

# SouthShore Transit Circulator Study



May 13, 2014

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### Appendix A – Comments from the Public

## Introduction

The SouthShore Area, the fastest growing area in Hillsborough County, has experienced significant growth and development over the last ten years and this high rate of growth and development is expected to continue. The purpose of this study is to assess the need for transit circulator service to connect the existing and future residential, employment, and activity centers within the SouthShore Area and develop the best alternative and implementation plan to provide input into the Hillsborough County Metropolitan Planning Organization (MPO) and Hillsborough Area Regional Transit Authority (HART) Plans.











Through coordination with the MPO, HART, and local Stakeholders, the study process examined the existing conditions and trends, identified the needed transit service, and developed and evaluated potential alternatives to provide transit service within the SouthShore Area. Alternatives were designed for a horizon year of 2025.

## Study Area



The SouthShore Area refers to the southern part of unincorporated Hillsborough County and encompasses the six communities including: Apollo Beach, Gibsonton, Ruskin, Riverview, Sun City Center, and Wimauma. This study area coincides with the study area for the SouthShore Areawide Systems planning initiative and is shown in Figure 1. The approximate 384 square miles are bounded by Bloomingdale Avenue to the north, the urban service boundary to the east, Manatee County to the south, and Tampa Bay to the west.

## Study Coordination/Outreach





The study coordination and public outreach was organized by the MPO. A series of meetings were held with the MPO and HART to provide project progress and obtain their input and direction. The Stakeholders were identified by the MPO and included representatives from communities and businesses in the SouthShore Area including:

- |  |  |
|--|--|
|  South Shore Chamber                      |  United Yacht Sales                   |
|  SouthBay Hospital                        |  South Shore Yachts                   |
|  Current Newspaper                        |  Christ Community Church              |
|  TSI                                      |  All Bay Insurance Group              |
|  TECO                                     |  Beth-El Farmworker Ministry          |
|  Sun City Center Chamber                  |  Hillsborough County Hispanic Liaison |
|  Dedicated Transportation Solutions, Inc. |  Ruskin Chamber                       |
|  Century 21 Beggins                       |  South Shore Chamber                  |
|  Kids R Kids                              |  Hispanic Services Council            |
|  Kennco Manufacturing                     |  South Shore Chamber                  |
|  P.F. Auto Glass, Inc.                    |  Ruskin Chamber                       |
|  Hispanic Services Council                |  Kaeser & Blair, Inc.                 |
|  Wholesome Community Ministries           |  ServiceMaster 24 Hr. Clean           |
|  Mosaic                                   |  Weichert Realtors SouthShore         |



-  H & R Block, Ruskin
-  Victoria's 5th Avenue Salon
-  Ruskin Chamber
-  Hillsborough Community College  
SouthShore
-  Zipperer's Funeral Home
-  Hillsborough County School Board
-  Redlands Christian Migrant Association

Stakeholder Meetings and a Public Open House were held in conjunction with the SouthShore Areawide Plan update meetings. The MPO notified the Stakeholders of the meetings and over 600 individuals for the Public Open House. The Stakeholder Meetings and Public Open House were held at the SouthShore Regional Library and included the following:

-  November 19, 2013 – Introduced the study, presented the existing conditions, and obtained input on priority activity centers and ideas on a proposed system.
-  January 21, 2014 – Presented preliminary alternatives and obtained comments.
-  February 18, 2014 – Presented the refined alternatives based on the Stakeholder input and obtained public comments.
-  March 18, 2014 – Presented the recommended alternative to the Stakeholders.

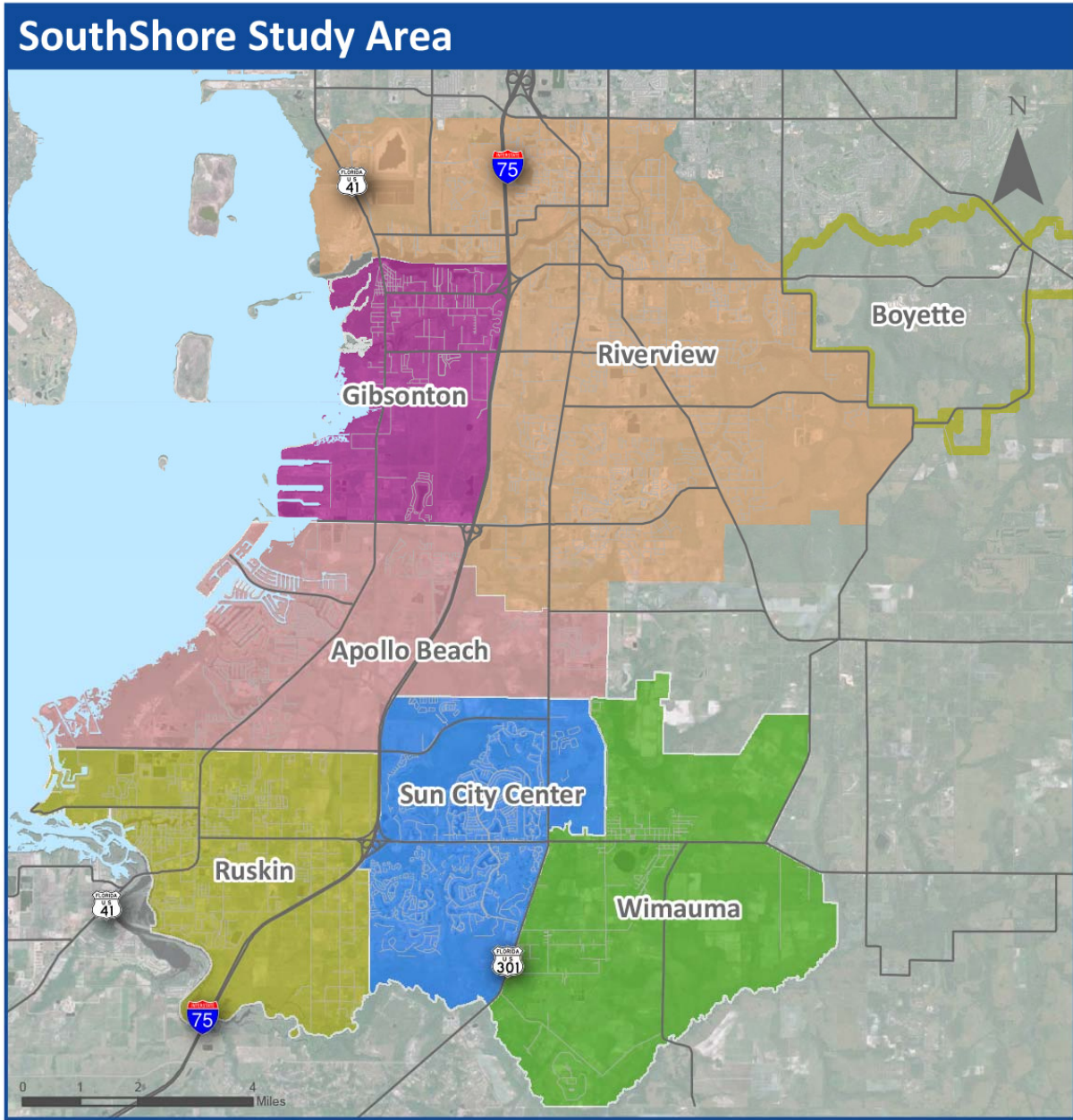


Figure 1 | SouthShore Study Area

## Existing Conditions

The SouthShore Area is a more rural area within Hillsborough County and is home to several communities. The existing conditions consist of demographics (showing both growth and characteristics), existing roadway network, and existing transit network.

### Demographics

The SouthShore Areawide Systems Plan Update Data Packet, May 2013, and development plans were reviewed to identify the existing characteristics of the area. The SouthShore Area is unique with its high rate of growth and development over the last 10 years even while many areas experienced slow or no growth during the Great Recession.

The rapid growth and development in the SouthShore Area is substantiated by a population growth of 88% and a 79% growth in dwelling units between 2000 and 2010. Figure 2 depicts the SouthShore Population Growth between 2000 and 2010 as compared to all of unincorporated Hillsborough County.

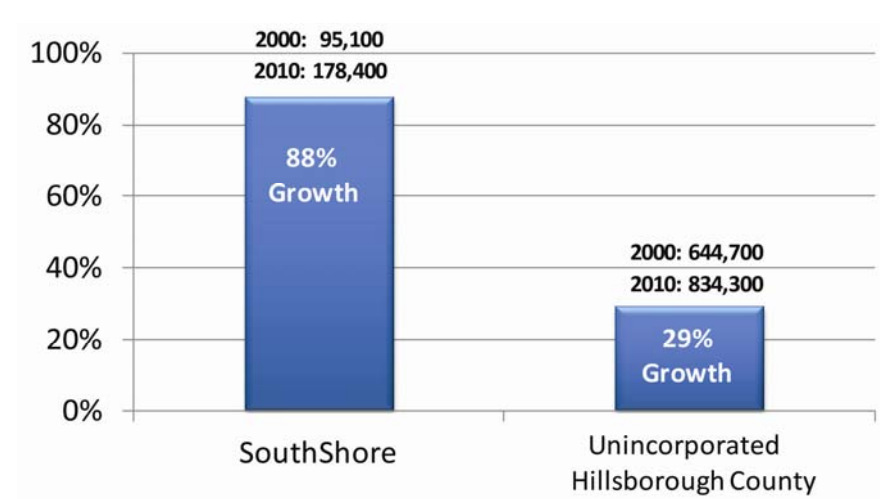
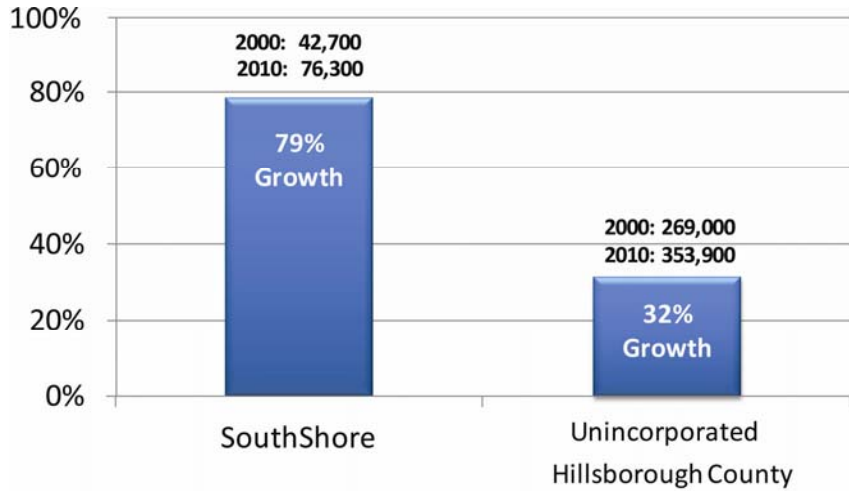


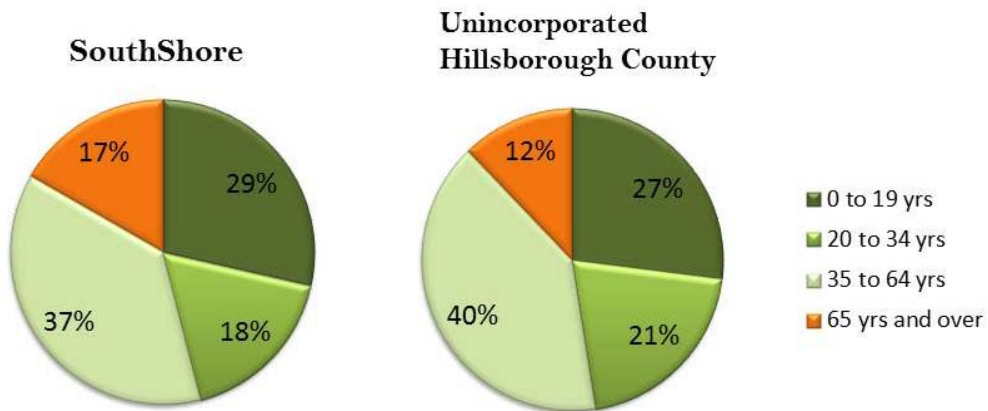
Figure 2 | 2000-2010 Population Growth (Includes; Balm, Little Manatee, and South Rural)

Figure 3 depicts the SouthShore Dwelling Unit Growth between 2000 and 2010 as compared to unincorporated Hillsborough County.



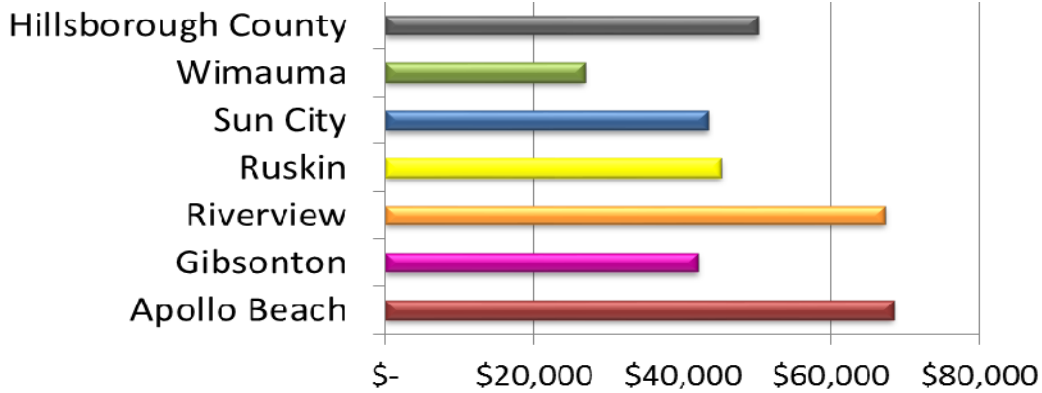
**Figure 3 | 2000-2010 Dwelling Units (Includes; Balm, Little Manatee, and South Rural)**

Approximately 17% of the SouthShore Area’s population is over 65 years old while only 12% of the unincorporated Hillsborough County’s population is over 65 years old. Figure 4 below identifies the 2010 age distribution comparison.



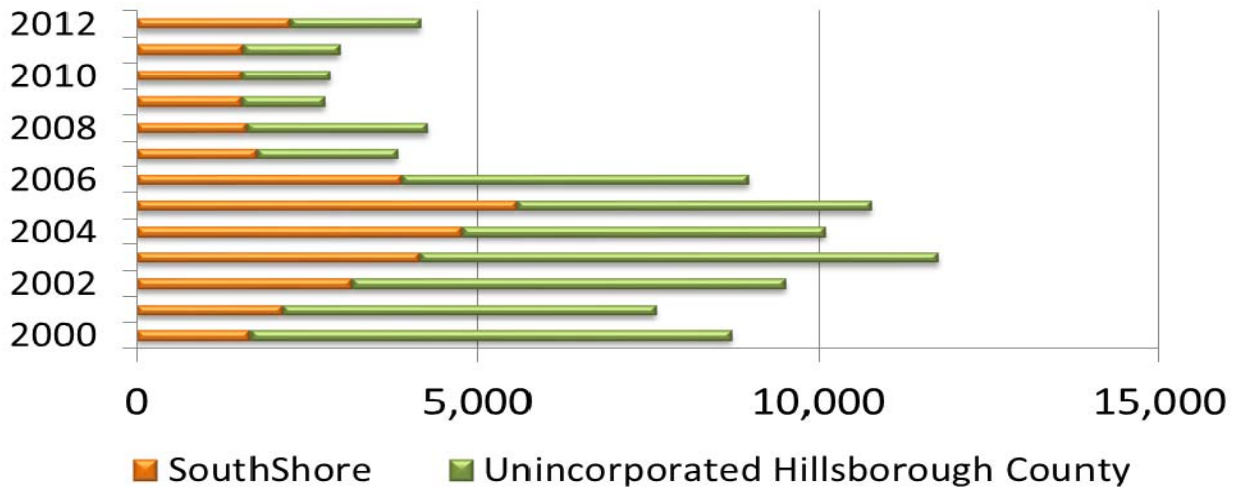
**Figure 4 | 2010 Age Distribution Comparison (Includes; Balm, Little Manatee, and South Rural)**

The median income in the SouthShore Area ranges from \$26,800 for Wimauma to \$68,400 for Apollo Beach. Median incomes in Wimauma, Sun City Center, Ruskin, and Gibsonton are all below Hillsborough County’s median income of \$50,200. Median incomes in both Riverview and Apollo Beach are above Hillsborough County’s median income at \$67,300 and \$68,400, respectively. Figure 5 depicts the median household income by community compared to Hillsborough County.



**Figure 5 | Median Household Income by Community (in 2011 Inflation-Adjusted Dollars)**

To further depict the growth in the SouthShore Area, Figure 6 shows the SouthShore permitted residential units compared to those in all of incorporated Hillsborough County. The number of permitted residential units declined in the SouthShore Area through the housing collapse and the Great Recession, though the percent of permitted residential units compared to unincorporated Hillsborough County remained high. The percent of permitted residential units in the SouthShore Area grew to over 50% of all permitted residential units in 2008 and has stayed above 50% through 2012, the last year of reported data.







**Figure 6 | Permitted Residential Units\***

\*Includes Balm, Little Manatee, and South Rural

## Existing Roadway Network

The SouthShore study area presents a network of roadways that could support new or expanded transit service. The Existing Roadway Network is shown in Figure 7. From west to east, US-41, I-75, and US-301 are the major north/south thoroughfares that run the length of the study area. From north to south, the major east/west thoroughfares in the study area include:

-  Progress Boulevard / Bloomingdale Avenue
-  Gibsonton Drive / Boyette Road
-  SR 672 – Big Bend Road
-  SR 674 – College Avenue / Sun City Boulevard

In addition, there are many local streets that run from the major arterials in to subdivision residential areas. Each alternative operates along almost all existing major roadways.



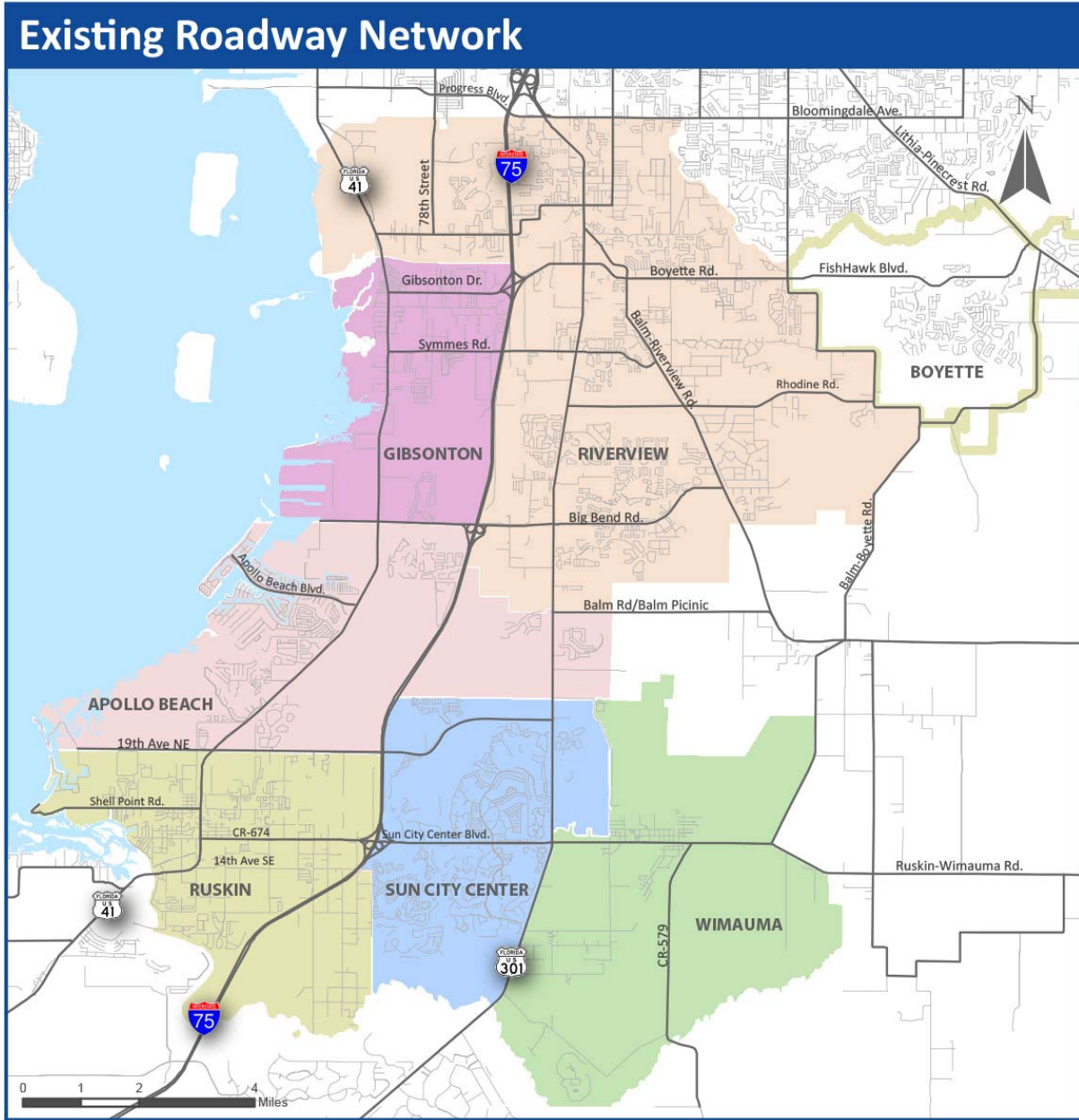






Figure 7 | Existing Roadway Network

## Existing Transit Network

There are currently four HART routes that serve the SouthShore Area including Routes 31, 47LX, 53LX, and the SouthShore Flex, as shown in Figure 8. Flex routes operate on fixed routes and buses may deviate up to one mile from its fixed route to pick-up/drop-off passengers. Reservations to flex the service may be made between three hours and three days in advance. This allows for additional flexibility in routing where necessary. Routes 31, 47LX, and 53LX provide service to/from the SouthShore Area while the SouthShore Flex is the only route that provides service within the SouthShore Area. Routes 31 and 53LX serve the Westfield Brandon Mall (Brandon Mall) where a connection to the rest of the HART system is possible. Route 47LX operates between the Marion Transit Center in downtown Tampa and the SouthShore Area and also provides additional access to the rest of the HART system.

-  Local Route 31 – provides Monday through Friday service connecting Hillsborough Community College (HCC) SouthShore Campus to Westfield Brandon Mall (Brandon Mall) along US-41, Gibsonton Drive, and Providence Road. Service is provided from 6:15 AM to 7:50 PM with 75 minute headways or frequency of service.
  
-  Limited Express Route 47LX – provides Monday through Friday service with two early AM service runs from the US-301 Park-n-Ride at US-301 and SR 674 along US-41, Gibsonton Drive, I-75, and the Crosstown Expressway to the Marion Transit Center Downtown Tampa. There are also two reverse runs from the Marion Transit Center Downtown Tampa to the South 301 Park-n-Ride in the late afternoon.
  
-  Limited Express 53LX – provides Monday through Friday service between Brandon Mall and Kings Point in Sun City Center along US-301. Service is provided from 8:00 AM to approximately 8:00 PM with 120 minute headways. Brandon Mall provides connections to Downtown Tampa, Netpark, and other HART transfer centers via Routes 8, 37, and 46.
  
-  South County Flex – provides weekday service between La Estancia Apartments in Wimauma to HCC SouthShore Campus mostly along SR 674. Service is provided from 6:00 AM – 8:00 PM with departures every 60 minutes.

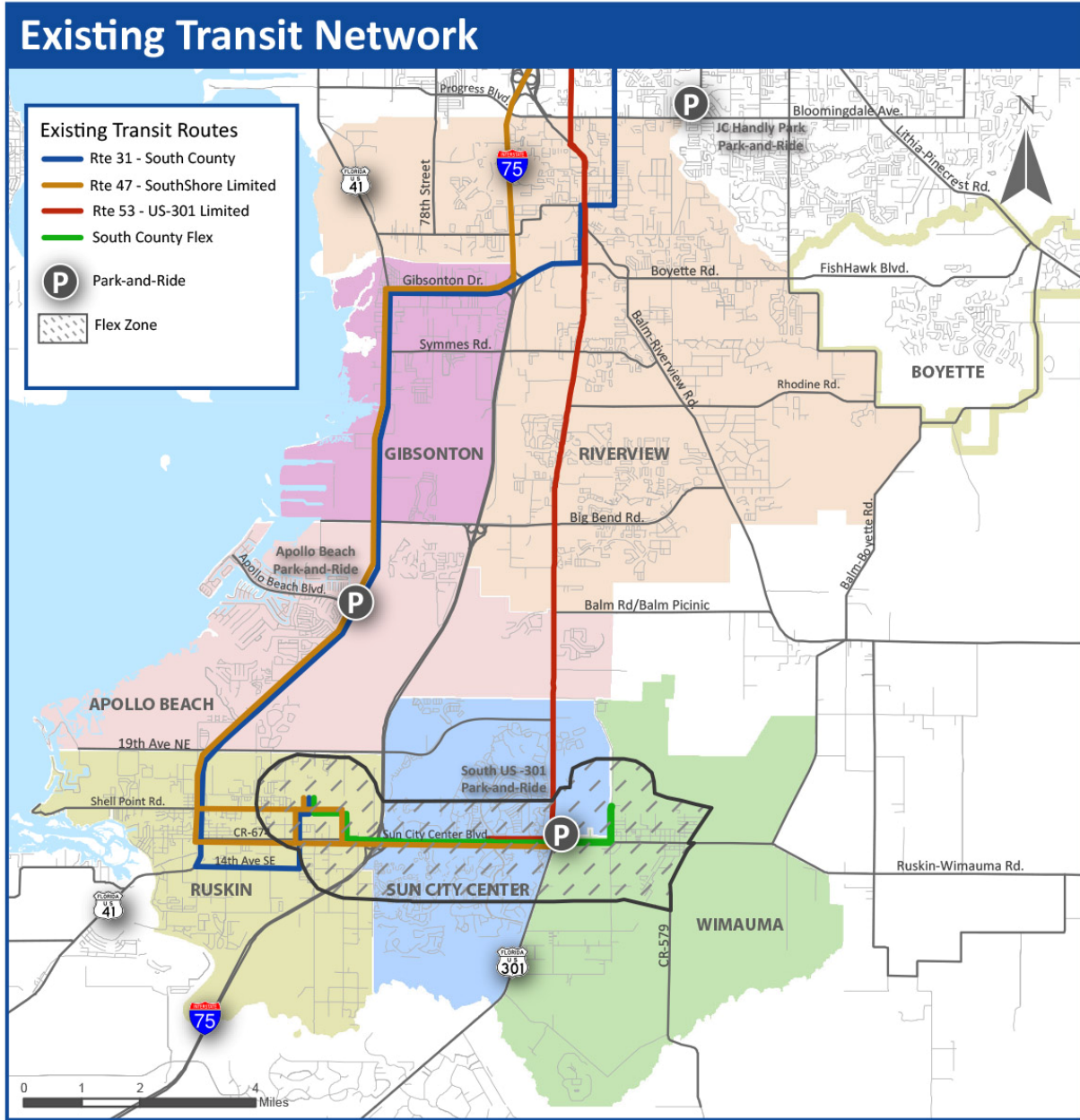


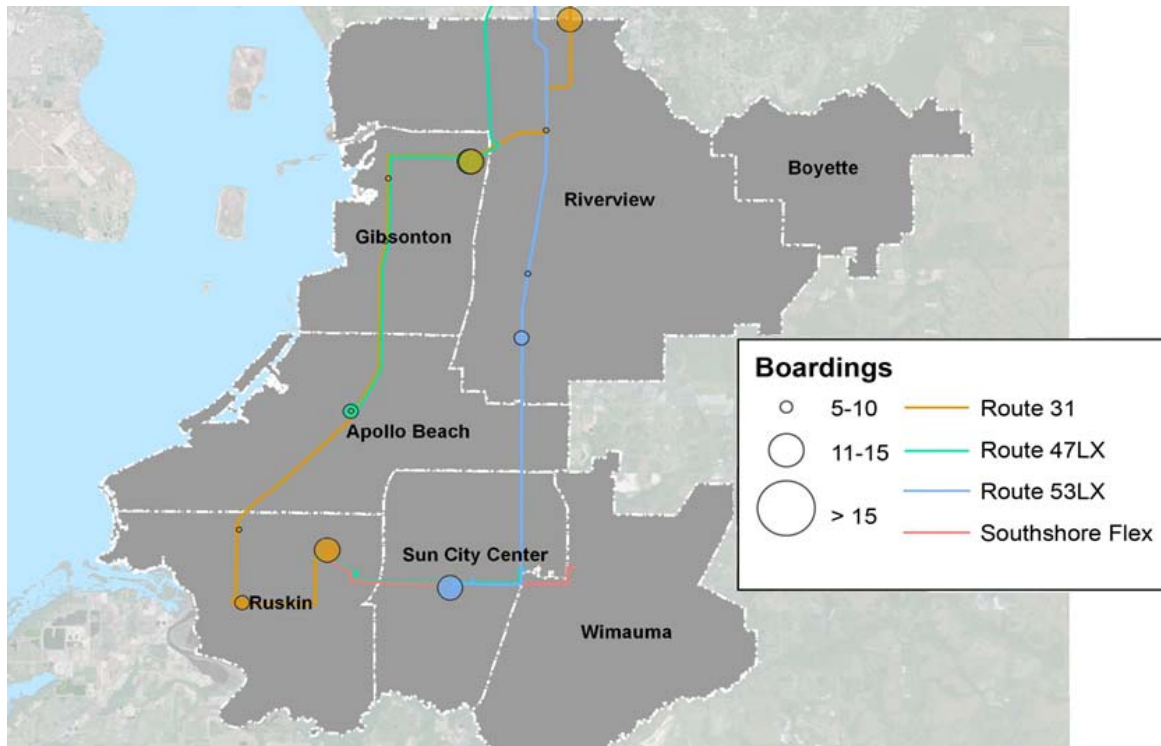
Figure 8 | Existing Transit Network

The daily boardings and maximum boardings from the 2013 Automated Passenger Count (APC) data are summarized in Table 1 below. Based on HART’s Service Ridership Summary, Route 47LX performs 75% or higher above the express system average. Routes 31 and 53LX typically perform 60% or lower than the local system and express system averages, respectively. The South County Flex is also among the poorest performing flex routes.

**Table 1 | Summary of APC Data (2013) within SouthShore Area**

	Daily Boardings	Maximum Stop Boardings
Route 31	181	24
Route 47LX	47	22
Route 53LX	55	17

Figure 9 depicts the route boardings per stop, for stops within the SouthShore Area for Routes 31, 47LX, and 53LX.





**Figure 9 | 2013 SouthShore Routes APC Boardings**

# Proposed Roadway and Transit Network





## Roadway Network

New roads are planned for the growing SouthShore Area as identified in the Hillsborough County MPO 2035 Long Range Transportation Plan and are shown in Figure 10. Two roads are planned for 2025 and four additional roads are planned for 2035, as listed below:

### Constructed by 2025:

-  A new four lane road (24th Street) from 19th Ave NE to Big Bend Road.
-  A new two lane road along Simmons Loop Road from US-301 to Gibsonton Road.

### Constructed by 2035:

-  A new two lane road (Big Bend Road) will be extended from Balm-Riverview Road to Balm-Boyette Road.
-  A new four lane road (30th Street) from 19th Avenue to Apollo Beach Boulevard.
-  A new four lane road (Apollo Beach Road) from US-41 to US-301.
-  A new two lane road (South County North-South Road) from Apollo Beach Extension to Big Bend Road.

These proposed roads were not considered for future bus service because of uncertainty in construction scheduling and the density and use of the surrounding area. However, flex routes may make use of these proposed roads.



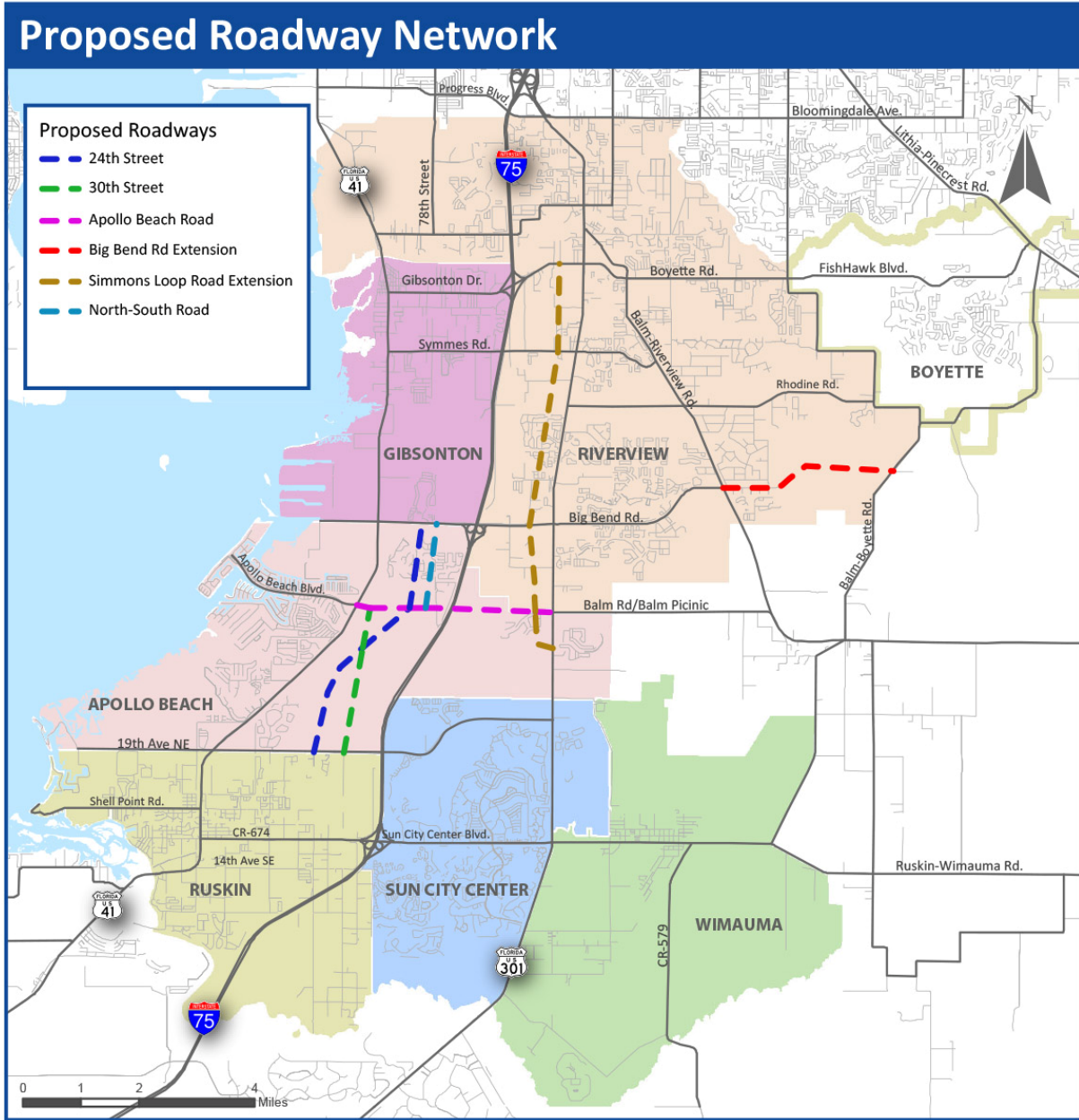


Figure 10 | Proposed Roadway Network



## Transit Network

Planned enhancements for transit service identified in HART's Transit Development Plan Update: Fiscal Year 2014 – Fiscal Year 2023 are categorized as Status Quo and Vision Plans. The Status Quo Plan provides for current service levels and non-peak enhancements to the current system as funding becomes available. The Vision Plan provides for enhancements, new local and express routes, and expansion of MetroRapid routes. Based on the current Transit Development Plan, HART's planned enhancement for transit service in the SouthShore Area for both the Status Quo and Vision Plans include the following:

### Status Quo Plan

- FY 2021 – Route 31, extend service to 10:00 PM weekdays
- FY 2023 – Route 31, Saturday service

### Vision Plan

- FY 2016 – South County to MacDill AFB Express via 301
- FY 2018 – Bloomingdale Local (Monday – Saturday), connecting to Route 31
- FY 2021 – Express expansion to 47LX
- FY 2022 – Gibsonton Flex
- FY 2023 – Route 31, Sunday service
- FY 2023 – Big Bend Local (Monday – Saturday)

Figure 11 depicts the proposed transit expansions identified in HART's Vision Plan. Service enhancements identified in both the Status Quo and Vision Plans are not shown graphically in Figure 11.

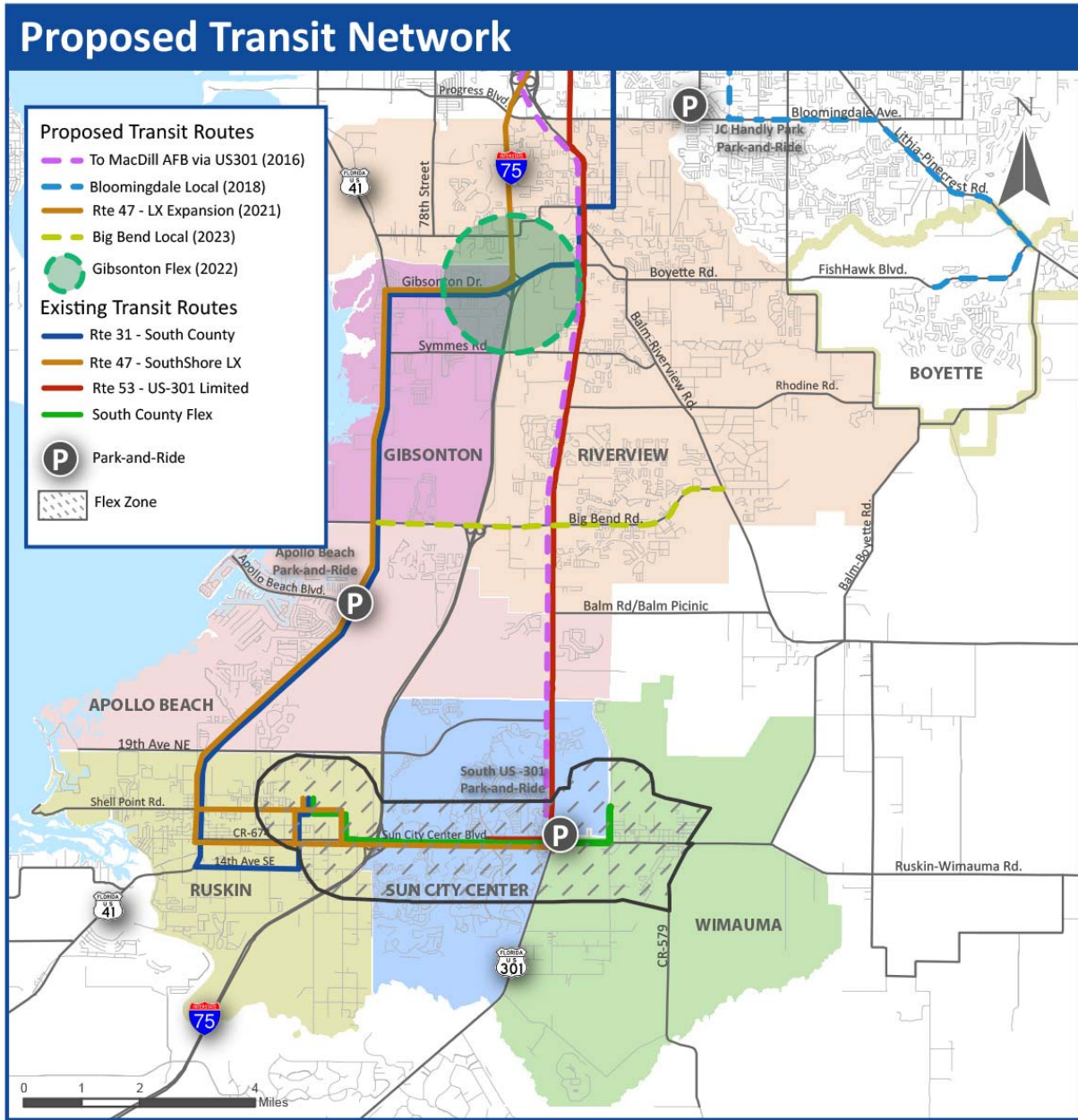


Figure 11 | Proposed Transit Network

## Transit Needs and Market Assessment

To assess the transit needs and market, dwelling units and employment density, the distribution of travel trips, mean travel time, and key existing and emerging destinations were analyzed.

Figures 12 and 13 provide both employment and dwelling units per acre for both 2010 and projected for 2040. These densities are shown by TAZ boundary and within ½ mile of potential routes. The density for both employment and dwelling units is expected to increase substantially along the potential routes, particularly in the area surrounding Big Bend Road where St. Joseph’s Hospital will open in 205 and a new mall is expected by 2025. The bright green and bright orange colors in the dwelling unit and employment plots respectively indicate areas where the density has reached accepted minimum density thresholds for fixed route, local bus service.

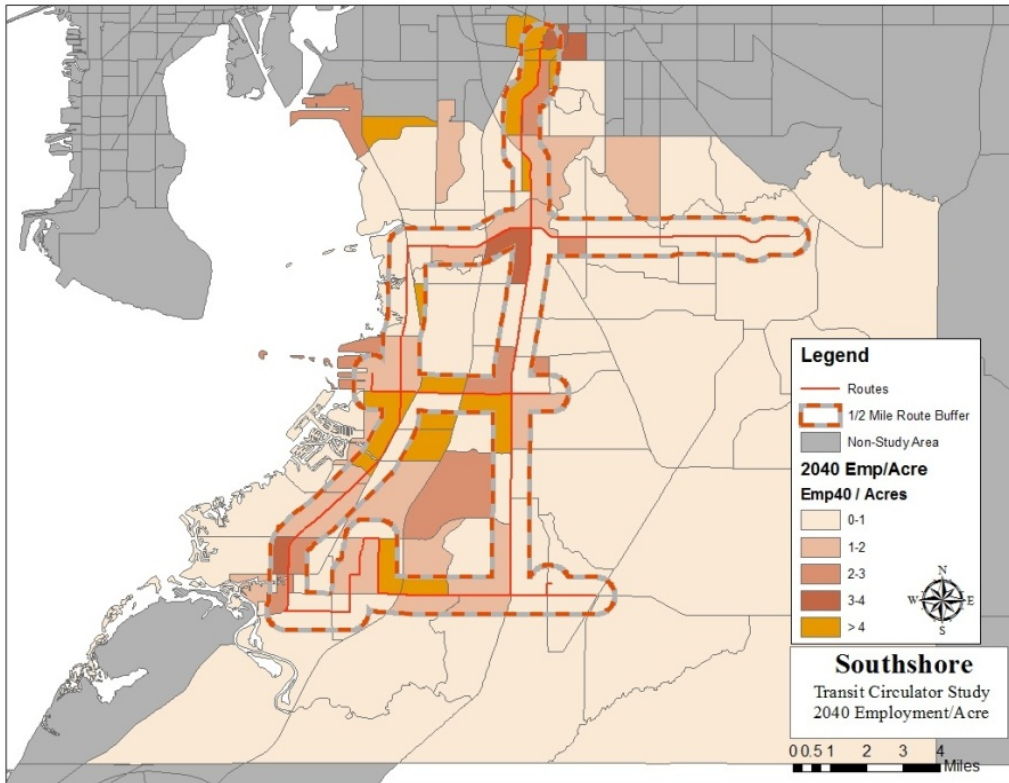
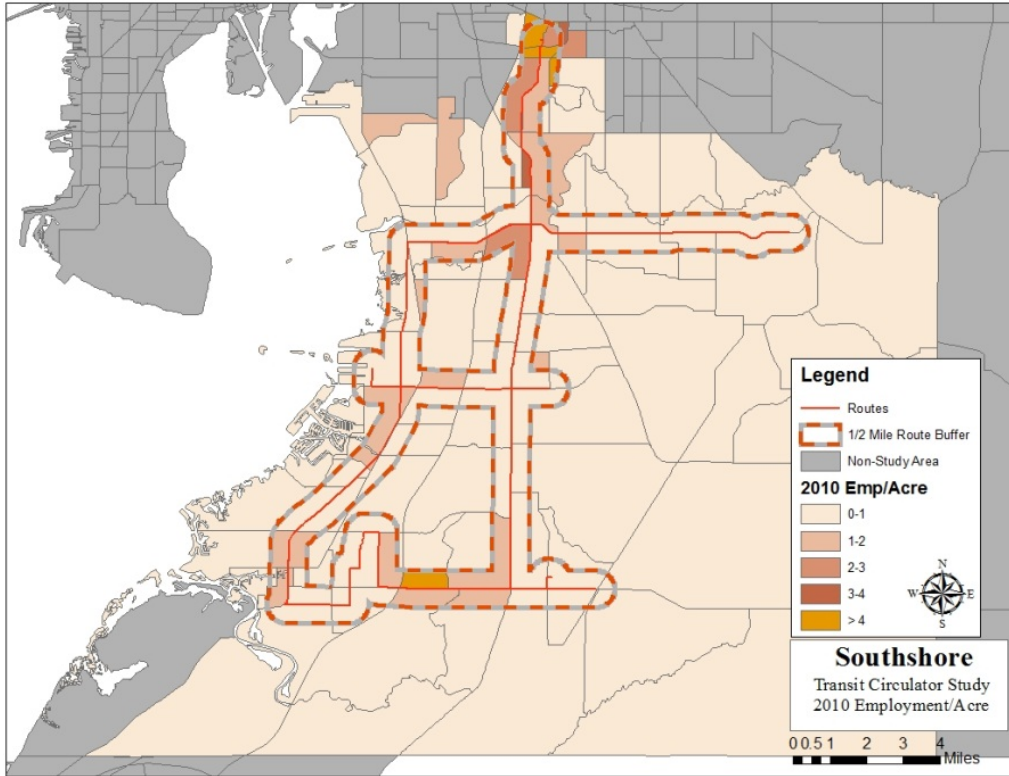


Figure 12 | Employment per Acre, 2010 vs. 2040

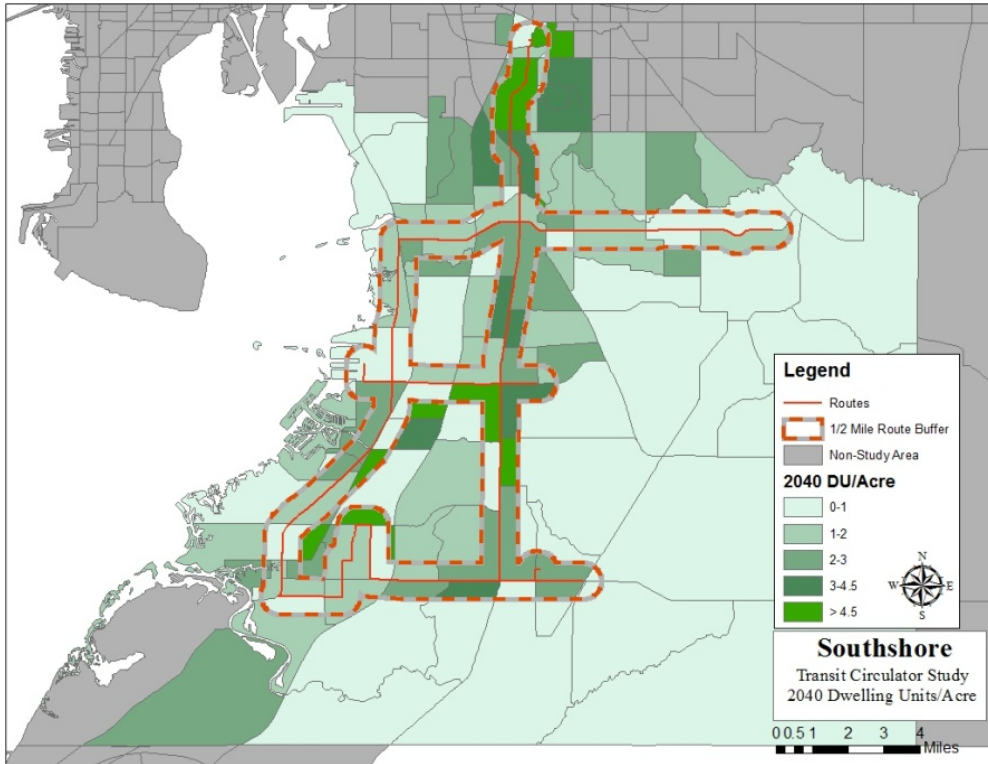
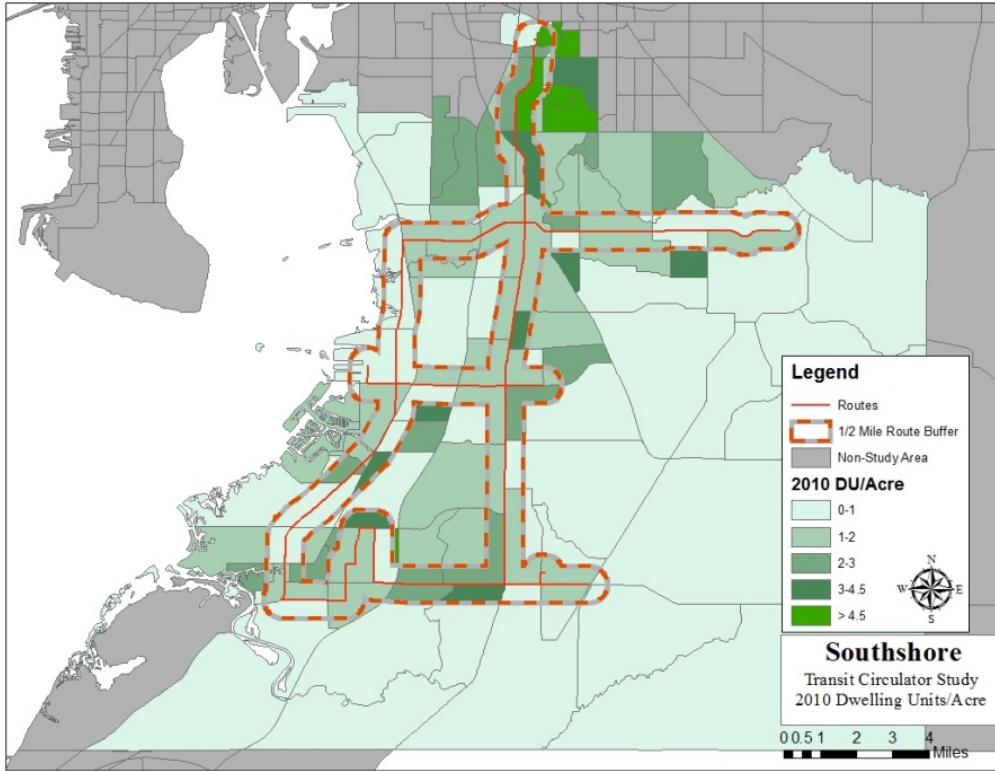
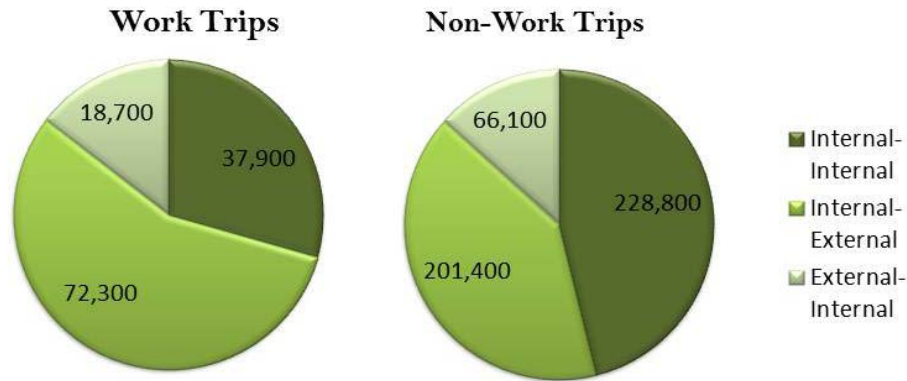


Figure 13 | Dwelling Units per Acre, 2010 vs. 2040



Trip distributions were analyzed using data from the 2010 Census for internal-internal trips (trips within the SouthShore Area), internal-external trips (trips originating within the SouthShore Area with destinations outside the SouthShore Area), and external-internal trips (trips originating outside the SouthShore Area with destinations within the SouthShore Area). Figure 14 shows the number of internal-internal, internal-external, and external-trips for 2010 work and non-work trips. Approximately 30% (37,900) of work trips and 46% (228,800) of non-work trips are within the SouthShore Area. The large percentage of trips within the SouthShore area (internal – internal trips) may indicate a need for a transit circulator. There are also an appreciably larger number of non-work trips compared to work trips (128,900 work trips compared to 496,300 non-work trips in the SouthShore Area). Non-work trips are served well by circulator type routes.



**Figure 14 | Work / Non-Work Trips in SouthShore Area (2010)**

Intensity of trips flows, shown as desirelines, taken from the 2010 base year of the Tampa Bay Regional Planning Model (TBRPM), depicting the relatively heavy travel between TAZs within the SouthShore Area are shown in Figure 15.



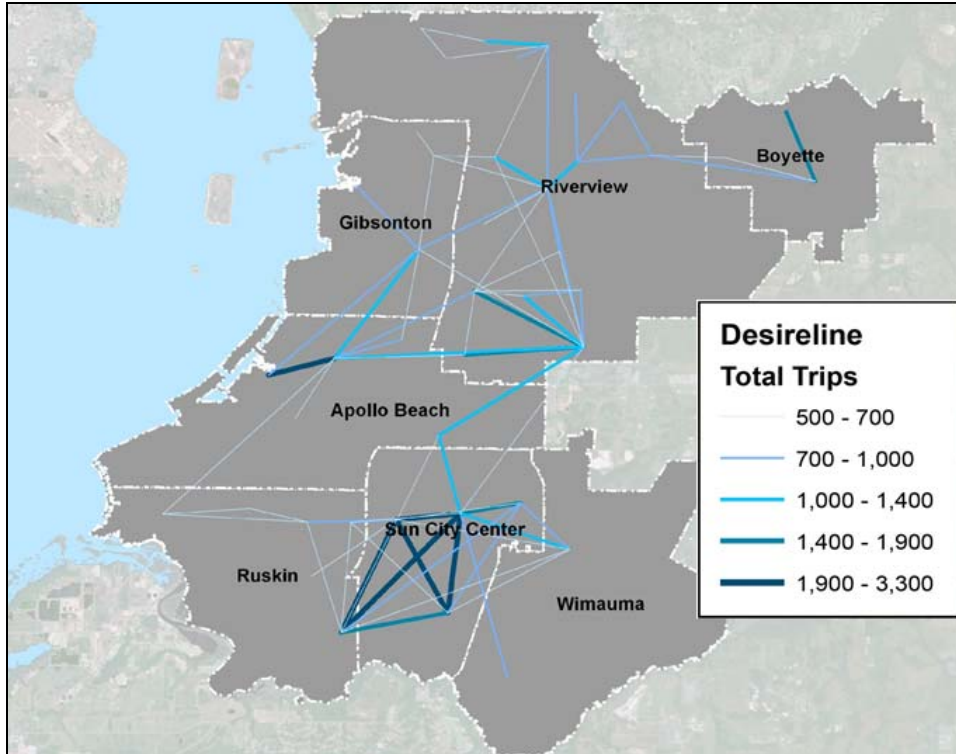


Figure 15 | SouthShore Trips Flows

The mean travel time for work trips for each of the six communities in the SouthShore Area ranges from 24 minutes for Wimauma to 32 minutes for Riverview, compared to the mean travel time of 25 minutes for Hillsborough County. Figure 16 depicts the mean travel time by community as compared to Hillsborough County.

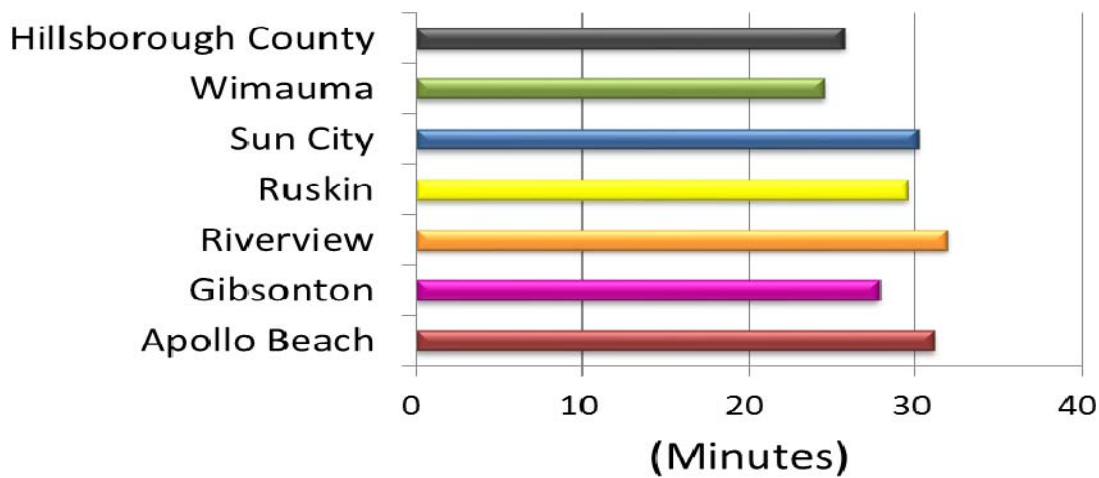


Figure 16 | Mean Travel Time by Community

Source: American Community Survey (2007-2010)

The existing and proposed activity centers were identified and are shown in Figure 17. These activity centers are likely to be the primary destinations for transit passengers. First, existing activity centers were identified as commercial centers, educational facilities, or health facilities and community centers. Proposed activity centers were identified based on proposed development plans.

All potential activity centers were presented to the Hillsborough County MPO, HART, and the Stakeholder Group and based on their input the activity centers considered in the development of alternatives were identified.

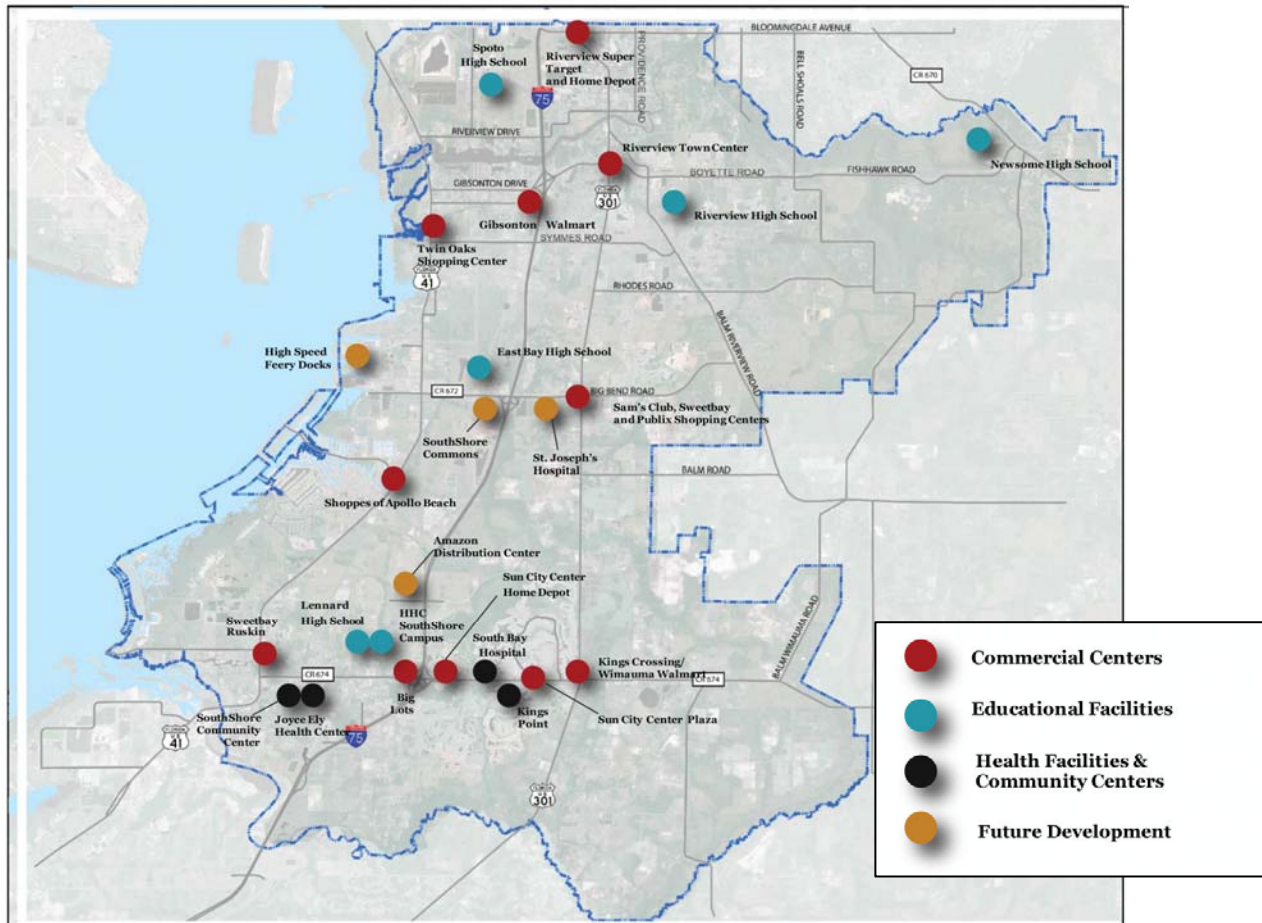


Figure 17 | Existing and Future Activity Centers






## Development of Alternatives

Four preliminary alternatives were developed based on providing service to the identified activity centers and input from the Stakeholders. These preliminary alternatives were presented to the Stakeholders and further refined based on their response. The four preliminary alternatives developed and refinements are summarized below: (Figures 18 through 20 depict the four refined alternatives.)

### Definition of Alternatives

#### Alternative 1 – HART Planned Service with FishHawk Connection

Alternative 1 has two north-south routes with three flex routes serving the east-west thoroughfares. This alternative was developed based on the currently proposed HART Transit Development Plan. The connection to Brandon Mall provides transfer opportunities to other HART routes for service downtown and through the rest of the system.

-  Route 1 connects the FishHawk Sports Complex via Boyette Road to US-301 and travels south on US-301 to SR 674, east on SR 674 to serve Wimauma, west on SR 674 to SE 30<sup>th</sup> Street, north on SE 30<sup>th</sup> Street to the Amazon Distribution Center and continuing along NE 19<sup>th</sup> Avenue and SE 24<sup>th</sup> Street to the HCC SouthShore Campus.
-  Route 2 connects Brandon Mall traveling south on Gornto Lake Road to US-301 and south on US-301 to Gibsonton Road, west on Gibsonton Road to US-41, south on US-41 to SE 14<sup>th</sup> Avenue, east on SE 14<sup>th</sup> Avenue to SE 21<sup>st</sup> Street, north on SE 21<sup>st</sup> Street to the HCC SouthShore Campus, terminate at the Amazon Distribution Center via NE 19<sup>th</sup> Avenue and NE 30<sup>th</sup> Street.
-  Gibsonton Flex serving north Gibsonton and Riverview along Gibsonton Road between US-41 and US-301.
-  Big Bend Flex serving south Gibsonton, Apollo Beach, and Riverview along Big Bend Road between US-41 and US-301.
-  South County Flex serving Ruskin, Sun City Center and Wimauma along SR 674 between US-41 and La Estancia Apartments west of CR 579.

A proposed high speed ferry from Gibsonton to MacDill AFB will be served in both directions by Route 2 (US-41). For all alternatives, service to the high speed ferry will be provided for five hours per day from 6:00 AM to 9:00 AM and 4:00 PM to 6:00 PM weekdays. A weekend schedule for high speed ferry will be determined in the future.

Alternative 1 was refined with the extension of the Big Bend Flex to connect to the Summerfield area. Figure 18 depicts Alternative 1.

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## Alternative 1 - HART Planned Service with FishHawk Connection

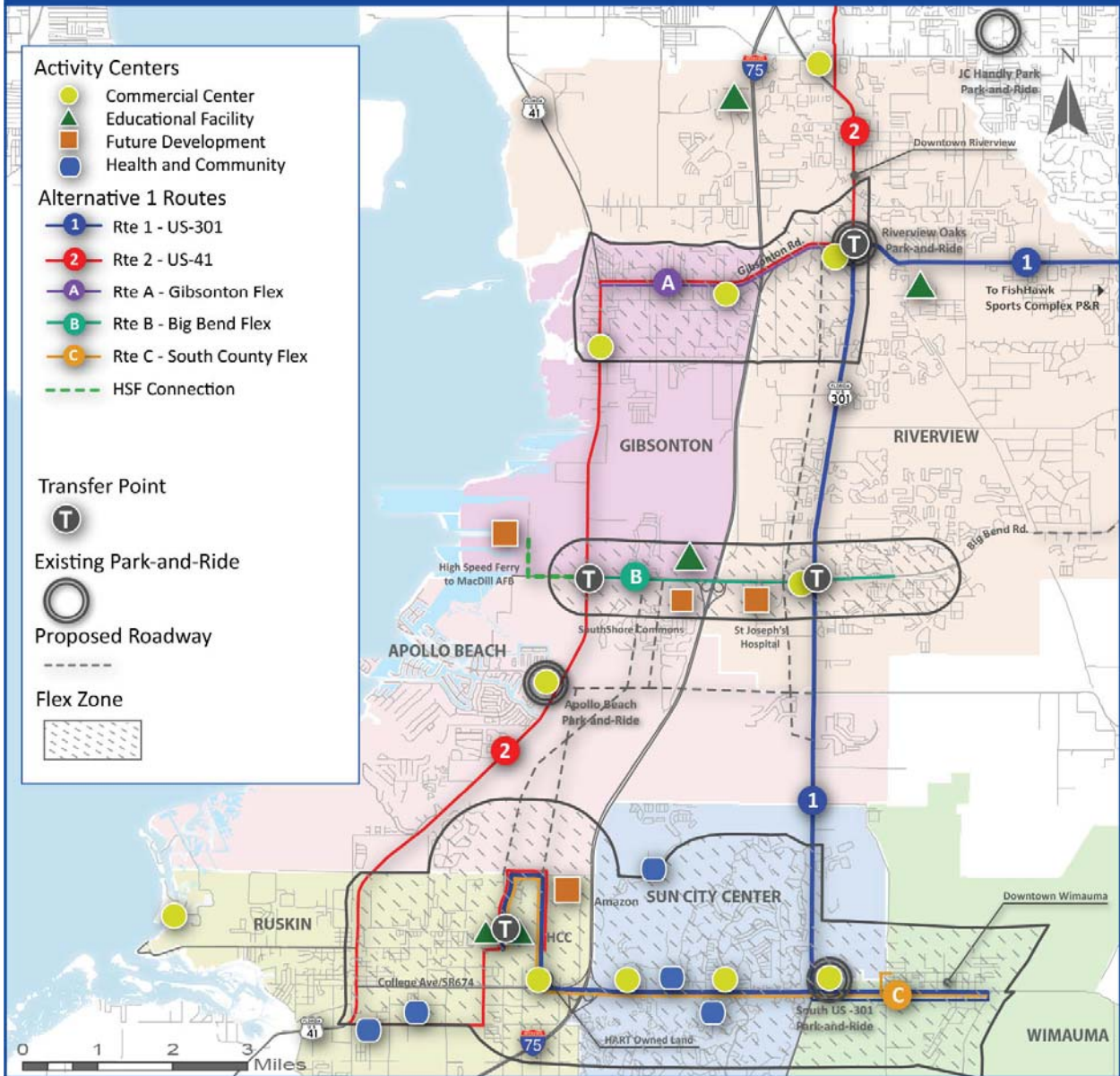




Figure 18 | Alternative 1



### Alternative 2 – Figure 8 Configuration

Alternative 2 connects all identified activity centers by providing two “figure 8” routes, one starting in the clockwise direction and one starting in the counter clockwise direction. This alternative was developed to provide a one-seat ride through all major activity centers in the SouthShore Area.

-  Route 1 (counter clockwise figure 8) begins at the FishHawk Sports Complex and travels west along Boyette Road/Gibsonton Road to US-41, south on US-41 to Big Bend Road, east on Big Bend Road to US-301, south on US-301 to SR 64, east on SR 674 to serve Wimauma and then west on SR 674, and north on 30<sup>th</sup> Street to serve the Amazon/HCC SouthShore Campus area, south on SE 21<sup>st</sup> Street to SE 14<sup>th</sup> Avenue, west on SE 14<sup>th</sup> Avenue, north on US-41, east on Big Bend Road, north on US-301, and east on Boyette Road/Gibsonton Road back to the FishHawk Sports Complex.
  
-  Route 2 (clockwise figure 8) begins at Brandon Mall and travels south on Gornto Lake Road to US-301, south on US-301 to Big Bend Road, west on Big Bend Road to US-41, south on US-41 to SE 14<sup>th</sup> Avenue, east on SE 14<sup>th</sup> Avenue to SE 21<sup>st</sup> Street, north on SE 21<sup>st</sup> Street to the HCC SouthShore Campus, continuing to the Amazon Distribution Center via NE 19<sup>th</sup> Avenue and NE 30<sup>th</sup> Street, east on SR 674 to Wimauma, west on SR 674 to US-301, north on US-301 to Big Bend Road, west on Big Bend Road to US-41, north on US-41 to Gibsonton Road, east on Gibsonton Road to US-301, and north on US-301 and Gornto Lake Road back to the Brandon Mall.

The future high speed ferry will be served in both directions by Routes 1 and 2 (both portions of the figure 8).

Alternative 2 was refined to include the extended Big Bend Flex, South County Flex and the Gibsonton Flex routes. Figure 19 depicts Alternative 2.

# SouthShore Transit Circulator Study

## Alternative 2 - Figure 8 Configuration with Flex

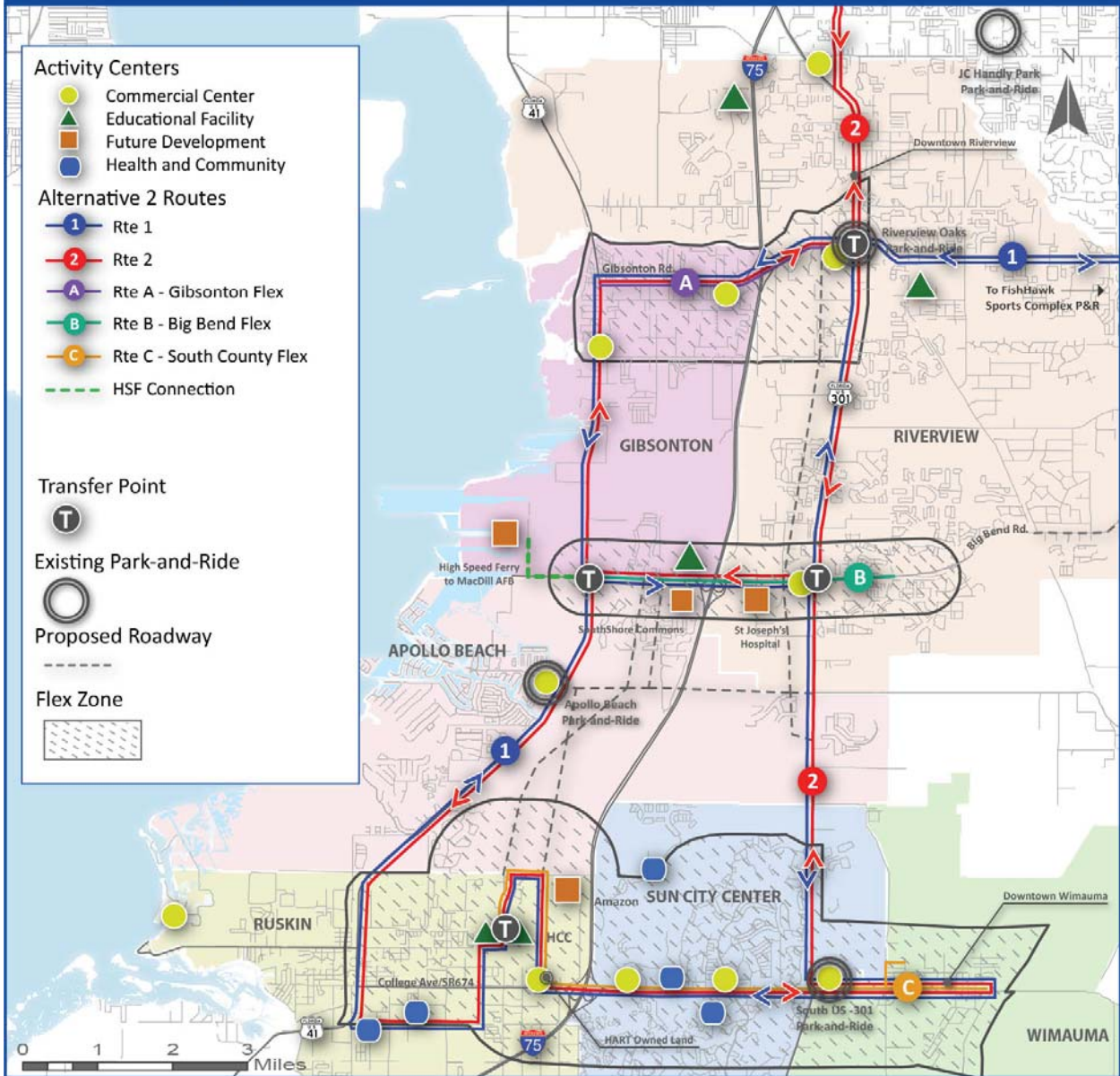






Figure 19 | Alternative 2



### Alternative 3 – 2 One-Way Loops with Local Service to Brandon Mall

Alternative 3 provides two clockwise one-way loops, a north and south loop. These loops are framed by routes on US-301 and US-41, which are also present in Alternative 1. Three flex routes serve the major east-west movements.

-  Route 1 connects the FishHawk Sports Complex via Boyette Road to US-301 and travels south on US-301 to SR 674, east on SR 674 to serve Wimauma, west on SR 674 to SE 30<sup>th</sup> Street, north on SE 30<sup>th</sup> Street to the Amazon Distribution Center and continuing along NE 19<sup>th</sup> Avenue and SE 24<sup>th</sup> Street to the HCC SouthShore Campus.
-  Route 2 connects Brandon Mall via south on Gornto Lake Road to US-301 and travels south US-301 to Gibsonton Road, west on Gibsonton Road to US-41, south on US-41 to SE 14<sup>th</sup> Avenue, east on SE 14<sup>th</sup> Avenue to SE 21<sup>st</sup> Street, north on SE 21<sup>st</sup> Street to the HCC SouthShore Campus, terminate at the Amazon Distribution Center via NE 19<sup>th</sup> Avenue and NE 30<sup>th</sup> Street.
-  Route 3, the clockwise north loop, serves Gibsonton, Riverview and Apollo Beach with service along Gibsonton Road, the north portion of US-301, Big Bend Road, and the north portion of US-41.
-  Route 4, the clockwise south loop, provides service to Apollo Beach, Riverview, Sun City Center, Wimauma, and Ruskin with service along Big Bend Road, the south portion of US-301, SR 674 with service to Amazon and HCC SouthShore Campus, and the south portion of US-41.

The future high speed ferry will be served by the Route 2 (US-41), Route 3 (North Loop) and Route 4 (South Loop).

Alternative 3 was also refined to add the extended Big Bend Flex, South County Flex and the Gibsonton Flex routes. In addition, Alternative 3 kept the north and south clockwise loops, deleted the route from Brandon Mall along US-301 to Amazon/HCC SouthShore Campus, and added two north south routes, similar to Alternative 1. One route connects Brandon Mall traveling south on Gornto Lake to US-301, south US-301 to Gibsonton Road, east on Gibsonton Road to US-41, south on US-41 to SE 14<sup>th</sup> Avenue, east on SE 14<sup>th</sup> Avenue to SE 21<sup>st</sup> Street, north on SE 21<sup>st</sup> Street to the HCC SouthShore Campus, and terminating at the Amazon Distribution Center via NE 19<sup>th</sup> Avenue and NE 30<sup>th</sup> Street. The second north-south route connects the FishHawk Sports Complex via west to US-301, south on US-301 to SR 674, east on SR 674 to Wimauma, then west on SR 674 to SE 30<sup>th</sup> Street, north on SE 30<sup>th</sup> Street to the Amazon Distribution Center and continuing along NE 19<sup>th</sup> Avenue and SE 24<sup>th</sup> Street to HCC SouthShore Campus. Figure 20 depicts Alternative 3.

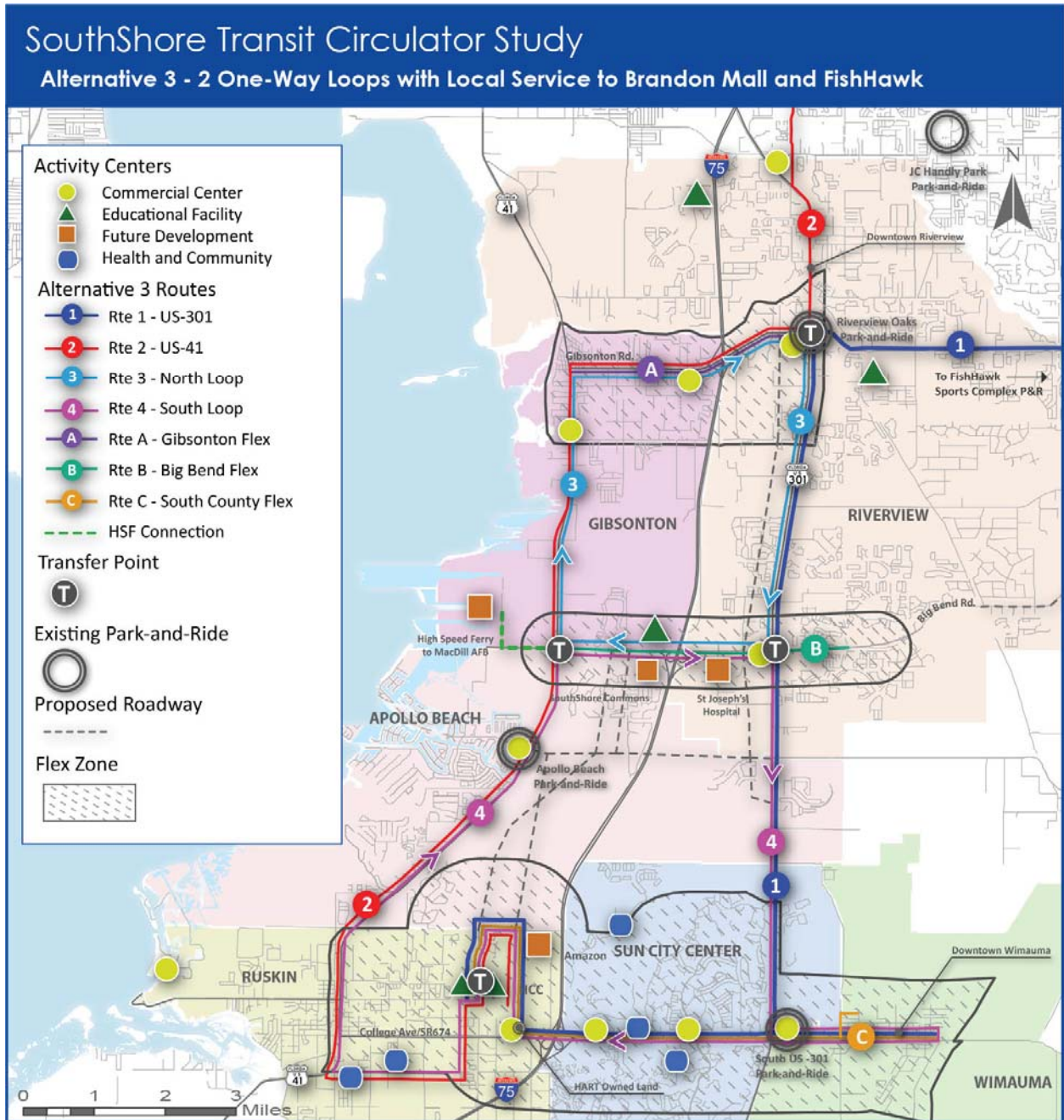





Figure 20 | Alternative 3

#### **Alternative 4 – 2 Two-Way Loops with Local Service to Brandon Mall**

Alternative 4 uses the same north and south loop alignments, except it provides additional service in the counter-clockwise direction. A north-south route along US-301 connects the loops to the Brandon Mall.

-  Route 1 connects Brandon Mall via south on Gornto Lake Road to US-301 and travels south on US-301 to SR 674, east on SR 674 to serve Wimauma, west on SR 674 to SE 30<sup>th</sup> Street, north on SE 30<sup>th</sup> Street to the Amazon Distribution Center and continuing along NE 19<sup>th</sup> Avenue and SE 24<sup>th</sup> Street to the HCC SouthShore Campus.
-  Route 2, the north loop, serves Gibsonton, Riverview and Apollo Beach with service along Gibsonton Road, the north portion of US-301, Big Bend Road, and the north portion of US-41. This route operates in both the clockwise and counter clockwise directions.
-  Route 3, the south loop, provides service to Apollo Beach, Riverview, Sun City Center, Wimauma, and Ruskin with service along Big Bend Road, the south portion of US-301, SR 674 with service to Amazon and HCC SouthShore Campus, and the south portion of US-41. This route is also bi-direction in operation.

The future high speed ferry will be served in both directions by Route 2 (North Loop) and Route 3 (South Loop).

Alternative 4 was refined to include the South County Flex, the extended Big Bend Flex, and the Gibsonton Flex was extended to Riverview High School. Figure 21 depicts Alternative 4.



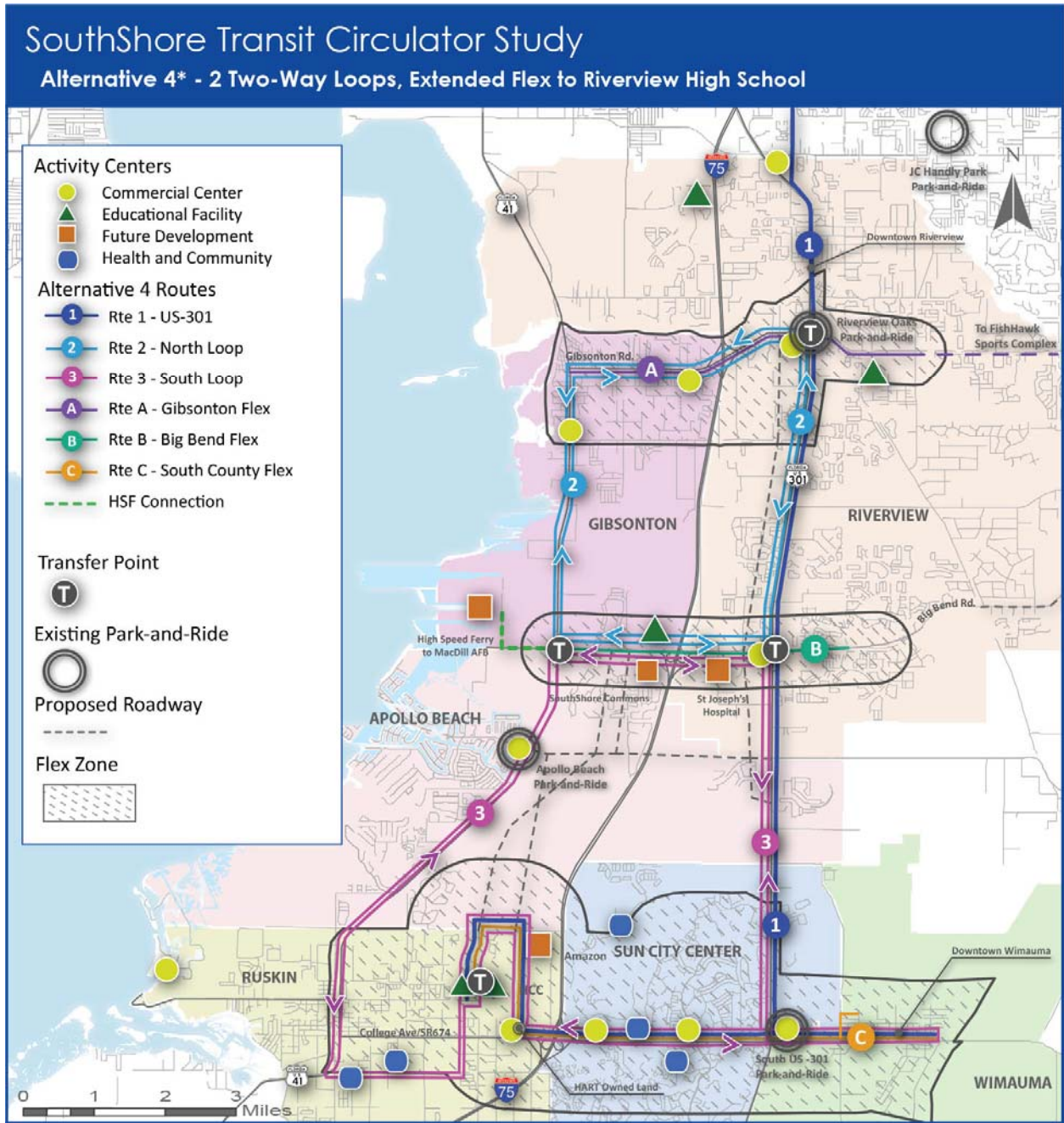


Figure 21 | Alternative 4

## Service Characteristics

The same service characteristics were assumed for each alternative and used as appropriate to determine attributes of the alternatives. These service characteristics were established in coordination with and approval by HART, and consistent with HART’s policies, as appropriate. Table 2 summarizes the service characteristics. Sunday service was not included in this analysis

**Table 2 | Definition of Service Characteristics**

Service Characteristic	Definition
Operating Hours	6:00 AM – 7:30 PM
Weekdays & Saturdays	252 Weekday/58 Saturdays
Average Bus Travel Speed	17 miles per hour
Saturday Service	50% of weekday service
Spacing between bus stops	1,700’

In addition to the service characteristics, other attributes were determined for each route and alternative and include: Headway, Round Trip Route Miles, Round Trip Route Time, Number of Buses Needed, and Daily Round Trips. Tables 3 through 6 identify the attributes of each of the alternatives.

**Table 3 | Alternative 1 Service Characteristics**

Route Number	Route Name	Headway	Round Trip Route Miles <sup>1</sup>	Round Trip Route Time with layover (min)	Vehicles Needed	Daily Round Trips
1	US-301	75	57	211	3	9
2	US-41	60	51	190	4	11
Fixed Route Subtotal		NA	108	NA	7	20
A	Gibsonton Flex	45	7	35	1	18
B	Big Bend Flex	45	8	38	1	18
C	South County Flex	45	19	77	2	17
Flex Route Subtotal		NA	34	NA	4	53
	HSF Connection	26	3	N/A	N/A	12
Total			145		11	

**Table 4 | Alternative 2 Service Characteristics**

Route Number	Route Name	Headway	Round Trip Route Miles <sup>1</sup>	Round Trip Route Time with layover (min)	Vehicles Needed	Daily Round Trips
1	FishHawk/Gibson ton/HSF/BB/US301 /SR674/Amazon/ HCC - return	75	59	218	3	9
2	Mall/US301/BB/H SF/US41/SR674/H CC/Amazon - return	75	56	208	3	9
Fixed Route Subtotal		NA	115	NA	6	18
A	Gibson ton Flex	45	7	35	1	18
B	Big Bend Flex	45	8	38	1	18
C	South County Flex	45	19	77	2	17
Flex Route Subtotal		NA	34	NA	4	53
	HSF Connection	38	3	N/A	N/A	8
Total			152		10	

**Table 5 | Alternative 3 Service Characteristics**

Route Number	Route Name	Headway	Round Trip Route Miles <sup>1</sup>	Round Trip Route Time with layover (min)	Vehicles Needed	Daily Round Trips
1	US-301	75	57	211	3	9
2	US-41	60	51	190	4	11
3	North Loop	45	15	63	2	17
4	South Loop	60	30	116	2	12
Fixed Route Subtotal		NA	153	NA	11	49
A	Gibson ton Flex	45	7	35	1	18
B	Big Bend Flex	45	8	38	1	18
C	South County Flex	45	19	77	2	17
Flex Route Subtotal		NA	34	NA	4	53
	HSF Connection	26	3	N/A	N/A	12
Total			190		15	



**Table 6 | Alternative 4 Service Characteristics**

Route Number	Route Name	Headway	Round Trip Route Miles	Round Trip Route Time with layover (min)	Vehicles Needed	Daily Round Trips
1	US-301	75	57	211	3	9
2	North Loop	45	15	63	4	34
3	South Loop	60	30	116	4	24
Fixed Route Subtotal		NA	102	NA	11	67
A	Gibsonton Flex	45	10	45	1	18
B	Big Bend Flex	45	8	38	1	18
C	South County Flex	45	19	77	2	17
Flex Route Subtotal		NA	37	NA	4	53
	HSF Connection	26	3	N/A	N/A	12
Total			142		15	

### Ridership Estimation

A simple linear regression model was developed to forecast ridership of each alternative for the year 2025. Dwelling units, employment, headway, transfers, overlap of routes, and travel speed were analyzed to determine if and how they would factor into the regression.

Dwelling units and employment socio-economic data for 2010 and 2040 are available at the traffic analysis zone (TAZ) level. The 2010 data is based on the 2010 Census. The 2040 data is the planned growth projected by the MPO and provided by the County. This data was disaggregated using 2010 InfoGroup employment data and 2010 parcel level data from the Hillsborough County Property Appraiser, both of which are available at the individual business and parcel level, respectively. A weight for each parcel or business was calculated based on the number of employees or number of dwelling units within the InfoGroup and parcel data and applied to the TAZ level employment and dwelling unit data. In this way, the MPO’s TAZ level employment and dwelling unit data which has been checked and verified can be used at the disaggregate level needed.

The impact of dwelling units on ridership was also tested, but the results were not significant and therefore, not included in this analysis. The regression was performed using the current Route 31 APC data with employment within ½ mile of each stop as the independent variable. The sample consisted of twelve stops in the SouthShore Area and the model has an R<sup>2</sup> value of 0.74. In addition to this regression model, several off-model factors were developed to enhance the ridership estimation.

### Difference in Headway

The headway or frequency of service on Route 31 is currently 75 minutes. A headway elasticity of -0.5 is assumed based on research done (Valuing Transit Service Quality Improvements, Todd Litman, p. 55). Headway will differ between routes and alternatives. Ridership is adjusted using 75 minute headways as



the base and an elasticity of -0.5 (e.g. headway of 60 minutes is a 20% reduction in headway which translates to a 10% increase in ridership).

### Transfer Penalty

For each alternative, the number of 0, 1, and 2+ transfer trips was summed. A percent reduction in ridership by the number of transfers is based on the Tampa Bay Regional Planning Model (TBRPM). A 19% reduction is assumed for one transfer and a 37% reduction is assumed for 2 or more transfers. A composite score was computed based on the number of transfers required between key areas within the SouthShore Area.

### Overlap of Routes

In all alternatives there are several segments where multiple bus routes serve the same population. An effective headway was used to factor ridership along these segments to account for the increase in service. The ridership for 2025 and an effective headway were recomputed for these segments. Using an elasticity for ridership with respect to headway of -0.5, an additional amount of ridership along the segment was computed and divided evenly across all overlapping routes.

### Travel Speed (only used for double loop system)

A travel speed factor was developed for alternative 4. The primary difference between alternatives 3 and 4 is the one-way versus two-way loops. The benefit to this is the ability to travel in either direction around the loops which should decrease travel time. An elasticity of -0.129 for ridership with respect to travel time (Valuing Transit Service Quality Improvements, Todd Litman, p. 55) and a potential reduction in travel time of 50% were assumed. This would mean a 6.45% increase in ridership based on improved travel times.

### Ridership Estimation

Regression and factors were applied to the 2010 and 2040 SE data and ridership for 2025 is interpolated based on estimated 2010 and 2040 ridership. To avoid double counting employment where the ½ mile buffer around each transit route overlaps, a target ridership based on all employment within ½ mile of the transit system was computed. The amount of employment within ½ mile of each individual route was used to create weights for each route which were applied to the target ridership for the system. Tables 7 through 10 show the daily and annual estimated ridership for weekdays and Saturdays by route and alternative.

**Table 7 | Alternative 1 - Estimated Ridership**

Route Number	Route Name	Daily 2025 Projected Ridership		Annual 2025 Projected Ridership	
		Weekday	Saturday	Weekday	Saturday
1	US-301	169	84	42,513	4,872
2	US-41	251	125	63,192	7,250
A	Gibsonton Flex	35	17	8,775	1,972
B	Big Bend Flex	68	34	17,121	986
C	South County Flex	108	54	27,156	3,132
	HSF Connection	78	39	19,745	2,262
<b>Total</b>		<b>708</b>	<b>353</b>	<b>178,502</b>	<b>20,474</b>

**Table 8 | Alternative 2 - Estimated Ridership**

Route Number	Route Name	Daily 2025 Projected Ridership		Annual 2025 Projected Ridership	
		Weekday	Saturday	Weekday	Saturday
1	FishHawk/Gibsonton/HSF/BB/US301/SR674/Amazon/HCC - return	270	135	67,914	7,830
2	Mall/US301/BB/HSF/US41/SR674/HCC/Amazon - return	360	180	90,594	10,440
A	Gibsonton Flex	48	24	12,096	1,392
B	Big Bend Flex	72	36	18,144	2,088
C	South County Flex	102	51	25,704	2,958
	HSF Connection	90	45	22,680	2,610
<b>Total</b>		<b>941</b>	<b>471</b>	<b>237,132</b>	<b>27,318</b>

**Table 9 | Alternative 3 - Estimated Ridership**

Route Number	Route Name	Daily 2025 Projected Ridership		Annual 2025 Projected Ridership	
		Weekday	Saturday	Weekday	Saturday
1	US-301	150	75	37,921	4,350
2	US-41	226	113	56,854	6,554
3	North Loop	105	52	26,438	3,016
4	South Loop	184	92	46,380	5,336
A	Gibson Flex	38	19	9,494	1,102
B	Big Bend Flex	61	31	15,487	1,798
C	South County Flex	91	46	22,965	2,668
	HSF Connection	89	45	22,434	2,610
<b>Total</b>		<b>944</b>	<b>472</b>	<b>237,973</b>	<b>27,376</b>

**Table 10 | Alternative 4 - Estimated Ridership**

Route Number	Route Name	Daily 2025 Projected Ridership		Annual 2025 Projected Ridership	
		Weekday	Saturday	Weekday	Saturday
1	US-301	310	155	78,061	8,990
2	North Loop	169	84	42,558	4,872
3	South Loop	269	134	67,699	7,772
A	Gibson Flex	62	31	15,535	1,798
B	Big Bend Flex	86	43	21,598	2,494
C	South County Flex	118	59	29,810	3,422
	HSF Connection	89	45	22,434	2,610
<b>Total</b>		<b>1102</b>	<b>551</b>	<b>277,695</b>	<b>31,958</b>

### Cost Estimation

The cost per alternative is based on both the capital cost and the operating cost. Capital costs are an up-front cost at the time of implementation and include shelters and vehicles. Operating costs are an annual cost based on the number of revenue hours operated for each route and alternative.

The number of vehicles required per route and alternative is calculated based on the time it takes to traverse the route plus layover and the headway. The cost per vehicle varies depending on the size and equipment installed. Fixed routes typically use a 42’ coach bus. The existing routes serving the SouthShore Area use a shorter 29’ bus. The cost difference between a 42’ and 29’ bus is minimal and life their expectancies are 12 and 10 years, respectively. The shorter 29’ buses are recommended for proposed fixed routes for each alternative with an approximate initial cost of \$507,000 that includes AVL, APC, radio, route signs and compressed natural gas (CNG).



Flex routes use a shorter cutaway bus. It is assumed that the buses used on the flex routes will be a 27' cutaway bus that seats up to 12 passengers and two wheelchairs. These buses have an initial cost of \$126,500 that includes AVL, APC, radio, route signs, and compressed natural gas (CNG) engines. Their life expectancy is 5 years or 200,000 miles. HART's requirement for spare vehicles is twenty percent of the fleet. Therefore, an additional cost of 20% of the recommended number of vehicles rounded up is included in the capital cost for vehicles for each alternative.

The capital cost also includes the cost of additional stops required to provide stops at a 1,700' spacing. The estimated cost for each stop is \$12,500 and includes the landing pad, surveys and permits, ADA curb cuts, 3 seat bench, information kiosk, and trash receptacle.

Operating costs are based on the number of vehicle revenue hours required by each route/alternative. Based on future cost projections from HART, the cost is \$56.45/revenue hour and \$93.70/revenue hour for the larger 29' and 42' buses, respectively. Operating costs are calculated for both weekday and Saturday service. Operating costs also include demand response (ADA) cost based on the number of new miles which will require ADA service and the cost per revenue mile of ADA demand response service. ADA service is not required along Flex routes or limited express service routes.

Table 11 summarizes the cost for each alternative.

**Table 11 | Operating and Capital Costs by Alternative**

Alternative	Route Type	Annual Operating Cost (\$1,000)			Capital Cost		
		Weekday	Saturday	Demand Response (ADA)	Vehicles	Stops	Total
1. HART Planned Service with FishHawk Connection	Fixed	\$1,542	\$267	\$271	\$3,549	\$2,019	\$5,568
	Flex	\$495	\$86	\$0	\$506	\$0	\$506
	Total	\$2,037	\$353	\$271	\$5,196	\$2,019	\$7,215
2. Figure 8 configuration with Flex	Fixed	\$1,471	\$254	\$263	\$3,042	\$2,019	\$5,061
	Flex	\$495	\$86	\$0	\$506	\$0	\$506
	Total	\$1,966	\$340	\$263	\$4,689	\$2,019	\$6,708
3. 2 One-Way Loops	Fixed	\$2,396	\$414	\$362	\$5,577	\$776	\$6,353
	Flex	\$495	\$86	\$0	\$506	\$0	\$506
	Total	\$2,891	\$500	\$362	\$7,731	\$776	\$8,507
4. 2 Two-Way Loops	Fixed	\$2,471	\$427	\$378	\$5,577	\$776	\$6,353
	Flex	\$539	\$94	\$0	\$506	\$0	\$506
	Total	\$3,010	\$521	\$378	\$7,731	\$776	\$8,507



## Evaluation of Alternatives

Eight performance measures were selected to evaluate the four alternatives. The performance measures were calculated based on the service characteristics, route attributes, ridership estimation, and cost estimates and are shown in Table 12.

**Table 12 | Alternative Performance Evaluation**

Alternative	Annual Revenue Miles	Annual Revenue Hours	Annual Operating Cost (\$1,000)	Annual Projected 2025 Ridership	Passengers per Revenue Hour	Passengers per Revenue Mile	Operating Cost per Passenger	Capital Cost (\$1,000)*
1. HART Planned Service with FishHawk Connection	429,156	25,244	2,037	178,502	7.07	0.42	11.41	7,215
2. Figure 8 configuration with Flex	416,304	24,488	1,966	237,132	9.68	0.57	8.29	6,708
3. 2 One-Way Loops	584,136	34,361	2,891	237,973	6.93	0.41	12.15	8,507
4. 2 Two-Way Loops	610,898	35,935	3,010	277,695	7.73	0.45	10.84	8,507

\*Includes cost of spare buses (20% of total).

Table 13 indicates the relative score for each alternative for each performance measure with the total score and overall rank shown in the final two columns. Each performance measure was evaluated on a scale from one to four with one being the lowest and 4 being the highest (best). For service performance measures and ridership, the greater the value the higher the score (ranking) and for the cost-related performance measures, the lower the value the higher the score (ranking).

**Table 13 | Alternative Performance Evaluation Rankings**

Alternative	Annual Revenue Miles	Annual Revenue Hours	Annual Operating Cost (\$1,000)	Annual Projected 2025 Ridership	Passengers per Revenue Hour	Passengers per Revenue Mile	Operating Cost per Passenger	Capital Cost (\$1,000)	Total	Overall Rank
1. HART Planned Service with FishHawk Connection	2	2	3	1	2	2	2	3	17	3
2. Figure 8 configuration with Flex	1	1	4	2	4	4	4	4	24	1
3. 2 One-Way Loops	3	3	2	3	1	1	1	2	16	4
4. 2 Two-Way Loops	4	4	1	4	3	3	3	2	24	1

Based on the evaluation of alternatives, Alternatives 2 and 4 tied as the top two performing alternatives.

## Public Input

A public outreach meeting was held on February 18, 2014 at the SouthShore Regional Library. Each alternative was explained in detail and the MPO and HART representatives were available to answer questions. Input from the public on their preferred alternative was requested through a survey. In addition, the survey was available on line through the MPO’s website. Participants were asked to score each alternative with the following scale and to select their preferred alternative.



- 1 – Dislike
- 2 – Somewhat Dislike
- 3 – Neutral
- 4 – Somewhat Like
- 5 – Like

There were seventeen (17) surveys returned at the public outreach meeting. An additional nine (9) surveys were completed on line for a total of twenty-six (26) returned surveys. The results of the survey were reviewed based on the scoring (sum of the scores for each alternative based on the scale above) and by preferred alternative (vote for one). The results of both the scoring of alternatives and voting for the preferred alternative favored Alternative 4 and are summarized below:

Scoring of Alternatives (Total score per alternative):

- Alternative 1 – 56
- Alternative 2 – 61
- Alternative 3 – 79
- Alternative 4 – 98**

Preference of Alternatives (Total number of votes):

- Alternative 1 – (1)
- Alternative 2 – (1)
- Alternative 3 – (4)
- Alternative 4 – (14)**
- No Response – (6)

During the public outreach meeting there was strong opposition to Alternative 2, the “figure 8” route configuration, even though Alternative 1 ranked lower by the scoring method and Alternatives 1 and 2 tied as the least favorable by preference. Alternatives 3 and 4 were well received with comments to start service with Alternative 3, clockwise loops, and eventually expand to Alternative 4, bi-directional loops. General comments from the public outreach meeting and survey are listed below:

- Provide service to the library
- Prefer 3 or 4, offer more options than 1 or 2
- Expand flex to Apollo Beach where there are a lot of daily workers
- Consider extending Big Bend Flex zone to new neighborhoods just south on US 301 near CR 672/Balm Road
- 3 for now with the ability to expand to 4
- I think the most important is connecting from Big Bend and possibly 674 straight up to the Brandon Mall. I also like the loops around Gibsonton, 301, Big Bend, and US 41.
- Provide a connection from the schools to the Firehouse Cultural Center for educational programs
- Need more service ASAP, the ferry is a start, anything would help!

## Recommendations

The SouthShore service expansion of the Hillsborough Area Regional Transit Authority would bring additional fixed route and flex service to the South County area and offer connections between the SouthShore Area and other parts of Hillsborough County. Since both Alternative 2 and Alternative 4 scored the same after the evaluation of alternatives, public input played a large role in selecting the recommended alternative. Alternative 2, the figure eight configuration, scored the second least behind Alternative 1 in the public outreach scoring and tied with Alternative 1 for the least preferred alternative. Alternative 4, two 2-way loops and connection to Brandon Mall, scored the highest in both the public outreach scoring and preference. Not only was Alternative 4 the preferred alternative based on public outreach, there was strong opposition to Alternative 2. Therefore, Alternative 4 is the recommended alternative.

After alternative 4 was selected as the recommended alternative, operational refinements were made to off-set some of the costs and are shown in Table 14. Based on the projected ridership, HART recommended utilizing 23’ cutaway buses on the north and south loops rather than the typical 29’ or 42’ coach buses and initially keep the route from Brandon Mall to Amazon/HCC SouthShore Campus as limited express service. Headways and route alignments were not altered.

**Table 14 | Alternative 4 Costs - Original v. Refined**

Alternative	Route Type	Annual Operating Cost (\$1,000)			Capital Cost		
		Weekday	Saturday	Demand Response (ADA)	Vehicles	Stops	Total
4	Fixed	2,471	427	378	5,577	776	6,353
	Flex	539	94	0	506	0	506
	Total	3,010	521	378	7,731	776	8,507
4 (With Refinements)	Fixed	1,772	306	378	2,533	776	3,309
	Flex	539	94	0	506	0	506
	Total	2,311	400	378	3,926	776	4,702

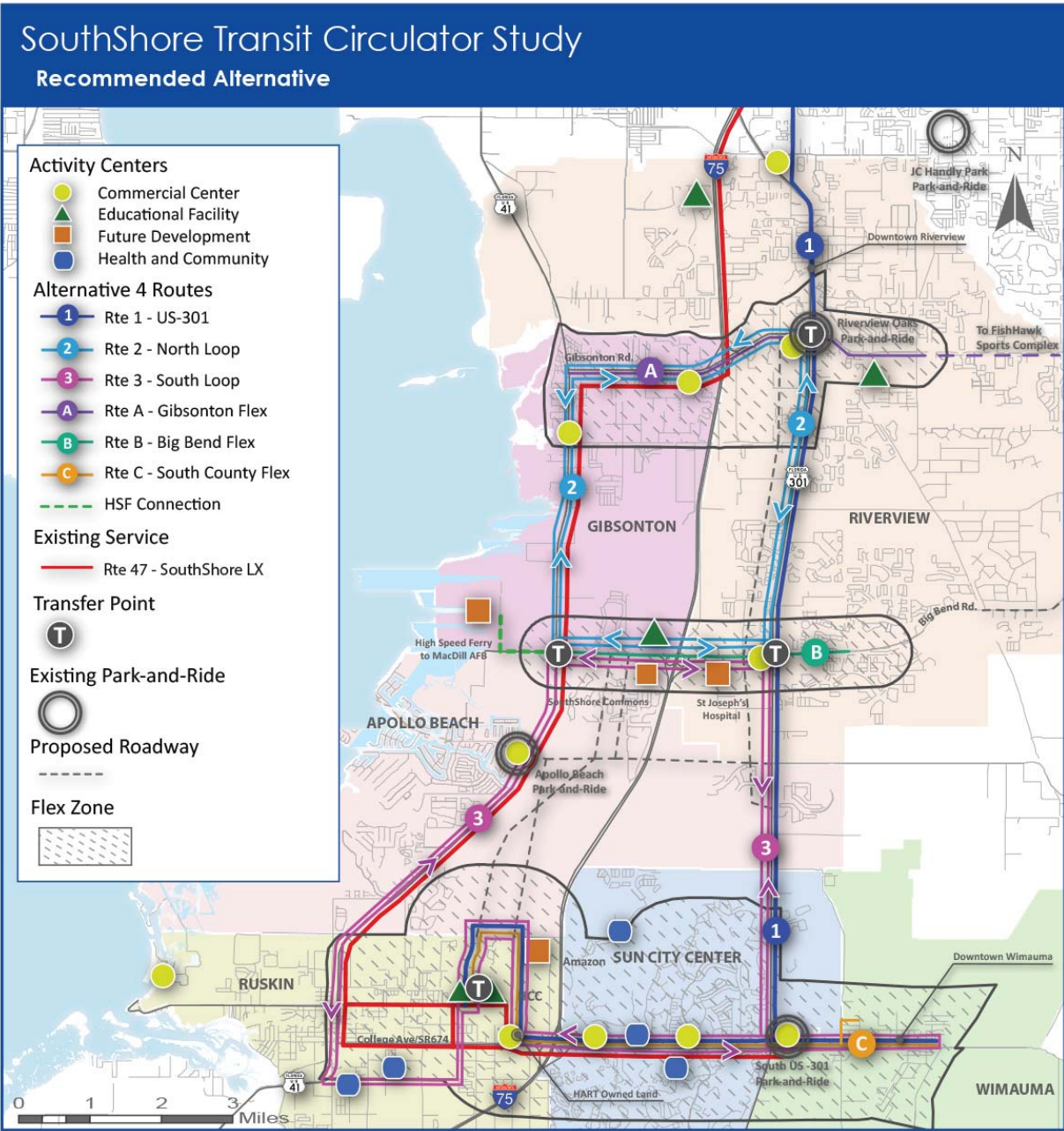






Figure 21 | Recommended Alternative




## Proposed Phasing

The recommended alternative, Alternative 4 with Refinements, will be incorporated into HART's Transit Development Plan Update: Fiscal Year 2015 – 2023 (TDP). The proposed implementation schedule is as follows:

### Phase I: Year 2020

-  Implement the north and south bi-directional loops
-  Delete existing Route 31 along US-41
-  Realign existing Route 53LX to extend from Brandon Mall to the Amazon/HCC SouthShore Campus
-  Add one additional bus to the existing South County Flex

### Phase II: Year 2022

-  Expand the South County Flex by area, decrease headway to 45 minutes
-  Implement the Gibsonton Flex
-  Implement the Big Bend Flex

## Financial Plan

The capital and operating cost of each alternative, by route type, are identified in the Cost Estimation section of this report since costs were used in developing performance measures for the evaluation of alternatives. Both operating and capital costs were performance measures and operating costs were used to calculate operating cost per passenger.

The projected costs and revenues for the recommended alternative, Alternative 4, by phase and over the five year period of HART's Transit Development Plan are presented in this section.

## Farebox Revenues

HART's current (Year 2014) base fare for Local and Limited Express service is \$2.00 per trip and \$1.00 for HARTFlex (flex service) with discount fares available for selected riders and for multi-trip tickets. The average fare paid on each route is approximately 50% of the full fare. Also, it is anticipated that the fare will increase twenty-five cents every two years beginning in 2016. This study estimated the 2025 ridership therefore, the ridership was factored down to the years 2020 through 2024. The ridership was multiplied by the average fare to determine the estimated revenue by phase.

Table 15 summarizes the capital, operating, and projected revenue by route and Phase for Alternative 4 over five years beginning in 2020 and going through 2024, the last year of HART's TDP currently being developed. The capital and operating costs are inflated at 2.5% per year from the original estimate in the Cost Estimation section of this report. Under this plan most of the capital costs are expended in 2020 with little to be phased in for 2024 since most of the bus stops and replacement buses will be needed in the earlier phase.



**Table 15 | Preferred Alternative Financial Phasing Plan**

		2020			2021		2022			2023		2024	
Route Number	Route Name	Capital Cost	Operating Cost	Revenue	Operating Cost	Revenue	Capital Cost	Operating Cost	Revenue	Operating Cost	Revenue	Operating Cost	Revenue
<b>Phase I</b>													
<b>Fixed Routes</b>													
1	US-301	\$1,763,894	\$968,966	\$107,045	\$993,191	\$109,543		\$1,018,020	\$121,847	\$1,043,471	\$124,689	\$1,069,558	\$138,658
2	North Loop	\$702,675	\$580,345	\$58,324	\$594,853	\$59,685		\$609,724	\$66,389	\$624,968	\$67,938	\$640,592	\$75,547
3	South Loop	\$702,675	\$819,310	\$92,805	\$839,793	\$94,972		\$860,787	\$105,638	\$882,307	\$108,102	\$904,365	\$120,213
	HSF Connection		\$40,965	\$30,796	\$41,990	\$31,514		\$43,039	\$35,054	\$44,115	\$35,871	\$45,218	\$39,889
<b>Flex Routes</b>													
C	South County Flex	\$293,402	\$246,079	\$16,860	\$252,231	\$17,254		\$258,537	\$19,015	\$265,000	\$19,458	\$271,625	\$21,335
<b>Capital and ADA</b>													
	Stops	\$1,868,846											
<b>Phase I Total</b>		<b>\$5,331,491</b>	<b>\$2,655,665</b>	<b>\$305,831</b>	<b>\$2,722,057</b>	<b>\$312,967</b>		<b>\$2,790,109</b>	<b>\$347,941</b>	<b>\$2,859,861</b>	<b>\$356,058</b>	<b>\$2,931,358</b>	<b>\$395,641</b>
<b>Phase II</b>													
<b>Flex Routes</b>													
A	Gibsonton Flex						\$154,128	\$213,044	\$11,322	\$218,370	\$11,586	\$223,829	\$12,703
B	Big Bend Flex						\$154,128	\$172,157	\$15,737	\$176,461	\$16,104	\$180,872	\$17,657
C	South County Flex (Expansion)							\$127,656	\$2,692	\$130,847	\$2,755	\$134,118	\$3,020
<b>Capital and ADA</b>													
	Stops						\$60,920						
	ADA							\$397,136		\$407,065		\$417,241	
<b>Phase II Total</b>							<b>\$369,176</b>	<b>\$909,992</b>	<b>\$29,751</b>	<b>\$932,742</b>	<b>\$30,444</b>	<b>\$956,061</b>	<b>\$33,380</b>
<b>Total</b>		<b>\$5,331,491</b>	<b>\$2,655,665</b>	<b>\$305,831</b>	<b>\$2,722,057</b>	<b>\$312,967</b>	<b>\$369,176</b>	<b>\$3,700,101</b>	<b>\$377,692</b>	<b>\$3,792,604</b>	<b>\$386,502</b>	<b>\$3,887,419</b>	<b>\$429,021</b>

\*Capital costs are not shown in years where it equals zero.



## Further Considerations

Upon presenting the recommended alternative to the Hillsborough County Commissioners, the MPO was requested to provide a cost if the frequency of the north and south loops was increased. The recommended alternative was analyzed with the headway of the north and south loops decreased from 45 minutes to 30 minutes. This decrease in headway will provide additional service increasing ridership. At the same time, additional buses will be required increasing the capital and operating costs. Tables 16 through 19 summarize the service characteristics, ridership, operating and capital costs, and performance evaluation of the recommended alternative with 30 minute headways on the north and south loops.

**Table 16 | Service Characteristics (with 30 Minute Headways on North and South Loops)**

Route Number	Route Name	Headway	Round Trip Route Miles <sup>1</sup>	Round Trip Route Time with layover (min)	Vehicles Needed	Daily Round Trips
1	US-301	75	57	211	3	9
2	North Loop	30	15	63	6	52
3	South Loop	30	30	116	8	48
Fixed Route Subtotal		NA	102	NA	17	109
A	Gibsonton Flex	45	10	45	1	18
B	Big Bend Flex	45	8	38	1	18
C	South County Flex	45	19	77	2	17
Flex Route Subtotal		NA	37	NA	4	53
	HSF Connection	26	3	N/A	N/A	12
Total			142		15	

**Table 17 | Estimated Ridership (with 30 Minute Headways on North and South Loops)**

Route Number	Route Name	Daily 2025 Projected Ridership		Annual 2025 Projected Ridership	
		Weekday	Saturday	Weekday	Saturday
1	US-301	310	155	78,061	8,990
2	North Loop	210	105	53,198	6,090
3	South Loop	402	201	101,549	11,658
A	Gibsonton Flex	62	31	15,535	1,798
B	Big Bend Flex	86	43	21,598	2,494
C	South County Flex	118	59	29,810	3,422
	HSF Connection	89	45	22,434	2,610
Total		1,277	639	322,185	37,062

**Table 18 | Operating and Capital Costs (with 30 Minute Headways on North and South Loops)**

Alternative	Route Type	Annual Operating Cost (\$1,000)			Capital Cost		
		Weekday	Saturday	Demand Response (ADA)	Vehicles	Stops	Total
4. 2 Two-Way Loops (30 minute headways)	Fixed	\$2,601	\$449	\$378	\$4,811	\$776	\$5,587
	Flex	\$539	\$94	\$0	\$506	\$0	\$506
	Total	\$3,140	\$543	\$378	\$5,317	\$776	\$6,093

**Table 19 | Performance Evaluation (with 30 Minute Headways on North and South Loops)**

Alternative	Annual Revenue Miles	Annual Revenue Hours	Annual Operating Cost (\$1,000)	Annual Projected 2025 Ridership	Passengers per Revenue Hour	Passengers per Revenue Mile	Operating Cost per Passenger	Capital Cost (\$1,000)
4. 2 Two-Way Loops (30 minute headways)	860,378	50,610	3,679	322,185	6.37	0.37	11.42	6,093

## Funding Sources

Potential funding for the expanded service in the SouthShore area may be obtained from the traditional funding sources that currently finance HART services including capital and operating costs. Capital cost for fixed assets (e.g., buses, station infrastructure, and ancillary facilities such as maintenance facilities) generally comes from different sources than funds applied to operations and maintenance of the service. The specific funding mechanism generally differs even if both the capital and operating costs comes from the same general category (e.g., federal funds).

It is important to recognize that the cost of public transit service throughout the United States is not covered solely by revenues received from fares collected for the service. Fare revenues typically cover a portion of the operating & maintenance costs of the transit service, with capital costs frequently covered through federal grants and programs.

Funding for transit is derived from two general categories: public sector and private sector.

Public sector funding is derived from public tax dollars allocated through federal, state, and local funding mechanisms.

### Public Sector Funding

The federal government has historically been an important source of funding for transit. Prior to 1991, highway and transit money were allocated separately. Starting with the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), and through subsequent legislation, transportation funding has become increasingly flexible and less mode specific. Today, funding can be used either for highway or transit with fewer restraints. One element that has remained largely unchanged is that state and local funding is required to complement federal funding under various matching formulae.

FTA Grants – Funds for urban mass transit are available from the Federal Transit Administration (FTA) to qualified transit authorities pursuant to procedures set forth in the Moving Ahead for Progress in the 21st Century Act (MAP-21). MAP-21 was enacted in July 2012 to further several important goals, including safety, state of good repair, performance, and program efficiency. The process of obtaining federal capital assistance is initiated by a recipient designated by state and local officials, and by publicly owned operators of mass transportation services. Generally, the designated recipient for a service area prepares and submits a regional program of projects to the FTA for approval. Additionally, the recipient is required to file an application with the FTA regional office to be eligible for any FTA program grant. Federal grants can generally reimburse up to 80 percent of the cost of capital programs and a portion of operating expenses to improve or continue mass transportation service.

Federal, state, and local resources provide funding to the HART system. Federal and most of the state programs are not for specific bus transit corridors or routes unless specifically stated.

## **Federal Programs**

Available FTA funding programs, as identified in MAP-21 are listed below:

### Urbanized Area Formula Program: Section 5307 - Urbanized Area Formula Grants, Section 5336 - Apportionment of Appropriations for Formula Grants

Urbanized Area Formula Program provides the largest source of federal transit funding. Formula funds are appropriated based on population, transit service provided, and the number of low-income individuals and may be used for capital projects, planning, job access and reverse commute projects and operating costs. The Job Access and Reverse Commute (JARC) program was incorporated into Section 5307 which provides transit service to low-income individuals to access jobs. Funds may be used for operating expenses for urban areas with a population fewer than 200,000 and areas with a population over 200,000 if they operate no more than 100 buses in during peak periods.

### Section 5339 – Bus and Bus Facilities Formula Grant

Bus and Bus Facilities Formula Grants may be used for capital projects to purchase buses and related equipment and to construct bus facilities.

### Section 5310 – Formula Grants for the Enhanced Mobility of Seniors and Individuals with Disabilities

Grants under Section 5310 may be used to plan, design, and carry out public transportation projects to meet the needs of seniors and individuals with disabilities when public transportation is insufficient, unavailable, exceeds the requirements of the Americans with Disabilities Act of 1990, or provides alternative transportation to assist seniors and individuals with disabilities.

## **State Programs**

Available sources from the State of Florida, as identified in the Florida Statutes and/or Florida Department of Transportation Procedures are listed below:

### Park and Ride Lot Program

As part of the commuter assistance program to encourage transit and carpools, the Park and Ride Lot Program provides funding to purchase or lease land to construct park and ride lots based on FDOT criteria.

### Public Transit Block Grant Program

Established by the Florida Legislature, the Public Transit Block Grant Program provides funds for eligible transit capital and operating costs, consistent with local government comprehensive plans. Funds are awarded to public transit providers eligible to receive funding from the Federal Transit Administration's Sections 5307 and 5311 and to Community Transportation Coordinators.



### Public Transit Service Development Program

The Public Transit Service Development Program, also enacted by the Florida Legislature, provides initial funding for special projects that incorporate new or innovative techniques to improve or expand public transit services. Projects may include: new technologies, routes, services, or the purchase of special transportation services.

### Transit Corridor Program

The Transit Corridor Program provides discretionary funds based on need to support new services within specific corridors that will reduce or alleviate congestion or other mobility issues. These funds may be used for transit capital or operating expenses identified in a Transit Development Plan, Congestion Management System Plan, or other formal study undertaken by a public agency.

Additional state resources may be available to local governments and transit agencies to provide for the local share of project costs.

### **Local Resources**

Local jurisdictions have enacted taxes or earmarked existing taxes specifically for transit operations. Portions of motor vehicle registration fees, portions of local sales tax, and documents taxes for registration of public documents (e.g., deeds and mortgages, licenses, etc.) can be applied to public transit service. Several counties around Florida, including Hillsborough County in 2010, and the country have considered a sales tax surcharge for application to transit service.

Some jurisdictions make use of road and bridge tolls, and potentially managed lane tolls, to support public transportation. While these tolls are generally implemented to cover the cost of constructing, operating, and maintaining the roads and bridges, some cities dedicate as much as 60 percent of the toll revenues to transit operations. Promoting transit reduces congestion levels on the roads making such facilities more attractive and avoiding the cost of expanding such facilities when that is even possible. Increasingly, the public sector is looking at the potential for managed lane tolls to support transit operations.

### **Private Funding Sources**

In addition to the traditional funding sources, funds from one or more private sources may be used to fund some or part of the necessary resources needed to implement additional transit services to the SouthShore area.

Private sector funding generally comes in the form of direct payment by private entities to the transit agency in the return for the benefits received from a transit service. Residential communities, major industries and businesses, and large scale developments may offer funding to the public transit agency to enhance mobility and as a means of mitigating potential traffic congestion. With tax increment financing (TIF), governments hold tax rates constant and use expected bumps in tax revenues from increased property values to finance the debt for a project.

Private organizations may also operate their own transit service as a benefit to their employees and to make the organization a more attractive place to work. Reductions in infrastructure to support the employees (e.g., parking lots) and reduced commuting costs are among the benefits to both the employer and the employee. Google is an example of an organization that provides their own transit service as a benefit to their employees.

Opportunities for private funding within the South Shore area may be possible for new businesses specifically Amazon and St. Joseph's Hospital. Under typical partnership arrangements, the organization pays the transit provider a fixed sum in exchange for unlimited use by all members of the organization (e.g., employees, students, etc.).

Impact fees and growth management fees generally make use of the public sector power to tax in combination with the financial resources of the private sector and the benefits that it accrues. Impact fees are assessed on new developments under the logic that these developments will require new transportation infrastructure to meet the travel demand of these developments and to offset the roadway congestion that would occur if no new transportation infrastructure is added.

Developers may find that being located in proximity to a transit service increases the value of the property proposed for development. In effect, the development fees paid by these developers simply returns some portion of that increased value where the benefit is initially generated. The Dulles-Tysons Corner corridor in Northern Virginia many years ago recognized the benefit and increased value that would accrue to land near the proposed rail line. The land owners voluntarily increased property taxes and dedicated those funds to the public sector to advance a transit project that otherwise might have been many years in the future if at all.

### **Public Private Partnerships**

A Public-Private Partnerships (PPPs) is a contractual agreement between a public agency and a private entity as a way to accelerate delivery of transportation projects. The private partner may contribute to the design, construction, financing, and operations and maintenance of project or any combination thereof. PPPs are usually reserved for large infrastructure projects. Central to the success of PPPs is a revenue stream that can repay any initial cost incurred by the private entity. Transit has traditionally found this arrangement challenging as the revenue source, fares, is typically insufficient to provide the necessary revenue. Toll roads built under a PPP arrangement use the tolls as repayment. In some cases, the public sector may simply pay an annual availability pay in lieu of tolls, in effect paying the tolls on behalf of the users.

### **Corporate Transit Program**

HART offers the Corporate Transit Program to encourage the use of public transportation. This program provides nontaxable fare subsidies up to \$240 per employee per month toward the cost of public transportation. Federal law entitles all US employees to this tax-deductible business expense.

### **Advertising**

Advertising at bus stops and on buses will produce some revenue. Some companies may supply infrastructure (bus shelters) in exchange for the right to advertise on them and even provide a portion back to the agency. HART currently incorporates these policies.

### **Home Owner Associations (HOA) and Condominium Owner Association Fees (COA)**

HOA and COA fees may be collected from an HOA and/or COA to fund service to a specific area. HART currently has agreements with Sun City Center and Kings Point to allow residents to ride HART buses with a valid ID.

### **University Programs**

Many institutes of higher learning have found it advantageous to support a public transit agency by applying student activity fees and other charges to students and then offering unlimited, free use of the transit service. In this way the educational institution can give mobility to students who may not have access to automobiles and yet avoid the staffing, infrastructure, liability, and specialized knowledge needed to run a transit operation. Service can be scalable, allowing the institution to “purchase” only as much service as is needed while capitalizing on the economies of scale of the existing transit provider.

HART sponsors the U-PASS Program with the University of South Florida (USF). With valid USF ID cards, USF students can ride all HART services for free and USF faculty and staff can ride for twenty-five cents. Students pay for this service through an activity fee and HART invoices USF each month based on the number of passengers. Hillsborough County Community College, especially the SouthShore campus, is another good candidate for this program.

HART’s current HOA/COA and U-PASS programs provide a needed service but are not revenue generators. These programs may be restructured or renegotiated to generate some revenue. Private funding sources would be the most flexible to support the implementation of the recommendations for the SouthShore Transit Circulator Study since they can be targeted for the SouthShore area.

### **Clearwater Jolley Trolley**

The Clearwater Jolley Trolley is an example of an independent non-profit transit service. The Clearwater Jolley Trolley began service in 1982 and currently operates three routes; the Clearwater Beach, Costal, and Safety Harbor routes. The Safety Harbor Route recently began Friday, Saturday, and Sunday service between Dunedin and Safety Harbor. Fares for the Jolley Trolley mirror the fares of the Pinellas Suncoast Transit Authority (PSTA) for local routes at \$2.00 as the regular one-way fare. Reduced fares are available to qualifying passengers and passes are interchangeable with PSTA. The 2013 ridership was approximately 600,000 passengers and it serves a large tourist market. The Clearwater Jolley Trolley is subsidized by the Clearwater Downtown Development Board, Tarpon Springs, Dunedin, Pinellas County, City of Clearwater, and mostly PSTA. The farebox recovery for the routes for Fiscal Year 2014 through March for each route was: Beach route 30%, Coastal route 20%, Safety Harbor 25% (for two months of service). The combined farebox recovery for the same period was 26%. Additional revenues come from advertising and special event charters.



# Appendix

## Appendix A – Comments from the Public

Verbal comments received from the February 18, 2014 Public Meeting:

- 📄 Add existing Park n Ride lots to the maps
- 📄 Show HART land in the South County area
- 📄 Have a transfer station or major hub at the SouthShore Regional Library
- 📄 Provide flex service into the Apollo Beach area
- 📄 Have bus stops on US 301 near the trailer park to provide service to the U Save
- 📄 Provide a connection from the schools to the cultural center along Shell Point Road to connect the schools to the Cultural Center. One person said that this would be for children 6 - 13 years of age but the elementary schools are in different locations. Cypress Creek Elementary is closer to 19th Ave and Ruskin is on College Ave. One person also thought it was okay to keep on the proposed routes and they could walk from US 41.

Written comments received from the SouthShore Survey provided at the February 18, 2014 Public Meeting and from the MPO website followed by an email comment to the MPO:

- 📄 Prefer 3 or 4, offer more options than 1 or 2
- 📄 Need flex routes on Shell Point from educational Facilities HCC, Leonard HS, Thompson Elem., to connect Firehouse Cultural Center for Educational Programs. More information contact Sandy Council 813-520-3309
- 📄 Expand flex to Apollo Beach where there are a lot of daily workers
- 📄 Consider extending Big Bend flex zone to new neighborhoods just south on US301 near CR 672/Balm Road. Current maps don't show existing growth in this area. If you don't service where people live, no one will use the flex to reach the Big Bend Road attractions.
- 📄 All the alternatives take too long in travel time. Ridership in Wimauma is not being addressed nor the need for ridership in South Ruskin. All Routes highlight the Brandon Mall & Sun City Center. Workers or Riders that need to travel to the airport or downtown are out of luck.
- 📄 3 for now, with the ability to expand to 4
- 📄 While looking to #4 as best long-term solution, #3 could start as interim service until ridership & money justify #4
- 📄 301 south to Manatee County would like to see a mode of transportation from/to this area
- 📄 Thank you for your efforts
- 📄 C - South flex route needs a loop on east and west ends to collect people who would use the service. B - Same comment for east end of B flex
- 📄 Connections to the international Plaza mall, RJ Stadium, Westshore Mall, Tampa International, Ybor, Tampa General Hospital and Seminole Casino during the season for it would help a bunch.
- 📄 I think the most important is connecting from big bend and possibly 674 straight up to the Brandon mall. I also like the loops around Gibsonton, 301, big bend and us41.
- 📄 Hard to compare them all. What's important to me is frequency (60 min or less preferably much less). Also access to Tampa, Brandon Mall, Amazon, hospital, library, shopping in Sun City Center. It does seem that Ruskin west of 41 is totally left out. I have to walk a mile to even access any of these bus services.
- 📄 Need more bus service ASAP, the ferry is a start, anything would help!



**From:** [Sarah McKinley](mailto:Sarah.McKinley)  
**To:** [mross@gfnet.com](mailto:mross@gfnet.com); [Steve Feigenbaum \(FeigenbaumS@gohart.org\)](mailto:Steve.Feigenbaum@gohart.org)  
**Subject:** FW: SouthShore Transit Circulator Study draft feedback  
**Date:** Thursday, May 01, 2014 10:52:34 AM

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Mary & Steve,

I just received this in regards to the proposed flex service in the SouthShore Study. Do we need to make modifications based on this?

-Sarah

-----Original Message-----

From: Michael Szemeredy Jr [<mailto:mszemeredy@gmail.com>]  
Sent: Thursday, May 01, 2014 2:10 AM  
To: Sarah McKinley  
Subject: SouthShore Transit Circulator Study draft feedback

Good Morning,

In regard to the draft SouthShore Transit Circulator Study, I have a few suggestions in relation to HARTFlex service design as presented in the study. I have also spotted what appears to be an error in regard to proposed HARTFlex service alternatives. On page 36, it is stated that "It is assumed that the buses used on the flex routes will be a 23' cutaway bus that seats up to 20 passengers." In reality, both of HARTFlex's 27' cutaway designs (diesel and CNG) are configured to carry 12 seated passengers, plus an additional 2 passengers using mobility aids such as wheelchairs and scooters. The reason for the low capacity of the van is that HARTFlex routes are operated by paratransit van operators that are currently not required to carry a Florida CDL. Without a Florida CDL Class "B" license with a "P" endorsement, these operators cannot transport more than 15 passengers, including themselves: 1 operator, 12 seated passengers and 2 passengers occupying ADA accommodations at the rear of the van. If a CDL license were required of these van operators, it would likely cause a shift in classification to the higher paid "bus operator" position, increasing operating costs.

Even if the above licensing issue were addressed, most FDOT-approved transit cutaway designs are not large enough to accommodate 20 seated passengers while also providing required ADA accommodations. For transit purposes, a 29' or larger vehicle with at least two rows of collapsible seating is required to reach 20 or more seats. Several of University of South Florida Bull Runner's 29' Blue Bird high floor front engine school bus-style vehicles (units 3002 and 3003) are specced for maximized seating capacity with full ADA capabilities, but only have 26 seats (22 + 4 seats that collapse to accommodate mobility aids). Low floor bus or van cutaway designs reduce interior capacity, resulting in reduced seating capabilities. HART's current/new 27' vehicles could have a maximum of 17 seats when modified, assuming there were a side-collapsing row of 2 and a rear-folding row of 3 seats added opposite the wheelchair lift on current/future vehicles. HART could move to a longer cutaway for HARTFlex service, but this could deeply hinder the service in terms of the vehicle becoming too large to service certain door-to-door destinations that require a smaller, more agile vehicle (u-turns, navigating parking lots, etc.).

Another issue with transit cutaway use is standee passengers. According to Rule 14-90.006(12), F.A.C., "Passengers shall not be permitted to stand on buses not designed and constructed for that purpose." As cutaway vans are designed for seated use and not standees, by law, HARTFlex vehicles are not permitted to carry more passengers than there are seats. HART's new CNG HARTFlex vehicles have a large plaque on the front bulkhead that states that standing is not permitted while the vehicle is in motion. As the regular Saturday afternoon operator on the HARTFlex Northdale route for the last year, I have had to tell passengers that they cannot board the vehicle because all 12 seats are occupied with regular frequency... on a Saturday. This has had the effect of "capping" ridership on the route for the last few years, and has seen many of our regular passengers switch to other means of transportation as a result of being left behind once too often. Both



issues can be verified with HART service planning. If ridership is projected to have a PPRH average close to or larger than the seated capacity of the van, an increase in service levels may be required in the mid-term as services increase in popularity.

Also, please keep in mind that adequate buffer time must be included in HARTFlex route design. Each current HARTFlex route has approximately 20 minutes of built-in slack/layover time, to allow for door-to-door service within subdivisions and shopping plazas along the route, in addition to time set aside to account for traffic conditions and heavier periods of ridership. These side trips can be very time consuming, especially if the vehicle must travel to the Flex route boundary or wait for left turn signals. The 45 minute service that is quoted for Big Bend (all alternatives) and Gibsonton (alternative 4) look to have the characteristics of current 60 minute service levels on existing HARTFlex routes. If a HARTFlex route is not given appropriate deviation time, it will become unreliable and fail to attract regular ridership.

I understand much of the data used in the draft study came from HART, but I do believe a few details were crossed or left out in translation. You may want to review them accuracy.

Best regards,

Michael Szemeredy Jr  
Paratransit Van Operator  
Hillsborough Area Regional Transit  
mszemeredy@gmail.com