

# 2002 Transit Quality of Service Evaluation Report Hillsborough County MPO



March 2002

Hillsborough County MPO



**Transit Quality of Service  
Evaluation Report**

**March 2002**

**Prepared for submittal to:  
Florida Department of Transportation, Public Transportation Office**

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The Hillsborough County Metropolitan Planning Organization (MPO) has completed its second Transit Quality of Service Evaluation (TQSE) as part of the Florida Department of Transportation's (FDOT) effort to evaluate transit service in the state of Florida. The evaluation provides information on the performance of fixed route transit service within Hillsborough County operated by Hillsborough Area Regional Transit (HART). The first evaluation was conducted in March 2001.

### **1.0 Agencies Involved in Evaluation**

The study area for this report is Hillsborough County. Agencies involved include the Hillsborough County MPO, acting as the lead agency for this evaluation, the Florida Department of Transportation and HART, the local transit provider. All were involved in providing information and direction for the completion of this evaluation.

The March 2002 TQS Evaluation (TQSE) includes an assessment of the following Transit Capacity and Quality of Service Measures:

- Service Frequency
- Hours of Service
- Service Coverage
- Transit vs. Auto Travel Time

Two measures, Passenger Loading and Reliability, were not included in the Florida Department of Transportation's scope for the March 2002 Evaluation.

Travel demand between origin and destination (O-D) pairs is used in the March 2002 TQSE to rank the evaluation results from highest to lowest travel demand. The ranking of travel demand allows improvements considered as a result of the TQSE to be focused on areas with the highest demand. In Hillsborough County, the calculation of travel demand between origin and destination pairs associated with an identified activity center is based on an area greater than one TAZ. The group of TAZs that represents travel demand for the activity center was selected by the Hillsborough County MPO.

The calculation of Service Frequency, Hours of Service and Transit vs. Auto Travel Time for the TQSE requires that the origin and destination of the trip to be analyzed be identified as a transit access point, defined as a bus stop or other transit stop. The bus stop that represents travel between the activity centers was used to calculate the score for the three TQSE measures that require a point of origin and destination. The TAZ in which the bus stop that represents travel between activity centers is located is identified in **Table 1** below (Trip End TAZ).

### **2.0 Activity Centers Chosen for Analysis**

Ten activity centers were chosen for the analysis and are listed in **Table 1** and depicted in **Map 1**. Travel among ten major activity centers results in travel between 90 origin-destination (O-D) pairs. Travel by transit was possible to all activity centers except New Tampa. Service Frequency, Hours of Service and Transit vs. Auto Travel Time measures were evaluated for all O-D pairs.

Activity centers selected for the 2002 analysis were based on new guidance from the FDOT requiring an equal number of residential and non-residential centers. Residential activity centers included in the 2002 analysis but not the 2001 analysis are:

- Town and Country
- Temple Terrace
- East Tampa



**Table 1. Hillsborough County Activity Centers**

Activity Center	Activity Center Type	Travel Demand Analysis Area TAZ(s)	Trip End TAZ
Downtown Tampa	Non-residential	99,101, 119, 204, 208, 259-296	274
Westshore Business District/Tampa International Airport	Non-residential	126, 128-32, 151-9, 169-71,182-3,185	170
University of South Florida/ Busch Gardens	Non-residential	11, 16-20, 255-6, 444-6, 448-51	448
Port of Tampa/ Port Sutton	Non-residential	120-3, 637-9	121
MacDill Air Force Base	Non-residential	231, 240	240
New Tampa	Residential	241-51, 454-5	250
Brandon	Residential	575, 579-81, 584, 589, 600-2, 605-9, 612-4, 621-2	601
Town & Country	Residential	314-6, 318-323, 325, 327-29, 331-3	321
Temple Terrace	Residential	297, 299-307, 472	306
East Tampa	Residential	68, 70, 72, 74, 83-90, 102-4, 106-7	88

Two non-residential activity centers included in the 2001 analysis, Citrus Park Mall and Hillsborough Community College, are not included in the 2002 analysis. A third non-residential activity center, Tampa International Airport, was consolidated with another non-residential center, the Westshore Business District.

### **3.0 Evaluation of Service Measures**

The following section outlines the measures used to evaluate transit service in Hillsborough County. The purpose, data sources and results of each measure are provided. Of the 90 O-D pairs, only 50 O-D pairs could be included in the analysis. One activity center, New Tampa, was not served by transit eliminating 18 O-D pairs from the analysis. Based on the FDOT methodology for this evaluation, trips must commence after 4 PM and be completed by 6 PM. Travel between an additional 22 O-D pairs in the Hillsborough County analysis commenced after 4 PM but did not arrive at the destination until after 6 PM and are not included in the analysis. The percent of O-D pairs at a given level of service (LOS) score identified in the text and in **Tables 2** through **7** are based on the 50 O-D pairs included in the analysis.

#### **3.1 Service Frequency**

For this analysis, Service Frequency is the number of transit trip opportunities available between each O-D pair expressed in vehicles per hour. Bus frequencies and hours of service were collected manually using the HART schedules current as of March 2002. The LOS standards for Service Frequency and summary of results are shown in **Table 2**.

For the 50 O-D pairs evaluated, Service Frequency LOS ranged between “B” and “F”. Twenty-three O-D pairs, or less than 50 percent, earned a Service Frequency score of “D” or better. No transit route received an LOS of “A”.

# TQSE Activity Centers March 2002

Hillsborough  
County, FL

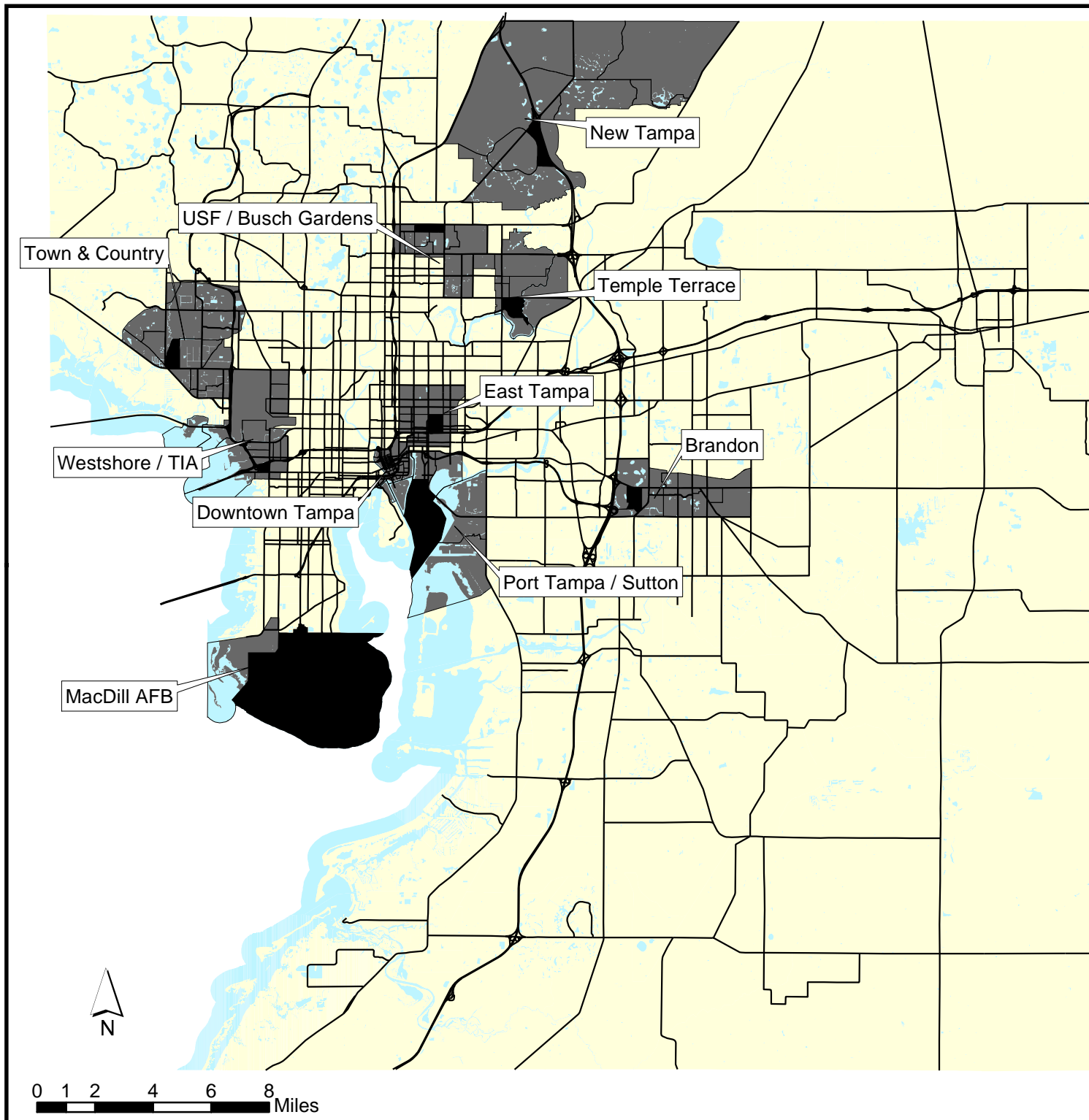
## Legend

### Activity Centers

Activity Centers include the multiple Traffic Analysis Zones (TAZs) that were used to calculate trip demand.

### Central Activity Center TAZ

The Traffic Analysis Zones (TAZs) used to calculate travel times between Activity Centers.



Map 1

 Gannett Fleming

Printed May 30, 2002

**Table 2. Service Frequency Level of Service Results for Hillsborough County**

<b>LOS</b>	<b>Headway (min.)</b>	<b>Veh/Hr</b>	<b>Comments</b>	<b>% of O-D Pairs</b>
A	< 10	>6	Passengers don't need schedules	0%
B	10-14	5-6	Frequent service, passengers consult schedules	2%
C	15-20	3-4	Maximum desirable time to wait if bus missed	6%
D	21-30	2	Service unattractive to choice riders	38%
E	31-60	1	Service available during hour	52%
F	>60	<1	Service unattractive to all riders	2%

Source: Transportation Research Board, Highway Capacity Manual 2000.

Service Frequency results are summarized in the Mobility Measures Worksheet located in **Appendix A: Quality of Service Worksheets**.

### **3.2 Hours of Service**

The Hours of Service measure demonstrates the number of hours per day that service is available between each O-D pair. The LOS standards and summary of results for Hours of Service are depicted in **Table 3**.

The Hours of Service LOS for the routes between the selected activity centers ranges from “B” to “F” with service ranging from 2 hours per day to 17 hours per day. The fastest route between MacDill AFB and Temple Terrace involves Express Route 23 which only provides service during the peak hour, resulting in service being provided between this O-D pair for only 2 hours a day. The trip could also be made using Routes 4 and 6 but the travel time is increased by 15 minutes and the trip cannot be completed by 6 PM. Excluding travel between MacDill AFB and Temple Terrace, hours of service range between 10 hours per day and 17 hours per day for the remaining 50 O-D pairs evaluated.

Thirty-five (70 percent) of the O-D pairs received an Hour of Service LOS score of “D” or higher. The remaining O-D pairs received an “E” or “F”.

The Hours of Service results are summarized in the Mobility Measures Worksheet located in **Appendix A: Quality of Service Worksheets**.

### **3.3 Service Coverage**

Service coverage evaluates how well the transit system serves areas with densities that can typically support transit. Transit supportive areas have a minimum population or job density to support at least hourly transit service. This is defined as a population density of at least three households per gross acre or an employment density of at least four employees per gross acre, located within 1/4 mile (walking distance) of a bus stop. The number of households and jobs served by transit are calculated for each TAZ served based on the percent that the area served is of area of the total TAZ. The number of households and jobs served by transit is the proportional allocation of the total households and employees in the TAZ using this percentage.

**Table 3. Hours of Service Level of Service**

LOS	Hours/Day	Comments	% of O-D Pairs
A	19-24	Night or owl service provided	0%
B	17-18	Late evening service provided	8%
C	14-16	Early evening service provided	40%
D	12-13	Daytime service provided	22%
E	4-11	Peak hour/limited midday service provided	28%
F	0-3	Very limited or no service	2%

Source: Transportation Research Board, Highway Capacity Manual.

The service coverage analysis was performed using Geographic Information Systems (GIS) software. The population and employment data are the 1999 base year socioeconomic data employed by the MPO for its 2025 update of the Long Range Transportation Plan (LRTP) and are aggregated to the TAZ level. The transit service area is a one-quarter mile buffer around the transit routes operating in March 2002.

Service Coverage LOS standards are depicted in **Table 4**. The Service Coverage results are summarized in the Mobility Measures Worksheet located in **Appendix A: Quality of Service Worksheets**. **Appendix B: Service Coverage Analysis Maps** consists of three maps: Service Coverage Area, Transit-Supportive Area by Density, and Transit-Supportive Area Served by Transit.

Seventy-eight percent of the transit-supportive area in Hillsborough County is serviced by transit. This coverage equates to an LOS score of “C”.

**Table 4. Service Coverage Level of Service**

LOS	% Transit Supportive Area Served
A	90.0-100.0
B	80.0-89.9
C	70.0-79.9
D	60.0-69.9
E	50.0-59.9
F	<50.0

Source: Transportation Research Board, Highway Capacity Manual 2000. 3.4 Passenger Loading

## Hillsborough County Transit Quality of Service Evaluation

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The FDOT Transit Quality of Service Evaluation scope for March 2002 did not include the Passenger Loading measure.

### 3.5 Reliability

The FDOT Transit Quality of Service Evaluation scope for March 2002 did not include the Reliability measure.

### 3.6 Transit vs. Auto Travel Time

The "transit vs. auto travel time" measure compares travel times by transit to travel times by automobile between each pair of activity centers. Transit travel times are the time between boarding the transit vehicle at the origin activity center and alighting at the destination activity center, including all wait times, based on printed bus schedule information. Auto travel times are derived from the Tampa Bay Regional Planning Model and represent the congested travel times between the two TAZs that represent travel between the activity centers (see **Table 1** and **Map 1**). Transit vs. Auto Travel Time LOS standards are depicted in **Table 5**.

LOS scores for transit vs. auto travel times range from "B" to "F". Twenty-seven O-D pairs received an LOS score of "D" or better. No O-D pairs received an LOS score of "A" but six pairs earned a "B" and seven a "C". Forty-six percent, or 23 O-D pairs, earned an LOS score of "E" or lower; nine O-D pairs earned an "F".

Following are the O-D pairs with an auto-transit travel time difference of greater than 1 hour (LOS F):

- Temple Terrace to Town and Country
- Temple Terrace to East Tampa
- USF/Busch Gardens to Port of Tampa
- USF/Busch Gardens to East Tampa
- Downtown Tampa to Town and Country
- MacDill AFB to Temple Terrace
- Mac Dill AFB to East Tampa
- Brandon to East Tampa
- MacDill to Town and Country

**Table 5. Transit vs. Auto Travel Time Level of Service**

LOS	Travel Time Difference (min.)	Comments	% of O-D Pairs
A	<= 0	Faster by transit than by auto	0%
B	1-15	About as fast by transit as by auto	12%
C	16-30	Tolerable for choice riders	14%
D	31-45	Round trip at least an hour longer by transit	28%
E	46-60	Tedious for all riders; may be best possible in small cities	28%
F	>60	Unacceptable to most riders	18%

Source: Transportation Research Board, Highway Capacity Manual 2000.

The Transit versus Auto Travel Time results are summarized in the Mobility Measures Worksheet located in **Appendix A: Quality of Service Worksheets**.

### **3.7 Summary Evaluation**

A summary of results for all LOS measures ranked in order of the travel demand between each origin and destination is provided in **Table 6**. **Table 7** provides the number and percentage of O-D pairs within each LOS score for each measure. Nearly 45 percent of the O-D pairs were excluded from the evaluation. Eighteen trips involved New Tampa to which transit service is not provided and 22 trips represent travel between two activity centers for which travel could not be completed prior to 6 PM.

LOS scores were highest for Hours of Service and Service Coverage. Seventy percent of the O-D pairs evaluated received an Hours of Service LOS of "D" or better, with 48 percent receiving an LOS of "C" or "B". Within Hillsborough County, the transit supportive area serviced by transit is 78 percent, equating to an LOS of "C".

### **3.8 Level of Effort on Evaluation**

The March 2002 TQSE did not include the evaluation of Passenger Loading or Reliability. The remaining measures included in the evaluation did not require field survey work in order to complete the evaluation. With the ready availability of data required from the Tampa Bay Regional Planning Model, the level of effort to complete the 2002 Evaluation was minimal. The total number of hours to complete the evaluation was approximately 120.

Nearly 46 percent, or 55 hours were dedicated to plotting all potential transit trips between the activity centers in order to determine which route or combination of routes provided the best service and a trip that could be completed between the hours of 4 PM and 6 PM. Familiarity with the transit service available in Hillsborough County facilitated the efficient completion of this task.

## Hillsborough County Transit Quality of Service Evaluation

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**Table 6. Summary Results**

<b>Trip Rank</b>	<b>From</b>	<b>To</b>	<b>Trips</b>	<b>Frequency</b>	<b>Hours of Service</b>	<b>Travel Time</b>
1	Westshore District/TIA	Town and Country	2501	D	C	C
2	USF/Busch Gardens	New Tampa	2073	--	--	--
3	USF/Busch Gardens	Temple Terrace	1301	E	C	B
4	Downtown Tampa	East Tampa	1050	D	B	C
5	Downtown Tampa	USF/Busch Gardens	1045	E	F	D
6	Downtown Tampa	Westshore District/TIA	944	D	C	B
7	Westshore District/TIA	Downtown Tampa	835	D	C	B
8	Town and Country	Westshore District/TIA	617	D	C	E
9	Downtown Tampa	Town and Country	574	D	C	F
10	Temple Terrace	USF/Busch Gardens	471	E	C	B
11	New Tampa	USF/Busch Gardens	441	--	--	--
12	USF/Busch Gardens	Downtown Tampa	433	B	C	D
13	Temple Terrace	New Tampa	430	--	--	--
14	USF/Busch Gardens	Town and Country	428	D	C	E
15	Westshore District/TIA	East Tampa	421	D	C	E
16	Westshore District/TIA	USF/Busch Gardens	323	D	D	E
17	Downtown Tampa	Temple Terrace	315	E	C	D
18	USF/Busch Gardens	East Tampa	307	C	C	F
19	Downtown Tampa	New Tampa	306	--	--	--
20	Downtown Tampa	Brandon	305	F	D	C
21	Westshore District/TIA	New Tampa	303	--	--	--
22	Brandon	New Tampa	249	--	--	--
22	USF/Busch Gardens	Brandon	249	--	--	--
24	East Tampa	USF/Busch Gardens	240	D	B	C
25	Brandon	Downtown Tampa	228	E	E	D
26	Downtown Tampa	Port of Tampa	219	E	E	C
27	East Tampa	Westshore District/TIA	208	D	C	D
28	Westshore District/TIA	MacDill AFB	207	D	D	E
29	Westshore District/TIA	Temple Terrace	198	D	C	E
30	New Tampa	Temple Terrace	195	--	--	--
31	East Tampa	Temple Terrace	191	--	--	--
32	Brandon	Temple Terrace	190	--	--	--
33	Town and Country	Downtown Tampa	178	--	--	--
34	Westshore District/TIA	Brandon	176	--	--	--
35	USF/Busch Gardens	Westshore District/TIA	174	C	D	E
36	East Tampa	Town and Country	172	D	C	E
37	Town and Country	USF/Busch Gardens	161	D	C	D
38	East Tampa	Downtown Tampa	156	D	B	B
39	East Tampa	Brandon	154	--	--	--
40	Brandon	USF/Busch Gardens	147	--	--	--
41	Downtown Tampa	MacDill AFB	137	E	D	D
42	East Tampa	New Tampa	136	--	--	--
43	MacDill AFB	Town and Country	128	D	D	F
44	Town and Country	New Tampa	122	--	--	--
45	Brandon	East Tampa	121	E	E	F
46	Port of Tampa	Brandon	118	E	E	D

**Table 6. Summary Results (cont.)**

<b>Trip Rank</b>	<b>From</b>	<b>To</b>	<b>Trips</b>	<b>Frequency</b>	<b>Hours of Service</b>	<b>Travel Time</b>
47	Temple Terrace	Brandon	111	--	--	--
48	MacDill AFB	Westshore District/TIA	102	C	D	D
49	Temple Terrace	Downtown Tampa	100	E	C	E
50	Port of Tampa	Downtown Tampa	94	E	E	B
51	Town and Country	Temple Terrace	87	E	D	E
52	Town and Country	East Tampa	86	D	C	D
53	New Tampa	Brandon	84	--	--	--
54	Temple Terrace	East Tampa	83	E	C	F
55	MacDill AFB	Downtown Tampa	79	E	D	C
56	Brandon	Port of Tampa	74	E	E	E
56	Temple Terrace	Town and Country	74	E	C	F
58	East Tampa	Port of Tampa	71	E	E	D
59	Brandon	Westshore District/TIA	68	--	--	--
59	Westshore District/TIA	Port of Tampa	68	E	E	C
61	Port of Tampa	Temple Terrace	65	E	E	E
62	Port of Tampa	East Tampa	55	E	E	D
63	Port of Tampa	New Tampa	54	--	--	--
64	New Tampa	Town and Country	53	--	--	--
65	Port of Tampa	Westshore District/TIA	48	E	E	D
65	USF/Busch Gardens	Port of Tampa	48	E	E	F
67	MacDill AFB	New Tampa	46	--	--	--
67	Port of Tampa	USF/Busch Gardens	46	--	--	--
69	Port of Tampa	Town and Country	43	--	--	--
70	Brandon	Town and Country	40	--	--	--
71	Temple Terrace	Westshore District/TIA	38	--	--	--
72	New Tampa	Downtown Tampa	36	--	--	--
73	MacDill AFB	East Tampa	35	E	D	F
74	Town and Country	Brandon	32	--	--	--
75	Town and Country	MacDill AFB	31	--	--	--
76	MacDill AFB	Temple Terrace	27	E	F	F
77	USF/Busch Gardens	MacDill AFB	24	--	--	--
78	East Tampa	MacDill AFB	23	E	D	E
78	MacDill AFB	Brandon	23	--	--	--
80	New Tampa	East Tampa	20	--	--	--
81	New Tampa	Westshore District/TIA	18	--	--	--
81	Temple Terrace	Port of Tampa	18	--	--	--
83	MacDill AFB	USF/Busch Gardens	16	--	--	--
84	Town and Country	Port of Tampa	12	--	--	--
85	Brandon	MacDill AFB	9	--	--	--
86	Port of Tampa	MacDill AFB	8	E	E	E
87	MacDill AFB	Port of Tampa	6	E	E	D
88	New Tampa	Port of Tampa	4	--	--	--
89	New Tampa	MacDill AFB	3	--	--	--
89	Temple Terrace	MacDill AFB	3	--	--	--



**Table 7. Total O-D Pairs at Each LOS Level**

LOS	Frequency		Hours of Service		Transit vs. Auto Travel Time	
	#	% <sup>1</sup>	#	% <sup>1</sup>	#	% <sup>1</sup>
<b>A</b>	0	0%	0	0%	0	0%
<b>B</b>	1	2%	4	8%	6	12%
<b>C</b>	3	6%	20	40%	7	14%
<b>D</b>	19	38%	11	22%	14	28%
<b>E</b>	26	52%	14	28%	14	28%
<b>F</b>	1	2%	1	2%	9	18%

<sup>1</sup>Percentages are based 50 O-D pairs included in the analysis; 40 of the original O-D pairs were not included in the analysis because travel between the activity centers by transit was not provided or could not be completed by 6:00 PM.

**3.9 Additional Information - Transit Trips Completed After 6 PM**

The FDOT methodology does not recognize transit trips arriving at the destination after 6 PM as a transit opportunity. Trips that cannot be completed by 6 PM are not included in the TQSE Report submitted to the FDOT. The Hillsborough County MPO has requested that transit trips among the 90 O-D pairs analyzed in the March 2002 analysis that arrive at the destination after 6:00 PM be identified. Of the 90 O-D pairs analyzed, travel among 22 pairs cannot be completed by 6:00 PM.

Travel by transit between the following six O-D pairs cannot be completed by 6:00 PM but could be completed by 6:15 PM:

<b>Origin</b>	<b>Destination</b>	<b>Departure Time</b>	<b>Arrival Time</b>
Brandon	Westshore Business District/Tampa International Airport	4:35 PM	6:13 PM
Brandon	Temple Terrace	4:35 PM	6:06 PM
Town & Country	Downtown Tampa	4:27 PM	6:07 PM
Town & Country	Port of Tampa/ Port Sutton	4:27 PM	6:13 PM
Temple Terrace	Westshore Business District/Tampa International Airport	4:26 PM	6:13 PM
Temple Terrace	Port of Tampa/ Port Sutton	4:26 PM	6:13 PM

Travel by transit between the following sixteen O-D pairs cannot be completed by 6:15 PM but can be completed by the time shown:

<b>Origin</b>	<b>Destination</b>	<b>Departure Time</b>	<b>Arrival Time</b>
Westshore Business District/Tampa International Airport	Brandon	4:15 PM	6:33 PM
University of South Florida/ Busch Gardens	MacDill Air Force Base	4:05 PM	6:23 PM
University of South Florida/ Busch Gardens	Brandon	4:08 PM	6:29 PM
Port of Tampa/ Port Sutton	University of South Florida/ Busch Gardens	4:35 PM	6:22 PM
Port of Tampa/ Port Sutton	Town & Country	4:35 PM	6:40 PM
MacDill Air Force Base	University of South Florida/ Busch Gardens	4:30 PM	6:20 PM
MacDill Air Force Base	Brandon	4:30 PM	7:20 PM

**Hillsborough County Transit Quality of Service Evaluation**

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<b>Origin</b>	<b>Destination</b>	<b>Departure Time</b>	<b>Arrival Time</b>
Brandon	University of South Florida/ Busch Gardens	4:35 PM	6:27 PM
Brandon	MacDill Air Force Base	5:22 PM	7:31 PM
Brandon	Town & Country	4:35 PM	6:40 PM
Town & Country	MacDill Air Force Base	4:27 PM	6:23 PM
Town & Country	Brandon	4:27 PM	6:29 PM
Temple Terrace	MacDill Air Force Base	4:26 PM	6:23 PM
Temple Terrace	Brandon	4:26 PM	6:29 PM
East Tampa	Brandon	4:11 PM	7:00 PM
East Tampa	Temple Terrace	4:11 PM	6:17 PM

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**Appendix A: *Quality of Service Worksheets***

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## SERVICE COVERAGE WORKSHEET

**Calculation Method (GIS/Manual)** GIS  
**Household Data Year** 1999  
**Population Data Year** 1999  
**Job Data Year** 1999  
**Average Persons per Household** 2.2

	% Area Served	% Population Served	% Jobs Served
<b>County</b>	16.0%	48.7%	69.8%
<b>Principal City</b>	34.0%	54.5%	72.8%
<b>Transit-Supportive Area</b>	78.1%		
<b>Service Coverage LOS</b>	C		

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**Appendix B: *Service Coverage Analysis Maps***

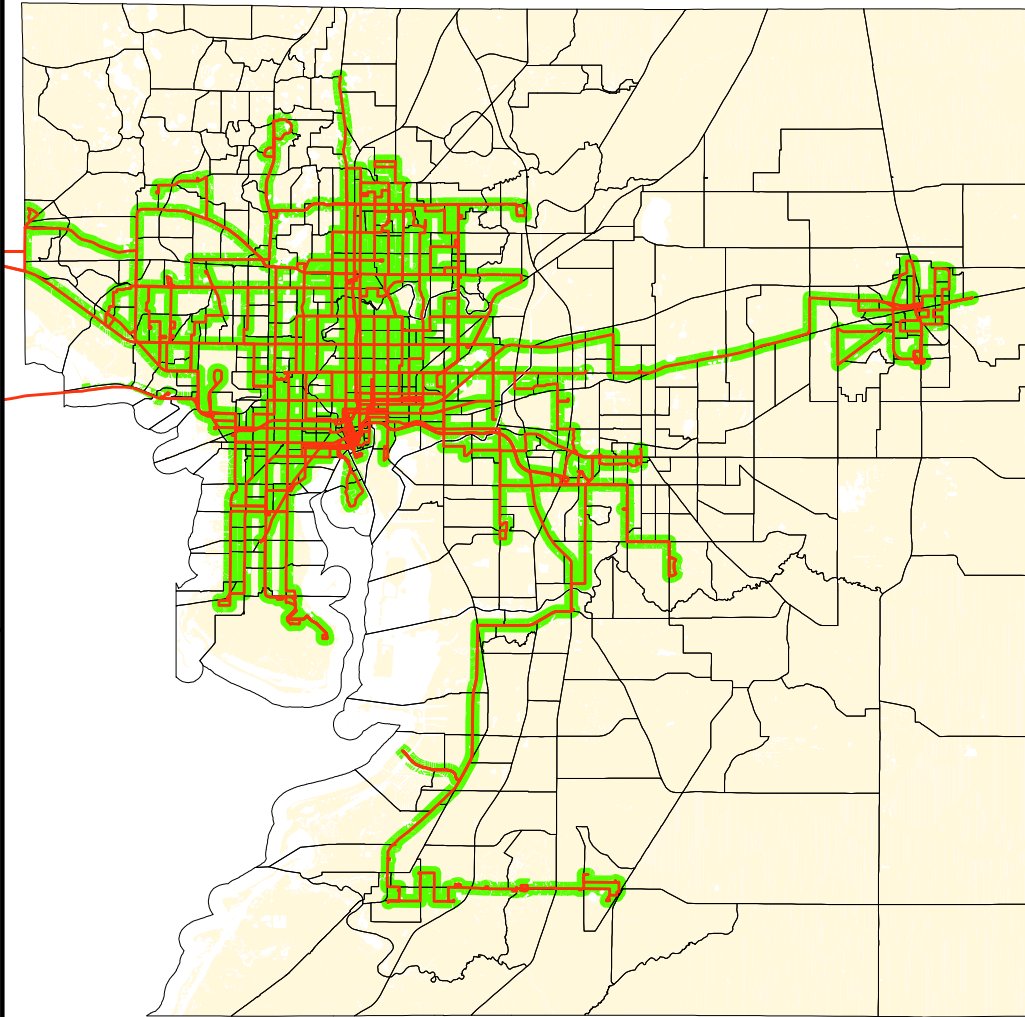
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# Hillsborough County

Transit Service Coverage  
March 2002

## Legend

-  Transit Service Area
-  TAZ Boundaries
-  HARTline Routes

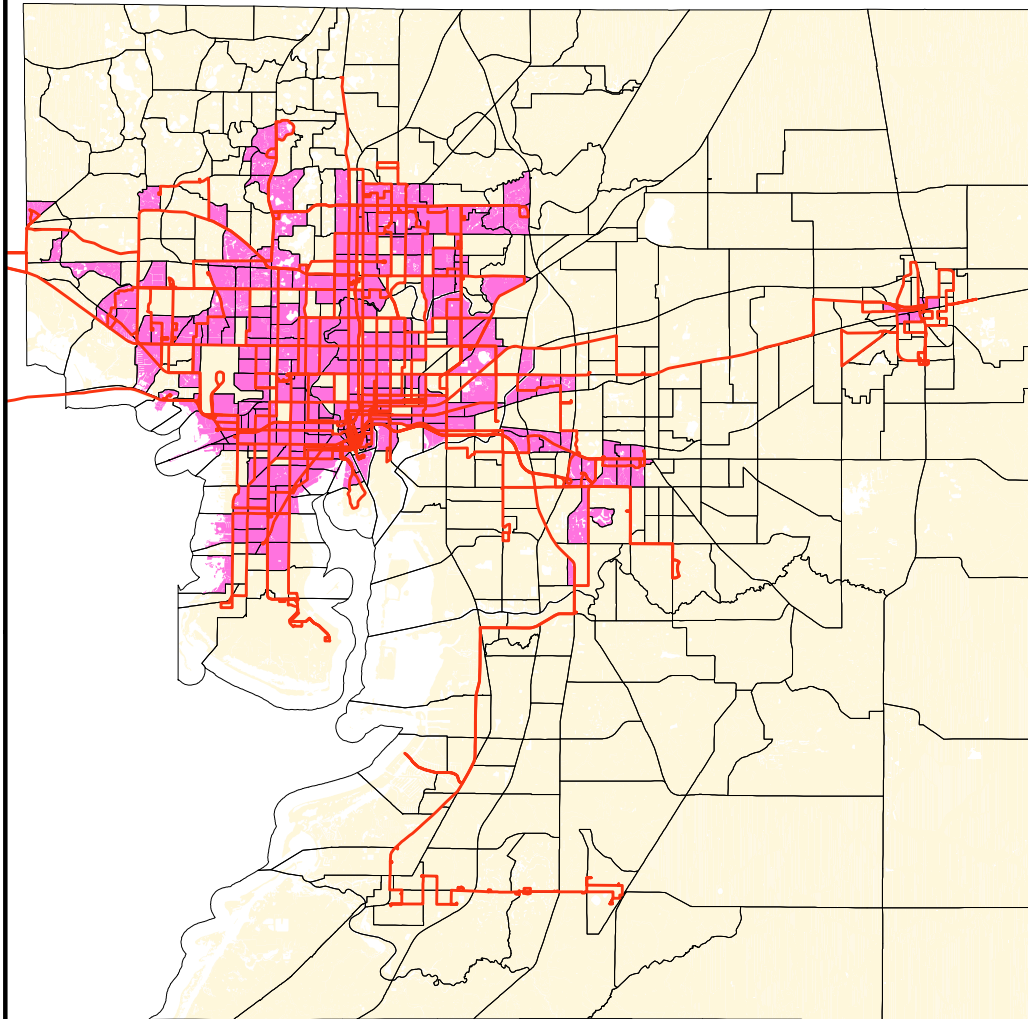


## Service Coverage Area

Printed May 30, 2002

# Hillsborough County

1999 Transit-Supportive TAZs<sup>1</sup>



## Legend

- Transit Routes
- Non-Transit Supportive
- Transit Supportive
- TAZ Boundaries

<sup>1</sup> Transit-Supportive TAZs are defined as TAZs with a density of 3 or more households per gross acre and/or a density of 4 or more employees per gross acre, pursuant to the Florida MPO Transit Quality of Service Evaluation Agency Reporting Guide.

- 1999 TBRPM Zonal Structure



0 2 4 6 Miles








## Transit-Supportive Area by Density

Printed May 31, 2002

# Hillsborough County

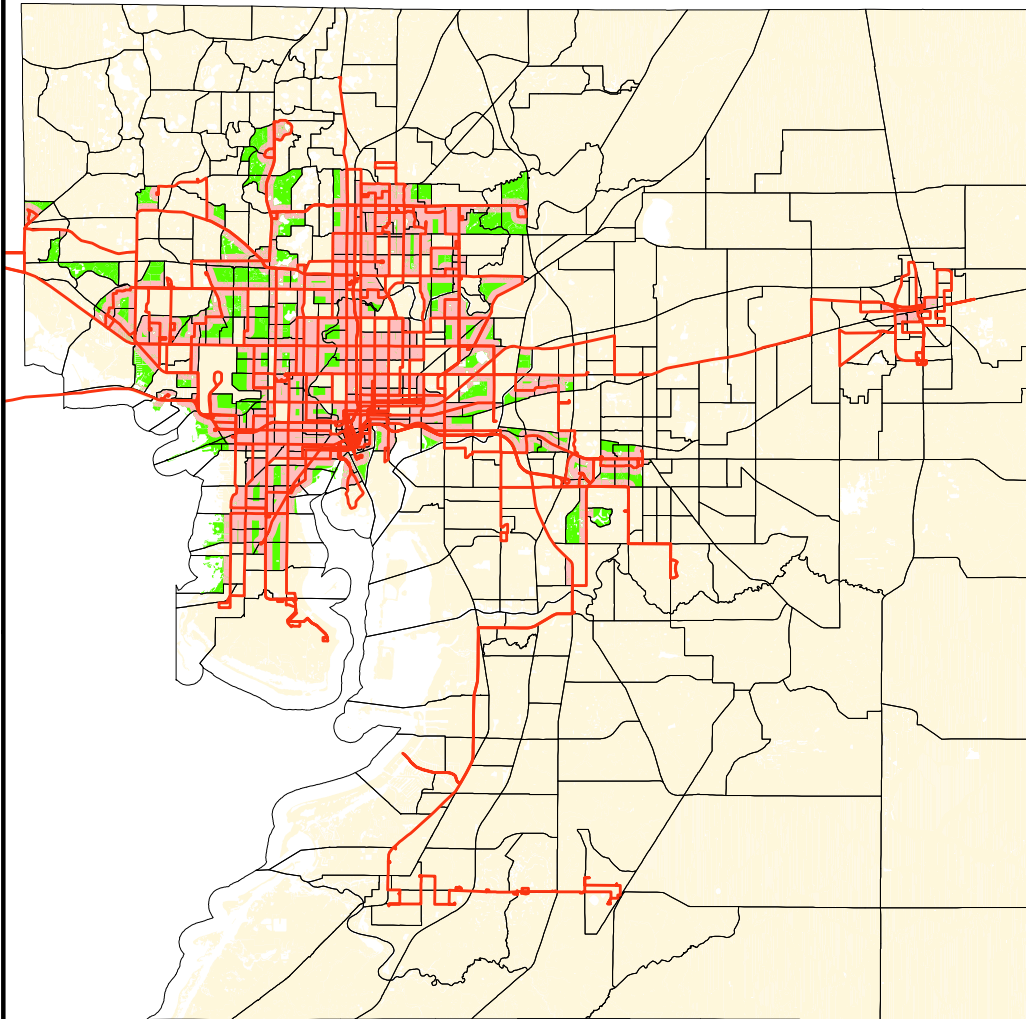
Transit - Supportive<sup>1</sup>  
Area Served by  
Transit, March 2002

## Legend

-  Served By Transit
-  Not Served by Transit
-  Non-Transit Supportive<sup>1</sup>
-  TAZ Boundaries
-  Transit Routes

<sup>1</sup> Transit-Supportive TAZs are defined as TAZs with a density of 3 or more households per gross acre and/or a density of 4 or more employees per gross acre, pursuant to the Florida MPO Transit Quality of Service Evaluation Agency Reporting Guide.

- 1999 TBRPM Zonal Structure



0 2 4 6 Miles

 **Gannett Fleming**

## Transit - Supportive Area Served by Transit

Printed May 31, 2002

# Auto Travel Time Survey Analysis

## Select O-D Pairs

### Hillsborough County MPO



April 2002

Auto travel surveys were conducted for ten (10) of the 90 O-D pairs selected for evaluation in the FDOT TCQSM Evaluation performed in March 2002. The ten O-D pairs were selected by the Hillsborough County MPO to represent travel between Activity Centers that experienced a range of travel demand. Auto travel surveys were performed in accordance with Chapter 14 of the Manual on Uniform Traffic Studies (MUTS), without calculation of delay. Three travel times were collected for each O-D pair auto survey on different Typical Weekdays in April 2002. The average of the three travel times was calculated to determine the Survey Auto Travel Time for the O-D pair.

The following table compares travel times derived from the **1999** Tampa Bay Regional Transportation Planning Model (TBRPM) and the Survey Auto Travel Times for each O-D pair. The TBRPM identifies the travel time between the TAZs in which the Activity Center is located. For Activity Centers with an area identified by the MPO that encompasses multiple TAZs, the TAZ that is representative of the transit trip evaluated in the TCQSM evaluation was selected. The Survey Auto Travel Time represents the travel time between the intersection closest to the bus stop from which the transit trip originated or ended.

A comparison of auto and transit travel times between each O-D pair is also provided. Diagrams depicting the general transit route for each O-D pair except USF/Busch Gardens and New Tampa are attached. Transit service between these Activity Centers is not provided.

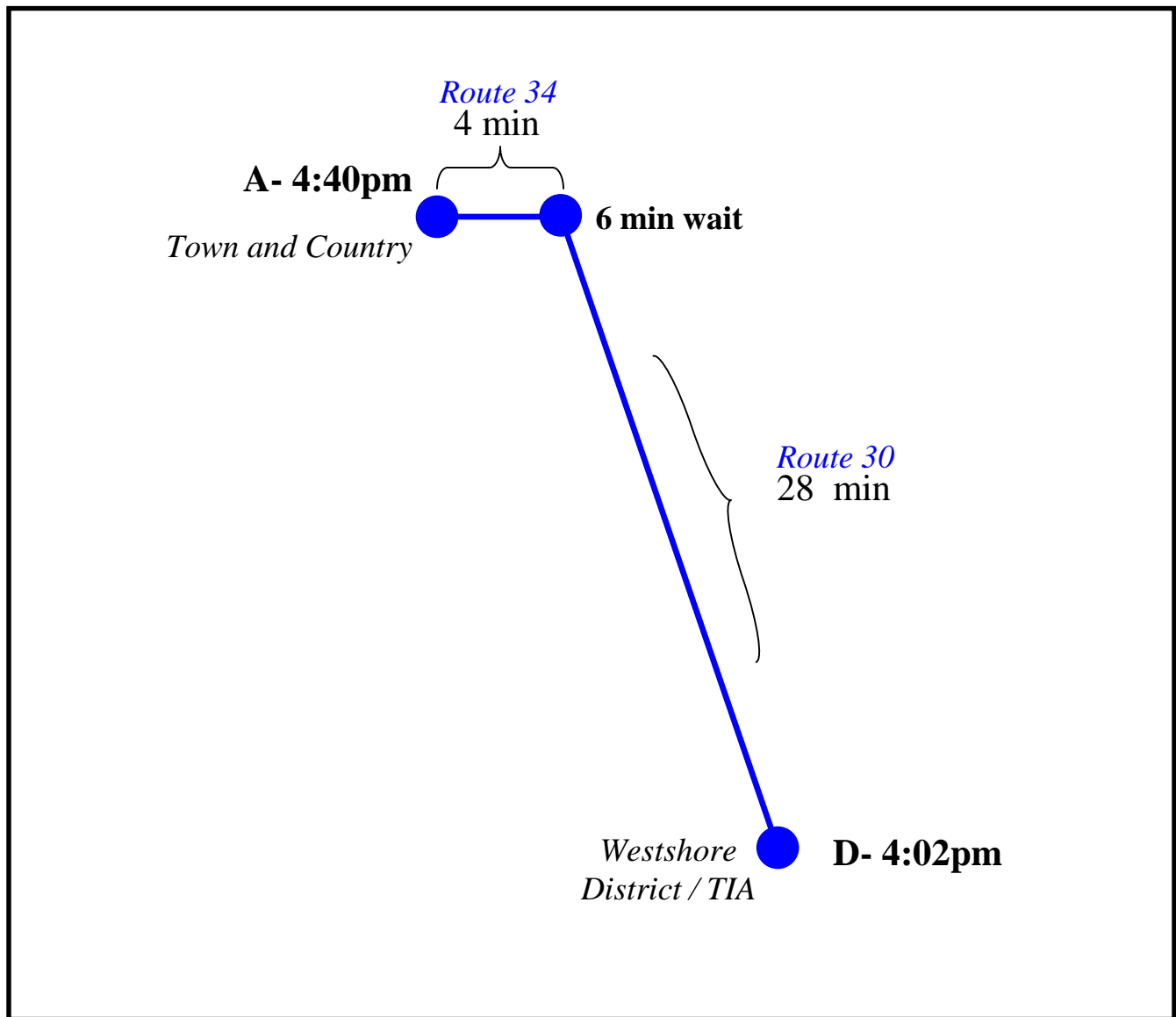
Origin		Destination		Travel Time (min)		
				Transit	Auto	
AC	TAZ	AC	TAZ		TBRPM	Survey
Westshore District/TIA	170	Town and Country	321	38	13	15
USF	448	New Tampa	250	-	13	12
USF	448	Temple Terrace	306	18	14	15
Downtown	274	USF	448	65	20	21
Westshore District/TIA	170	East Tampa	88	66	16	16
Temple Terrace	306	East Tampa	88	95	16	16
Port of Tampa	121	East Tampa	88	56	11	10
MacDill AFB	240	Temple Terrace	306	112	40	31
MacDill AFB	240	Brandon	601	159	39	27
Port of Tampa	121	MacDill AFB	240	86	29	15





# Hillsborough TCQSM Analysis

## O-D Route Selection

***Westshore District/TIA (Westshore Blvd at Kennedy Blvd) to  
Town and Country (Memorial Hwy at Hillsborough Ave)***



### LEGEND

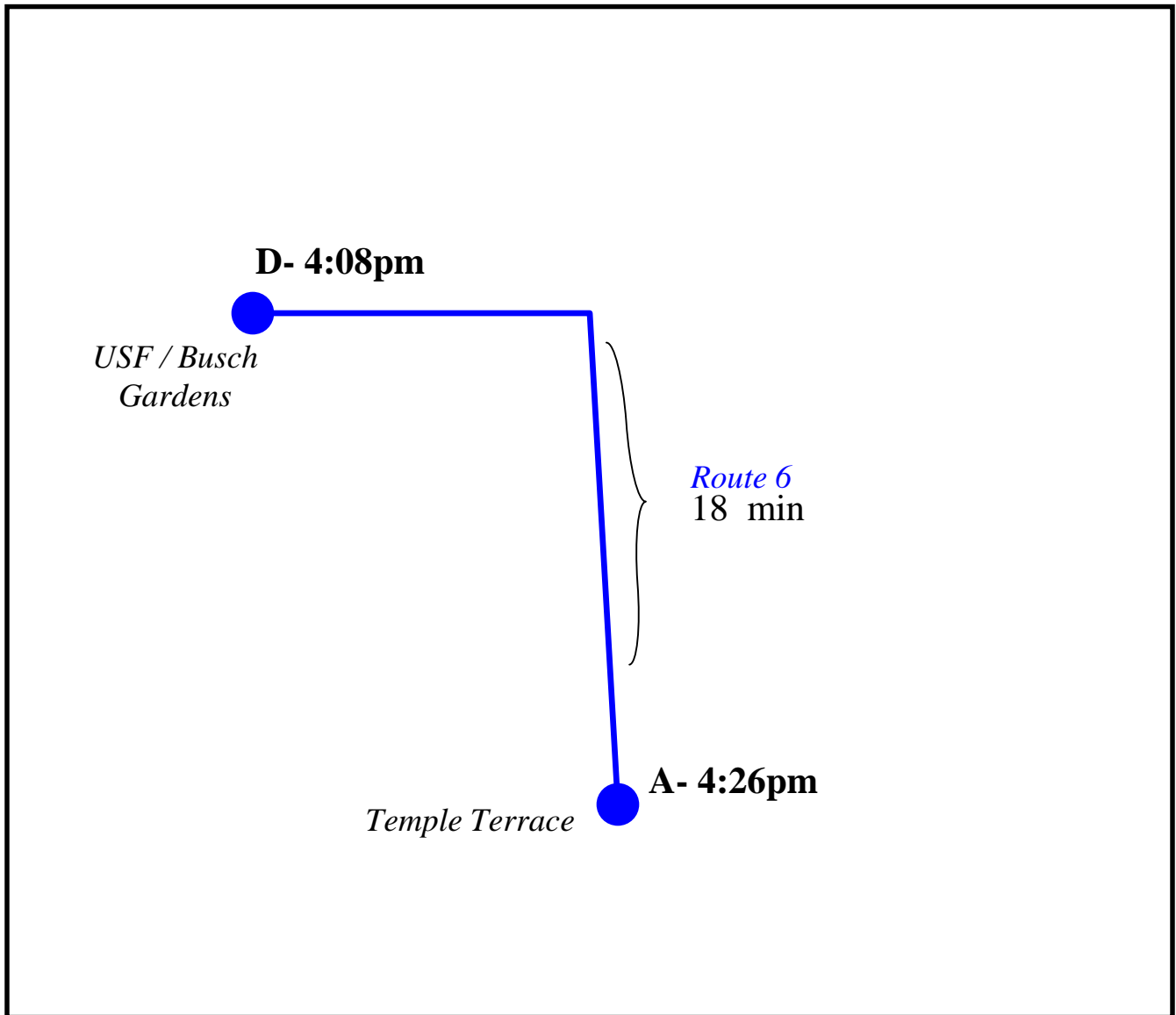
	HARTline
	HARTline Express

***Auto Travel Time: 15 min  
Transit Travel Time: 38 min  
Transit Hours of Service: 14 hours***



# Hillsborough TCQSM Analysis

## O-D Route Selection

***USF / Busch Gardens (University Area Transit Center) to  
Temple Terrace (56<sup>th</sup> St & Busch Blvd)***



### LEGEND

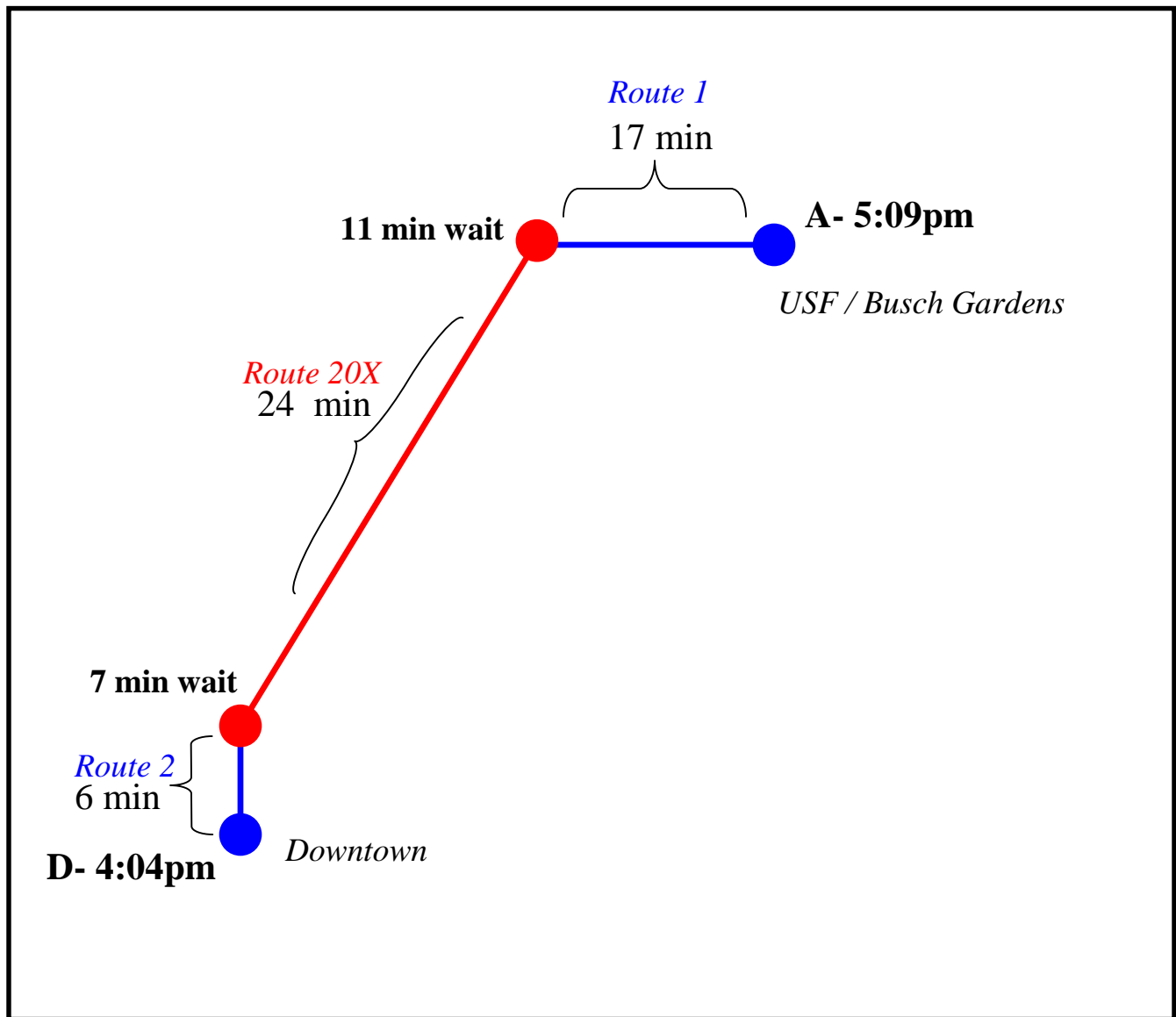
	HARTline
	HARTline Express

***Auto Travel Time: 15 min  
Transit Travel Time: 18 min  
Hours of Service: 16 hours***



# Hillsborough TCQSM Analysis

## O-D Route Selection

***Downtown (Marion St at Kennedy Blvd) to  
USF/Busch Gardens (University Area Transit Center)***



### LEGEND

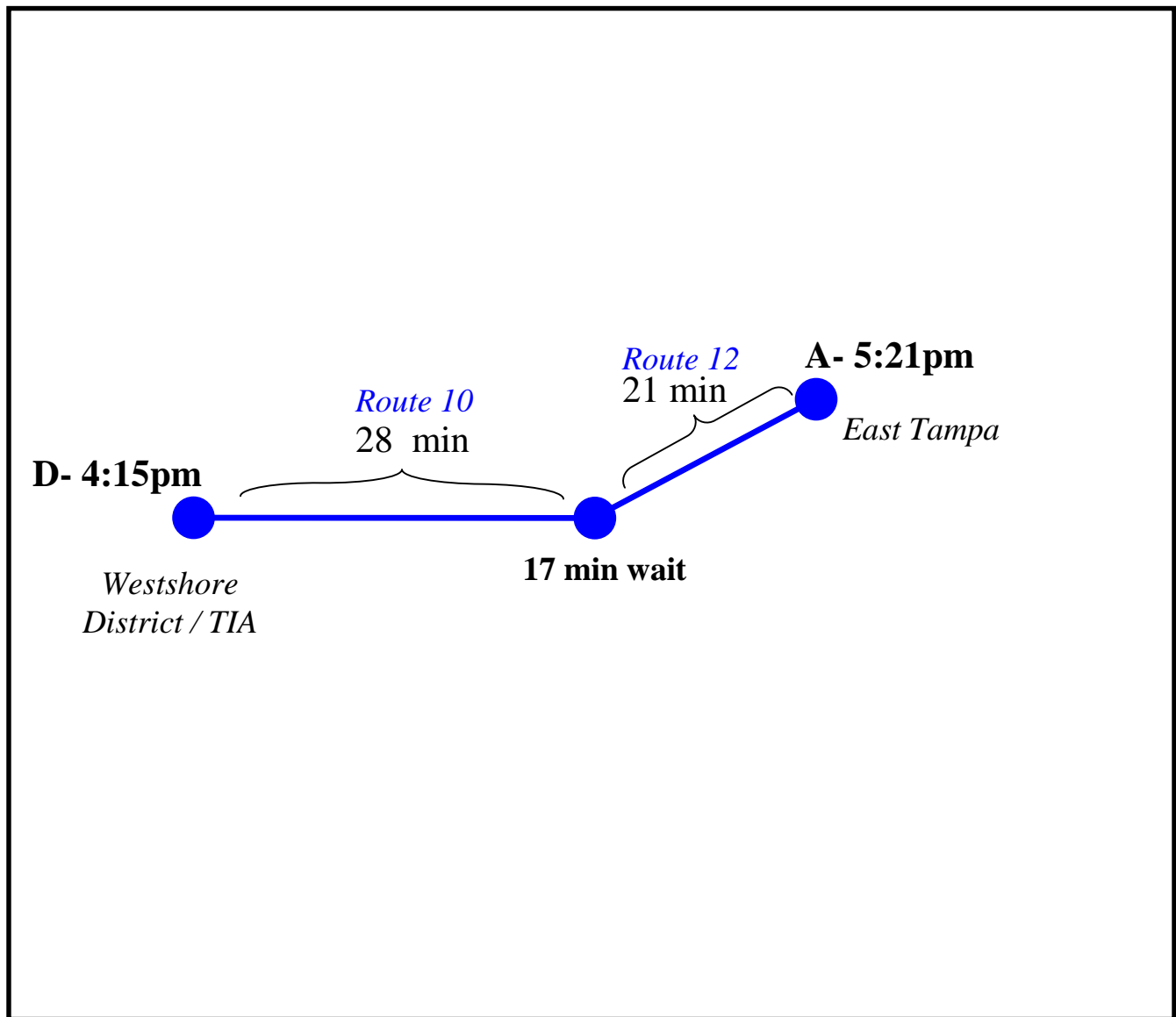
	HARTline
	HARTline Express

***Auto Travel Time: 21 min  
Transit Travel Time: 64 min  
Hours of Service: 18 hours***



# Hillsborough TCQSM Analysis

## O-D Route Selection

***Westshore District/TIA (Westshore Blvd at Kennedy Blvd) to  
East Tampa (Columbus Ave at 22<sup>nd</sup> St)***



### LEGEND

	HARTline
	HARTline Express

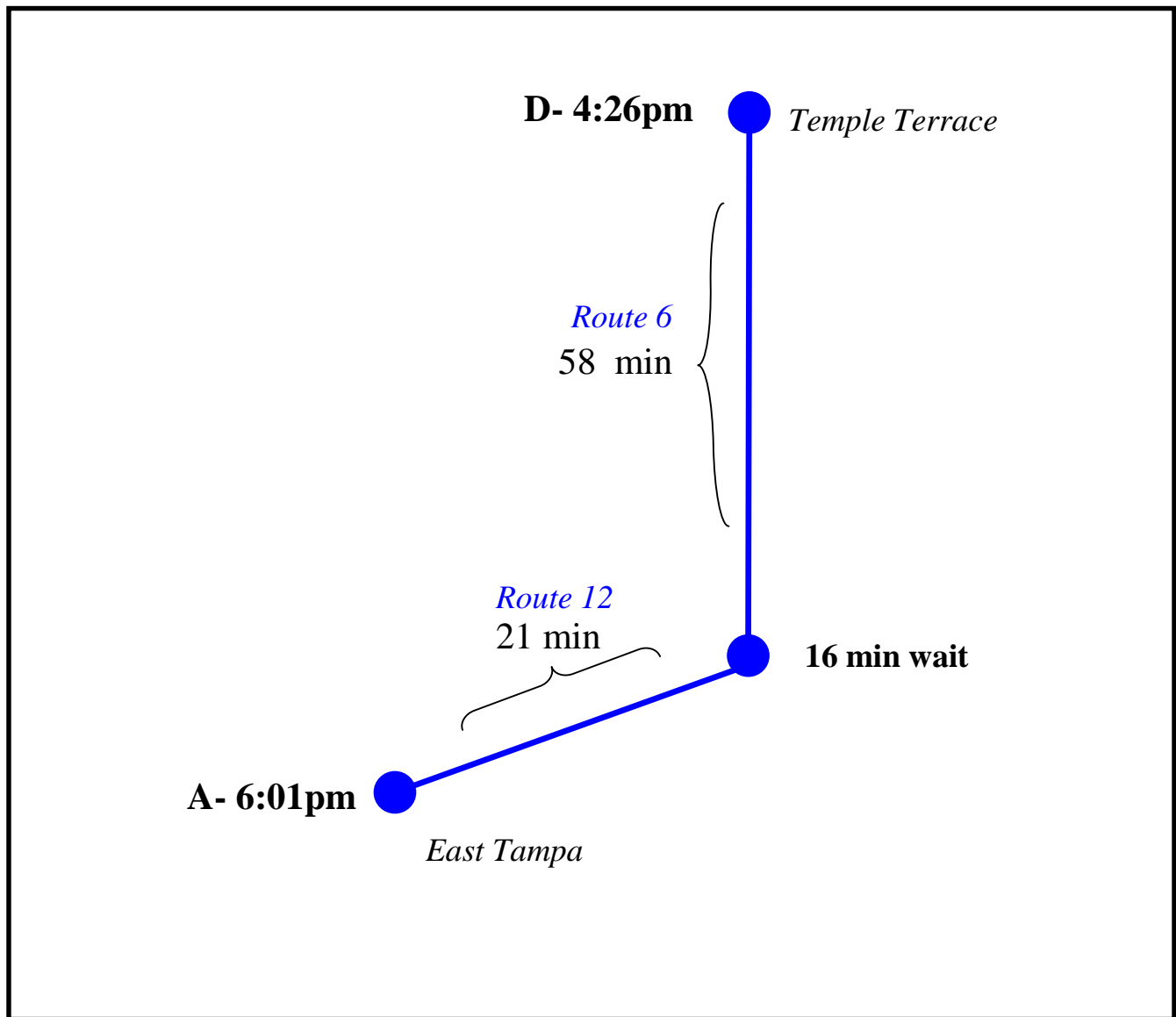
***Auto Travel Time: 16 min  
Transit Travel Time: 65 min  
Hours of Service: 14 hours***

# Hillsborough TCQSM Analysis



## O-D Route Selection

***Temple Terrace (56<sup>th</sup> St at Busch Blvd) to***

***East Tampa (Columbus Ave at 22<sup>nd</sup> St)***



### LEGEND

	HARTline
	HARTline Express

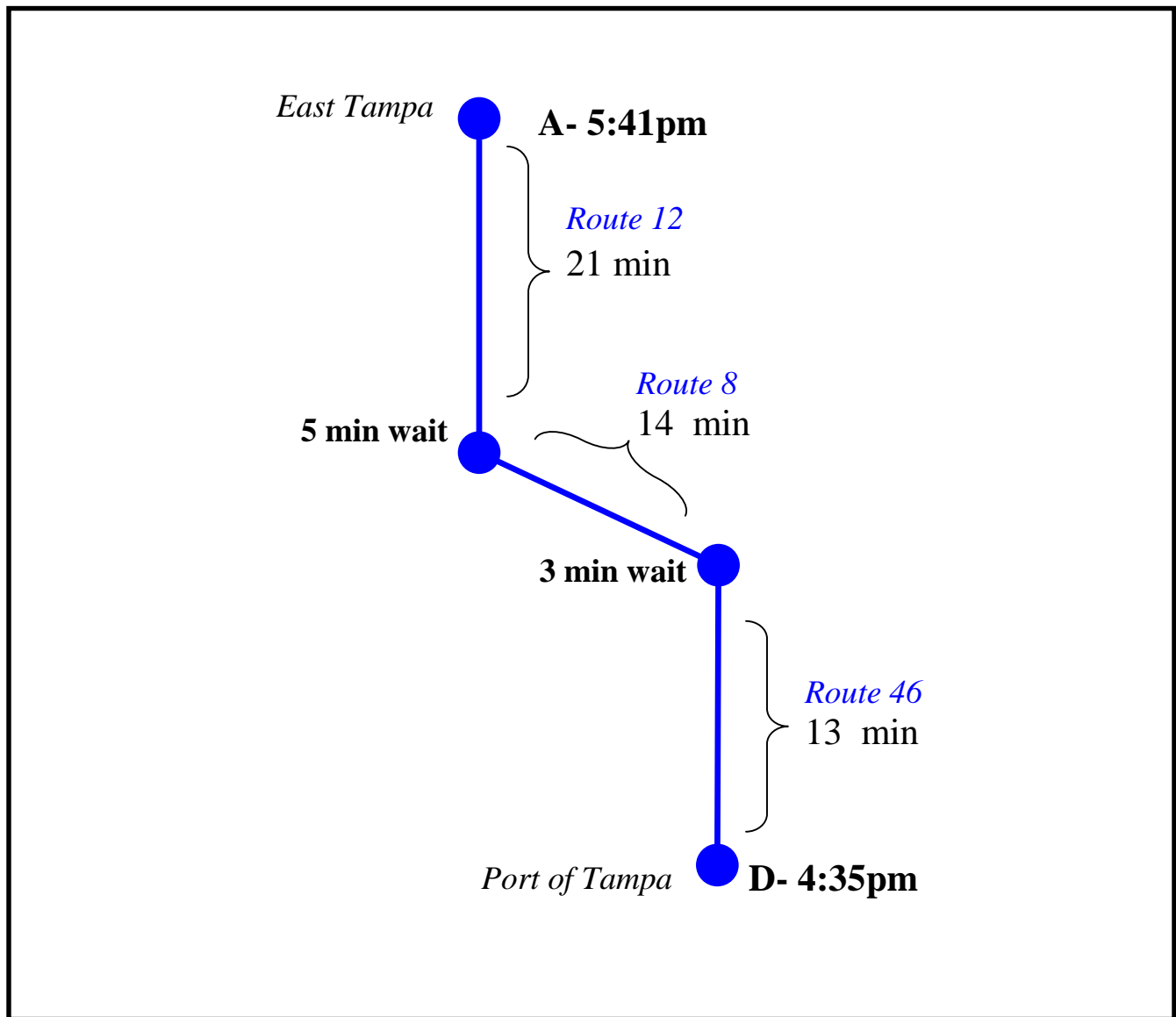
***Auto Travel Time: 16 min***  
***Transit Travel Time: 95 min***  
***Hours of Service: 16 hours***

# Hillsborough TCQSM Analysis



## O-D Route Selection

***Port of Tampa (20<sup>th</sup> St at Maritime Blvd) to***

***East Tampa (Columbus Ave at 22<sup>nd</sup> St)***



### LEGEND

	HARTline
	HARTline Express

***Auto Travel Time: 10 min***

***Transit Travel Time: 56 min***

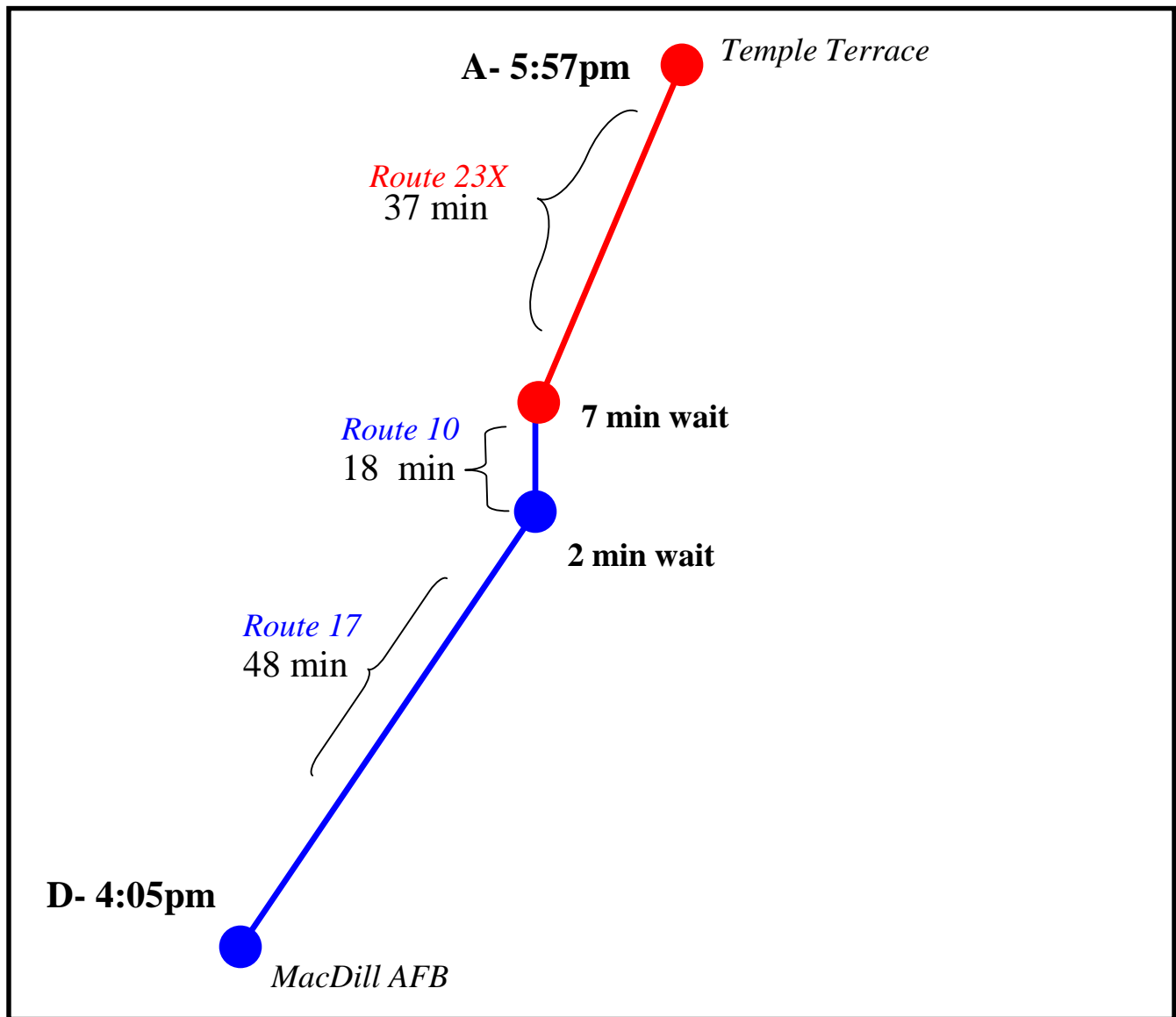
***Hours of Service: 12 hours***

# Hillsborough TCQSM Analysis



## O-D Route Selection

**MacDill AFB (entrance at King Fisher Rd) to**

**Temple Terrace (56<sup>th</sup> St at Busch Blvd)**



### LEGEND

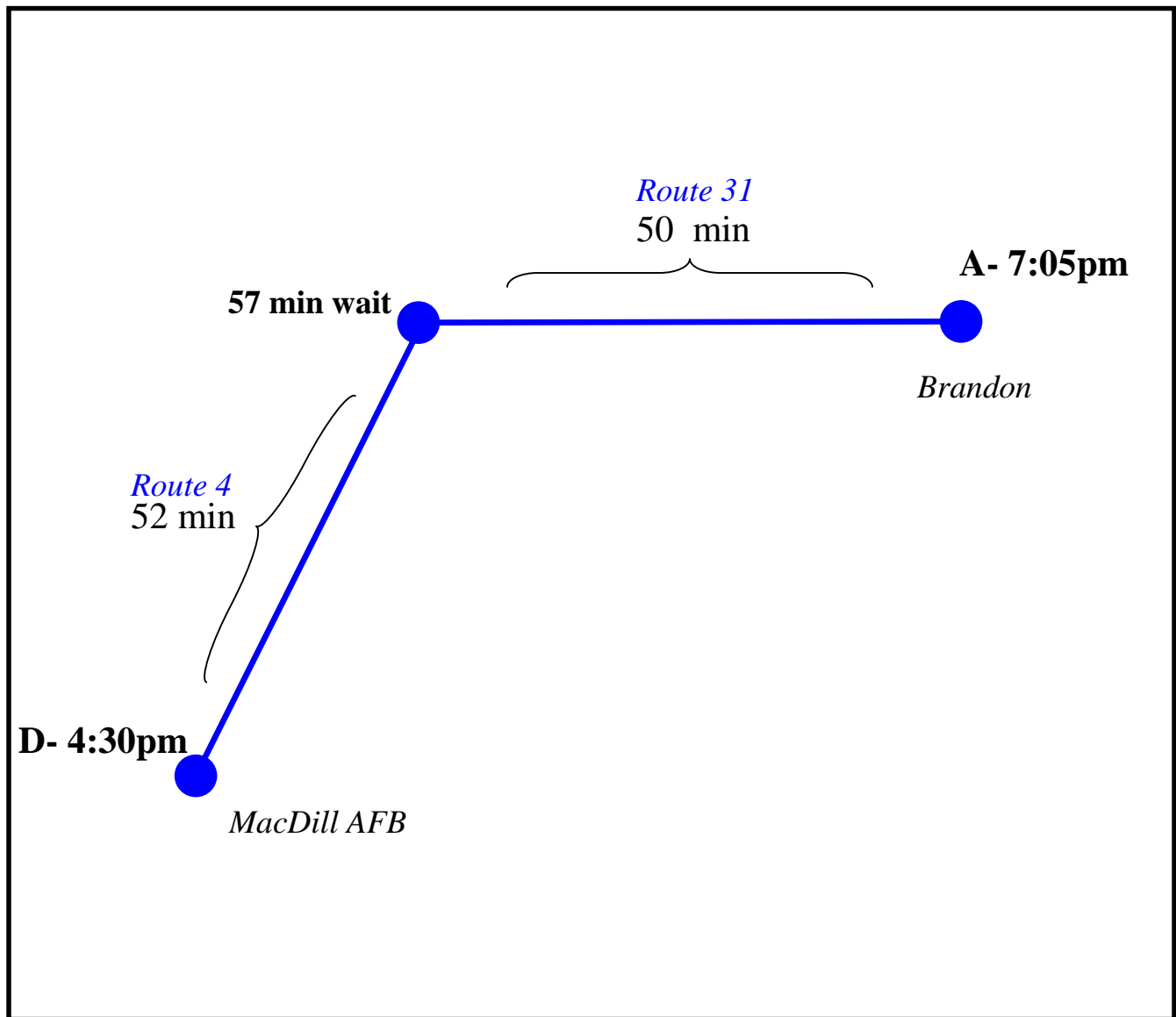
	HARTline
	HARTline Express

**Auto Travel Time: 31 min**  
**Transit Travel Time: 112 min**  
**Hours of Service: 13 hours**



# Hillsborough TCQSM Analysis

## O-D Route Selection

***MacDill AFB (entrance at King Fisher Rd) to  
Brandon (Providence Rd at Brandon Blvd)***



### LEGEND

	HARTline
	HARTline Express

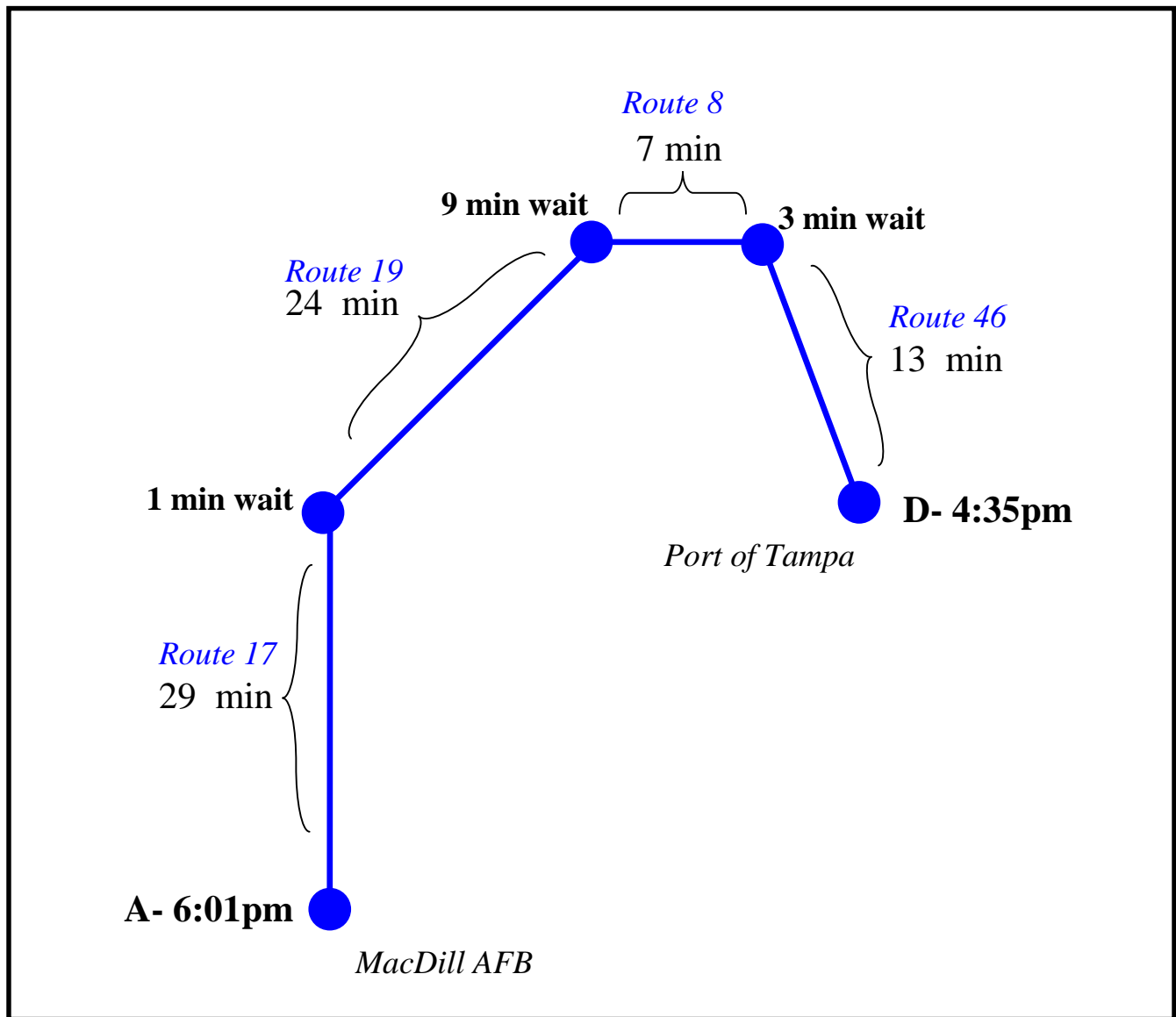
***Auto Travel Time: 27 min  
Transit Travel Time: 159 min  
Hours of Service: 12 hours***





# Hillsborough TCQSM Analysis

## O-D Route Selection

***Port of Tampa (20<sup>th</sup> St at Maritime Blvd) to  
MacDill AFB (entrance at King Fisher Rd)***



### LEGEND

	HARTline
	HARTline Express

***Auto Travel Time: 15 min  
Transit Travel Time: 86 min  
Hours of Service: 12 hours***

