FORT LAUDERDALE WAVE STREETCAR PROJECT

TIGER IV Application

March 19, 2012

PROJECT SUMMARY

Project Type

Transit (Modern Streetcar), Economic Development, Environmentally Sustainable, Fostering /Livable Communities

Project Name

"The Wave Streetcar" – Phase I (A) (starter line)

Type of Application

Transit/Rail

Location

City of Fort Lauderdale, Broward County, Florida
Congressional Districts 20, 22 and 23, an urban area

Project Cost

THE WAVE STREETCAR PHASE I (STARTER LINE)	
Project Cost:	$83.2 Million in Year of Expenditure (YOE) $77.4 Million Current Year
TIGER IV Grant Funds Requested:	$18 Million (22% of Phase I (A) (starter line) Cost)
Approved State/Local Funds:	$65.2 Million (78% of Phase I (A) (starter line) Cost)
Contains Confidential Business Information:	No

The South Florida Regional Transportation Authority (SFRTA) is aware of and will comply with all Federal reporting requirements (DUNS: 793871992).

Project Readiness (Further Detail on Page 24)

- ☑ Project Development – June 2012
- ☑ Project Construction – December 2013
- ☑ Ride the WAVE – December 2015
- ☑ April 2012 inclusion of Project in Cost Feasible Broward MPO 2035 LRTP
- ☑ Alternatives Analysis / Environmental Assessment submitted to FTA August 17, 2011; Finding of No Significant Impact (FONSI) anticipated in Mid-2012
- ☑ Locally Preferred Alternative Approved
- ☑ State-Regional-County-MPO-Local-Private partnership and funding commitments
- ☑ Legislative approvals have been obtained from the project partners
- ☑ Over $65 million in State and Local funds have been committed to fund the capital cost of Phase I (A) (starter line)
- ☑ By unanimous vote, Broward County Commission committed to be the owner and operator and fund operations and maintenance of the system
- ☑ Public approval and support, over 100 public meetings

Primary Point of Contact

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Major Activity Centers the Project Impacts (Further Details Inside)

- ☑ Broward County's Central Business District
- ☑ North Broward Hospital District – *Broward General Trauma 4 Hospital*
- ☑ Downtown's Educational Facilities – *State Colleges/ Universities & Specialty Schools*
- ☑ Federal Courthouse
- ☑ Broward County Courthouse
- ☑ Broward County and City of Fort Lauderdale Governmental Headquarters
- ☑ School Board of Broward County Headquarters
- ☑ Over 10 Major Social Service Centers
- ☑ Over 5 Major Cultural Facilities for the Region
- ☑ Entertainment/Shopping Districts (Las Olas Shoppes, Himmarshee Corridor, Riverfront)
- ☑ Expansive Parks and Open Space Network (including a new Greenway system)
- ☑ Main Broward County Transit Bus Terminal
- ☑ Arts Districts (A&E District, F.A.T. Village, 3rd Avenue Arts District, Las Olas Arts District)

TIGER IV Criteria Met (Further Detail Starts on Page 13)

PRIMARY (Page 13)

- ☑ State of Good Repair
- ☑ Economic Competitiveness
- ☑ Livability
- ☑ Environmental Sustainability
- ☑ Safety
- ☑ Job Creation and Near-Term Economic Activity

SECONDARY (Page 19)

- ☑ Innovation
- ☑ Partnerships

Project Benefits

- ☑ **Economic Development**
  - Long-term growth in employment
  - Improved livability of communities
  - Increase Real Estate Values (Commercial & Residential)
  - New Development
  - New Tax Revenues to assist in paying for the System
  - Improved economic competiveness
  - Regional Connectivity and Urban Mobility
  - Greater integration of transportation decision making
- ☑ **Regional and Local Employment**
  - Local and Regional Planning Land Use Policies
  - Future Commuter Rail, Bus, Airport and Seaport Connections
- ☑ **Environmental / Safety**
  - Reduced adverse impacts of transportation on the natural environment
  - Reduced surface transportation-related crashes, injuries, and fatalities
- ☑ **Partnership**
  - Greater collaboration of state, local governments and other public and private entities
- ☑ **Funding**
  - Greater use of technology and innovative approaches to transportation funding and project delivery

CONTENTS

APPENDICES

FIGURES

TABLES

IMPORTANT LINKS

- "Ride the WAVE" Route Video
- Broward MPO's 2035 Long Range Transportation Plan
- Wave Ridership and Mobility Benefits
- Technical Memo on Phase I Strategy
- City of Fort Lauderdale 2008 Comprehensive Plan
- Broward County Land Use Plan
- Urban Design Master Plan for Downtown Fort Lauderdale
- Broward MPO 2035 Long Range Transportation Plan (LRTP)
- Pictures of Recent Projects in Downtown Fort Lauderdale
- Overall Support Letters
- Benefit-Cost Analysis (BCA)
- Project Schedule
- Joint Alternatives Analysis/Environmental Assessment Report:
  - Volume 1
  - Volume 2
- Broward MPO's Transportation Improvement Plan (TIP)
- Detailed Distribution of Expenditures and Funds
- Project Management Plan

PROJECT DESCRIPTION

The project Phase I (A) and I (B) Fort Lauderdale WAVE Streetcar project is a 5.4-mile (two way) modern streetcar system with ten (10) passenger stations. The design of each station will be representative of the character of the specific area. Stations will be solar-powered and will have real-time information for the passengers to know when the next vehicle will arrive. The stations will also have informational kiosks displaying destinations and attractions in the downtown, as well as upcoming events. Other project related improvements include streetscape around the stations, pedestrian crosswalks, shade trees, lighting, and improved sidewalks.

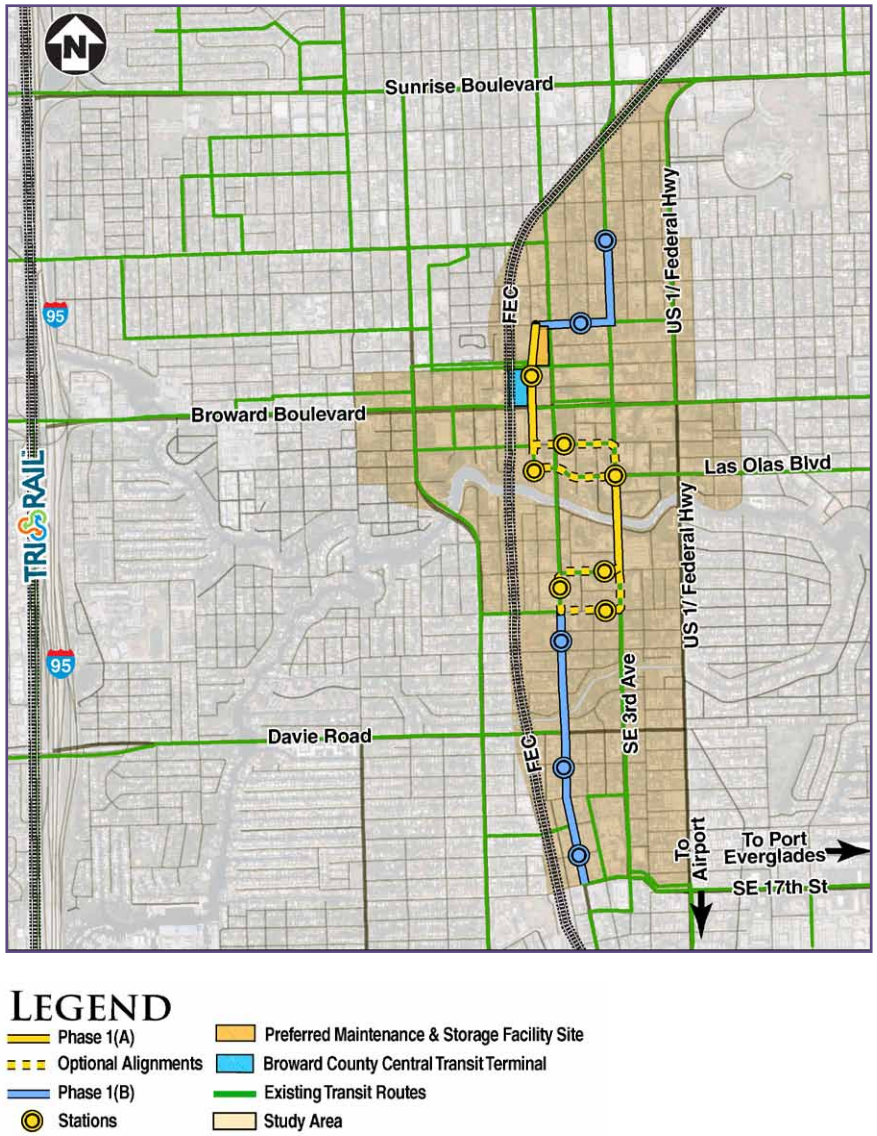
The WAVE Streetcar will operate in mixed traffic with signal priority frequencies of 7.5 minutes throughout the weekday and 15 minutes during evenings and weekends. The project area contains a dense urban core characterized by vertically and horizontally integrated mixed-use developments, high-rise condominiums, and regional and local employment centers, and core flanked by mixed-use, near-Downtown neighborhoods. The project area is generally bounded by Federal Highway (US 1) on the east, SE 17th Street on the south, the Florida East Coast (FEC) Railroad (FEC)/W 7th Avenue on the west, and the FEC Railroad/Sunrise Boulevard to the north (See **Figure 1**).

To view of video of the Wave Streetcar route, go to:
http://www.youtube.com/watch?v=hq6Q9zzhR8k

Phase I (A) Starter Line

Recognizing that TIGER funding is limited and highly competitive, SFRTA and partners have identified a phasing strategy that can implement a very effective starter line with a TIGER IV request of $18 million. This application is specifically for the proposed Phase I (A) (starter line), which is a 1.42 mile segment of the WAVE Streetcar corridor, beginning at NW 4th Street and Brickell Avenue (SW 1st

Figure 1 | Project Alignment Map



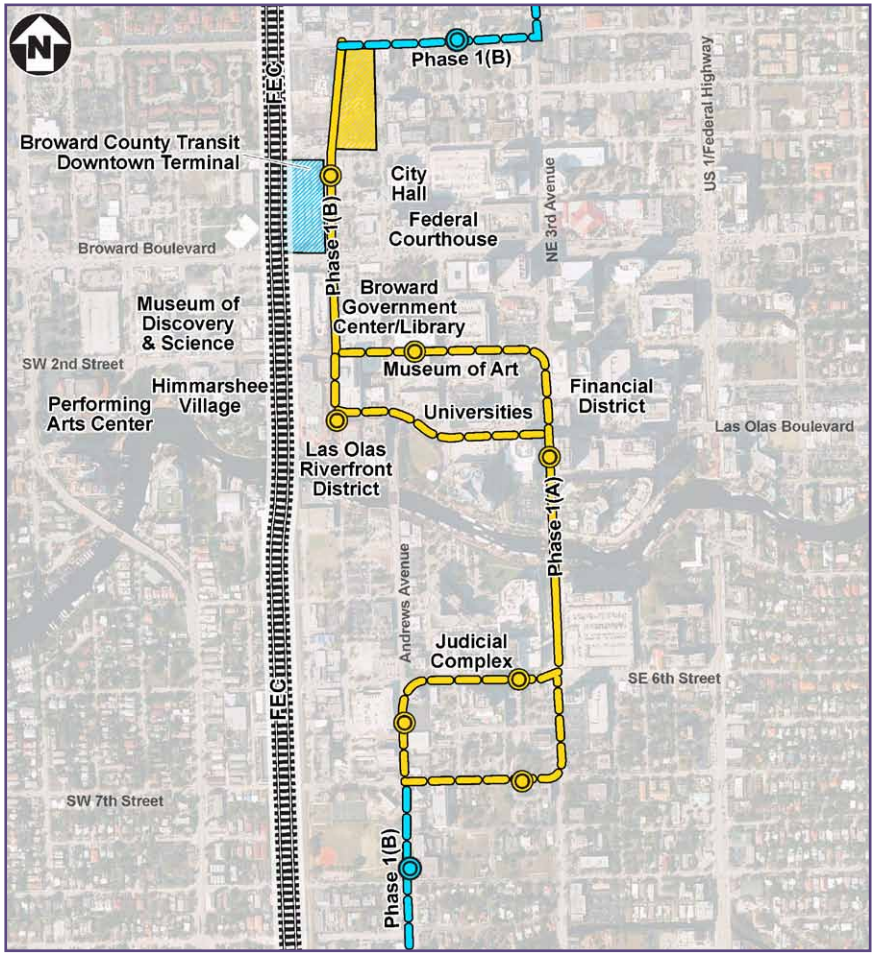
Avenue) just by the Vehicle Maintenance and Storage Facility. Traveling south on Brickell Avenue and serving Main Broward Transit Terminal continuing south to turn east on Las Olas Boulevard then south on SE 3rd Avenue, crossing the New River, traveling west on SE 6th Street and again heading South on Andrews Avenue then east onto SE 7th Street. (see **Figure 2**) This area serves the judicial complexes. The streetcar completes the round trip circulator route by continuing north on SE 3rd Avenue, again crossing the New River, west on SE 1st Street, north on SW 1st Avenue to the northern Phase 1 terminus back to its starting point at the Vehicle Maintenance and Storage Facility.

The Wave Starter Line serves the core activity centers in the downtown, such as City Hall, Federal Courthouse, Museum of Art, Financial District and Las Olas Riverfront. The starter line will cost approximately $83.2 million (YOE$) and serve approximately 2,200 to 2,800 riders per day (see **Figure 2**).

The WAVE Streetcar will:

- ***Act as a Starter Line of a system of streetcar projects*** in Fort Lauderdale;
- ***Serve as a spine running through the highest concentration of activity-generating uses***, including the residential, office, and commercial developments in the Downtown Core, the entertainment district, Broward College, Florida Atlantic University (FAU), the City and County government centers, and the County Courthouse complex and the surrounding neighborhoods;
- ***Help forge connections between Downtown Fort Lauderdale's high-intensity areas*** of Transit-Oriented Development (TOD) and areas that are targeted for revitalization and infill development;

Figure 2 | Overall Conceptual Track Plan (Phase I (A) (starter line) Depicted in Yellow



- ***Improve connectivity*** within the study area and region;
- ***Support increased density and growth***;
- ***Spur mixed-use development and redevelopmen***t;
- ***Reduce dependence on the automobile***; and
- ***Anchor sustained economic growth***.

The WAVE Streetcar Project is consistent with the vision of a transit-supportive environment. Local and regional planning practice, policies, and land use development trends have paved the way for implementation of an effective, local area transit circulator for Downtown Fort Lauderdale. The land use plan is dependent upon a transportation strategy that supports a high-rise urban core, flanked by mixed-use neighborhoods near downtown.

PROJECT NEED

The need for the proposed project is two-fold:

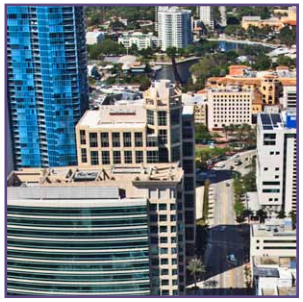
- Economic Development
- Mobility, Improved Access and Connectivity

Economic Development: Fort Lauderdale's efforts over the past two decades to develop its downtown via transit-supportive, high-density, mixed-use land use plans and zoning regulations has increasingly shaped the area as a destination for people, businesses, and events. The project corridor includes over 15,000 residential units and 5 million square feet of commercial development. Residential projects have been built with transit supportive densities up to 150 dwelling units per acre.

In February 2012, the Urban Group, Inc, a Fort Lauderdale-based real estate consultant firm performed an economic impact analysis of the Streetcar project for the DDA. The results of the analysis basically indicates that the project will enhance and support future development in the downtown Fort Lauderdale area. Specifically, the analysis estimates the following:

- Average sale price of new development north of Broward Boulevard and south of the river after completion of the WAVE project is $150 per square foot,
- Average development of 475 units annually during the 15-year cycle after development of the WAVE,
- Average unit size would be 1,500 square feet and an average unit sale price would be at $235 per square foot of building area, and
- Cumulative new tax revenue over the next 15 years of between $498,401,944 and $535,053,826 which are reflective of similar returns in the Cities of Portland, Tampa and Seattle after the implementation of their Streetcar projects.

In addition to existing residential units, the developable land within the project area can accommodate an additional 18,000 residential units and 10 million square feet of non-residential development. The backbone transit infrastructure to support these high densities is the implementation of the WAVE Streetcar Phase I (A) (starter line), which will support the future extent and success of economic development



within Downtown Fort Lauderdale and the project area. The City has positioned itself for the next "wave" of development that will make Fort Lauderdale and Broward County economically competitive. The master plans, land uses and development code are approved and in place. The City has recently completed a 10-year $560 million water and sewer project. This water and wastewater master plan allowed the City to make comprehensive utility infrastructure improvements. The project improved the City's water and wastewater infrastructure to provide the most up-to-date, cost-efficient water service and improved quality. The three major components of the water and sewer project provided state-of-the-art water treatment, installing a modern, citywide sewer service that protects the environment and promotes a healthier lifestyle.

Downtown property owners, businesses and developers have spent over $4.5 million to date to advance planning for the WAVE Streetcar, and have committed over $20 million in assessment payments for design and construction entire project. This private investment has leveraged State, County, MPO, and municipal funding commitments.

Mobility, Improved Access & Connectivity: Without the implementation of the WAVE Streetcar project, future growth of Downtown Fort Lauderdale will be severely constrained. The implementation of a major transit investment provides a high level of transportation mobility in the Downtown Core. Between 2000 and 2006, travel speeds in the Downtown area have decreased during the a.m. peak period by 25 percent, from 20 miles per hour (mph) to 15 mph. Currently, many of the major north-south and east-west streets operate at level of service (LOS) E or F during the a.m. peak hour, with the highest volumes and slowest travel speeds at NE 3rd Avenue and Broward Boulevard. By

2030, most major streets in the downtown area are expected to operate at LOS E or F, with the highest traffic volumes on Andrews Avenue, E 3rd Avenue, Federal Highway, Broward Boulevard and Las Olas Boulevard. Additionally, the New River crossing poses a challenge to pedestrian travel in the Downtown area. The WAVE Streetcar Project overcomes this by providing that important pedestrian connectivity between the north and south sides of the River.

There are 16 Broward County Transit bus routes that require transfers at the Broward Central Terminal located at Broward Boulevard and Brickell Avenue for riders to reach most of the major employment destinations in Downtown Fort Lauderdale. While a transfer will still be required when the WAVE Streetcar is operational, the proposed streetcar would provide for more frequent service (7.5-minute headways) and direct access to currently under-served areas such as the Downtown Fort Lauderdale core, Broward College, and the County Courthouse Complex at the southern end of the study area. In addition, the WAVE Streetcar will also provide connection to two new regional transit services proposed to serve the study area – the Central Broward East-West Transit corridor and South Florida East Coast Corridor, thus complementing a regional transit system.

The WAVE Streetcar Project will enhance mobility within Downtown Fort Lauderdale by providing a high quality, frequent, dedicated circulator service within the downtown core. While any dedicated circulator service will improve connectivity and reduce travel time in the downtown core, the streetcar has an additional advantage over a similar circulator bus in that its additional capacity and smoother

ride further enhance mobility. Further, it stimulates Transit Oriented Development (TOD) which supports creation of walkable urban neighborhoods and therefore decreases the need to drive.

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In 2016 the WAVE Streetcar Starter Line is projected to generate over 2,200 to 2,400 riders per day in the opening year of service. An estimated 1,880 daily riders (more than 75 percent of the daily streetcar ridership), in the opening year will be "new" transit riders, diverted from automobiles or other non-transit modes, with the remainder diverted from other transit options. Each of these riders can expect an improved trip experience.

Location

The study area is generally bound by Federal Highway (US 1) on the east, SE 17th Street on the south, the Florida East Coast (FEC) Railroad/W 7th Avenue on the west, and the FEC Railroad/Sunrise Boulevard on the north. Please refer to **Figure 1** for project location and alignment. The area is approximately 2.5 miles long (north to south) and 1.0 mile wide (east to west). These study area boundaries encompass the designated Downtown Fort Lauderdale Regional Activity Center (RAC), Downtown Development Authority of Fort Lauderdale district, Northwest-Progresso-Flagler Heights Community Redevelopment Agency area and a portion of the South RAC, including the North Broward Hospital District. **Figure 3** illustrates the scale of development within Downtown Fort Lauderdale.

Figure 3 | Downtown Fort Lauderdale

Regional Impact

Expansion potential is very exciting considering regional connections to seaport, airport, Tri-Rail and new passenger service on the FEC.

The WAVE Streetcar is a critical "step" in realizing the "transformation" of the region as visualized in the **Broward Metropolitan Organization (MPO) 2035 Long Range Transportation Plan**, click here to view this document.

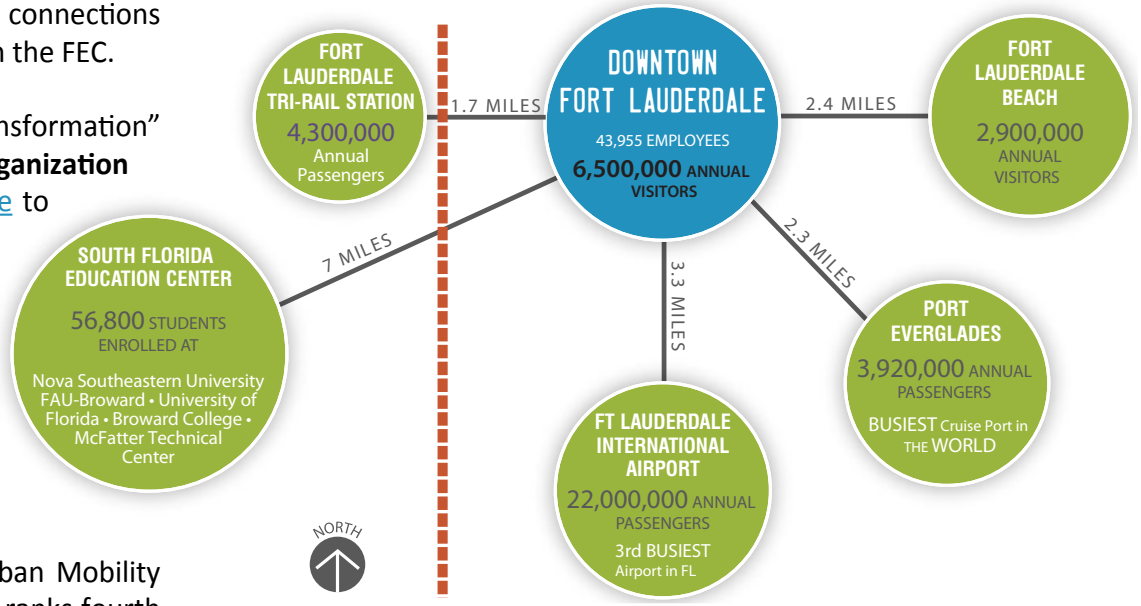
Impacts - Miami-Fort Lauderdale Metropolitan Area

- 145.6 million hours are spent sitting in traffic.
- Annual cost to the region of $101.7 million in excess fuel (2007 pricing), average from $2.86 to $3.10 per gallon.
- $3.0 billion in the value of travel time delay.
- According to Texas Transportation Institute (Urban Mobility Report 2009), the Miami-Fort Lauderdale region ranks fourth in the nation in terms of travel delay behind Los Angeles, New York, and Chicago.
- By 2035, people will spend over 60% more time in their cars each day as a result of doubling overall roadway congestion.

The WAVE Streetcar project will address these regional impacts by increasing the number of transit trips taken and reducing congestion by providing alternatives to regional travels.

The major activity centers in Broward County, as shown in **Figure 4** are located throughout the county and create dispersed mobility needs. These major activity centers are characterized by high trip attraction density that favors transit. The highest trip attraction density is Downtown Fort Lauderdale (58 trips/acre) where the WAVE Streetcar project Starter Line is planned to connect with Tri-Rail commuter rail and BCT bus services.

Figure 4 | Major Regional & Local Trip Generators



Beneficiaries

The WAVE Streetcar Starter Line will directly and indirectly benefit the businesses, residents, employers and visitors within ½ mile of its route. A Streetcar Influence Zone (SIZ) has been identified to be over 3 square miles of area, with a total employment of 42,563 and a total population of 26,378. The SIZ is a dynamic and amenity-rich area attractive to a diverse population. In the past decade, the SIZ has gained approximately 4,300 housing units and 1.2 million square feet of new office and retail space. The WAVE Streetcar Starter Line project will also connect with the regional bus and rail system thereby providing critical transit service benefits to residents, businesses and visitors.

Ridership Sensitivity Analysis–Phase 1 Ridership "Ranges"

The ridership analysis performed to date has all been done with an eye toward FTA New Starts/Small Starts, which generally requires the most conservative assumptions for the travel demand inputs and forecasts. Because the assumptions built into ridership forecasts, and in particular the kinds of inputs which can significantly drive streetcar ridership, are subject to uncertainty, it was desired to express the potential WAVE ridership as a range of values from low (using the most conservative set of inputs possible) to high (using more aggressive input assumptions) The numbers developed earlier in the project history for Small Starts purposes are by definition the "low" end of the range. (See **Figure 5** for more information).

Ridership component markets

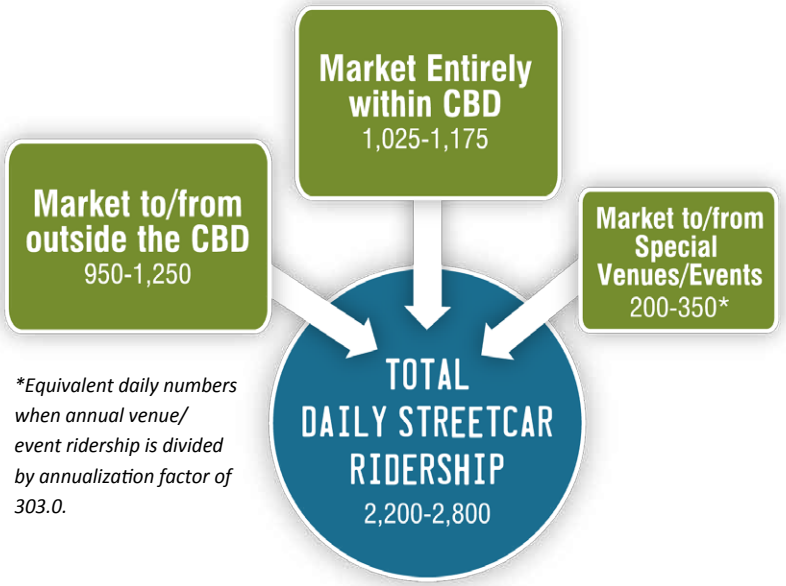
When seeking to vary inputs for sensitivity purposes, it is useful to understand the component markets that make up the forecast of streetcar ridership. Moreover, each of these markets is sensitive to variation of particular characteristics which can provide a basis for the low/medium/high ridership forecast range. The markets and characteristics were as follows:

1. *Regional trips*, i.e. those with one end of their trip outside the CBD area— System Connectivity and Attractiveness factors
2. *Intra-CBD trips*, i.e. those with both ends of the trip in the CBD along or near the streetcar alignment—CBD residential occupancy and seasonal occupancy factors
3. *Additional trips* associated with special venues and special events—Attendance and propensity-to-ride-streetcar factors.

Table 1 summarizes the forecast results for the "Low", "Medium" and "High" versions of all three of the above parameters.

To view a technical memo on the Phase I (A) (starter line) ridership and mobility, click here.

Figure 5 | Total Streetcar Ridership



**Equivalent daily numbers when annual venue/ event ridership is divided by annualization factor of 303.0.*

Table 1 | **Forecast Results**

COMPONENT STREETCAR MARKET	STREETCAR RIDERSHIP (DAILY)		
	Low	Medium	High
MARKET 1: Trips to/from outside CBD	967	1,064	1,258
MARKET 2: Intra-CBD Trips	1,029	1,103	1,179
MARKET 3: Special Venues/ Events *(equivalent daily)*	203	240	330
TOTAL *(equivalent daily riders)*	2,199	2,407	2,766

Economically Distressed Area

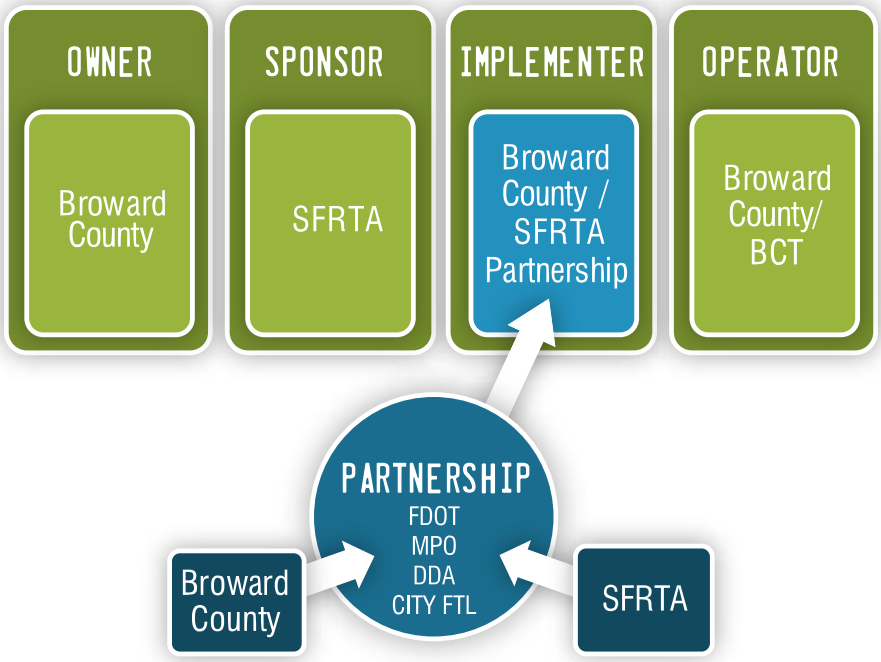
The project is partially located in an economically distressed area. The streetcar alignment connects all the major uses within the Fort Lauderdale Downtown and the South Regional Activity Centers (D-RAC and S-RAC). The two RACs are densely populated and ethnically diverse. The SIZ consists of an area slightly larger than the two RACs. Based on the 2010 Census data, approximately 13 percent of the SIZ population is living below the federal poverty level, and this proportion is higher than Broward County. An analysis of the individual census tract block groups, particularly those located in the northern portion of the SIZ in the Northwest-Progresso-Flagler Heights Community Redevelopment Agency (NPF-CRA) area, reveal higher poverty rates and lower median incomes. The NPF-CRA is a low-income, predominantly African American community where revitalization activities have been underway for more than 10 years. The WAVE Streetcar Project will intersect with the community's main transportation corridor, Sistrunk Boulevard, thus providing direct improved access to job opportunities in the Fort Lauderdale Central Business District (CBD). The WAVE Streetcar Starter Line would benefit the economically disadvantaged population by improving circulation within the downtown, offering another alternative to the automobile, increasing frequency of service, and providing access to major employment centers.

Over 70 percent of existing Broward County Transit (BCT) transit riders are transit-dependent and many are economically disadvantaged. Approximately 36 percent are minorities and 22 percent live below the poverty level. A 2006 on-board survey performed on downtown bus routes showed that 46 of the total trips were made by transit riders living in zero-car households. BCT routes which serve the project area, operate on 15- to 60- minute headways.

PROJECT PARTIES

This grant application is being submitted by the South Florida Regional Transportation Authority (SFRTA), in conjunction with Broward County and it's transit agency, Broward County Transit (BCT), the Florida Department of Transportation (FDOT), the Broward Metropolitan Planning Organization (MPO), the City of Fort Lauderdale and the Downtown Development Authority of Fort Lauderdale (DDA), (see **Figure 6 f**or the partnership structure).

Figure 6 | Partnership Relationship



The following section describes each of the project partners:

South Florida Regional Transportation Authority (SFRTA) – The SFRTA is the FTA project sponsor and will oversee and lead design, procurement and construction of the system. The SFRTA has successfully managed and completed numerous FTA-funded projects. SFRTA has within its organization the administrative, planning, procurement, legal, engineering, construction management and grant administration expertise to successfully complete major capital transit facilities conforming to FTA rules and reporting requirements. SFRTA currently owns and operates the Tri-Rail commuter rail system which runs through Palm Beach, Broward, and Miami-Dade Counties, along with Tri-Rail associated shuttle bus services. Tri-Rail carries over 14,000 passengers per day with an annual operating budget totaling $68 million. On February 25, 2011, the SFRTA Board voted unanimously to formally serve as the sponsoring, implementing agency for the WAVE Streetcar Project.

Broward County / Broward County Transit (BCT) – Broward County will be the owner of the Wave Streetcar, with BCT being responsible for operations and maintenance of the system. By Resolution # 2008-579, the County committed to funding the operations and maintenance of the system for a minimum of twenty (20) years after revenue operating service starts. BCT provides transit service in a 410 square mile-service area within Broward County. BCT buses connect to Palm Beach and Miami-Dade transit systems as well as the Tri-Rail system. BCT has 303 fixed route buses and about 70 community buses, and carries approximately 36 million passengers annually with an annual operating budget totaling $119.6 Million. BCT, along with the Broward County Traffic Engineering Department will be working closely with SFRTA during design and construction of the system.

Florida Department of Transportation (FDOT) – The FDOT has committed funding 50 percent of the non-federal capital cost of the project under their State New Starts Program. FDOT - District IV helped fund for the Alternatives Analysis and Environmental Assessment reports, representing significant support for the project. The alignment includes crossing over two (2) State roadways: Broward Boulevard and Davie Boulevard. The SFRTA will work closely with FDOT on any required ROW permits.

City of Fort Lauderdale – The City is the local jurisdiction the streetcar alignment falls within. By Resolution # 08-71, the City committed $10.5 million towards the capital cost of the system. The City Commission also approved the establishment of a special assessment district to fund an additional $20.6 million capital costs for the project. The City will work closely with SFRTA on design and permitting for the system.

Broward Metropolitan Planning Organization (MPO) – The MPO is responsible for transportation planning and funding allocation in Broward County. The Broward MPO works with the public, planning organizations, government agencies, elected officials, and community groups to develop transportation plans. The Broward MPO helped fund the Alternatives Analysis and Environmental Assessment reports and has pledged $4.64 million in capital funding. The Broward MPO will continue to be a critical partner as the project advances.

The Downtown Development Authority of Fort Lauderdale (DDA) – The DDA is a special taxing district funded by the commercial property owners in downtown, thus its representation is made up of the business and private sector

communities. The DDA has spearheaded the project and spent over $4.5 million of commercial property owner funds to date, representing a significant desire by the private sector to implement the project. The DDA will work closely with SFRTA and the other project partners as the project advances, especially as it relates to public involvement and outreach to the downtown community.

PROJECT FUNDS: GRANTS AND SOURCES/USES OF PROJECT FUNDS

Total capital costs of the complete 2.7 mile (one-way) WAVE Streetcar is estimated at $142.6 million (YOE$). A Starter Line project has been identified as Phase I (A), while recognizing it will be the first streetcar project in what is projected to be a future Regional Streetcar System in Broward County. Federal, State, Regional, Local and Private sector funding sources have been identified and programmed to meet the capital requirements of the WAVE Streetcar. Please refer to **Table 2** for details regarding cost and funding status for the overall project including Phase I (A) (starter line).

Project sponsors are seeking $18 million in Federal funds as a TIGER IV award for the starter line. The State (FDOT) has committed $32.60 million from its New Starts Transportation Program (NSTP) for the Starter line. The City of Fort Lauderdale has committed $24.46 million in funding consisting of $10.50 million through cash and land contributions and $13.96 million in special assessment funds, as agreed to by private and residential sector property owners in the project corridor. The Broward MPO has also committed to provide additional capital funding in the amount of $8.14 million as another source of the local share. ***Total capital costs to complete the Phase I (A) starter line is estimated at $83.2 million (YOE$)***. **Table 3** shows how the capital funds are expected to be distributed for the starter line. The overall

Table 2 | **Capital Funding Sources (Million $) Project Funds**

SOURCES	CAPITAL COSTS (YOE)	FUNDING STATUS
Phase I (A) (starter line)		
TIGER IV Funds (Overall Project)	18.00	This Application
Florida Department of Transportation	32.60	Committed
City of Fort Lauderdale	10.50	Committed
Special Assessment District	13.96	Committed
Broward MPO	8.14	Committed
Sub-Total Starter-line	83.20	
SOURCES	**CAPITAL COSTS (YOE)**	**FUNDING STATUS**
Phase I (B) South/North		
Small Starts Funds	29.70	Future Application
Florida Department of Transportation	3.00	Committed
Additional State & Local	26.70	Pending
Sub-Total Phase I (B)	59.40	
TOTAL PROJECT FUNDS	142.60	
WAVE Streetcar Project Cost	142.60	

Table 3 | **Capital Cost Distribution (Million $)**

	COST CATEGORY	(YOE)
10.00	Guideway and Trackwork	21.30
20.00	Stations, Stops, Terminals	1.40
30.00	Support Facilities	7.15
40.00	Sitework and Special Conditions	5.22
50.00	Systems	2.65
60.00	ROW, Land, Improvements	7.54
70.00	Vehicles	22.08
80.00	Professional Services	9.67
90.00	Unallocated Contingency	6.16
	TOTAL PROJECT COST	83.20

Phasing Strategy

Recognizing that TIGER funding is limited and highly competitive, SFRTA and partners have identified a phasing strategy that can implement a very effective starter line with a reduced TIGER IV request of 18 million. Phase I (A) (starter line) is a 1.42 mile segment serving the core activity centers in the corridor which would cost $83.2 million (YOE $) and serve approximately 2,200 - 2,800 riders per day.

capital costs include guideway and track, five (5) streetcar stations, one vehicle maintenance and storage facility (M&SF), sitework, traffic control and traction power systems, four (4) hybrid streetcar vehicles, and professional services. Allocated contingencies are included in the costs to address uncertainties in the estimated construction, utilities, and vehicle costs that typically occur as the engineering and design of the project progress. Unallocated contingencies are broader in nature and address potential changes in project scope and schedule. Estimated finance charges are also included. The capital cost estimate was prepared in accordance with FTA guidelines and is reported in the FTA New Starts/Small Starts Standardized Cost Categories.

SFRTA and BCT are fully committed to constructing and operating the 1.42-mile WAVE Streetcar Starter Line Project as described in this application. SFRTA and partners have met with FTA in order to address all FTA Small Starts requirements. Partners are working to submit a separate request to FTA to initiate Small Starts Project Development, requesting a total of $30 million in Section 5309 Small Starts funds for the Phase I (B) 1.28 mile segment of the project. SFRTA and partners recognize the challenges in advancing and funding a streetcar/urban circulator project under the current Small Starts program. Our TIGER IV request is an effort to eliminate or reduce the amount of the Small Starts funding needed to implement the project. The TIGER investment will leverage significant support from State, County, local and private sector funds for capital. Broward County Transit has committed to the annual operating/maintenance funding. At this time the project will not be requesting Transportation Infrastructure Finance and Innovation Act (TIFIA) funds.

Table 4 shows how Phase I (A) (starter line) funds ($83.2 million) will be distributed by fiscal year.

Table 4 | **Phase I-Grant Funds and Sources/Uses of Project Funds**

Federal Fiscal Year (FY)	Calendar Quarters	Funding Sources Year of Expenditure (YOE) Local Funds	TIGER IV Funds	State Funds	TOTAL
FY 12/13	Q1	2.00			2.00
	Q2	2.00			2.00
	Q3			2.00	2.00
	Q4		2.00		2.00
FY 13/14	Q1	3.58	2.50	3.58	9.66
	Q2	3.58	2.50	3.58	9.66
	Q3	3.58	2.50	3.58	9.65
	Q4	3.58	2.50	3.58	9.65
FY 14/15	Q1	4.08	0.00	4.08	8.15
	Q2	4.08	4.00	4.08	12.15
	Q3	4.08	2.00	4.08	10.15
	Q4	2.04		2.04	4.08
FY 15/16	Q1			2.04	2.04
	Q2				
	Q3	32.57	18.00	32.62	83.20

TIGER IV PRIMARY SELECTION CRITERIA

This section focuses on how the WAVE Streetcar Starter Line will meet and exceed the eligibility requirements considered for the primary selection criteria which include:

Long-Term Outcomes

It is important to note that the long-term outcomes of, and objectives that will be achieved through the WAVE Streetcar Starter Line will occur within the context of regional, state and national progress towards investment and improvement in our transportation system. In 2010, Broward County, together with Miami-Dade and Palm Beach Counties developed a regional 2035 Long Range Transportation Plan (Broward 2035 LRTP) to address transportation needs as the region's urbanized areas continue to expand across county lines. Together the three counties make up the nation's seventh largest metropolitan region with a population of approximately 5.5 million (2006). It is projected that in the next 23 years, the region is expected to gain an additional population of 1.8 million bringing the total population to 7.3 million people by 2035. This growth calls for increased transportation activities within and between urbanized areas and improvements to the public transit systems are a viable long term solution to these transportation issues.

The WAVE Streetcar Starter Line has support from throughout Broward County. Local leaders see it as the first link in the regional system for improved east/west and north/south connections. The Central Broward East/West Transit Study envisions future connections to the WAVE from western Broward County. North /south connections along the FEC/US 1/Dixie Highway corridors will feed riders seeking local circulation in Downtown Fort Lauderdale.

State of Good Repair

The WAVE Streetcar Starter Line will enhance the performance of Fort Lauderdale's existing transportation system. State of good repair benefits accrued by the full project over the next 20 years are estimated as follows:

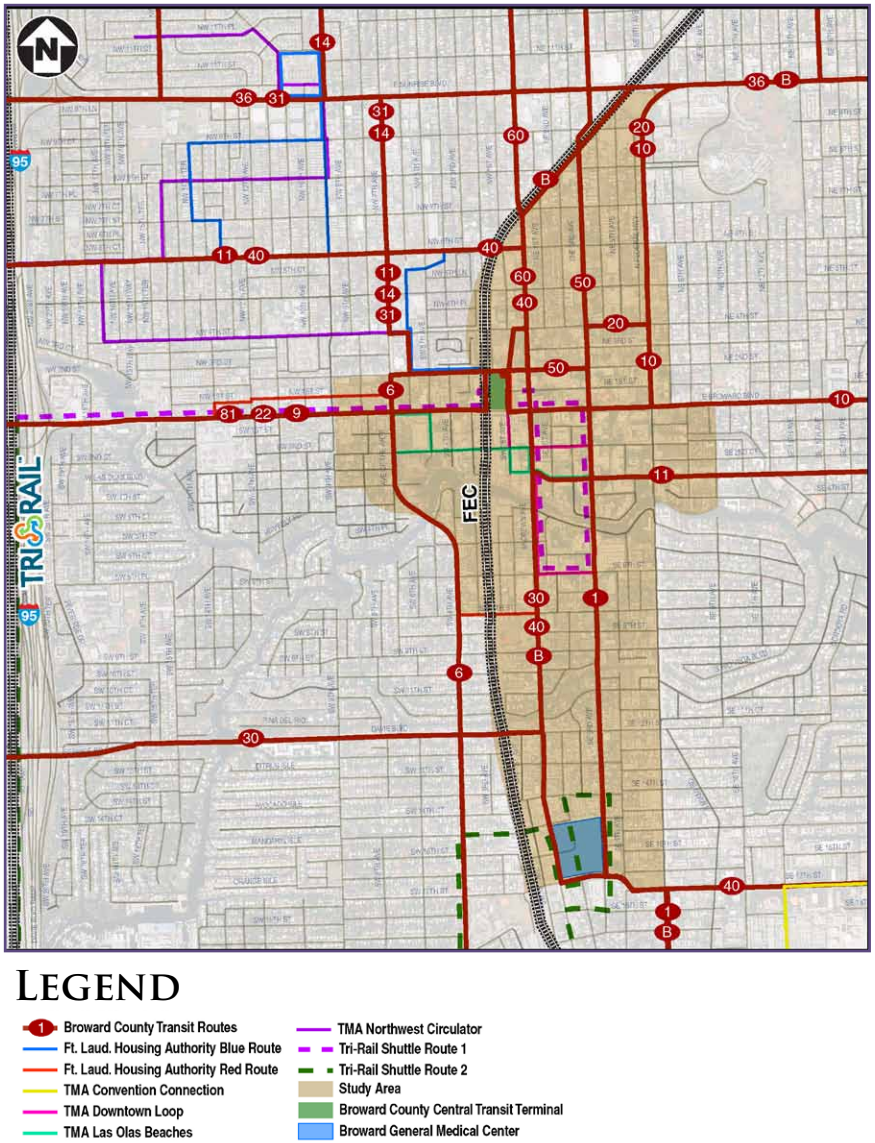
- $4.5 million residual value of the project after 20 years of use (discounted at 7%)
- Approximately $5 thousand dollars in net pavement maintenance over the life of the project as there will be fewer vehicle trips due to changes in road usage

The WAVE Streetcar Starter Line will improve the efficiency of the overall transit system (**Figure 7**). The system will integrate seamlessly with sixteen (16) existing BCT bus routes and the larger regional transit systems thus improving interconnectivity within the various trip generators and attractors within the region. Direct access is provided between the WAVE Streetcar Starter Line and the BCT Central-Terminal, which is located on the northwest corner of Broward Boulevard and NW 1st Avenue/Brickell Avenue. This connection will provide access to regional transit service for downtown residents, workers, and visitors. In addition, the Broward County Commission, who will own and operate the system, adopted a resolution committing to fund operating and maintenance costs for a minimum of 20 years.

The WAVE Streetcar Starter Line is consistent with the local transportation and land use plans for the City of Fort Lauderdale as well as the regional growth plans. More information can be found at the following links:

- City of Fort Lauderdale 2008 Comprehensive Plan
- Broward County Land Use Plan (As Amended in 2010)
- Urban Design Master Plan for Downtown Fort Lauderdale (2008)
- Broward MPO 2035 Long Range Transportation Plan (LRTP)

Figure 7 | Existing Bus and Rail Network



Economic Competitiveness

The WAVE Streetcar Starter Line fosters greater economic competitiveness by increasing access to job centers in the core of the Fort Lauderdale area, generating travel time savings – and thus improving productivity - for commuters and business users, and increasing land values at time when land and property values are still stagnating nationally as well as locally.

Many of the expected WAVE Streetcar users are dependent on transit to get to work with few other options. Other potential riders would have otherwise driven, incurring vehicle costs as well as the challenges of Fort Lauderdale's increasing congestion. Moving from other mode of transportation to the Streetcar is expected to generate $9.8 million in user cost savings over the course of 20 years.

The Streetcar will provide the sustainable and permanent transportation investment that will anchor the future growth, providing a major transportation component for the adopted comprehensive plans of the City of Fort Lauderdale and Broward County and spurring economic development by enhancing mobility options as the population grows. The Wave Streetcar Starter Line will provide a transit service that supports the mixed-use development with a pedestrian orientation envisioned for the downtown.

Over the past 15 years, development in Fort Lauderdale has rapidly transformed the downtown area with the construction and occupancy of high-rise condominiums and offices.

In the last ten years, the downtown has added approximately 4,300 new housing units at transit-supportive densities (up to 150 units per acre), many with ground-floor retail and commercial uses, which has flourished despite the economic downturn experienced over the past several years. Approximately 2,500 residential units are currently in the development pipeline along with over 5.6 million square feet of new residential and commercial space.

Nearly 75 percent of the project area consists of land designated for development, or redevelopment, in a transit-oriented high-density mixed-use form.

The capacity of the developable sites in the project study area under existing zoning is sufficient to accommodate an additional 18,000 residential units and 10 million square feet of non-residential development. Virtually all of this developable land is served by city streets on a dense rectangular street grid, with utilities available, and which is conducive to pedestrian movement. Some of this development would still occur without the WAVE Streetcar Starter Line but at a much reduced pace, density and increased cost due to parking requirements.

The WAVE Streetcar Starter Line is expected to attract new investments while raising the values of existing properties in the

project area. With the Streetcar project in place, the pace of development activities will quicken, projected densities will be realized and the values of new and existing properties will be increased. Some of this investment has already been linked to the assumed future presence of the WAVE Streetcar, as the alignment for the proposed streetcar is being referenced by developers in construction loan applications to indicate that this area will be the focus of the economic recovery. **Click here to view pictures of recently built projects in Downtown Fort Lauderdale**.

Downtown development, business, and government leaders have demonstrated confidence in the permanence and reliability of a rail circulator as a key ingredient in the continued intense mixed-use development of the downtown core and surrounding area, by spending over $4.5 million to date on the project and committing to over $20 million in the assessment district to pay for the complete project.

In addition to the new development and redevelopment anticipated to occur along the WAVE Streetcar Starter Line alignment, various studies on the effects of rail transit on land values have concluded that values increase from 15 to 35 percent, with the higher values for property nearest the stations when all other conditions remain unchanged. Therefore, both the City of Fort Lauderdale and Broward County can expect to receive added tax revenues. In addition, Broward County will also benefit from transit concurrency fees levied on the new development and redevelopment expected to be spurred by the WAVE Streetcar Starter Line, and these fees may be used to support transit service and operations in the study area.

For the starter line, the $24.46 million funding commitment by the City of Fort Lauderdale includes $10.5 million from land/cash and a $13.96 million from special assessment tax district on property owners within the project area. Through this special assessment district, approximately 17% of the WAVE Streetcar Starter Line's capital cost is anticipated to be funded by property owners who are committed to the project. Private and government support for the project is high, as FDOT will match every dollar from the local partners, contributing $32.6 million in capital funds from its New Starts Transportation Program. In addition, the Broward County Commission, who will own and operate the system, adopted a resolution committing to fund operating and maintenance costs for a minimum of 20 years.

Livability

The Wave Streetcar Starter Line will contribute to enhancing livability and quality of life in the study area through community development and improve mobility for lower-income individuals of the downtown area. The value of this 'community development' impact can be measured in the net increase in affected property values above the portion of that increase which can be attributed to the value of better/faster travel in. These community development benefits are estimated to total more than $123.4 million over twenty years.

Residents, businesses, students, and visitors will benefit from improved and increased accessibility to popular destinations and increased mobility to jobs, educational and business centers.

Within the livability criteria for TIGER IV grants, USDOT considers investment in projects that fulfill the six livability principles that serve as the foundation for the DOT/ HUD/EPA Partnership for Sustainable communities. The entire area served by the WAVE Streetcar Starter Line exemplifies all the elements of this partnership. More specifically, the project supports these principles in the following ways:

- ***Provide more transportation choices***: The Starter Line will provide increased pedestrian and bicycle access to a rail alternative within a currently congested area. Additionally, existing and planned transit-oriented residential and retail units along the corridor, increase the opportunity and likelihood that people will use a circulator transit system rather than drive to and between destinations. Broward County recently implemented its Broward B-Cycle program, a bike sharing concept designed for short trips in and around the County. Bike sharing offers a means of reducing traffic congestion with an inexpensive mobility option to complement the use of public transportation as an alternative to single occupant vehicle use. Combined with the Streetcar system, this will provide transportation options for commuters to get around town.
- ***Promote equitable, affordable housing***: Since 2000, nearly 4,300 housing units have been built in 26 medium and high density projects. Ten (10) of these projects have ground floor streetfront retail/commercial uses. Another 2,500 housing units have been approved by the City of Fort Lauderdale and are either underway or awaiting improved economic conditions. There are two recent, major affordable housing projects in the study area, Eclipse and Progresso Pointe. Eclipse is a 12-story 101 residential unit development while Progresso Pointe has 76 residential units both are 100% occupied. The WAVE Streetcar Starter Line will support these housing units allowing the residents to access jobs and reach wider destinations, and decrease their household transportation costs. More importantly, however, is the ability of the project to spur more of these types of developments in Downtown Fort Lauderdale.
- ***Enhance economic competitiveness***: While there are already existing and planned residential, commercial and mixed-use developments, the WAVE Streetcar Starter Line is the key element that will accelerate and amplify the dynamics of the Downtown area and surrounding neighborhoods. Various development applications submitted to the City frequently cite the WAVE Streetcar Starter Line in their applications. This project will contribute to enhancing the economic competitiveness of the region through improvements in the mobility of people and goods within the area. Downtown Fort Lauderdale receives about 7 million visitors annually. These visitors will benefit from the travel time savings and out-of-pocket transportation cost savings resulting from the use of the streetcar.
- ***Support existing communities***: Both within and immediately adjacent to the SIZ are neighborhoods with high percentages of disadvantaged populations, whether measured in terms of job opportunities, income or accessibility to regional transportation. The WAVE Streetcar Starter Line would improve the accessibility of these populations to job

opportunities both by the job creating effects of streetcar induced neighborhood economic development, as well as improved access to the wider regional transportation network.

- ***Coordinate policies and leverage investment***: The purpose of the WAVE Streetcar Starter Line is to realize the growth and development patterns prescribed in local land use plans, to improve mobility, to connect major activity centers and neighborhoods, and to improve transit service. Almost all of the land area included in the project area is covered by a well-established and adopted series of plans and policies that are specifically and deliberately supportive of transit-oriented development and promote transit through high density uses. For example, the County's 719,000 square-foot, $300 million new Judicial Center was approved and is due to be opened in 2013 while the Museum of Discovery & Science recently completed construction of their expansion which is expected to increase their annual visitor attendance from 400,000 to 600,000. Private developers, colleges and universities are coordinating their efforts for new or expanded developments with the City and DDA based on established land use plans and policies. The construction of the WAVE Streetcar will fulfill the yet-to-be completed transportation component of the coordinated land use and transportation plan.

- ***Value communities and neighborhoods***: The SIZ encompasses the historic Downtown and adjacent neighborhoods. One of the major attractions with strong ridership base and potential to use the Streetcar system is Himmarshee Village. This Historic District is the oldest section of the commercial downtown. It includes early 20th century businesses located along the north and south sides of Himmarshee Street. The district is bounded on the east by the (FEC) railroad tracks, on the south by the New River, and on the west by Nugent Avenue. There are about 17 historic properties here, including the Fort Lauderdale Historical Society in the Hoch Heritage Center, the Philemon Bryan House, the King-Cromartie House, and the restored New River Inn, which operates as an historical museum. The Community values this Historic District as well as the surrounding neighborhoods. In addition, the historic Bryan Homes operates as the River House Restaurant. A replica of the first Fort Lauderdale schoolhouse has been reconstructed within the district. The WAVE Streetcar Starter Line will enhance and improve the livability of these neighborhoods.

Environmental Sustainability

The WAVE Streetcar starter line will provide a sustainable and permanent transportation investment that is strongly supported by local land use plans and eagerly awaited by the Fort Lauderdale community. The expected changes to travel behavior and patterns will result in reduced greenhouse gas (GHG) emissions across the region and thus a reduction in dependence on foreign oil. This service will promote and support a change of travel patterns in the local and regional area which will in turn reduce vehicle miles traveled (VMT) because it will provide an enhanced alternative to travelers to use public transit, bike or walk.

Table 5 indicates the estimated daily reduction in VMT and auto trips for years 2016, 2026 and 2035. The Table shows that at least 1,150 daily auto trips are eliminated in the study area as a result of riders using the streetcar. The daily VMT thus reduced (in 2016) because of the 2-mile (one way) streetcar is 1,181. Reducing VMTs will result in a total reduction of 98.04 tons of pollutants during the first year of operations, and a total reduction of 2,141 tons of pollutants during the project's life cycle.

Table 5 | **Daily Net VMT and Auto Trip Reduction**

	2016	2026	2035
Daily VMT Without Streetcar	4,096	4,371	4,635
Daily VMT Reduced Because of Streetcar	1,181	1,463	1,774
Daily Auto Trips Reduced	923	1,143	1,386

The City of Fort Lauderdale already embraces environmentally sustainability practices. For example, the total number of LEED-certified buildings (commercial and residential) in the City is over 7 million square foot (USGBC, March 2011). The City is continuing this tradition of sustainability by looking at other alternatives to the catenary system that typically is required to power a streetcar; for example a self-powered modern streetcar. The addition of this system along with the City's emphasis on continued sustainability through the built environment will make Downtown Fort Lauderdale more sustainable.

Safety

The project will also enhance safety and accessibility for transit users, bicycles, pedestrians and other vehicles, because crossing control devices would be utilized. These control devices may consist of pedestrian signals, signage, clear zones, and other methods to protect users and motorists. The installation of new traffic control devices, including bicycle and pedestrians signs, will be accompanied by a public education program to increase public awareness of potential safety issues.

Job Creation and Near-Term Economic Activity

- Using the IMPLAN methodology, the project is estimated to generate 1,141 job-years during the engineering and construction phase. It is expected to create $95.0 million in value added, including $61.4 million in labor income. These estimates include the national impact of the streetcar procurement, engineering and construction.
- Using the Council of Economic Advisers (CEA) methodology, the project is expected to generate a more conservative estimate of 732 job-years.
- In the long term, the WAVE Streetcar is expected to result in 23 jobs annually for the system alone.

In addition to short-term construction and related jobs directly attributed to the project, the system will result in new transit-oriented development projects which will foster longer term job creation through economic development. The economic activity will be centered in an area in which a higher portion of households live below the poverty line then the portion of all households in Fort Lauderdale as a whole.

With supportive land use plans and regulations already in place, the WAVE Streetcar Project will result in new commercial/industrial development, and employment opportunities.

Significant development opportunities and existing assets are present along the WAVE corridor. The Performing Arts Center/Science District is undergoing a $41 million state of the art renovation and expansion. The recently approved **Related Project** and **NuRiver Phase 3** are mixed use developments consisting of approximately 450 residential units, restaurants and active uses long the Riverwalk. The newly opened **Waverly** and **Camden** high-rises with 500 rental units are 98% leased. The **Progresso Point** Affordable 72-unit housing was recently opened in February 2012 and is already 100% leased. The 101-units **Eclipse Affordable** Housing project (Phase 1) was completed in 2009 while the City recently approved the **Bamboo Lofts**, a 100-unit live/work development.

TIGER IV SECONDARY SELECTION CRITERIA

This section focuses on how the modern streetcar project both meets and exceeds the eligibility requirements considered for the secondary selection criteria.

Innovation

Innovative Technology

The WAVE Streetcar will utilize hybrid off-wire vehicle technologies and propulsion systems. The capital cost estimate includes acquisition of four hybrid streetcar vehicles. Preliminary plans for the Phase I (A) (starter line) serving core activity centers is for completely off-wire operation.

The region's largest bus and rail transit systems, SFRTA and BCT, already embrace innovative transit technology. SFRTA, the project sponsor uses biodiesels for its locomotives and has recently completed a parking garage that utilizes LED lights and Machine Room Less (MRL) elevators which consume 50 to 60% less energy than hydraulic elevators. There is currently a rail station design underway that will be the first (and only) green LEED-certified station in the State of Florida and will be dependent on solar power for all of its energy utilization. Further, BCT, the project operator, already operates 50 Hybrid Electric buses throughout its service area.

The system will have 5 solar powered stations which will feature real-time travel information as well as informational kiosks displaying destinations/attractions within the downtown and upcoming community events. Photovoltaic solar power at the stations and the Maintenance & Storage Facility will supply a portion of electric and lighting power needs. Operational cost savings are expected to be substantial resulting from the innovation will go towards operating expenses for the Streetcar system. In addition, smart card technology will be applied for payment of fares.

Innovative Financing

The greatest innovation of this project is the coordinated commitment and partnership of each key State, regional, County, local and private sector stakeholders in funding and financing of the capital and operating needs for the project. Each of these stakeholders have "put their money where their mouth is" and backed policy commitments with financial commitments.

The City of Fort Lauderdale City Commission has approved establishment of a special assessment district which is based on current development levels and not dependent on growth, mitigating risks associated with this source.

All sectors of the community have shown strong support for the assessment. The WAVE Streetcar Starter Line Project anticipates $13,960,000 million in funds from the Special Assessment District as agreed to by residential and private sector property owners in the

project corridor. Further, the City of Fort Lauderdale endorsed the WAVE Streetcar Project under **Resolution No. 08-71** in April 2008. With the resolution, the City committed to a funding level of approximately $10.50 million in either cash and/or land donation.

In addition to this, to build and operate the WAVE Streetcar, Federal, State, regional, local and private sector funding sources have been identified and programmed. The State and Local contributions toward the project total 78% percent of the Phase I (A) starter line capital cost (see **Figure 8**).

The State (FDOT) has committed $32.60 million from its New Starts Transportation Program (NSTP). The State of Florida Department of Transportation (FDOT) operates a NSTP providing transit agencies with up to a one-to-one match of the non-federal share of project costs for transit fixed-guideway projects and facilities that qualify under the State New Starts Program. A project does not necessarily need to have received approval from the Federal New or Small Starts programs to be eligible, and this State program also allows a one-to-one match of local funds towards project costs for projects funded with only state and local funds.

The operating cost of the WAVE Streetcar is equally reliant on cooperate cooperative, innovative thinking of the regional players for example relating to solar power savings, as shown in **Table 6**.

Partnership

Each of the significant State, regional, County, local and private sector stakeholders have established a working partnership, with designated roles and responsibilities for each organization, to advance and deliver the project. This partnership is backed by financial commitments with specific funding sources identified and programmed for 50 percent of the capital costs and 100 percent of the net operating and maintenance costs.

Figure 8 | **Federal, State, Regional & Local Capital Contributions**

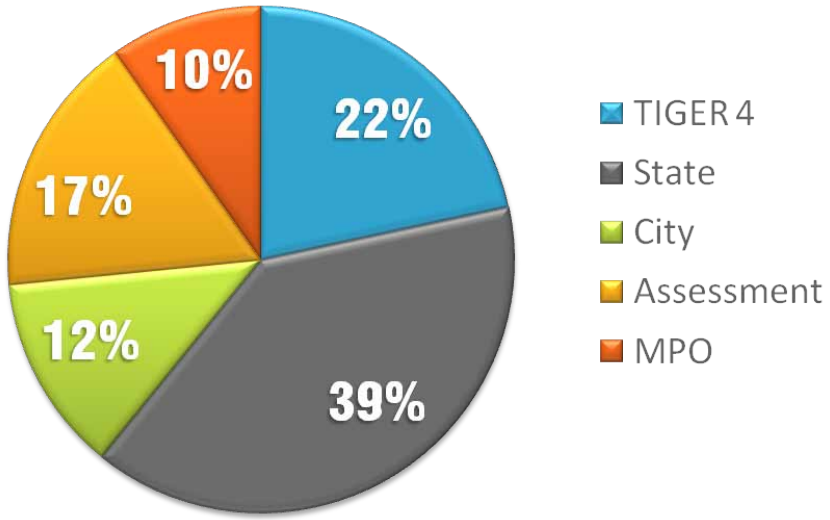


Table 6 | **Operating and Maintenance Cost Contributions**

SOURCE	ANNUAL OPERATING FUNDS IN 2011 DOLLARS (PHASE 1A)
Broward O&M Contribution	$1,490,809
Farebox Revenues	$564,191
Advertising and Sponsorships	$50,000
Solar Power Savings Options	$5,000
TOTAL	$2,110,000

Beyond the implementation partnership consisting of SFRTA, Broward County, Broward County Transit, the Broward MPO, the City of Fort Lauderdale, the Florida Department of Transportation and the Downtown Development Authority of Fort Lauderdale, the following are major stakeholders and groups that support the project:

1. ***North Broward Hospital District*** – Broward Health Hospital System
2. ***Downtown College/Universities*** – Broward College, Florida Atlantic University, Nova Southeastern University and the CES Language School
3. ***Broward County Judicial System***
4. ***Broward County School Board***
5. ***Major Cultural Facilities*** – Broward Center for the Performing Arts, the Museum of Art/Fort Lauderdale and the Museum of Discovery & Science
6. ***Residential HOA Groups*** – Downtown Civic Association, Flagler Village Civic Association, Progresso Village Civic Association, Riverside Park Residents' Association, Inc., Esplanade Condo Association, Sole Condo Association, Poinciana Park Civic Association, and the Council of Fort Lauderdale Civic Associations
7. ***Business Groups*** – the Greater Fort Lauderdale Alliance, the Fort Lauderdale Chamber of Commerce, the Riverwalk Trust, the Downtown Council's Board of Governors, the Broward Workshop/Urban Core Committee, the Himmarshee Village Association, the Downtown Fort Lauderdale Transportation Management Association, Realtor's Commercial Alliance of Greater Fort Lauderdale, the Economic Development Advisory Board of Fort Lauderdale, South Andrews Business Association, South Florida Commuter Services, the Fort Lauderdale Rotary Club, the Las Olas Merchants Association and F.A.T Village
8. ***Individual banks, businesses, property owners, developers, residents*** and MUCH MORE!

These groups have expressed their support through written letters, by showing up and speaking at City and County Commission meetings and by including messages within their own marketing campaigns about the importance of the Wave Streetcar. These groups have also pledged their willingness to tax themselves through the upcoming special assessment.

Click here to view the over 35 support letters.

The process resulting in the WAVE Streetcar Project has been a very cooperative one involving people at various levels: residents, business owners, developers, elected officials, transit agencies and other municipalities, among others. In developing a model for managing the project through design and construction, the SFRTA as the project sponsor and manager has established a Technical Advisory Group (TAG) that will involve planning and engineering staff of all the agencies described in Section 1 (Project Parties). The extensive early and ongoing collaboration between these entities is one of the factors leading to a high level of project readiness and technical capability.

Results of Benefit-Cost Analysis

Effects on Long-Term Outcomes

The streetcar project is expected to transform and enhance livability and sustainability of the Downtown Fort Lauderdale community. Many users are expected to connect to other modes of transportation, including Amtrak/Tri-Rail, Greyhound bus, Fort Lauderdale/Hollywood International Airport and other local airports, and Port Everglades. Other riders are provided with improved access to local cultural and commercial amenities. Additionally, low income residents and those with limited mobility traveling within the region are provided with a reliable alternative and lower cost mode of transportation.

More precisely, users of the streetcar will experience multiple benefits from this project, including travel time savings, vehicle operating savings and accident reductions. Local and regional residents will also experience benefits such as community development, pavement maintenance cost savings, and congestion and pollution reduction.

Summary of Findings and Benefit-Cost Analysis (BCA) Outcomes

Table 7 summarizes the BCA findings. Annual costs and benefits are computed over a long-run planning horizon and summarized over the lifecycle of the project. The project is assumed to have a useful life of at least 40 years; the time horizon evaluated in the analysis is 20 years. Construction is expected to be completed by 2016, with services to begin immediately and to continue through the horizon of the project.

Benefits will accrue during the full operation of the project. (Complete documentation and findings are provided in Appendix A: Cost-Benefit Analysis.)

Included in the total benefits from State of Good Repair, Economic Competitiveness, Livability, Environmental Sustainability, and Safety are Fare Revenues. Fare revenues, or Agency Benefits, are included because agencies use this income to offset operational costs. While fare revenue is considered a transfer of funds between the riders and the agency, not including it in the benefits could lead to double-counting of operational costs.

Benefit-Cost Analysis www.ddaftl.org/view/pdf/WaveCBA-overall.pdf

Given all monetized benefits, the estimated rate of return is twelve (12) percent. At a seven (7) percent discount rate, a $87.6 million investment (including O&M) is expected to result in $144.2 million in benefits and a benefit to cost ratio of approximately 1.6. At a three (3) percent discount rate, the $102.0 million investment results in over $265.9 million in benefits and with a benefit to cost ratio of approximately 2.6.

Table 7 | **Overall Results of the Benefit Cost Analysis - Phase I**

VARIABLE	7% DISCOUNT RATE	3% DISCOUNT RATE
Total Discounted Benefits (millions $)	$144.2	$265.9
Total Discounted Costs (millions $)	$87.6	$102.0
Net Present Value (millions $)	$56.6	$163.9
Benefit / Cost Ratio	1.6	2.6
Internal Rate of Return (%)	12%	
Payback Period* (years)	14	

*Notes: * Estimated on the basis of non-discounted benefits and costs*

Table 8 shows the benefits estimates of the full alignment by category and how they map to USDOT's Long-Term Outcome criteria. Community development, at $123.4 million when discounted at 7 percent, is the largest benefit category for the WAVE Streetcar. User cost savings and emission reductions will yield benefits of $9.8 and $0.1 million (discounted each at 7 percent) respectively.

As discussed, community development is expected to generate majority of the benefits. However the community development estimates may capture other impacts of the streetcar that are also

Table 8 | **Benefit Estimates by Long-Term Outcome, 2011 Dollars**

LONG-TERM OUTCOMES	BENEFIT CATEGORIES	7% DISCOUNT RATE	3% DISCOUNT RATE
State of Good Repair	▪ Pavement Maintenance Savings	$0.00	$0.01
	▪ Residual Value	$4.5	$11.3
Economic Competitiveness	▪ User Cost Savings*	$9.8	$15.8
Livability	▪ Community Development	$123.4	$228.3
	▪ Low Income Mobility	$1.2	$1.9
Environmental Sustainability	▪ Reductions in Air Emissions	$0.1	$0.1
Safety	▪ Accident Reduction	($1.0)	($1.5)
Agency Benefits	▪ Fare Revenues	$7.4	$12.0
TOTAL BENEFITS		$144.2	$265.9

*Notes: * Estimated on the basis of non-discounted benefits and costs*

capitalized in property values. These other impacts are indeed estimated in this analysis and they include travel-time savings as well as vehicle-operating cost savings. To avoid double-counting and provide conservative estimates in the BCA, only 50 percent of the total estimated increase in property value increase is included. Details of the estimation can be found in **Table 9**.

Table 9 | **Benefits of Community Development**

PROPERTY TYPE	AVERAGE PROPERTY VALUE IN YEAR 2016 (Discounted 2011$)	NUMBER OF PROPERTIES AFFECTED IN YEAR 2016	20-YEAR LIFECYCLE BENEFITS ($ Millions, Discounted 2011$)	20-YEAR LIFECYCLE BENEFITS NET OF CAPITALIZED TRAVEL COST SAVINGS ($ Millions, Discounted 2011$)
Residential	$368,441	15,936	$104.00	$51.98
Commercial	$1,816,489	1,811	$142.80	$71.38
TOTAL	$516,195	17,747	$246.70	$123.35

*Notes: * Estimated on the basis of non-discounted benefits and costs*

PROJECT READINESS AND NEPA

NEPA Approval is expected mid 2012. SFRTA and partners are working on FTA Small Starts planning and finalizing NEPA environmental requirements. As a result, the project will clearly meet all TIGER IV project readiness deadlines. The project timeline for Phase I (A) is:

- **Mid 2012**: Project Development
- **December 2013**: Project Construction
- **December 2015**: Ride The WAVE!

The schedule is realistic, feasible and achievable. SFRTA and partners prepared the project schedule taking the following factors into consideration: funding availability, technical capacity, FTA involvement, project review times, and procurement timelines. Ongoing coordination with the FTA will continue to occur and a project delivery method that will facilitate the implementation of the project has been determined. SFRTA has demonstrated experience and success in constructing and implementing major transit infrastructure under the FTA New Starts process, and has committed the same leadership and team to successfully deliver the WAVE Streetcar on time and within budget.

Click here to view the project schedule.

Early in the planning phases, the project followed Florida ETDM to ensure early coordination with all affected environmental agencies to ensure avoidance and minimization of impacts.

NEPA documentation for the project began in 2010. An Alternatives Analysis/Environmental Assessment (AA/EA) document for the project was completed and submitted to the FTA for comment in August 2011. The AA/EA document can be found at: www.ddaftl.org/view/pdf/aaea-volume1-081911.pdf; www.ddaftl.org/view/pdf/aaea-volume2-081911.pdf.

Comments from the FTA Regional Office have been received and are being addressed at this time. FTA staff and SFRTA are anticipating that a Finding of No Significant Impact (FONSI) for the entire project will be executed in Mid-2012. The EA concludes that the Streetcar alignment does not have any adverse impacts on environmental factors due to its design as a system within the existing right-of-way in a fully developed urban environment. The project has no negative impacts on factors including environmental justice, historic and archaeological resources, parklands and other Section 4(f) properties, and the ecosystem.

Legislative Approvals

The WAVE Streetcar Project has received significant support from both state and local officials, residents and businesses. The link below includes letters of support from the U.S. Congress, Mayors, City Council, State Secretary of Transportation, DDA, BCT, the Broward MPO and the local community: www.ddaftl.org/view/pdf/T4Supportletters.pdf.

The following actions have been taken by elected bodies in support of the WAVE Streetcar Project:

- ***Resolution #08-71*** – City of Fort Lauderdale action endorsing the WAVE Streetcar Project, identifying funding level and endorsing the formation of the Special Assessment process for additional funding. *April 1, 2008*.
- ***Resolution #2008-579*** – Broward County resolution supporting the WAVE Streetcar Project. *September 9, 2008*.
- ***Resolution #11-02*** – SFRTA Board expressing support for the WAVE Streetcar Project and participation as project sponsor. *February 25, 2011*.
- ***FDOT Secretary Letter of Commitment*** – The FDOT committed $35.75 million to the capital cost of the system. *August 2, 2011.*
- ***Resolution #04-02-11*** – DDA Board supporting the WAVE Streetcar Project. *April 13, 2011*.

To learn more about the Detailed Distribution of Expenditures and Funds, click here.

State & Local Planning

The WAVE Streetcar Project partners are working together to ensure that all necessary state and local planning requirements and approvals are completed by April 2012. Broward MPO actions relating to this Project are documented in the documents linked below.

MPO LRTP & Transportation Improvements Program (TIP):

- http://www.browardmpo.org/userfiles/files/TIP%20FINAL%20FY11_12_15_16.pdf
- http://www.browardmpo.org/mpo/2035lrtp/broward2035lrtp_finalplan_ch4_vision.pdf

Technical Feasibility

SFRTA was the recipient of a Full Funding Grant Agreement (FFGA) in May of 2000 from the FTA, for Tri-Rail Double Tracking Corridor Improvement Project Program. The project was successfully completed in 2007. SFRTA is an experienced and knowledgeable agency with extensive experience in the planning, design, construction and operation of a rail transit system. Additionally, SFRTA has been a FDOT and FTA partner in a demonstration project for Diesel Multiple Unit (DMU) passenger rail locomotives, and through the coordinated efforts of the Planning, Engineering, Operations, Legal, Procurement and Finance Departments, SFRTA received $16 million of American Recovery and Reinvestment Act (ARRA) funds to successfully complete the procurement of rebuilt locomotives. The agency is accustomed to working with FTA's project management oversight contractors, and will apply this experience and expertise to the WAVE Streetcar Project. A Project Management Plan has been completed for the WAVE consistent with FTA New Starts/Small Starts guidelines, and will serve as the ongoing management tool for the project: www.ddaftl.org/view/pdf/WavePMP.pdf.

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Financial Feasibility

The City, Broward MPO and the State of Florida have obligated over 78% percent of the funds to implement this project. Broward County has committed at least 20 years of the funding necessary operate and maintain the project while projecting a positive cash flow over the next 20 years.

To learn more about the Detailed Distribution of Expenditures and Funds, visit: www.ddaftl.org/view/pdf/T4Table9.pdf

MATERIAL CHANGES TO PRE-APPLICATION

There were no material changes to the Pre-Application.

FEDERAL WAGE RATE CERTIFICATION

SFRTA will comply with the requirements of Subchapter IV of Chapter 31 of Title 40, United States Code as evidenced by the signed certification below.

CERTIFICATION OF APPLICANT
FEDERAL WAGE RATE REQUIREMENTS

I HEREBY CERTIFY that the South Florida Regional Transportation Authority (SFRTA) shall comply with the Federal Wage Requirements of

SUBCHAPTER IV-- WAGE RATE REQUIREMENTS OF CHAPTER 31-- GENERAL of TITLE 40 –PUBLIC BUILDINGS, PROPERTY, AND WORKS of the United States Code.

Signature of Applicant

Joseph Giulietti
Name of Applicant (Type or Print)

Executive Director
Applicant's Title

March 19, 2012
Date

THE Wave

BROWARD COUNTY FLORIDA

BROWARD COUNTY Transit

RTA SOUTH FLORIDA REGIONAL TRANSPORTATION AUTHORITY

DEPARTMENT OF TRANSPORTATION UNITED STATES OF AMERICA

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

broward MPO metropolitan planning organization

CITY OF FORT LAUDERDALE

D·D·A DOWNTOWN DEVELOPMENT AUTHORITY FORT LAUDERDALE