0.50	2616		0	D	3270	NO	80	0.0%	NO	NO
I-10 to Bayview Avenue	4LD	SB			33000	0.08	0.50	2616		0							

Table 3-B: Trip Distribution Analysis Alt 3 - Destination Broadwater Resort President Casinos

EDAW / Hall Planning & Engineering

Total Project Trips 77250
Total Project Trips(Gen) 5836

01/07/2000

Roadway Segment	No. Lanes	Peak Dir.	MDOT / GRPC Number	Traffic Volume: Base AADT 1999	Project Assignmnet AADT 2010	Total Assignment AADT 2010	K-factor	D-factor	Background + Project 2010 PkHr Trips	Traffic Assignment Ratios	New Project Trips	Adversity Test: LOS	Service Volume @ Standard	Adverse?	Significance Test: % of LOS Standard 5.00%	% Project @ LOS D	Significant?	Significant & Adverse Impact?
Bayview Avenue																		
Oak Street to Holley Street	2LD	WB	#5140	11000	2698	2881	0.08	0.50	228	3.49%	204	D	790	NO	39.5	25.8%	YES	NO
Holley Street to Oak Street	2LD	EB			2670	2811	0.08	0.50	228	3.46%	202		790	NO	39.5	25.5%	YES	NO
Holley Street to Lee Street	2LD	WB	#5140	11000	2698	2881	0.08	0.50	228	3.49%	204	D	790	NO	39.5	25.8%	YES	NO
Lee Street to Holley Street	2LD	EB			2670	2811	0.08	0.50	228	3.46%	202		790	NO	39.5	25.5%	YES	NO
Lee Street to Croesus Street	2LD	WB	#5140	11000	11895	13713	0.08	0.50	1097	15.40%	899	D	790	YES	39.5	113.7%	YES	YES
Croesus Street to Lee Street	2LD	EB			11968	13709	0.08	0.50	1097	15.49%	904		790	YES	39.5	114.4%	YES	YES
Croesus Street to Caillavet Street	4LD	WB	#5140	11000	10522	24587	0.08	0.50	1972	13.62%	795	D	1710	YES	85.5	46.5%	YES	YES
Caillavet Street to Croesus Street	4LD	EB			10593	24725	0.08	0.50	1972	13.71%	800		1710	YES	85.5	46.8%	YES	YES
Caillavet Street to I-110	4LD	WB	#2120	11000	10522	24587	0.08	0.50	1972	13.62%	795	D	1710	YES	85.5	46.5%	YES	YES
I-110 to Caillavet Street	4LD	EB			10593	24725	0.08	0.50	1972	13.71%	800		1710	YES	85.5	46.8%	YES	YES
I-110 to Porter Avenue	2LD	WB	#5133	13000	354	2830	0.08	0.50	241	0.46%	27	D	790	NO	39.5	3.4%	NO	NO
Porter Avenue to I-110	2LD	EB			629	3186	0.08	0.50	241	0.81%	48		790	NO	39.5	6.0%	YES	NO
Division Street																		
I-110 to Porter Avenue	2LD	WB	#5110	9500	2720	7528	0.08	0.50	454	3.52%	205	D	790	NO	39.5	26.0%	YES	NO
Porter Avenue to I-110	2LD	EB			1628	3821	0.08	0.50	454	2.11%	123		790	NO	39.5	15.6%	YES	NO
Caillavet Street to I-110	2LD	WB	#5115	7700	2778	9876	0.08	0.50	715	3.60%	210	D	790	NO	39.5	26.6%	YES	NO
I-110 to Caillavet Street	2LD	EB			3579	7998	0.08	0.50	715	4.63%	270		790	NO	39.5	34.2%	YES	NO
Midway Street to Caillavet Street	2LD	WB	#5115	7700	4980	9742	0.08	0.50	690	6.45%	376	D	790	NO	39.5	47.6%	YES	NO
Caillavet Street to Midway Street	2LD	EB			4823	7510	0.08	0.50	690	6.24%	364		790	NO	39.5	46.1%	YES	NO
Lee Street to Midway Street	2LD	WB	#5115	7700	6726	9129	0.08	0.50	646	8.71%	508	D	790	NO	39.5	64.3%	YES	NO
Midway Street to Lee Street	2LD	EB			6478	7018	0.08	0.50	646	8.39%	489		790	NO	39.5	61.9%	YES	NO
Holley Street to Lee Street	2LD	WB	#5115	7700	6058	8310	0.08	0.50	665	7.84%	458	D	790	NO	39.5	57.9%	YES	NO
Lee Street to Holley Street	2LD	EB			5797	8309	0.08	0.50	665	7.50%	438		790	NO	39.5	55.4%	YES	NO
Oak Street to Holley Street	2LD	WB	#5115	7700	4685	7229	0.08	0.50	581	6.06%	354	D	790	NO	39.5	44.8%	YES	NO
Holley Street to Oak Street	2LD	EB			4401	7304	0.08	0.50	581	5.70%	332		790	NO	39.5	42.1%	YES	NO

Roadway Segment	No. Lanes	Peak Dir.	MDOT / GRPC Number	Traffic Volume: Base AADT 1999	Project Assignmnet AADT 2010	Total Assignment AADT 2010	K-factor	D-factor	Background + Project 2010 PkHr Trips	Traffic Assignment Ratios	New Project Trips	Adversity Test: LOS	Service Volume @ Standard	Adverse?	Significance Test: % of LOS Standard 5.00%	% Project @ LOS D	Significant?	Significant & Adverse Impact?
US 90																		
Eisenhower Drive to Debuys Road	4LD	WB	#355	32000	1993	18503	0.08	0.50	1477	2.58%	151	D	1710	NO	85.5	8.8%	YES	NO
Debuys Road to Eisenhower Drive	4LD	EB			1961	18419	0.08	0.50	1477	2.54%	148		1710	NO	85.5	8.7%	YES	NO
Beauvoir Avenue to Eisenhower Drive	4LD	WB	#355	32000	2826	21835	0.08	0.50	1759	3.66%	213	D	1710	YES	85.5	12.5%	YES	YES
Eisenhower Drive to Beauvoir Avenue	4LD	EB			2799	22142	0.08	0.50	1759	3.62%	211		1710	YES	85.5	12.4%	YES	YES
Site to Beauvoir Avenue	4LD	WB	#355	32000	2903	22381	0.08	0.50	1863	3.76%	219	D	1710	YES	85.5	12.8%	YES	YES
Beauvoir Avenue to Site	4LD	EB			2967	24193	0.08	0.50	1863	3.84%	224		1710	YES	85.5	13.1%	YES	YES
Treasure Bay to Site	4LD	WB	#2148	47000	2903	22954	0.08	0.50	1917	3.76%	219	D	1710	YES	85.5	12.8%	YES	YES
Site to Treasure Bay	4LD	EB			2911	24961	0.08	0.50	1917	3.77%	220		1710	YES	85.5	12.9%	YES	YES
Camelia Street to Treasure Bay	4LD	WB	#2148	47000	3242	22954	0.08	0.50	1917	4.20%	245	D	1710	YES	85.5	14.3%	YES	YES
Treasure Bay to Camelia Street	4LD	EB			3314	24961	0.08	0.50	1917	4.29%	250		1710	YES	85.5	14.6%	YES	YES
East Harrolson Connector to Camelia Stre	4LD	WB	#2148	47000	3373	22954	0.08	0.50	1917	4.37%	255	D	1710	YES	85.5	14.9%	YES	YES
Camelia Street to E. Harrison Connector	4LD	EB			3451	24961	0.08	0.50	1917	4.47%	261		1710	YES	85.5	15.2%	YES	YES
Veterans Avenue to E. Harrison Connecto	4LD	WB	#2148	47000	3437	17584	0.08	0.50	1455	4.45%	260	D	1710	NO	85.5	15.2%	YES	NO
E. Harrison Connector to Veterans Avenu	4LD	EB			3528	18782	0.08	0.50	1455	4.57%	267		1710	NO	85.5	15.6%	YES	NO
Rodenberg Avenue to Veterans Avenue	4LD	WB	#2148	47000	3706	17584	0.08	0.50	1455	4.80%	280	D	1710	NO	85.5	16.4%	YES	NO
Veterans Avenue to Rodenberg Avenue	4LD	EB			3688	18782	0.08	0.50	1455	4.77%	279		1710	NO	85.5	16.3%	YES	NO
White Avenue to Rodenberg Avenue	4LD	WB	#380	38000	4538	18753	0.08	0.50	1536	5.87%	343	D	1710	NO	85.5	20.0%	YES	NO
Rodenberg Avenue to White Avenue	4LD	EB			4486	19852	0.08	0.50	1536	5.81%	339		1710	NO	85.5	19.8%	YES	NO
Porter Avenue to White Avenue	4LD	WB	#390	44000	5383	22188	0.08	0.50	1772	6.97%	407	D	1710	YES	85.5	23.8%	YES	YES
White Avenue to Porter Avenue	4LD	EB			4594	22114	0.08	0.50	1772	5.95%	347		1710	YES	85.5	20.3%	YES	YES
I-110 to Porter Avenue	4LD	WB	#395	46000	4982	21628	0.08	0.50	1765	6.45%	376	D	1710	YES	85.5	22.0%	YES	YES
Porter Avenue to I-110	4LD	EB			4963	22485	0.08	0.50	1765	6.42%	375		1710	YES	85.5	21.9%	YES	YES
Caillavet Street to I-110	6LD	WB	#400	38000	5327	16303	0.08	0.50	1356	6.90%	402	D	2580	NO	129	15.6%	YES	NO
I-110 to Caillavet Street	6LD	EB			5422	17595	0.08	0.50	1356	7.02%	410		2580	NO	129	15.9%	YES	NO
Main Street to Caillavet Street	6LD	WB	#400	38000	5340	16303	0.08	0.50	1356	6.91%	403	D	2580	NO	129	15.6%	YES	NO
Caillavet Street to Main Street	6LD	EB			5447	17595	0.08	0.50	1356	7.05%	411		2580	NO	129	15.9%	YES	NO
Lee Street to Main Street	4LD	WB	#405	36000	5029	20589	0.08	0.50	1696	6.51%	380	D	1710	NO	85.5	22.2%	YES	NO
Main Street to Lee Street	4LD	EB			5269	21815	0.08	0.50	1696	6.82%	398		1710	NO	85.5	23.3%	YES	NO
Holley Street to Lee Street	4LD	WB	#405	36000	5394	23986	0.08	0.50	1892	6.98%	407	D	1710	YES	85.5	23.8%	YES	YES
Lee Street to Holley Street	4LD	EB			5633	23310	0.08	0.50	1892	7.29%	426		1710	YES	85.5	24.9%	YES	YES
Oak Street to Holley Street	4LD	WB	#405	36000	5456	23833	0.08	0.50	1880	7.06%	412	D	1710	YES	85.5	24.1%	YES	YES
Holley Street to Oak Street	4LD	EB			5697	23168	0.08	0.50	1880	7.37%	430		1710	YES	85.5	25.2%	YES	YES
Biloxi Bay Bridge to Oak Street	4LD	WB	#410	38000	8750	32474	0.08	0.50	2572	11.33%	661	D	1710	YES	85.5	38.7%	YES	YES
Oak Street to Biloxi Bay Bridge	4LD	EB			8704	31816	0.08	0.50	2572	11.27%	658		1710	YES	85.5	38.5%	YES	YES

Roadway Segment	No. Lanes	Peak Dir.	MDOT / GRPC Number	Traffic Volume: Base AADT 1999	Project Assignmnet AADT 2010	Total Assignment AADT 2010	K-factor	D-factor	Background + Project 2010 PkHr Trips	Traffic Assignment Ratios	New Project Trips	Adversity Test: LOS	Service Volume @ Standard	Adverse?	Significance Test: % of LOS Standard 5.00%	% Project @ LOS D	Significant?	Significant & Adverse Impact?
Caillavet Street																		
Division Street to Bayview Avenue	2LD	NB	#5010	6500	3742	10768	0.08	0.50	741	4.84%	283	D	790	NO	39.5	35.8%	YES	NO
Bayview Avenue to Division Street	2LD	SB			2106	7749	0.08	0.50	741	2.73%	159		790	NO	39.5	20.1%	YES	NO
US 90 to Division Street	4LD	NB	#5005	13000	2735	11059	0.08	0.50	812	3.54%	207	D	790	YES	39.5	26.2%	YES	YES
Division Street to US 90	4LD	SB			2086	9231	0.08	0.50	812	2.70%	158		790	YES	39.5	19.9%	YES	YES
East Harrison Connector																		
US 90 to Pass Road	4LD	NB			90	6822	0.08	0.50	579	0.12%	7	D	1710	NO	85.5	0.4%	NO	NO
Pass Road to US 90	4LD	SB			91	7650	0.08	0.50	579	0.12%	7		1710	NO	85.5	0.4%	NO	NO
Pass Road to I-10	4LD	NB			110	20893	0.08	0.50	1712	0.14%	8	D	1710	YES	85.5	0.5%	NO	NO
I-10 to Pass Road	4LD	SB			91	21914	0.08	0.50	1712	0.12%	7		1710	YES	85.5	0.4%	NO	NO
Howard Ave. / Washington Loop																		
I-110 to Porter Avenue	2LD	WB	#5305	8700	1222	5798	0.08	0.50	494	1.58%	92	D	790	NO	39.5	11.7%	YES	NO
Porter Avenue to I-110	2LD	EB			1892	6565	0.08	0.50	494	2.45%	143		790	NO	39.5	18.1%	YES	NO
Caillavet Street to I-110	2LD	WB	#5305	8700	1222	5659	0.08	0.50	496	1.58%	92	D	790	NO	39.5	11.7%	YES	NO
I-110 to Caillavet Street	2LD	EB			1892	6732	0.08	0.50	496	2.45%	143		790	NO	39.5	18.1%	YES	NO
Midway Street to Caillavet Street	2LD	WB	#2169	5300	1365	3511	0.08	0.50	276	1.77%	103	D	790	NO	39.5	13.1%	YES	NO
Caillavet Street to Midway Street	2LD	EB			1280	3386	0.08	0.50	276	1.66%	97		790	NO	39.5	12.2%	YES	NO
Lee Street to Midway Street	2LD	WB	#2169	5300	3634	6359	0.08	0.50	509	4.70%	275	D	790	NO	39.5	34.7%	YES	NO
Midway Street to Lee Street	2LD	EB			3633	6365	0.08	0.50	509	4.70%	274		790	NO	39.5	34.7%	YES	NO
Holley Street to Lee Street	2LD	WB	#2169	5300	5404	7665	0.08	0.50	613	7.00%	408	D	790	NO	39.5	51.7%	YES	NO
Lee Street to Holley Street	2LD	EB			5413	7666	0.08	0.50	613	7.01%	409		790	NO	39.5	51.8%	YES	NO
Oak Street to Holley Street	2LD	WB	#5200	7600	5459	7304	0.08	0.50	584	7.07%	412	D	790	NO	39.5	52.2%	YES	NO
Holley Street to Oak Street	2LD	EB			5467	7299	0.08	0.50	584	7.08%	413		790	NO	39.5	52.3%	YES	NO
I-110																		
I-10 to Bayview Avenue	4LD	NB	#1710	47000	10493	41264	0.08	0.50	3302	13.58%	793	D	3150	YES	157.5	25.2%	YES	YES
Bayview Avenue to I-10	4LD	SB			10595	41285	0.08	0.50	3302	13.72%	800		3150	YES	157.5	25.4%	YES	YES
Division Street to Bayview Avenue	4LD	NB	#1710	47000	470	16241	0.08	0.50	1430	0.61%	36	D	3150	NO	157.5	1.1%	NO	NO
Bayview Avenue to Division Street	4LD	SB			2411	19497	0.08	0.50	1430	3.12%	182		3150	NO	157.5	5.8%	YES	NO
US 90 to Divison Street	4LD	NB	#2149	21000	470	10173	0.08	0.50	846	0.61%	36	D	3150	NO	157.5	1.1%	NO	NO
Division Street to US 90	4LD	SB			459	10972	0.08	0.50	846	0.59%	35		3150	NO	157.5	1.1%	NO	NO

Roadway Segment	No. Lanes	Peak Dir.	MDOT / GRPC Number	Traffic Volume: Base AADT 1999	Project Assignmnet AADT 2010	Total Assignment AADT 2010	K-factor	D-factor	Background + Project 2010 PkHr Trips	Traffic Assignment Ratios	New Project Trips	Adversity Test: LOS	Service Volume @ Standard	Adverse?	Significance Test: % of LOS Standard 5.00%	% Project @ LOS D	Significant?	Significant & Adverse Impact?
Lameuse Street																		
Division Street to Bayview Avenue	2LD	NB	#5386	2700	4137	4371	0.08	0.50	355	5.36%	313	D	790	NO	39.5	39.6%	YES	NO
Bayview Avenue to Division Street	2LD	SB			4239	4503	0.08	0.50	355	5.49%	320		790	NO	39.5	40.5%	YES	NO
Howard Avenue to Divison Street	2LD	NB	#5386	2700	3207	6607	0.08	0.50	530	4.15%	242	D	790	NO	39.5	30.7%	YES	NO
Division Street to Howard Avenue	2LD	SB			3400	6644	0.08	0.50	530	4.40%	257		790	NO	39.5	32.5%	YES	NO
US 90 to Howard Avenue	2LD	NB	#5386	2700	549	4007	0.08	0.50	398	0.71%	41	D	790	NO	39.5	5.2%	YES	NO
Howard Avenue to US 90	2LD	SB			680	5941	0.08	0.50	398	0.88%	51		790	NO	39.5	6.5%	YES	NO
Lee Street																		
Division Street to Bayview Avenue	2LD	NB	#5170	3300	1468	5250	0.08	0.50	423	1.90%	111	D	790	NO	39.5	14.0%	YES	NO
Bayview Avenue to Division Street	2LD	SB			1465	5313	0.08	0.50	423	1.90%	111		790	NO	39.5	14.0%	YES	NO
Howard Avenue to Divison Street	2LD	NB	#5175	3300	3356	6822	0.08	0.50	469	4.34%	254	D	790	NO	39.5	32.1%	YES	NO
Division Street to Howard Avenue	2LD	SB			3366	4905	0.08	0.50	469	4.36%	254		790	NO	39.5	32.2%	YES	NO
US 90 to Howard Avenue	2LD	NB	#5175	3300	1519	5666	0.08	0.50	377	1.97%	115	D	790	NO	39.5	14.5%	YES	NO
Howard Avenue to US 90	2LD	SB			1517	3752	0.08	0.50	377	1.96%	115		790	NO	39.5	14.5%	YES	NO
Oak Street																		
Division Street to Bayview Avenue	2LD	NB	#5155	9800	38	125	0.08	0.50	7	0.05%	3	D	790	NO	39.5	0.4%	NO	NO
Bayview Avenue to Division Street	2LD	SB			16	53	0.08	0.50	7	0.02%	1		790	NO	39.5	0.2%	NO	NO
US 90 to Divison Street	2LD	NB	#5160	5300	4885	7357	0.08	0.50	597	6.06%	354	D	790	NO	39.5	44.8%	YES	NO
Division Street to US 90	2LD	SB			4401	7565	0.08	0.50	597	5.70%	332		790	NO	39.5	42.1%	YES	NO
Porter Street																		
Division Street to Bayview Avenue	2LD	NB	#5295	12000	174	2178	0.08	0.50	137	0.23%	13	D	790	NO	39.5	1.7%	NO	NO
Bayview Avenue to Division Street	2LD	SB			100	1253	0.08	0.50	137	0.13%	8		790	NO	39.5	1.0%	NO	NO
US 90 to Divison Street	2LD	NB	#5080	7400	181	2268	0.08	0.50	219	0.23%	14	D	790	NO	39.5	1.7%	NO	NO
Division Street to US 90	2LD	SB			257	3216	0.08	0.50	219	0.33%	19		790	NO	39.5	2.5%	NO	NO

Table 4-B: Trip Distribution Analysis Alt 4 - Destination Broadwater Resort President Casinos

EDAW / Hall Planning & Engineering

01/07/2000

New Trips 2163 Entering Trips
2787 Exiting Trips

Alternative 4 Roadway Segment	No. Lanes	Peak Dir.	MDOT / GRPC Number	Traffic Volume: Base AADT 1999	Assignment AADT 2010	K-factor	D-factor	Background + Project 2010 PkHr Trips	Traffic Assignment Ratios	New Project Trips	Adversity Test: LOS	Service Volume @ Standard	Adverse?	Significance Test: 5% of LOS Standard	% Project @ LOS D	Significant?	Significant & Adverse Impact?
US 90 East of Site																	
Treasure Bay to Site	4LD	WB	#2148	47000	27000	0.08	0.50	2156	0.476	1030	D	1710	YES	85.5	60.2%	YES	YES
Site to Treasure Bay	4LD	EB			26900	0.08	0.50	2156	0.476	1327							
Camelia Street to Treasure Bay	4LD	WB	#2148	47000	27000	0.08	0.50	2156	0.968	997	D	1710	YES	85.5	58.3%	YES	YES
Treasure Bay to Camelia Street	4LD	EB			26900	0.08	0.50	2156	0.968	1285							
East Harrolson Connector to Camelia Stre	4LD	WB	#2148	47000	27000	0.08	0.50	2156	0.575	574	D	1710	YES	85.5	33.5%	YES	YES
Camelia Street to E. Harrison Connector	4LD	EB			26900	0.08	0.50	2156	0.575	739							
Veterans Avenue to E. Harrison Connecto	4LD	WB	#2148	47000	15500	0.08	0.50	1248	0.419	240	D	1710	NO	85.5	14.1%	YES	NO
E. Harrison Connector to Veterans Avenu	4LD	EB			15700	0.08	0.50	1248	0.419	310							
Rodenberg Avenue to Veterans Avenue	4LD	WB	#2148	47000	15500	0.08	0.50	1248	0.637	153	D	1710	NO	85.5	9.0%	YES	NO
Veterans Avenue to Rodenberg Avenue	4LD	EB			15700	0.08	0.50	1248	0.637	197							
White Avenue to Rodenberg Avenue	4LD	WB	#380	38000	15600	0.08	0.50	1248	0.765	117	D	1710	NO	85.5	6.8%	YES	NO
Rodenberg Avenue to White Avenue	4LD	EB			15600	0.08	0.50	1248	0.765	151							
Porter Avenue to White Avenue	4LD	WB	#390	44000	17200	0.08	0.50	1368	0.961	113	D	1710	NO	85.5	6.6%	YES	NO
White Avenue to Porter Avenue	4LD	EB			17000	0.08	0.50	1368	0.961	145							
I-110 to Porter Avenue	4LD	WB	#395	46000	17000	0.08	0.50	1348	0.980	110	D	1710	NO	85.5	6.4%	YES	NO
Porter Avenue to I-110	4LD	EB			16700	0.08	0.50	1348	0.980	142							
Main Street to I-110	6LD	WB	#400	38000	18500	0.08	0.50	1468	0.519	57	D	2580	NO	129	2.2%	NO	NO
I-110 to Main Street	6LD	EB			18200	0.08	0.50	1468	0.519	74							
Holley Street to Main Street	4LD	WB	#405	36000	18500	0.08	0.50	1468	0.987	56	D	1710	NO	85.5	3.3%	NO	NO
Main Street to Holley Street	4LD	EB			18200	0.08	0.50	1468	0.987	73							
Oak Street to Holley Street	4LD	WB	#405	36000	19700	0.08	0.50	1564	1.004	57	D	1710	NO	85.5	3.3%	NO	NO
Holley Street to Oak Street	4LD	EB			19400	0.08	0.50	1564	1.004	73							
Biloxi Bay Bridge to Oak Street	4LD	WB	#410	38000	24600	0.08	0.50	1936	0.691	39	D	1710	YES	85.5	2.3%	NO	NO
Oak Street to Biloxi Bay Bridge	4LD	EB			23800	0.08	0.50	1936	0.691	50							

Alternative 4 **Roadway Segment**	No. Lanes	Peak Dir.	MDOT / GRPC Number	Traffic Volume: Base AADT 1999	Assignment AADT 2010	K-factor	D-factor	Background + Project 2010 PkHr Trips	Traffic Assignment Ratios	New Project Trips	Adversity Test: LOS	Service Volume @ Standard	Adverse?	Significance Test: 5% of LOS Standard	% Project @ LOS D	Significant?	Significant & Adverse Impact?
US 90 West of Site																	
Site to Beauvoir Avenue	4LD	WB	#355	32000	27000	0.08	0.50	2156	0.524	1461	D	1710	YES	80	91.3%	YES	YES
Beauvoir Avenue to Site	4LD	EB			26900	0.08	0.50	2156	0.524	1134							
Beauvoir Avenue to Eisenhower Drive	4LD	WB	#355	32000	23000	0.08	0.50	1836	0.627	916	D	1710	YES	80	57.3%	YES	YES
Eisenhower Drive to Beauvoir Avenue	4LD	EB			22900	0.08	0.50	1836	0.627	711							
Eisenhower Drive to Debuys Road	4LD	WB	#355	32000	18800	0.08	0.50	1508	0.525	481	D	1710	NO	80	30.1%	YES	NO
Debuys Road to Eisenhower Drive	4LD	EB			18900	0.08	0.50	1508	0.525	373							
Debuys Road to Cowan-Lorraine	4LD	WB	#355	32000	22100	0.08	0.50	1772	1.160	558	D	1710	YES	80	34.9%	YES	YES
Cowan-Lorraine to Debuys Road	4LD	EB			22200	0.08	0.50	1772	1.160	433							
Cowan-Lorraine to US 49	4LD	WB	#355	32000	21900	0.08	0.50	1780	0.597	333	D	1710	YES	80	20.8%	YES	YES
US 49 to Cowan-Lorraine	4LD	EB			22600	0.08	0.50	1780	0.597	259							
Pass Road																	
Eisenhower Drive to Debuys Road	4LD	WB	#5220	25000	21200	0.08	0.50	1684	1.670	0	D	1710	NO	80	0.0%	NO	NO
Debuys Road to Eisenhower Drive	4LD	EB			20900	0.08	0.50	1684	1.670	174							
Popps Ferry Road to Eisenhower Drive	4LD	WB	#5030	31000	19600	0.08	0.50	1544	0.968	0	D	1710	NO	80	0.0%	NO	NO
Eisenhower Drive to Popps Ferry Road	4LD	EB			19000	0.08	0.50	1544	0.750	104							
Beauvoir Avenue to Popps Ferry Road	4LD	WB	#5035	32000	13900	0.08	0.50	1088	0.669	0	D	1710	NO	80	0.0%	NO	NO
Popps Ferry Road to Beauvoir Avenue	4LD	EB			13300	0.08	0.50	1088	0.669	139							
Veterans Avenue to Beauvoir Road	4LD	WB	#5035	32000	15100	0.08	0.50	1184	0.000	0	D	1710	NO	80	0.0%	NO	NO
Beauvoir Road to Veterans Avenue	4LD	EB			14500	0.08	0.50	1184	0.000	21							
Rodenberg Avenue to Veterans Avenue	4LD	WB	#5050	22000	16300	0.08	0.50	1272	0.000	0	D	1710	NO	80	0.0%	NO	NO
Veterans Avenue to Rodenberg Avenue	4LD	EB			15500	0.08	0.50	1272	0.000	4							
Irish Hill Drive																	
Rodenberg Avenue to Veterans	2LD	WB	#5400	10000	6400	0.08	0.50	508	0.613	51	D	790	NO	40	6.4%	YES	NO
Veterans to Rodenberg Avenue	2LD	EB			6300	0.08	0.50	508	0.613	66							
White Avenue to Rodenberg Avenue	2LD	WB	#5400	10000	6500	0.08	0.50	520	0.609	31	D	790	NO	40	3.9%	NO	NO
Rodenberg Avenue to White Avenue	2LD	EB			6500	0.08	0.50	520	0.609	40							
Porter Avenue to White Avenue	2LD	WB	#5400	10000	10600	0.08	0.50	816	1.114	35	D	790	YES	40	4.4%	NO	NO
White Avenue to Porter Avenue	2LD	EB			9800	0.08	0.50	816	1.114	45							
Division Street																	
I-110 to Porter Avenue	2LD	WB	5110	9500	2300	0.08	0.50	180		0	D	790	NO	40	0.0%	NO	NO
Porter Avenue to I-110	2LD	EB			2200	0.08	0.50	180		0							
Debuys Road																	
US 90 to Pass Road	2LD	NB	#2114	11000	8200	0.08	0.50	636	0.401	193	D	790	NO	40	24.1%	YES	NO
Pass Road to US 90	2LD	SB			7700	0.08	0.50	636	0.401	150							

Alternative 4 **Roadway Segment**	No. Lanes	Peak Dir.	MDOT / GRPC Number	Traffic Volume: Base AADT 1999	Assignment AADT 2010	K-factor	D-factor	Background + Project 2010 PkHr Trips	Traffic Assignment Ratios	New Project Trips	Adversity Test: LOS	Service Volume @ Standard	Adverse?	Significance Test: 5% of LOS Standard	% Project @ LOS D	Significant?	Significant & Adverse Impact?
Eisenhower Drive																	
US 90 to Pass Road	2LD	NB	#5635	9000	9300	0.08	0.50	756	0.363	333	D	790	NO	40	41.6%	YES	NO
Pass Road to US 90	2LD	SB			9600	0.08	0.50	756	0.363	258							
Beauvoir Avenue																	
US 90 to Pass Road	2LD	NB	#1240	11000	8600	0.08	0.50	688	0.372	0	D	790	NO	40	0.0%	NO	NO
Pass Road to US 90	2LD	SB			8600	0.08	0.50	688	0.372	208							
Rodenberg Avenue																	
US 90 to Pass Road	2LD	NB	#5215	6200	5400	0.08	0.50	432	0.261	52	D	790	NO	40	6.4%	YES	NO
Pass Road to US 90	2LD	SB			5400	0.08	0.50	432	0.261	40							
East Harrison Connector																	
US 90 to Pass Road	4LD	NB			11800	0.08	0.50	924	0.581	333	D	3270	NO	80	20.8%	YES	NO
Pass Road to US 90	4LD	SB			11300	0.08	0.50	924	0.581	429							
Pass Road to I-10	4LD	NB			26800	0.08	0.50	2120		333	D	3270	NO	80	20.8%	YES	NO
I-10 to Pass Road	4LD	SB			26200	0.08	0.50	2120		429							
Veterans Avenue																	
US 90 to Pass Road	2LD	NB	#5060	6700	8600	0.08	0.50	688	0.349	84	D	790	NO	40	10.5%	YES	NO
Pass Road to US 90	2LD	SB			8600	0.08	0.50	688	0.349	108							
Porter Avenue																	
Us 90 to Irish Hill Drive	2LD	NB	#5075	5500	3800	0.08	0.50	230	0.051	7	D	790	NO	40	0.9%	NO	NO
Irish Hill Drive to US 90	2LD	SB			1950	0.08	0.50	230	0.051	6							
Irish Hill Drive to Division Street	2LD	NB	#5080	7400	3800	0.08	0.50	230	1.512	11	D	790	NO	40	1.4%	NO	NO
Division Street to Irish Hill Drive	2LD	SB			1950	0.08	0.50	230	1.512	9							
I-110																	
Us 90 to Division Street	4LD	NB	#2149	21000	10500	0.08	0.50	824		0	D	3270	NO	80	0.0%	NO	NO
Division Street to US 90	4LD	SB			10100	0.08	0.50	824		0							
Division Street to Bayview Avenue	4LD	NB	#1710	44000	16300	0.08	0.50	1188		0	D	3270	NO	80	0.0%	NO	NO
Bayview Avenue to Division Street	4LD	SB			13400	0.08	0.50	1188		0							
Bayview Avenue to I-10	4LD	NB	#1710	44000	32400	0.08	0.50	2616		0	D	3270	NO	80	0.0%	NO	NO
I-10 to Bayview Avenue	4LD	SB			33000	0.08	0.50	2616		0							

Table 5-B: Trip Distribution Analysis Alt 5 - Destination Broadwater Resort President Casinos

EDAW / Hall Planning & Engineering

New Trips 1944 Entering Trips
2885 Exiting Trips

01/07/2000

Alternative 5 Roadway Segment	No. Lanes	Peak Dir.	MDOT / GRPC Number	Traffic Volume: Base AADT 1999	Assignment AADT 2010	K-factor	D-factor	Background + Project 2010 PkHr Trips	Traffic Assignment Ratios	New Project Trips	Adversity Test: LOS	Service Volume @ Standard	Adverse?	Significance Test: 5% of LOS Standard	% Project @ LOS D	Significant?	Significant & Adverse Impact?
US 90 East of Site																	
Treasure Bay to Site	4LD	WB	#2148	47000	27000	0.08	0.50	2156	0.476	925	D	1710	YES	85.5	54.1%	YES	YES
Site to Treasure Bay	4LD	EB			26900	0.08	0.50	2156	0.476	1373							
Camelia Street to Treasure Bay	4LD	WB	#2148	47000	27000	0.08	0.50	2156	0.968	896	D	1710	YES	85.5	52.4%	YES	YES
Treasure Bay to Camelia Street	4LD	EB			26900	0.08	0.50	2156	0.968	1330							
East Harrolson Connector to Camelia Stre	4LD	WB	#2148	47000	27000	0.08	0.50	2156	0.575	516	D	1710	YES	85.5	30.1%	YES	YES
Camelia Street to E. Harrison Connector	4LD	EB			26900	0.08	0.50	2156	0.575	765							
Veterans Avenue to E. Harrison Connector	4LD	WB	#2148	47000	15500	0.08	0.50	1248	0.419	216	D	1710	NO	85.5	12.6%	YES	NO
E. Harrison Connector to Veterans Avenue	4LD	EB			15700	0.08	0.50	1248	0.419	321							
Rodenberg Avenue to Veterans Avenue	4LD	WB	#2148	47000	15500	0.08	0.50	1248	0.637	138	D	1710	NO	85.5	8.0%	YES	NO
Veterans Avenue to Rodenberg Avenue	4LD	EB			15700	0.08	0.50	1248	0.637	204							
White Avenue to Rodenberg Avenue	4LD	WB	#380	38000	15600	0.08	0.50	1248	0.765	105	D	1710	NO	85.5	6.2%	YES	NO
Rodenberg Avenue to White Avenue	4LD	EB			15600	0.08	0.50	1248	0.765	156							
Porter Avenue to White Avenue	4LD	WB	#390	44000	17200	0.08	0.50	1368	0.961	101	D	1710	NO	85.5	5.9%	YES	NO
White Avenue to Porter Avenue	4LD	EB			17000	0.08	0.50	1368	0.961	150							
I-110 to Porter Avenue	4LD	WB	#395	46000	17000	0.08	0.50	1348	0.980	99	D	1710	NO	85.5	5.8%	YES	NO
Porter Avenue to I-110	4LD	EB			16700	0.08	0.50	1348	0.980	147							
Main Street to I-110	6LD	WB	#400	38000	18500	0.08	0.50	1468	0.519	51	D	2580	NO	129	2.0%	NO	NO
I-110 to Main Street	6LD	EB			18200	0.08	0.50	1468	0.519	76							
Holley Street to Main Street	4LD	WB	#405	36000	18500	0.08	0.50	1468	0.987	51	D	1710	NO	85.5	3.0%	NO	NO
Main Street to Holley Street	4LD	EB			18200	0.08	0.50	1468	0.987	75							
Oak Street to Holley Street	4LD	WB	#405	36000	19700	0.08	0.50	1564	1.004	51	D	1710	NO	85.5	3.0%	NO	NO
Holley Street to Oak Street	4LD	EB			19400	0.08	0.50	1564	1.004	76							
Biloxi Bay Bridge to Oak Street	4LD	WB	#410	38000	24600	0.08	0.50	1936	0.691	35	D	1710	YES	85.5	2.1%	NO	NO
Oak Street to Biloxi Bay Bridge	4LD	EB			23800	0.08	0.50	1936	0.691	52							
US 90 West of Site																	
Site to Beauvoir Avenue	4LD	WB	#355	32000	27000	0.08	0.50	2156	0.524	1513	D	1710	YES	80	94.6%	YES	YES
Beauvoir Avenue to Site	4LD	EB			26900	0.08	0.50	2156	0.524	1019							
Beauvoir Avenue to Eisenhower Drive	4LD	WB	#355	32000	23000	0.08	0.50	1836	0.627	948	D	1710	YES	80	59.3%	YES	YES
Eisenhower Drive to Beauvoir Avenue	4LD	EB			22900	0.08	0.50	1836	0.627	639							
Eisenhower Drive to Debuys Road	4LD	WB	#355	32000	18800	0.08	0.50	1508	0.525	498	D	1710	NO	80	31.1%	YES	NO
Debuys Road to Eisenhower Drive	4LD	EB			18900	0.08	0.50	1508	0.525	335							
Debuys Road to Cowan-Lorraine	4LD	WB	#355	32000	22100	0.08	0.50	1772	1.160	578	D	1710	YES	80	36.1%	YES	YES
Cowan-Lorraine to Debuys Road	4LD	EB			22200	0.08	0.50	1772	1.160	389							
Cowan-Lorraine to US 49	4LD	WB	#355	32000	21900	0.08	0.50	1780	0.597	345	D	1710	YES	80	21.6%	YES	YES
US 49 to Cowan-Lorraine	4LD	EB			22600	0.08	0.50	1780	0.597	232							

Alternative 5 **Roadway Segment**	No. Lanes	Peak Dir.	MDOT / GRPC Number	Traffic Volume: Base AADT 1999	Traffic Volume: Assignment AADT 2010	Traffic Volume: K-factor	Traffic Volume: D-factor	Traffic Volume: Background + Project 2010 PkHr Trips	Traffic Volume: Traffic Assignment Ratios	Traffic Volume: New Project Trips	Adversity Test: LOS	Adversity Test: Service Volume @ Standard	Adversity Test: Adverse?	Significance Test: 5% of LOS Standard	Significance Test: % Project @ LOS D	Significance Test: Significant?	Significant & Adverse Impact?
Pass Road																	
Eisenhower Drive to Debuys Road	4LD	WB	#5220	25000	21200	0.08	0.50	1684	1.670	0	D	1710	NO	80	0.0%	NO	NO
Debuys Road to Eisenhower Drive	4LD	EB			20900	0.08	0.50	1684	1.670	180							
Popps Ferry Road to Eisenhower Drive	4LD	WB	#5030	31000	19600	0.08	0.50	1544	0.968	0	D	1710	NO	80	0.0%	NO	NO
Eisenhower Drive to Popps Ferry Road	4LD	EB			19000	0.08	0.50	1544	0.750	108							
Beauvoir Avenue to Popps Ferry Road	4LD	WB	#5035	32000	13900	0.08	0.50	1088	0.669	0	D	1710	NO	80	0.0%	NO	NO
Popps Ferry Road to Beauvoir Avenue	4LD	EB			13300	0.08	0.50	1088	0.669	144							
Veterans Avenue to Beauvoir Road	4LD	WB	#5035	32000	15100	0.08	0.50	1184	0.000	0	D	1710	NO	80	0.0%	NO	NO
Beauvoir Road to Veterans Avenue	4LD	EB			14500	0.08	0.50	1184	0.000	21							
Rodenberg Avenue to Veterans Avenue	4LD	WB	#5050	22000	16300	0.08	0.50	1272	0.000	0	D	1710	NO	80	0.0%	NO	NO
Veterans Avenue to Rodenberg Avenue	4LD	EB			15500	0.08	0.50	1272	0.000	4							
Irish Hill Drive																	
Rodenberg Avenue to Veterans	2LD	WB	#5400	10000	6400	0.08	0.50	508	0.613	46	D	790	NO	40	5.8%	YES	NO
Veterans to Rodenberg Avenue	2LD	EB			6300	0.08	0.50	508	0.613	69							
White Avenue to Rodenberg Avenue	2LD	WB	#5400	10000	6500	0.08	0.50	520	0.609	28	D	790	NO	40	3.5%	NO	NO
Rodenberg Avenue to White Avenue	2LD	EB			6500	0.08	0.50	520	0.609	42							
Porter Avenue to White Avenue	2LD	WB	#5400	10000	10600	0.08	0.50	816	1.114	31	D	790	YES	40	3.9%	NO	NO
White Avenue to Porter Avenue	2LD	EB			9800	0.08	0.50	816	1.114	47							
Division Street																	
I-110 to Porter Avenue	2LD	WB	5110	9500	2300	0.08	0.50	180		0	D	790	NO	40	0.0%	NO	NO
Porter Avenue to I-110	2LD	EB			2200	0.08	0.50	180		0							
Debuys Road																	
US 90 to Pass Road	2LD	NB	#2114	11000	8200	0.08	0.50	636	0.401	199	D	790	NO	40	24.9%	YES	NO
Pass Road to US 90	2LD	SB			7700	0.08	0.50	636	0.401	134							
Eisenhower Drive																	
US 90 to Pass Road	2LD	NB	#5635	9000	9300	0.08	0.50	756	0.363	344	D	790	NO	40	43.0%	YES	NO
Pass Road to US 90	2LD	SB			9600	0.08	0.50	756	0.363	232							
Beauvoir Avenue																	
US 90 to Pass Road	2LD	NB	#1240	11000	8600	0.08	0.50	688	0.372	0	D	790	NO	40	0.0%	NO	NO
Pass Road to US 90	2LD	SB			8600	0.08	0.50	688	0.372	215							
Rodenberg Avenue																	
US 90 to Pass Road	2LD	NB	#5215	6200	5400	0.08	0.50	432	0.261	53	D	790	NO	40	6.7%	YES	NO
Pass Road to US 90	2LD	SB			5400	0.08	0.50	432	0.261	36							
East Harrison Connector																	
US 90 to Pass Road	4LD	NB			11800	0.08	0.50	924	0.581	299	D	3270	NO	80	18.7%	YES	NO
Pass Road to US 90	4LD	SB			11300	0.08	0.50	924	0.581	444							
Pass Road to I-10	4LD	NB			26800	0.08	0.50	2120		299	D	3270	NO	80	18.7%	YES	NO
I-10 to Pass Road	4LD	SB			26200	0.08	0.50	2120		444							

Alternative 5 **Roadway Segment**	No. Lanes	Peak Dir.	MDOT / GRPC Number	Traffic Volume: Base AADT 1999	Traffic Volume: Assignment AADT 2010	Traffic Volume: K-factor	Traffic Volume: D-factor	Traffic Volume: Background + Project 2010 PkHr Trips	Traffic Volume: Traffic Assignment Ratios	Traffic Volume: New Project Trips	Adversity Test: LOS	Adversity Test: Service Volume @ Standard	Adversity Test: Adverse?	Significance Test: 5% of LOS Standard	Significance Test: % Project @ LOS D	Significance Test: Significant?	Significant & Adverse Impact?
Veterans Avenue																	
US 90 to Pass Road	2LD	NB	#5060	6700	8600	0.08	0.50	688	0.349	75	D	790	NO	40	9.4%	YES	NO
Pass Road to US 90	2LD	SB			8600	0.08	0.50	688	0.349	112							
Porter Avenue																	
Us 90 to Irish Hill Drive	2LD	NB	#5075	5500	3800	0.08	0.50	230	0.051	8	D	790	NO	40	1.0%	NO	NO
Irish Hill Drive to US 90	2LD	SB			1950	0.08	0.50	230	0.051	5							
Irish Hill Drive to Division Street	2LD	NB	#5080	7400	3800	0.08	0.50	230	1.512	12	D	790	NO	40	1.5%	NO	NO
Division Street to Irish Hill Drive	2LD	SB			1950	0.08	0.50	230	1.512	8							
I-110																	
Us 90 to Division Street	4LD	NB	#2149	21000	10500	0.08	0.50	824		0	D	3270	NO	80	0.0%	NO	NO
Division Street to US 90	4LD	SB			10100	0.08	0.50	824		0							
Division Street to Bayview Avenue	4LD	NB	#1710	44000	16300	0.08	0.50	1188		0	D	3270	NO	80	0.0%	NO	NO
Bayview Avenue to Division Street	4LD	SB			13400	0.08	0.50	1188		0							
Bayview Avenue to I-10	4LD	NB	#1710	44000	32400	0.08	0.50	2616		0	D	3270	NO	80	0.0%	NO	NO
I-10 to Bayview Avenue	4LD	SB			33000	0.08	0.50	2616		0							

J.4.4 ART-PLAN 3.1 Results for US 90

ART-PLAN 3.1

Arterial Level of Service Estimating Software
Based on Chapter 11 of the 1997 Highway Capacity Manual Update

Florida Department of Transportation

February 1999

DESCRIPTION

Road Name	US 90/Beach Blvd.
From	Rodenberg Drive
To	Eisenhower Drive
Peak Direction	Westbound
Off-Peak Direction	Eastbound
Study Time Period	5 - 6 pm
Analysis Date	December 30, 1999
User Notes	Alt A 2010 US 90 LOS

TRAFFIC CHARACTERISTICS

AADT	34,300
K Factor	0.093
D Factor	0.568
Peak Hour Factor	0.925
Adj. Saturation Flow Rate	1,850
% Turns from Exclusive Lanes	12

ROADWAY CHARACTERISTICS

# Through Lanes Peak Direction	2	
# Through Lanes Off-Peak Direction	2	
Urbanized, Transitioning/Urban, or Rural	U	
Arterial Class	2	
Free Flow Speed (mph)	45	(45,40, or 35)

For Class (Area):	Use Free Flow Speed of:
Class 1 (R)	55, 50, 45, 40 or 35
Class 1 (U or T)	55, 50, or 45
Class 2 (U or T)	45, 40 or 35
Class 3 (U or T)	40, 35, or 30
Class 4 (U only)	35, 30 or 25

SIGNALIZATION CHARACTERISTICS

Arrival Type Peak Direction	5	(1,2,3,4,5,6)
Arrival Type Off-Peak Direction	3	
Type Signal System	S	P=Pretimed,A=Actuated,S=Semiactuated
System Cycle Length	80	
Weighted Through Movement g/C	0.70	

Westbound — PEAK DIRECTION SPECIFIC INPUTS — US 90/Beach Blvd.

Segment	Segment AADT (Enter 1 if unavailable, 0 if segment is unused)	Peak Hour Volume (May be over-written if direct measure avail.)	% Turns from Exclusive Lanes	Number of Lanes	Cycle Length at Signals 2-10	Effective g/C at Signals 2-10	Distance between Signals (Enter in Miles or Feet)	Segment Length (FT)	Arrival Type
1-2	1	1,418	15	2	107.5	0.59	2750.00	2,750	5
2-3	1	2,372	12	2	90	0.64	2350.00	2,350	5
3-4	1	2,372	12	2	90	0.61	350.00	350	5
4-5	1	2,372	12	2	90	0.64	1600.00	1,600	5
5-6	1	2,000	12	2	90	0.59	850.00	850	5
6-7	1	1,940	12	2	70	0.59	300.00	300	5
7-8	1	1,652	15	2	133.5	0.46	3100.00	3,100	5
8-9	1	1,652	12	2	125.5	0.54	2970.00	2,970	5
9-10	1	1,812	15	2	187	0.44	1350.00	1,350	5

PEAK DIRECTION RESULTS

Segment	Westbound US 90/Beach Blvd. From	To	Through Movement Flow Rate	v/c Ratio	Control Delay	Intersection Approach LOS	Speed (MPH)	Arterial Segment LOS
1-2	Rodenberg Drive	*Veterans	1303	0.60	1.6	A	**39.0**	**A**
2-3	*Veterans	Camelia Street	2257	0.95	7.7	A	**32.6**	**B**
3-4	Camelia Street	Treas. Bay/Royal	2257	1.00	8.3	A	**15.0**	**E**
4-5	Treas. Bay/Royal	Hilton	2257	0.95	1.2	A	**36.3**	**A**
5-6	Hilton	Broadwater E/W	1903	0.87	2.4	A	**30.3**	**B**
6-7	Broadwater E/W	President Casino	1846	0.85	2.1	A	**24.1**	**C**
7-8	President Casino	*Beauvoir	1518	0.88	17.2	B	**30.1**	**B**
8-9	*Beauvoir	*Edgewater	1572	0.78	6.1	A	**35.5**	**A**
9-10	*Edgewater	*Eisenhower	1665	1.03	49.4	D	**12.5**	**F**

Section Length: 2.958 Mile(s) — **Arterial Speed: 28.6 mph** — **LOS: B**

Eastbound — OFF-PEAK DIRECTION'S SPECIFIC INPUTS

Segment	Peak Hour Volume	% Turns from Exclusive Lanes	Number of Lanes	Cycle Length at Signals 8-1	Effective g/C at Signals 8-1	Segment Length (FT)	Arrival Type
10-9	1,378	12	2	126	0.54	1,350	3
9-8	1,378	12	2	134	0.46	2,970	3
8-7	1,378	12	2	70	0.59	3,100	3
7-6	1,378	12	2	90	0.59	300	3
6-5	1,378	12	2	90	0.64	850	3
5-4	1,378	12	2	90	0.61	1,600	3
4-3	1,378	12	2	90	0.64	350	3
3-2	1,378	12	2	108	0.59	2,350	3
2-1	1,378	12	2	80	0.70	2,750	3

OFF-PEAK DIRECTION RESULTS

Segment	Eastbound US 90/Beach Blvd. From	To	Through Movement Flow Rate	v/c Ratio	Control Delay	Intersection Approach LOS	Speed (MPH)	Arterial Segment LOS
10-9	*Eisenhower	*Edgewater	1,311	0.65	21.7	C	**20.3**	**D**
9-8	*Edgewater	*Beauvoir	1,311	0.76	32.0	C	**24.7**	**C**
8-7	*Beauvoir	President Casino	1,311	0.60	9.8	A	**34.2**	**B**
7-6	President Casino	Broadwater E/W	1,311	0.60	12.7	B	**11.0**	**F**
6-5	Broadwater E/W	Hilton	1,311	0.55	9.5	A	**23.1**	**C**
5-4	Hilton	Treas. Bay/Royal	1,311	0.58	11.4	B	**27.9**	**C**
4-3	Treas. Bay/Royal	Camelia Street	1,311	0.55	9.5	A	**14.6**	**E**
3-2	Camelia Street	*Veterans	1,311	0.60	15.3	B	**29.1**	**B**
2-1	*Veterans	Rodenberg Drive	1,311	0.51	6.1	A	**35.8**	**A**

Section Length: 2.958 mile(s) — **Arterial Speed = 26.9 mph** — **LOS = C**

ART-PLAN 3.1

Arterial Level of Service Estimating Software
Based on Chapter 11 of the 1997 Highway Capacity Manual Update

Florida Department of Transportation

February 1999

DESCRIPTION

Road Name	US 90/Beach Blvd.
From	Rodenberg Drive
To	Eisenhower Drive
Peak Direction	Westbound
Off-Peak Direction	Eastbound
Study Time Period	5 - 6 pm
Analysis Date	December 30, 1999
User Notes	Alt B 2010 US 90 LOS

TRAFFIC CHARACTERISTICS

AADT	34,300
K Factor	0.093
D Factor	0.568
Peak Hour Factor	0.925
Adj. Saturation Flow Rate	1,850
% Turns from Exclusive Lanes	12

ROADWAY CHARACTERISTICS

# Through Lanes Peak Direction	2	
# Through Lanes Off-Peak Direction	2	
Urbanized, Transitioning/Urban, or Rural	U	
Arterial Class	2	
Free Flow Speed (mph)	45	(45,40, or 35)

For Class (Area):	Use Free Flow Speed of:
Class 1 (R)	55, 50, 45, 40 or 35
Class 1 (U or T)	55, 50, or 45
Class 2 (U or T)	45, 40 or 35
Class 3 (U or T)	40, 35, or 30
Class 4 (U only)	35, 30 or 25

SIGNALIZATION CHARACTERISTICS

Arrival Type Peak Direction	5	(1,2,3,4,5,6)
Arrival Type Off-Peak Direction	3	
Type Signal System	S	P=Pretimed,A=Actuated,S=Semiactuated
System Cycle Length	80	
Weighted Through Movement g/C	0.70	

Westbound	PEAK DIRECTION SPECIFIC INPUTS							US 90/Beach Blvd.	
Segment	Segment AADT (Enter 1 if unavailable, 0 if segment is unused)	Peak Hour Volume (May be over-written if direct measure avail.)	% Turns from Exclusive Lanes	Number of Lanes	Cycle Length at Signals 2-10	Effective g/C at Signals 2-10	Distance between Signals (Enter in Miles or Feet)	Segment Length (FT)	Arrival Type
1-2	1	1,652	15	2	107.5	0.59	2750.00	2,750	5
2-3	1	2,108	12	2	90	0.64	2350.00	2,350	5
3-4	1	2,108	12	2	90	0.61	350.00	350	5
4-5	1	2,108	12	2	90	0.64	1600.00	1,600	5
5-6	1	2,108	12	2	90	0.59	850.00	850	5
6-7	1	2,108	12	2	70	0.59	300.00	300	5
7-8	1	1,677	15	2	133.5	0.46	3100.00	3,100	5
8-9	1	1,583	12	2	125.5	0.54	2970.00	2,970	5
9-10	1	1,547	15	2	187	0.44	1350.00	1,350	5

PEAK DIRECTION RESULTS

	Westbound US 90/Beach Blvd.							
Segment	From	To	Through Movement Flow Rate	v/c Ratio	Control Delay	Intersection Approach LOS	Speed (MPH)	Arterial Segment LOS
1-2	Rodenberg Drive	*Veterans	1518	0.70	2.0	A	**38.1**	**A**
2-3	*Veterans	Camelia Street	2005	0.84	2.5	A	**36.5**	**A**
3-4	Camelia Street	Treas. Bay/Royal	2005	0.89	2.5	A	**23.7**	**C**
4-5	Treas. Bay/Royal	Hilton	2005	0.84	1.3	A	**36.1**	**A**
5-6	Hilton	Broadwater E/W	2005	0.92	5.0	A	**26.7**	**C**
6-7	Broadwater E/W	President Casino	2005	0.92	2.9	A	**21.9**	**D**
7-8	President Casino	*Beauvoir	1541	0.90	16.6	B	**30.3**	**B**
8-9	*Beauvoir	*Edgewater	1506	0.75	5.7	A	**35.9**	**A**
9-10	*Edgewater	*Eisenhower	1422	0.88	28.0	C	**17.7**	**D**

Section Length: 2.958 Mile(s) — **Arterial Speed: 31.1 mph** — **LOS: B**

Eastbound	OFF-PEAK DIRECTION'S SPECIFIC INPUTS						
Segment	Peak Hour Volume	% Turns from Exclusive Lanes	Number of Lanes	Cycle Length at Signals 9-1	Effective g/C at Signals 9-1	Segment Length (FT)	Arrival Type
10-9	1,378	12	2	126	0.54	1,350	3
9-8	1,378	12	2	134	0.46	2,970	3
8-7	1,378	12	2	70	0.59	3,100	3
7-6	1,378	12	2	90	0.59	300	3
6-5	1,378	12	2	90	0.64	850	3
5-4	1,378	12	2	90	0.61	1,600	3
4-3	1,378	12	2	90	0.64	350	3
3-2	1,378	12	2	108	0.59	2,350	3
2-1	1,378	12	2	80	0.70	2,750	3

OFF-PEAK DIRECTION RESULTS

	Eastbound US 90/Beach Blvd.							
Segment	From	To	Through Movement Flow Rate	v/c Ratio	Control Delay	Intersection Approach LOS	Speed (MPH)	Arterial Segment LOS
10-9	*Eisenhower	*Edgewater	1,311	0.65	21.7	C	**20.3**	**D**
9-8	*Edgewater	*Beauvoir	1,311	0.76	32.0	C	**24.7**	**C**
8-7	*Beauvoir	President Casino	1,311	0.60	9.8	A	**34.2**	**B**
7-6	President Casino	Broadwater E/W	1,311	0.60	12.7	B	**11.0**	**F**
6-5	Broadwater E/W	Hilton	1,311	0.55	9.5	A	**23.1**	**C**
5-4	Hilton	Treas. Bay/Royal	1,311	0.58	11.4	B	**27.9**	**C**
4-3	Treas. Bay/Royal	Camelia Street	1,311	0.55	9.5	A	**14.6**	**E**
3-2	Camelia Street	*Veterans	1,311	0.60	15.3	B	**29.1**	**B**
2-1	*Veterans	Rodenberg Drive	1,311	0.51	6.1	A	**35.8**	**A**

Section Length: 2.958 mile(s) — **Arterial Speed = 26.9 mph** — **LOS = C**

ART-PLAN 3.1

Arterial Level of Service Estimating Software
Based on Chapter 11 of the 1997 Highway Capacity Manual Update

Florida Department of Transportation

February 1999

DESCRIPTION

Road Name	US 90/Beach Blvd.
From	Main
To	Veterans
Peak Direction	Westbound
Off-Peak Direction	Eastbound
Study Time Period	5 - 6 pm
Analysis Date	December 30, 1999
User Notes	Alt A 2010 US 90 LOS

TRAFFIC CHARACTERISTICS

AADT	34,300
K Factor	0.093
D Factor	0.568
Peak Hour Factor	0.925
Adj. Saturation Flow Rate	1,850
% Turns from Exclusive Lanes	12

ROADWAY CHARACTERISTICS

# Through Lanes Peak Direction	2	
# Through Lanes Off-Peak Direction	2	
Urbanized, Transitioning/Urban, or Rural	U	
Arterial Class	2	
Free Flow Speed (mph)	45	(45,40, or 35)

For Class (Area):	Use Free Flow Speed of:
Class 1 (R)	55, 50, 45, 40 or 35
Class 1 (U or T)	55, 50, or 45
Class 2 (U or T)	45, 40 or 35
Class 3 (U or T)	40, 35, or 30
Class 4 (U only)	35, 30 or 25

SIGNALIZATION CHARACTERISTICS

Arrival Type Peak Direction	5	(1,2,3,4,5,6)
Arrival Type Off-Peak Direction	3	
Type Signal System	S	P=Pretimed,A=Actuated,S=Semiactuated
System Cycle Length	80	
Weighted Through Movement g/C	0.70	

Westbound — PEAK DIRECTION SPECIFIC INPUTS — US 90/Beach Blvd.

Segment	Segment AADT (Enter 1 if unavailable, 0 if segment is unused)	Peak Hour Volume (May be over-written if direct measure avail.)	% Turns from Exclusive Lanes	Number of Lanes	Cycle Length at Signals 2-10	Effective g/C at Signals 2-10	Distance between Signals (Enter in Miles or Feet)	Segment Length (FT)	Arrival Type
1-2	1	1,321	15	2	140	0.59	1000.00	1,000	5
2-3	1	1,321	12	2	140	0.71	500.00	500	5
3-4	1	1,321	12	2	140	0.56	500.00	500	5
4-5	1	1,321	12	2	140	0.61	2750.00	2,750	5
5-6	1	1,231	12	2	156.5	0.48	2950.00	2,950	5
6-7	1	1,123	12	2	130.5	0.57	8700.00	8,700	5
7-8	1	1,078	15	2	107.5	0.59	2750.00	2,750	5
8-9	0								
9-10	0								

PEAK DIRECTION RESULTS

Segment	Westbound US 90/Beach Blvd. From	To	Through Movement Flow Rate	v/c Ratio	Control Delay	Intersection Approach LOS	Speed (MPH)	Arterial Segment LOS
1-2	Main	Reynoir	1214	0.56	2.3	A	**33.8**	**B**
2-3	Reynoir	Caillavet	1257	0.48	0.5	A	**33.3**	**B**
3-4	Caillavet	Beau Rivage	1257	0.61	5.0	A	**23.1**	**C**
4-5	Beau Rivage	Porter	1257	0.55	0.7	A	**40.0**	**A**
5-6	Porter	White	1171	0.66	14.5	B	**31.7**	**B**
6-7	White	Rodenberg	1068	0.51	2.6	A	**41.6**	**A**
7-8	Rodenberg	Veterans	991	0.46	1.6	A	**40.1**	**A**
8-9								
9-10								

Section Length: 3.627 Mile(s) — **Arterial Speed: 37.9 mph** — **LOS: A**

Eastbound — OFF-PEAK DIRECTION'S SPECIFIC INPUTS

Segment	Peak Hour Volume	% Turns from Exclusive Lanes	Number of Lanes	Cycle Length at Signals 9-1	Effective g/C at Signals 9-1	Segment Length (FT)	Arrival Type
10-9							
9-8							
8-7	1,378	12	2	131	0.57	2,750	3
7-6	1,378	12	2	157	0.48	8,700	3
6-5	1,378	12	2	140	0.61	2,950	3
5-4	1,378	12	2	140	0.56	2,750	3
4-3	1,378	12	2	140	0.71	500	3
3-2	1,378	12	2	140	0.59	500	3
2-1	1,378	12	2	80	0.70	1,000	3

OFF-PEAK DIRECTION RESULTS

Segment	Eastbound US 90/Beach Blvd. From	To	Through Movement Flow Rate	v/c Ratio	Control Delay	Intersection Approach LOS	Speed (MPH)	Arterial Segment LOS
10-9								
9-8								
8-7	Veterans	Rodenberg	1,311	0.62	19.7	B	**28.4**	**B**
7-6	Rodenberg	White	1,311	0.74	35.5	D	**33.2**	**B**
6-5	White	Porter	1,311	0.58	16.8	B	**30.3**	**B**
5-4	Porter	Beau Rivage	1,311	0.64	22.5	C	**27.3**	**C**
4-3	Beau Rivage	Caillavet	1,311	0.50	9.3	A	**17.8**	**D**
3-2	Caillavet	Reynoir	1,311	0.60	19.7	B	**11.6**	**F**
2-1	Reynoir	Main	1,311	0.51	6.1	A	**28.3**	**B**

Section Length: 3.627 mile(s) — **Arterial Speed = 28.9 mph** — **LOS = B**

ART-PLAN 3.1

Arterial Level of Service Estimating Software
Based on Chapter 11 of the 1997 Highway Capacity Manual Update

Florida Department of Transportation

February 1999

DESCRIPTION

Road Name	US 90/Beach Blvd.
From	Main
To	Veterans
Peak Direction	Westbound
Off-Peak Direction	Eastbound
Study Time Period	5 - 6 pm
Analysis Date	December 30, 1999
User Notes	Alt B 2010 US 90 LOS

TRAFFIC CHARACTERISTICS

AADT	34,300
K Factor	0.093
D Factor	0.568
Peak Hour Factor	0.925
Adj. Saturation Flow Rate	1,850
% Turns from Exclusive Lanes	12

ROADWAY CHARACTERISTICS

# Through Lanes Peak Direction	2	
# Through Lanes Off-Peak Direction	2	
Urbanized, Transitioning/Urban, or Rural	U	
Arterial Class	2	
Free Flow Speed (mph)	45	(45,40, or 35)

For Class (Area):	Use Free Flow Speed of:
Class 1 (R)	55, 50, 45, 40 or 35
Class 1 (U or T)	55, 50, or 45
Class 2 (U or T)	45, 40 or 35
Class 3 (U or T)	40, 35, or 30
Class 4 (U only)	35, 30 or 25

SIGNALIZATION CHARACTERISTICS

Arrival Type Peak Direction	5	(1,2,3,4,5,6)
Arrival Type Off-Peak Direction	3	
Type Signal System	S	P=Pretimed,A=Actuated,S=Semiactuated
System Cycle Length	80	
Weighted Through Movement g/C	0.70	

Westbound — PEAK DIRECTION SPECIFIC INPUTS — US 90/Beach Blvd.

Segment	Segment AADT (Enter 1 if unavailable, 0 if segment is unused)	Peak Hour Volume (May be over-written if direct measure avail.)	% Turns from Exclusive Lanes	Number of Lanes	Cycle Length at Signals 2-10	Effective g/C at Signals 2-10	Distance between Signals (Enter in Miles or Feet)	Segment Length (FT)	Arrival Type
1-2	1	1,652	15	2	140	0.59	1000.00	1,000	5
2-3	1	1,690	12	2	140	0.71	500.00	500	5
3-4	1	1,949	12	2	140	0.56	500.00	500	5
4-5	1	1,941	12	2	140	0.61	2750.00	2,750	5
5-6	1	1,492	12	2	156.5	0.48	2950.00	2,950	5
6-7	1	1,492	12	2	130.5	0.57	8700.00	8,700	5
7-8	1	1,492	15	2	107.5	0.59	2750.00	2,750	5
8-9	0								
9-10	0								

PEAK DIRECTION RESULTS

Segment	Westbound US 90/Beach Blvd. From	To	Through Movement Flow Rate	v/c Ratio	Control Delay	Intersection Approach LOS	Speed (MPH)	Arterial Segment LOS
1-2	Main	Reynoir	1518	0.70	2.8	A	32.2	B
2-3	Reynoir	Caillavet	1608	0.61	0.7	A	31.4	B
3-4	Caillavet	Beau Rivage	1854	0.90	10.4	B	16.2	E
4-5	Beau Rivage	Porter	1847	0.81	1.1	A	38.3	A
5-6	Porter	White	1419	0.81	16.2	B	30.4	B
6-7	White	Rodenberg	1419	0.67	3.1	A	40.2	A
7-8	Rodenberg	Veterans	1371	0.63	2.1	A	38.4	A
8-9								
9-10								

Section Length: 3.627 Mile(s) — **Arterial Speed: 35.8 mph** — **LOS: A**

Eastbound — OFF-PEAK DIRECTION'S SPECIFIC INPUTS

Segment	Peak Hour Volume	% Turns from Exclusive Lanes	Number of Lanes	Cycle Length at Signals 9-1	Effective g/C at Signals 9-1	Segment Length (FT)	Arrival Type
10-9							
9-8							
8-7	1,378	12	2	131	0.57	2,750	3
7-6	1,378	12	2	157	0.48	8,700	3
6-5	1,378	12	2	140	0.61	2,950	3
5-4	1,378	12	2	140	0.56	2,750	3
4-3	1,378	12	2	140	0.71	500	3
3-2	1,378	12	2	140	0.59	500	3
2-1	1,378	12	2	80	0.70	1,000	3

OFF-PEAK DIRECTION RESULTS

Segment	Eastbound US 90/Beach Blvd. From	To	Through Movement Flow Rate	v/c Ratio	Control Delay	Intersection Approach LOS	Speed (MPH)	Arterial Segment LOS
10-9								
9-8								
8-7	Veterans	Rodenberg	1,311	0.62	19.7	B	28.4	B
7-6	Rodenberg	White	1,311	0.74	35.5	D	33.2	B
6-5	White	Porter	1,311	0.58	16.8	B	30.3	B
5-4	Porter	Beau Rivage	1,311	0.64	22.5	C	27.3	C
4-3	Beau Rivage	Caillavet	1,311	0.50	9.3	A	17.8	D
3-2	Caillavet	Reynoir	1,311	0.60	19.7	B	11.6	F
2-1	Reynoir	Main	1,311	0.51	6.1	A	28.3	B

Section Length: 3.627 mile(s) — **Arterial Speed = 28.9 mph** — **LOS = B**

ART-PLAN 3.1

Arterial Level of Service Estimating Software
Based on Chapter 11 of the 1997 Highway Capacity Manual Update

Florida Department of Transportation

February 1999

DESCRIPTION

Road Name	US 90/Beach Blvd.
From	Main Road
To	Myrtle Street
Peak Direction	Eastbound
Off-Peak Direction	Westbound
Study Time Period	5 - 6 pm
Analysis Date	December 30, 1999
User Notes	Alt A 2010 US 90 LOS

TRAFFIC CHARACTERISTICS

AADT	34,300
K Factor	0.093
D Factor	0.568
Peak Hour Factor	0.925
Adj. Saturation Flow Rate	1,850
% Turns from Exclusive Lanes	12

ROADWAY CHARACTERISTICS

# Through Lanes Peak Direction	2	
# Through Lanes Off-Peak Direction	2	
Urbanized, Transitioning/Urban, or Rural	U	
Arterial Class	2	
Free Flow Speed (mph)	45	(45,40, or 35)

For Class (Area):	Use Free Flow Speed of:
Class 1 (R)	55, 50, 45, 40 or 35
Class 1 (U or T)	55, 50, or 45
Class 2 (U or T)	45, 40 or 35
Class 3 (U or T)	40, 35, or 30
Class 4 (U only)	35, 30 or 25

SIGNALIZATION CHARACTERISTICS

Arrival Type Peak Direction	5	(1,2,3,4,5,6)
Arrival Type Off-Peak Direction	3	
Type Signal System	S	P=Pretimed,A=Actuated,S=Semiactuated
System Cycle Length	80	
Weighted Through Movement g/C	0.70	

Eastound — PEAK DIRECTION SPECIFIC INPUTS — US 90/Beach Blvd.

Segment	Segment AADT (Enter 1 if unavailable, 0 if segment is unused)	Peak Hour Volume (May be over-written if direct measure avail.)	% Turns from Exclusive Lanes	Number of Lanes	Cycle Length at Signals 2-10	Effective g/C at Signals 2-10	Distance between Signals (Enter in Miles or Feet)	Segment Length (FT)	Arrival Type
1-2	1	1,408	12	2	80	0.53	6000.00	6,000	5
2-3	1	1,742	12	2	80	0.44	600.00	600	5
3-4	1	1,742	12	2	80	0.68	500.00	500	5
4-5	1	1,742	12	2	80	0.48	500.00	500	5
5-6	1	1,742	12	2	80	0.46	700.00	700	5
6-7	0								
7-8	0								
8-9	0								
9-10	0								

PEAK DIRECTION RESULTS

Segment	Eastound US 90/Beach Blvd. From	To	Through Movement Flow Rate	v/c Ratio	Control Delay	Intersection Approach LOS	Speed (MPH)	Arterial Segment LOS
1-2	Main Road	Oak	1340	0.69	4.7	A	**39.3**	**A**
2-3	Oak	Maple	1657	1.02	35.7	D	**8.5**	**F**
3-4	Maple	Pine	1657	0.66	0.3	A	**32.2**	**B**
4-5	Pine	Cedar	1657	0.94	16.9	B	**12.5**	**F**
5-6	Cedar	Myrtle	1657	0.97	14.3	B	**17.0**	**E**
6-7								
7-8								
8-9								
9-10								

Section Length: 1.572 Mile(s) — **Arterial Speed: 26.0 mph** — **LOS: C**

Westbound — OFF-PEAK DIRECTION'S SPECIFIC INPUTS

Segment	Peak Hour Volume	% Turns from Exclusive Lanes	Number of Lanes	Cycle Length at Signals 9-1	Effective g/C at Signals 9-1	Segment Length (FT)	Arrival Type
10-9							
9-8							
8-7							
7-6							
6-5	1,378	12	2	80	0.48	700	3
5-4	1,378	12	2	80	0.68	500	3
4-3	1,378	12	2	80	0.44	500	3
3-2	1,378	12	2	80	0.53	600	3
2-1	1,378	12	2	80	0.70	6,000	3

OFF-PEAK DIRECTION RESULTS

Segment	Westbound US 90/Beach Blvd. From	To	Through Movement Flow Rate	v/c Ratio	Control Delay	Intersection Approach LOS	Speed (MPH)	Arterial Segment LOS
10-9								
9-8								
8-7								
7-6								
6-5	Myrtle	Cedar	1,311	0.75	19.2	B	**14.7**	**E**
5-4	Cedar	Pine	1,311	0.52	7.0	A	**20.3**	**D**
4-3	Pine	Maple	1,311	0.81	23.4	C	**10.3**	**F**
3-2	Maple	Oak	1,311	0.67	14.9	B	**15.4**	**E**
2-1	Oak	Main Road	1,311	0.51	6.1	A	**38.9**	**A**

Section Length: 1.572 mile(s) — **Arterial Speed = 26.4 mph** — **LOS = C**

ART-PLAN 3.1

Arterial Level of Service Estimating Software
Based on Chapter 11 of the 1997 Highway Capacity Manual Update

Florida Department of Transportation

February 1999

DESCRIPTION

Road Name	US 90/Beach Blvd.
From	Main Road
To	Myrtle Street
Peak Direction	Eastound
Off-Peak Direction	Westbound
Study Time Period	5 - 6 pm
Analysis Date	December 30, 1999
User Notes	Alt B 2010 US 90 LOS

TRAFFIC CHARACTERISTICS

AADT	34,300
K Factor	0.093
D Factor	0.568
Peak Hour Factor	0.925
Adj. Saturation Flow Rate	1,850
% Turns from Exclusive Lanes	12

ROADWAY CHARACTERISTICS

# Through Lanes Peak Direction	2	
# Through Lanes Off-Peak Direction	2	
Urbanized, Transitioning/Urban, or Rural	U	
Arterial Class	2	
Free Flow Speed (mph)	45	(45,40, or 35)

For Class (Area):	Use Free Flow Speed of:
Class 1 (R)	55, 50, 45, 40 or 35
Class 1 (U or T)	55, 50, or 45
Class 2 (U or T)	45, 40 or 35
Class 3 (U or T)	40, 35, or 30
Class 4 (U only)	35, 30 or 25

SIGNALIZATION CHARACTERISTICS

Arrival Type Peak Direction	5	(1,2,3,4,5,6)
Arrival Type Off-Peak Direction	3	
Type Signal System	S	P=Pretimed,A=Actuated,S=Semiactuated
System Cycle Length	80	
Weighted Through Movement g/C	0.70	

Eastound — PEAK DIRECTION SPECIFIC INPUTS — US 90/Beach Blvd.

Segment	Segment AADT (Enter 1 if unavailable, 0 if segment is unused)	Peak Hour Volume (May be over-written if direct measure avail.)	% Turns from Exclusive Lanes	Number of Lanes	Cycle Length at Signals 2-10	Effective g/C at Signals 2-10	Distance between Signals (Enter in Miles or Feet)	Segment Length (FT)	Arrival Type
1-2	1	2,068	12	2	80	0.53	6000.00	6,000	5
2-3	1	2,829	12	2	80	0.44	600.00	600	5
3-4	1	2,829	12	2	80	0.68	500.00	500	5
4-5	1	2,727	12	2	80	0.48	500.00	500	5
5-6	1	2,727	12	2	80	0.46	700.00	700	5
6-7	0								
7-8	0								
8-9	0								
9-10	0								

PEAK DIRECTION RESULTS

Segment	Eastound US 90/Beach Blvd. From	To	Through Movement Flow Rate	v/c Ratio	Control Delay	Intersection Approach LOS	Speed (MPH)	Arterial Segment LOS	
1-2	Main Road	Oak	1967	1.01	18.3	B	**33.9**	B	
2-3	Oak	Maple	2691	1.66	310.0	F	**1.3**	F	* Warni
3-4	Maple	Pine	2691	1.08	37.0	D	**7.1**	F	
4-5	Pine	Cedar	2594	1.48	223.6	F	**1.5**	F	* Warni
5-6	Cedar	Myrtle	2594	1.52	242.2	F	**1.9**	F	* Warni
6-7									
7-8									
8-9									
9-10									

Section Length: 1.572 Mile(s) | **Arterial Speed: *** mph** | **LOS: ERR** | Intersection Capacity Exceeded **LOS = F**

Westbound — OFF-PEAK DIRECTION'S SPECIFIC INPUTS

Segment	Peak Hour Volume	% Turns from Exclusive Lanes	Number of Lanes	Cycle Length at Signals 9-1	Effective g/C at Signals 9-1	Segment Length (FT)	Arrival Type
10-9							
9-8							
8-7							
7-6							
6-5	1,378	12	2	80	0.48	700	3
5-4	1,378	12	2	80	0.68	500	3
4-3	1,378	12	2	80	0.44	500	3
3-2	1,378	12	2	80	0.53	600	3
2-1	1,378	12	2	80	0.70	6,000	3

OFF-PEAK DIRECTION RESULTS

Segment	Westbound US 90/Beach Blvd. From	To	Through Movement Flow Rate	v/c Ratio	Control Delay	Intersection Approach LOS	Speed (MPH)	Arterial Segment LOS
10-9								
9-8								
8-7								
7-6								
6-5	Myrtle	Cedar	1,311	0.75	19.2	B	**14.7**	E
5-4	Cedar	Pine	1,311	0.52	7.0	A	**20.3**	D
4-3	Pine	Maple	1,311	0.81	23.4	C	**10.3**	F
3-2	Maple	Oak	1,311	0.67	14.9	B	**15.4**	E
2-1	Oak	Main Road	1,311	0.51	6.1	A	**38.9**	A

Section Length: 1.572 mile(s) | **Arterial Speed = 26.4 mph** | **LOS = C**

J.4.5 Documentation of Methodology for Arterial Level of Service Analysis on US 90

Highway congestion at intersections along US 90 uses the concept of Level of Service (LOS) analysis following the generally accepted practices outlined in the *Highway Capacity Manual* (HCM), Special Report 209, Transportation Research Board, National Research Council. In addition to LOS methods for freeways and rural and suburban highways, the Urban Streets Section of the Manual covers signalized and unsignalized intersections and urban and suburban arterials. Chapter 11, Urban and Suburban Arterials, states the following:

> *"The methodology contained in this chapter can be used by those concerned with the planning, design and operation of arterials to evaluate the level of service of an existing or proposed facility. The methodology does not address arterial capacity, which is generally determined by the capacity of signalized intersections addressed in chapter 9. ...the methodology of this chapter is oriented toward the evaluation of an existing operations situation or a specific design proposal by a level-of-service (los) determination. The person doing such design or operations work will be able to investigate the effect of signal spacing, arterial classification and traffic flow on the arterial level of service."*
>
> *"Urban and suburban arterials are signalized streets that primarily serve through traffic; secondarily, they provide access to abutting properties. For the purposes of this Manual, they are defined generally as facilities with lengths of at least 1 mile in downtown areas and at least 2 miles in other areas."*

The section of US 90 in Biloxi that conforms to this definition begins at Veterans Street and continues 2.45 miles to Eisenhower Drive. Through this section, a constant four-through-lane cross-section exists, and roadside development is relatively consistent with beachside and tourism elements blended with local residential uses. Speed limits and signal spacing are also the same through this section. Therefore, HCM Chapter 11 methods are the most appropriate to determine level of service for US 90. Intersection analysis yields capacity values and level of service; however, when arterial LOS is under review, standard transportation engineering practice requires the use of Chapter 11 procedures. The first step in the arterial analysis procedure is to calculate intersection capacity at each signalized location through the section. Key input values include signal timing, traffic volumes and lane geometry. The analysis uses signal timing obtained directly from active signal controllers for initial timing settings. For initial turn movements, the analysis uses traffic turning percentages from "A Destination Broadwater Traffic Impact Study" (Baker, 1999e). Traffic volumes are derived from the GRPC computer traffic assignment values for 2010. Lane geometry is from field observations and MDOT as-built plans.

Traffic assignment values for 2010 served as the beginning point for the LOS analysis. Assignments for Alternatives 1, 2, 4 and 5 assumed a four-lane US 90 and generally included a four-lane road parallel to the rail line north of US 90. The East Harrison Connector was assumed to be located on an alignment that intersects US 90 at an undetermined distance west of Veterans.

The results from this analysis are not strictly comparable to the transportation planning results from the Joint Permit Application documented in "A Destination Broadwater Traffic Impact Study" performed by Baker Engineers. Differences include;

1. This study assumed the completion of a four-lane arterial (East/West Connector) parallel to the rail corridor north of US 90. This arterial effectively diverts traffic from US 90 and results in a higher level of service than would have been the case for the traffic assignment made for the Baker study.

2. A second, but less significant factor, is the assumption that routine, proper signal timing would be performed for this section of US 90. The analysis performed in this study modified the current traffic signal timing to more optimum settings in response to new 2010 travel demand. This modification also improved the level of service at the intersection and arterial levels.

J.4.6 Documentation for Arterial Level of Service Analysis on US 90

Summary results of this methodology follow for Alternatives 1, 2, 4, and 5. Detailed intersection results are available in a separate volume (Hall Planning & Engineering, 2000).

HCS: Urban and Suburban Arterials Release 3.1c

Richard Hall
HPE, Inc.
1237 N Adams Street
Tallahassee, Florida 32303

Phone: 850-222-2277 Fax: 850-222-6555
E-Mail: lmoore@hpe-inc.com

OPERATIONAL ANALYSIS

Arterial Name: US 90 in Biloxi Alt 1
File Case: Broadwater LOS 99-025.04
Prepared By: HPE- Hall/Adderly
Direction: East-bound
Date: 5/5/00

Description of Arterial

Analysis Period Length 0.25 hr

Seg.	Cross Street Name	Length (mi)	Art. Class	Free Flow Speed (mph)	Running Time (sec)	Section
0	Eisenhower Dr.					
1	Edgewater	0.26	2	45	26.8	1
2	Beauvoir	0.56	2	45	48.7	1
3	Browdwater West (alt1)	0.59	2	45	51.1	1
4	Broadwater East (alt1)	0.06	2	45	6.5	1
5	Hilton	0.16	2	45	17.4	1
6	Treasure Bay	0.30	2	45	29.7	1
7	Camelia	0.07	2	45	7.6	1
8	Veterans	0.45	2	45	41.0	1
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Intersection Delay Estimates

Seg	Cycle Length C	Green Ratio g/C	v/c Ratio X	Lane Cap. c	PVG if Input	Arr. Type AT	I Fac-tor	Unit Ext. (sec)	Init. Queue (veh)	Cntrl. Delay (sec)	Other Delay (sec)	Inter. LOS
1	90.0	0.656	0.559	2367		4	1.000	3.0	0	3.8	0.0	A
2	125.1	0.604	0.661	2139		4	0.809	3.0	0	9.8	0.0	A
3	122.5	0.490	0.693	1768		5	0.700	3.0	0	9.5	0.0	A
4	120.5	0.680	0.418	2457		5	0.659	3.0	0	0.1	0.0	A
5	110.0	0.818	0.493	2954		5	0.912	3.0	0	0.1	0.0	A
6	120.0	0.608	0.637	2196		5	0.863	3.0	0	0.5	0.0	A
7	116.0	0.655	0.659	2365		5	0.728	3.0	0	0.5	0.0	A
8	97.0	0.515	0.614	1861		4	0.702	3.0	0	12.8	0.0	B
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10												

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Arterial Level of Service

Seg.	Sect.	Running Time (sec)	Inter. Control. Delay (sec)	Other Delay (sec)	Sum of Time by Section (sec)	Sum of Length by Section (mi)	Arterial Speed (mph)	Arterial LOS by Section
1	1	26.8	3.8	0.0				
2	1	48.7	9.8	0.0				
3	1	51.1	9.5	0.0				
4	1	6.5	0.1	0.0				
5	1	17.4	0.1	0.0				
6	1	29.7	0.5	0.0				
7	1	7.6	0.5	0.0				
8	1	41.0	12.8	0.0	266.1	2.45	33.1	B
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Grand Sum of Time (x) = 266.1 sec
Grand Sum of Length (y) = 2.45 miles
Arterial Speed = 3600 x (y)/(x) = 33.1 mph
Arterial Level of Service, LOS = B

Intersection Files in the Analysis

1: D:\HPE\Destination Broadwater Project\Broadwater LOS2 EB\hcs Alt 1\8DBW Edgew 2: D:\HPE\Destination Broadwater Project\Broadwater LOS2 EB\hcs Alt 1\7DBW Beauv 3: D:\HPE\Destination Broadwater Project\Broadwater LOS2 EB\hcs Alt 1\6DBW Broad 4: D:\HPE\Destination Broadwater Project\Broadwater LOS2 EB\hcs Alt 1\5DBW Broad 5: D:\HPE\Destination Broadwater Project\Broadwater LOS2 EB\hcs Alt 1\4DBW Tower 6: D:\HPE\Destination Broadwater Project\Broadwater LOS2 EB\hcs Alt 1\3DBW Treas 7: D:\HPE\Destination Broadwater Project\Broadwater LOS2 EB\hcs Alt 1\2DBW Camel 8: D:\HPE\Destination Broadwater Project\Broadwater LOS2 EB\hcs Alt 1\1DBW Veter 9: C:\MY FILES\PROD\Broadwater\Broadwater LOS\hcs Alt 4\9DBW Eisenhower alt 4.HC10:

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HCS: Urban and Suburban Arterials Release 3.1c

Richard Hall
HPE, Inc.
1237 N Adams Street
Tallahassee, Florida 32303

Phone: 850-222-2277 Fax: 850-222-6555
E-Mail: lmoore@hpe-inc.com

OPERATIONAL ANALYSIS

Arterial Name: US 90 in Biloxi Alt 2
File Case: Broadwater LOS 99-025.04
Prepared By: HPE- Hall/Adderly
Direction: East-bound
Date: 5/5/00

Description of Arterial

Analysis Period Length 0.25 hr

Seg.	Cross Street Name	Length (mi)	Art. Class	Free Flow Speed (mph)	Running Time (sec)	Section
0	Eisenhower Dr.					
1	Edgewater	0.26	2	45	26.8	1
2	Beauvoir	0.56	2	45	48.7	1
3	Hilton	0.81	2	45	67.3	1
4	Treasure Bay	0.30	2	45	29.7	1
5	Camelia	0.07	2	45	7.6	1
6	Veterans	0.45	2	45	41.0	1
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Intersection Delay Estimates

Seg	Cycle Length C	Green Ratio g/C	v/c Ratio X	Lane Cap. c	PVG if Input	Arr. Type AT	I Fac-tor	Unit Ext. (sec)	Init. Queue (veh)	Cntrl. Delay (sec)	Other Delay (sec)	Inter. LOS
1	90.0	0.656	0.809	2367		4	1.000	3.0	0	7.0	0.0	A
2	121.1	0.591	0.977	2092		4	0.485	3.0	0	23.4	0.0	C
3	110.0	0.818	0.681	2954		5	0.145	3.0	0	0.1	0.0	A
4	120.0	0.608	1.051	2196		5	0.675	3.0	0	31.1	0.0	C
5	116.0	0.655	1.030	2365		5	0.090	3.0	0	15.6	0.0	B
6	97.0	0.515	0.541	1861		4	0.090	3.0	0	11.8	0.0	B
7												
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9												
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Arterial Level of Service

Seg.	Sect.	Running Time (sec)	Inter. Control. Delay (sec)	Other Delay (sec)	Sum of Time by Section (sec)	Sum of Length by Section (mi)	Arterial Speed (mph)	Arterial LOS by Section
1	1	26.8	7.0	0.0				
2	1	48.7	23.4	0.0				
3	1	67.3	0.1	0.0				
4	1	29.7	31.1	0.0				
5	1	7.6	15.6	0.0				
6	1	41.0	11.8	0.0	310.0	2.45	28.5	B
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Grand Sum of Time (x) = 310.0 sec
Grand Sum of Length (y) = 2.45 miles
Arterial Speed = 3600 x (y)/(x) = 28.5 mph
Arterial Level of Service, LOS = B

Intersection Files in the Analysis

1: D:\HPE\Destination Broadwater Project\Broadwater LOS2 EB\hcs Alt 2\8DBW Edgew 2: D:\HPE\Destination Broadwater Project\Broadwater LOS2 EB\hcs Alt 2\7DBW Beauv 3: D:\HPE\Destination Broadwater Project\Broadwater LOS2 EB\hcs Alt 2\4DBW Tower 4: D:\HPE\Destination Broadwater Project\Broadwater LOS2 EB\hcs Alt 2\3DBW Treas 5: D:\HPE\Destination Broadwater Project\Broadwater LOS2 EB\hcs Alt 2\2DBW Camel 6: D:\HPE\Destination Broadwater Project\Broadwater LOS2 EB\hcs Alt 2\1DBW Veter 7: C:\MY FILES\PROD\Broadwater\Broadwater LOS\hcs Alt 4\2DBW CAMELIA alt4.HCS
8: C:\MY FILES\PROD\Broadwater\Broadwater LOS\hcs Alt 4\1DBW VETERANS alt4.HCS
9: C:\MY FILES\PROD\Broadwater\Broadwater LOS\hcs Alt 4\9DBW Eisenhower alt 4.HC10:

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HCS: Urban and Suburban Arterials Release 3.1c

Richard Hall
HPE, Inc.
1237 N Adams Street
Tallahassee, Florida 32303

Phone: 850-222-2277 Fax: 850-222-6555
E-Mail: lmoore@hpe-inc.com

OPERATIONAL ANALYSIS

Arterial Name: US 90 in Biloxi Alt 4
File Case: Broadwater LOS 99-025.04
Prepared By: HPE- Hall/Adderly
Direction: East-bound
Date: 5/5/00

Description of Arterial

Analysis Period Length 0.25 hr

Seg.	Cross Street Name	Length (mi)	Art. Class	Free Flow Speed (mph)	Running Time (sec)	Section
0	Eisenhower Dr.					
1	Edgewater	0.26	2	45	26.8	1
2	Beauvoir	0.56	2	45	48.7	1
3	Browdwater West (alt4)	0.59	2	45	51.1	1
4	Broadwater East (alt4)	0.06	2	45	6.5	1
5	BW Towers	0.16	2	45	17.4	1
6	Treasure Bay	0.30	2	45	29.7	1
7	Camelia	0.07	2	45	7.6	1
8	Veterans	0.45	2	45	41.0	1
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15						

Intersection Delay Estimates

Seg	Cycle Length C	Green Ratio g/C	v/c Ratio X	Lane Cap. c	PVG if Input	Arr. Type AT	I Fac-tor	Unit Ext. (sec)	Init. Queue (veh)	Cntrl. Delay (sec)	Other Delay (sec)	Inter. LOS
1	95.0	0.674	0.799	2432		4	1.000	3.0	0	5.9	0.0	A
2	121.5	0.593	0.990	2097		4	0.501	3.0	0	26.2	0.0	C
3	130.0	0.508	1.068	1833		5	0.113	3.0	0	43.1	0.0	D
4	120.0	0.442	0.856	1594		5	0.090	3.0	0	14.7	0.0	B
5	120.0	0.804	0.850	2903		5	0.399	3.0	0	1.1	0.0	A
6	120.0	0.625	1.043	2256		5	0.411	3.0	0	25.2	0.0	C
7	127.0	0.669	1.027	2416		4	0.090	3.0	0	22.8	0.0	C
8	80.0	0.475	0.597	1715		4	0.090	3.0	0	12.4	0.0	B
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Arterial Level of Service

Seg.	Sect.	Running Time (sec)	Inter. Control. Delay (sec)	Other Delay (sec)	Sum of Time by Section (sec)	Sum of Length by Section (mi)	Arterial Speed (mph)	Arterial LOS by Section
1	1	26.8	5.9	0.0				
2	1	48.7	26.2	0.0				
3	1	51.1	43.1	0.0				
4	1	6.5	14.7	0.0				
5	1	17.4	1.1	0.0				
6	1	29.7	25.2	0.0				
7	1	7.6	22.8	0.0				
8	1	41.0	12.4	0.0	380.3	2.45	23.2	C
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Grand Sum of Time (x) = 380.3 sec
Grand Sum of Length (y) = 2.45 miles
Arterial Speed = 3600 x (y)/(x) = 23.2 mph
Arterial Level of Service, LOS = C

Intersection Files in the Analysis

1: D:\HPE\Destination Broadwater Project\Broadwater LOS2 EB\hcs Alt 4\8DBW Edgew 2: D:\HPE\Destination Broadwater Project\Broadwater LOS2 EB\hcs Alt 4\7DBW BEAUV 3: D:\HPE\Destination Broadwater Project\Broadwater LOS2 EB\hcs Alt 4\6DBW Broad 4: D:\HPE\Destination Broadwater Project\Broadwater LOS2 EB\hcs Alt 4\5DBW Broad 5: D:\HPE\Destination Broadwater Project\Broadwater LOS2 EB\hcs Alt 4\4DBW Tower 6: D:\HPE\Destination Broadwater Project\Broadwater LOS2 EB\hcs Alt 4\3DBW TREAS 7: D:\HPE\Destination Broadwater Project\Broadwater LOS2 EB\hcs Alt 4\2DBW CAMEL 8: D:\HPE\Destination Broadwater Project\Broadwater LOS2 EB\hcs Alt 4\1DBW VETER 9: C:\MY FILES\PROD\Broadwater\Broadwater LOS\hcs Alt 4\9DBW Eisenhower alt 4.HC10:

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HCS: Urban and Suburban Arterials Release 3.1c

Richard Hall
HPE, Inc.
1237 N Adams Street
Tallahassee, Florida 32303

Phone: 850-222-2277 Fax: 850-222-6555
E-Mail: lmoore@hpe-inc.com

OPERATIONAL ANALYSIS

Arterial Name:
File Case: Broadwater LOS 99-025.04
Prepared By: HPE- Hall/Adderly
Direction: East-bound
Date: 4/22/00

Description of Arterial

Analysis Period Length 0.25 hr

Seg.	Cross Street Name	Length (mi)	Art. Class	Free Flow Speed (mph)	Running Time (sec)	Section
0	Eisenhower Dr.					
1	Edgewater	0.26	2	45	26.8	1
2	Beauvoir	0.56	2	45	48.7	1
3	Browdwater West (alt4)	0.59	2	45	51.1	1
4	Broadwater East (alt4)	0.06	2	45	6.5	1
5	BW Towers entrance	0.16	2	45	17.4	1
6	Treasure Bay	0.30	2	45	29.7	1
7	Camelia	0.07	2	45	7.6	1
8	Veterans	0.45	2	45	41.0	1
9						
10						
11						
12						
13						
14						
15						

Intersection Delay Estimates

Seg	Cycle Length C	Green Ratio g/C	v/c Ratio X	Lane Cap. c	PVG if Input	Arr. Type AT	I Fac-tor	Unit Ext. (sec)	Init. Queue (veh)	Cntrl. Delay (sec)	Other Delay (sec)	Inter. LOS
1	110.0	0.664	0.811	2396		4	1.000	3.0	0	7.5	0.0	A
2	120.5	0.606	0.795	2144		4	0.480	3.0	0	11.2	0.0	B
3	120.0	0.692	0.879	2497		5	0.508	3.0	0	2.1	0.0	A
4	120.0	0.500	0.902	1805		5	0.357	3.0	0	11.7	0.0	B
5	112.0	0.817	0.890	2949		5	0.310	3.0	0	1.2	0.0	A
6	120.0	0.667	1.039	2407		5	0.335	3.0	0	22.6	0.0	C
7	124.0	0.694	1.054	2504		4	0.090	3.0	0	31.6	0.0	C
8	80.0	0.475	0.629	1715		4	0.090	3.0	0	12.7	0.0	B
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10												

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Arterial Level of Service

Seg.	Sect.	Running Time (sec)	Inter. Control. Delay (sec)	Other Delay (sec)	Sum of Time by Section (sec)	Sum of Length by Section (mi)	Arterial Speed (mph)	Arterial LOS by Section
1	1	26.8	7.5	0.0				
2	1	48.7	11.2	0.0				
3	1	51.1	2.1	0.0				
4	1	6.5	11.7	0.0				
5	1	17.4	1.2	0.0				
6	1	29.7	22.6	0.0				
7	1	7.6	31.6	0.0				
8	1	41.0	12.7	0.0	329.5	2.45	26.8	C
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10								
11								
12								
13								
14								
15								

Grand Sum of Time (x) = 329.5 sec
Grand Sum of Length (y) = 2.45 miles
Arterial Speed = 3600 x (y)/(x) = 26.8 mph
Arterial Level of Service, LOS = C

Intersection Files in the Analysis

1: C:\MY FILES\PROD\Broadwater\Broadwater LOS\hcs Alt 5\8DBW Edgewater alt5.HCS" 2: C:\MY FILES\PROD\Broadwater\Broadwater LOS\hcs Alt 5\7DBW BEAUVOIR alt5.HCS
3: C:\MY FILES\PROD\Broadwater\Broadwater LOS\hcs Alt 5\6DBW Broadwater West alt 4: C:\MY FILES\PROD\Broadwater\Broadwater LOS\hcs Alt 5\5DBW Broadwater East alt 5: C:\MY FILES\PROD\Broadwater\Broadwater LOS\hcs Alt 5\4DBW Towers alt5.HCS
6: C:\MY FILES\PROD\Broadwater\Broadwater LOS\hcs Alt 5\3DBW TREASURE BAY alt5.H 7: C:\MY FILES\PROD\Broadwater\Broadwater LOS\hcs Alt 5\2DBW CAMELIA alt5.HCS
8: C:\MY FILES\PROD\Broadwater\Broadwater LOS\hcs Alt 5\1DBW VETERANS alt5.HCS
9: C:\MY FILES\PROD\Broadwater\Broadwater LOS\hcs Alt 4\9DBW Eisenhower alt 4.HC10:

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J.5 DESCRIPTION OF CONCEPTUAL ACCESS ALTERNATIVES FOR BROADWATER SITE

Section 2 contains a narrative description and site plans for each of the Proposed Action alternatives. In response to requests from cooperating agencies for more detailed depiction of the access ramps, bridges, and driveways connecting Alternatives 2,4, and 5 to US 90, additional information is included in this appendix. Figures J.5-1 through J.5-4 represent enlargements of the site plans of Alternatives 1,2,4, and 5, each of which rely on US 90 for access. These are meant to be preliminary conceptual schematics indicating the general intent of the traffic access intended for these alternatives. They are not drawn to scale and do not represent engineered design drawings. They are intended to illustrate the assumptions implicit in the traffic impact analysis presented elsewhere in this report, but may vary in some minor respects from the engineering assumptions necessary to prepare highway capacity analysis.

- Figure J.5-1 shows the access layout of the current Broadwater Hotel, President Casino, and marina, as it would appear for Alternate 1 (No Action). The buildings to the north are the hotel, with its loop driveway passing under the existing porta cochere and leading to surface parking lots. Opposite these drives are driveways leading to the casino, the marina, and associated surface parking. These driveways form two at-grade intersections with US 90 that are controlled by multi-phase traffic signals. There are sidewalks along both sides of US 90.

- Figure J.5-2 is a conceptual drawing showing the proposed access layout for Alternative 2. Note the elevated double bridges for vehicles and pedestrians crossing US 90 and the ramp structures that limit all traffic entrance and exit movements to right-hand turns. Auxiliary lanes constructed alongside the current four lanes of US 90 allow entering and exiting traffic to merge safely into lanes of moving through traffic on US 90. Because there are no vehicles crossing US 90 or turning left into or out of Broadwater at US 90, the two existing traffic signals are removed. The general alignment of the people mover is shown with a heavy dashed line.

- Figure J.5-3 shows the proposed access layout for Alternative 4. Alternative 4 uses a counter-clockwise loop of one-way driveways crossing US 90 with two signalized at-grade intersections. These traffic signals would be state-of –the-art interconnected, multi-phase signals with coordinated signal timing to minimize the disruption of through traffic. Double left turn lanes would be constructed within the right-of-way of US 90 at each signal location to provide safe and efficient movements for traffic entering Destination Broadwater from the east and from the west, as well as the traffic exiting the Broadwater from either north or south side of US 90. An elevated bridge structure would carry vehicles and pedestrians safely across US 90 without crossing the traffic flow of US 90. The general alignment of the people mover is shown with a heavy dashed line.

- Figure J.5-4 shows the proposed access layout for Alternative 5. Alternative 5 uses a clockwise loop of one-way driveways crossing US 90 with two signalized at-grade intersections. These traffic signals would be state-of –the-art interconnected, multi-phase

signals with coordinated signal timing to minimize the disruption of through traffic. Double left turn lanes would be constructed within the right-of-way of US 90 at each signal location to provide safe and efficient movements for traffic entering Destination Broadwater from the east and from the west, as well as the traffic exiting the Broadwater from either north or south side of US 90. An elevated bridge structure would carry vehicles and pedestrians safely across US 90 without crossing the traffic flow of US 90. The general alignment of the people mover is shown with a heavy dashed line.

- In these drawings, three different conceptual solutions have been shown for access to and from US 90. Any one of them may be refined and later employed by the proponent, depending on the actual configuration of the site and buildings that are approved for development of the site.