



University Drive Mobility Improvements Planning Study

PAC Meeting #5 – October 9, 2013

Meeting Summary

The Broward Metropolitan Planning Organization (MPO) is conducting the University Drive Mobility Improvement Study to identify opportunities to improve and increase transit and mobility options, in association with land redevelopment and livability goals that support the use of those mobility opportunities, throughout the 21-mile University Drive corridor in Broward County. A Project Advisory Committee (PAC) was formed to provide input and share different perspectives on the corridor. The PAC's fifth meeting was held on October 9, 2013. This report identifies the PAC members in attendance and summarizes the proceedings of the meeting. All action items/decisions are underlined.

Meeting Time and Location:

PAC Meeting #5

October 9, 2013; 1:30 pm - 3:30 pm

City of Coral Springs, West Wing Conference Room

9551 West Sample Road, Coral Springs, FL

Meeting Attendees:

1. Roxana Ene, Broward MPO; ener@browardmpo.org
2. Chris Ryan, Broward MPO; ryanc@browardmpo.org
3. Marjorie Hilaire, FDOT; marjorie.hilaire@dot.state.fl.us
4. Khalilah Ffrench, FDOT; khalilah.ffrench@dot.state.fl.us
5. Nicholas Sofoul, BCT; nsofoul@broward.org
6. Jonathan Roberson, BCT; jroberson@broward.org
7. Nilia Cartaya, MDT; cartayn@miamidade.gov
8. Joe Quinty, SFRTA; quintyj@sfrta.fl.gov
9. Enrique Zelaya, Broward County Planning and Redevelopment; ezelaya@broward.org
10. Paul Carpenter, City of Coral Springs; pcarpenter@coralsprings.org
11. Elizabeth Taschereau, City of Coral Springs; etaschereau@coralsprings.org
12. Jay Marder, City of Miami Gardens; jmarder@miamigardens-fl.gov
13. Brett Butler, City of Plantation; bbutler@plantation.org
14. Jo Sesodia, City of Sunrise; jsesodia@sunrisefl.gov
15. Jessica Josselyn, KAI; jjosselyn@kittelsohn.com
16. Mary Raulerson, KAI; mraulerson@kittelsohn.com
17. Mark McLaren, HDR; mark.mclaren@hdrinc.com
18. Maurene Sotero, HDR; maurene.sotero@hdrinc.com

Meeting Handouts:

Handouts are found in Attachment 1. The presentation included in the Appendix has been revised to reflect comments and decisions made during the PAC meeting.

Meeting Summary:

1. Opening Discussion: Mary Raulerson (Kittelson) reminded the group that we are in the Tier 1 component of the study which is assessing what alternatives should be moved forward for further analysis. She described that there are currently three sets of alternatives – one set for the near-term (1-2 years), one set for mid-term (2-7 years), and one set for the long-term (7+ years). After the introduction, a few comments were made:

- The Broward County Transit (BCT) Transit Development Plan (TDP) has been approved by the Broward County Commission. Elements of the TDP are:
 - 2020 – University Drive Rapid Bus (10-15 minutes most of the day) is recommended based on demand estimation (upgrade to Route 102), Route 2 being at 15 min all day.
 - Paul Carpenter (City of Coral Springs) said there will be consistent improvements throughout the system in order to maintain the status quo.
 - Time performance enhancements will be in the next couple years – a few additional vehicles, in the service plan.
 - If new money comes to the County it will go to the top 10 performing routes which does not include University Drive.
 - Some sources for operations funds were noted by PAC members, such as-
 - Flex money from FDOT
 - MPO
 - CRA's
 - Ad Valorem tax
 - Local option county gas tax
- Action Item: MPO would like to have a financial workshop early next year.

2. Key Findings overview: Mark McLaren (HDR) gave an overview of the previously discussed findings. The following comments were made:

- On Time Performance – Paul stated that the bus schedule should be calculated to make the on time performance accurate based on the known delays of the corridor; increase headways, add vehicles or increase speed.

3. Phased alternatives overview:

- PAC members asked for further explanation of TSP and queue jumps. It was noted TSP is used to extend the green time at a traffic signal for bus movements. Marjorie Hilaire (FDOT) gave an overview of the SR 7/Prospect pilot project (for NB). It is in the last phase of construction and should be up and running within six months. The intersection has its own signal for the bus and it will utilize the right turn lane to traverse the intersection. Jo Sesodia (City of Sunrise) asked how bike lanes will be handled. Marjorie stated that bike lanes aren't at the pilot location, but they will need to be considered and planned for in future queue jump projects. Jonathan Roberson (BCT) suggested showing the graphic of the queue jump pilot project for future presentations.
- Although TSP is included in all of the Premium Transit Alternatives for evaluation, it is not yet funded in the current or new TDP by Broward County Transit. Paul noted that the matrix has changed since the last PAC meeting. He asked a question on frequency changes in the no-build and Jonathan stated that University Drive is not in the top ten corridors priority list for near-term funds.

a. Alternative 1A and 1B:

- Several comments on the fare payment improvements were discussed and are summarized below:
 - Keep a pulse on the Universal Fare Card and that it may not be system-wide by Phase 1.
 - Look at mobile ticketing and identify how it is different than the Universal Fare Card.
 - Look at more accessibility to buying passes in advance. Paul Carpenter said we should look at off board payment at stations in advance of Phase 3 Alternatives.
 - Look at easier cash fares like rounded prices in order to make the process easier for riders since cash fares will always be an option.
 - Mobile ticketing may be our best options without spending major capital. Look at where tickets are sold today and is there a way to improve it. Can we market the discount tickets better? It was suggested that we map out where they are selling tickets for this corridor. We want to get the most people you can to pay in advance.
- Several comments on route reconfiguration improvements were discussed and are summarized below:

- Surveys haven't shown a strong break point for a split on this route. West Regional Terminal may be logical point where several other routes meet (i.e., the 22).
- It was noted it's too early at this stage in the study to know, but it will probably be somewhere around the middle of the route. NOVA as a split point didn't show significant demand. Oakland Boulevard may be too far north.
- It was noted that reconfiguration helps create efficiencies in the system and create a more reliable schedule.

Action Item: Jessica Josselyn (Kittelson) to check with FDOT about fare card to make sure that their timeline matches the future baseline project timeline.

Action Item: BCT would like to have locations where fare cards are sold and analyzed on how to make more accessible to the public.

b. Alternatives 2A and 2B:

- Several comments on the bus island treatments were discussed and are summarized below:
 - The use of bus islands at the intersection of University/Oakland Park Boulevard (OPB) is a pilot project currently being considered by FDOT. The FDOT is trying to minimize the impact to all users – travelers, businesses, etc.
 - Paul Carpenter doesn't foresee University and Sample having enough ROW to do this treatment.
 - Jonathan Roberson would like to see the treatment considered along University Drive in additional locations.
 - At the OPB/University Drive intersection, the OPB study did not plan for TSP since University Drive is the more dominant roadway.
 - Paul Carpenter suggested that the Atlantic Boulevard/University Drive intersection would be a potential good location.

Action Item: Khalilah Ffrench (FDOT) will send the group the cross section of the treatment and required ROW.

Action Item: BCT would like to see other intersections evaluated for Bus Islands apart from University Drive and Oakland Park Boulevard.

Action Item: Jo Sesodia asked for the mobility hub locations to be added to the Alternative maps.

c. Alternative 3A and 3B:

- Brett Butler (City of Plantation) asked how the BAT lane will help when it's already congested. The group discussed that the ROW will be looked at in its entirety to see how it should best be used. It was also discussed that different time periods will need to be assessed. Messaging and communication will be very important in how we intend to put in place BRT or BAT lanes so that folks don't shut down immediately.
- Jo Sesodia reminded the group about the pedestrian experience and that it should always be considered in the alternatives.
- Travel time, operations costs and capital costs for each alternative should be clearly shown for decision makers. Jonathan Roberson stated we should evaluate each of the alternatives with and without a BAT lane.
- Gregor Senger (FDOT) noted that if/when we model the corridor, that we need to look at the parallel and side streets to see what the true impacts are.
- Brett Butler offered the idea of implementing a temporary condition to evaluate performance before a system-wide implementation. The group stated, yes, 'tests' have been done throughout the country and can be a potential strategy for University Drive. "Temporary project campaign" idea.
- Streetcar shouldn't be brought to another meeting without cost information shown with it. Paul Carpenter noted that Streetcar doesn't seem appropriate for University Drive but that it seems more appropriate for a downtown/circulator area.
- BCt noted the Alternative 3 phase may want to consider looking at connecting to Miami-Dade with Streetcar rather than stopping at Griffin Road.
- For the bus islands – The Oakland Park Boulevard Study has proposed about 4 locations that don't need ROW and one that did at SR 7. But they are starting with a pilot and then going from there.
- Concerns were raised about the ability to accommodate the level of drainage needed and all of these other elements within the right-of-way.

Action: HDR will assess the space needed for drainage using the as-built plans obtained from FDOT during the data collection phase of the study.

Action Item: BCT would like to modify Alternatives 3A and 3B to include/not include BAT lanes (assess both options). BCT would like to evaluate the possibility of BAT lanes into Miami-Dade, not just stopping at Griffin Rd.

4. Closing: The team will send out the final list of alternatives to test on paper based on this meeting discussion.

5. Next steps: Evaluate these revised premium transit alternatives, evaluate the benefits and impacts of each, identify the ones that perform the best, and conduct detailed evaluation on those alternatives. The next PAC will be a 3-hour workshop with PAC members, providing the summary of benefits and impacts to be discussed 1 week prior to the meeting/working session. This will likely be in January/February 2014. BCT and Plantation stated they would look into their availability of hosting the next PAC meeting.

**ATTACHMENT 1:
Meeting Handouts and Revised
Presentation Based on Feedback Post
the PAC 5 Meeting**



University Drive Mobility Improvements Planning Study

Project Advisory Committee (PAC)

Meeting #5 Agenda

October 9, 2013 | 1:30 -3:30 PM

City of Coral Springs, West Wing Conference Room
9551 West Sample Road
Coral Springs, FL

Action Items/Decisions for this PAC Meeting:

- Discuss Premium Transit Alternatives presented
- Recommend Premium Transit Alternatives to be advanced for further evaluation

Agenda Items:

1. Overview of key corridor study findings
2. Review Proposed Transit Alternatives
 - a. Alternatives 1
 - i. No Build
 - ii. Future Baseline
 - b. Alternatives 2
 - i. Enhanced Bus Service
 - ii. Enhance Bus on Business & Access Transit (BAT) Lanes
 - c. Alternatives 3
 - i. Bus Rapid Transit (BRT)
 - ii. Streetcar
3. Discussion of Six Transit Alternatives to advance for further evaluation
4. Next Steps



University Drive Mobility Improvements Planning Study Premium Transit Alternatives

**Project Advisory Committee
Meeting #5
October 9, 2013**

STUDY EVALUATION FRAMEWORK

Step 1

Starting with all transit mode options, identify the most feasible premium transit modes for the corridor

Step 2

Identify potential short-term Congestion Management Strategies and potential transit supportive areas/mobility hubs



Step 3

Compare the Premium Transit Alternatives (No-Build and up to 3 Build Alternatives)

Step 4

Select the Locally Preferred Alternative

Meeting Agenda

- **Overview of key corridor study findings**
- **Review Proposed Transit Alternatives**
 - Alternatives 1
 - No Build
 - Future Baseline
 - Alternatives 2
 - Enhanced Bus Service
 - Enhance Bus on Business & Access Transit (BAT) Lanes
 - Alternatives 3
 - Bus Rapid Transit (BRT)
 - Streetcar
- **Discussion of the six transit alternatives to advance for further evaluation**
- **Next Steps**

Meeting Expectation

Provide input on the
six transit alternatives
to be advanced for
further evaluation

University Drive Corridor

Premium Transit Alternatives

Key Corridor Findings

- Congestion at key locations along corridor (37,000 to 67,000 Average Daily Traffic Volume)
- Majority of trips on Route 2 (52%) and 102 (71%) are work-related (*Southeast Regional Planning Model, 2010*)
- Existing BCT system along University Drive has low on-time performance (long travel times and frequency of stops as a result of extensive passenger activities such as cash payments, transfers, bicycle placement)
- Critical safety challenges along the corridor (auto, bike and pedestrians related).

Summary of Alternatives

- **Alternatives 1**
 - No Build
 - Future Baseline
- **Alternatives 2**
 - Enhanced Bus Service
 - Enhance Bus on Business & Access Transit (BAT) Lanes
- **Alternatives 3**
 - Bus Rapid Transit (BRT) *without BAT Lanes*
 - Streetcar *without BAT Lanes*
- **Alternatives 4**
 - Bus Rapid Transit (BRT) *with BAT Lanes*
 - Streetcar *with BAT Lanes*

PROPOSED IMPROVEMENTS	PHASE I		PHASE II		PHASE III			
	1A	1B	2A	2B	3A	3B	4A	4B
	No Build	Future Baseline	Enhanced Bus (without BAT Lanes)	Enhanced Bus (with BAT Lanes)	Bus Rapid Transit (BRT) (without BAT Lanes)	Modern Streetcar (without BAT Lanes)	Bus Rapid Transit (BRT) (with BAT Lanes)	Modern Streetcar (with BAT Lanes)
INSTALLATION OF TRANSIT SIGNAL PRIORITY (TSP)	---	X	X	X	X	X	X	X
IMPLEMENTATION OF QUEUE JUMP (QJ) LANES	---	---	X	X	X	X	X	X
IMPLEMENTATION OF REGIONAL INTER-OPERABLE FARE SYSTEM (<i>EASYCARD</i>)	X	X	X	X	X	X	X	X
OFF-BOARD FARE PAYMENT AT STOPS/STATIONS	---	---	---	---	X	X	X	X
MOBILE TICKETING	---	X	X	X	X	X	X	X
RECONFIGURE ROUTES ALONG UNIVERSITY DRIVE	X	X	X	X	X	X	X	X

Note:

1. Timeframe: Phase I (1-2 years); Phase II (2-7 years); Phase III (Beyond 7 years)
2. Future Baseline: Defined as what is reasonably assumed to be implemented without major capital investments along the corridor within the next one to two years.

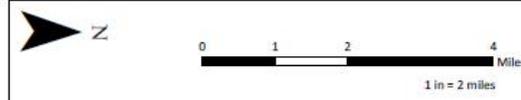
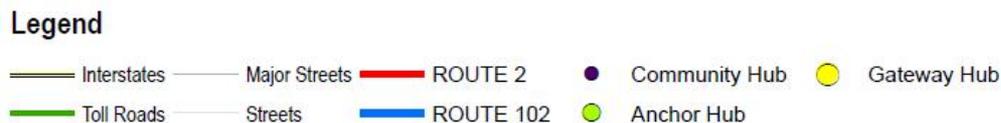
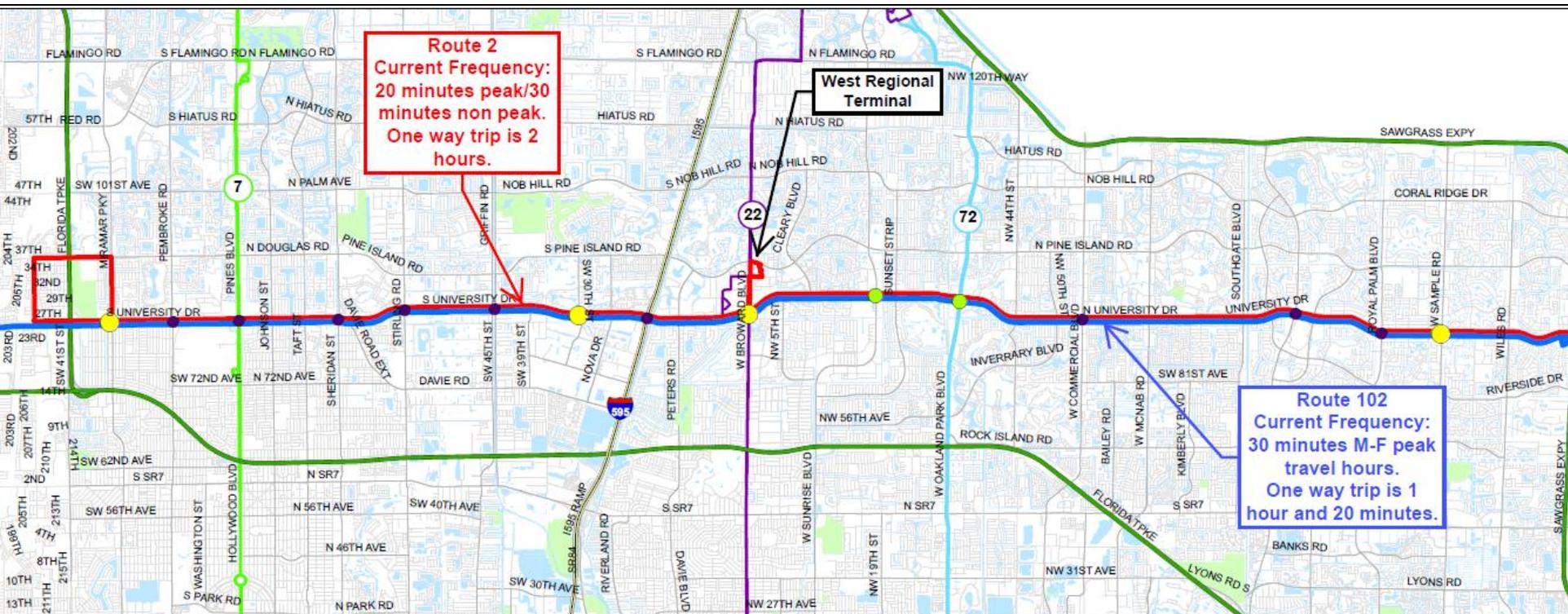
PROPOSED IMPROVEMENTS		PHASE I		PHASE II		PHASE III			
		1A	1B	2A	2B	3A	3B	4A	4B
		No Build	Future Baseline	Enhanced Bus (without BAT Lanes)	Enhanced Bus (with BAT Lanes)	Bus Rapid Transit (BRT) (without BAT Lanes)	Modern Streetcar (without BAT Lanes)	Bus Rapid Transit (BRT) (with BAT Lanes)	Modern Streetcar (with BAT Lanes)
BUSINESS AND TRANSIT ACCESS (BAT) LANES		----	----	----	X	----	----	X	X
USE OF LEVEL BOARDING VEHICLES		----	----	----	----	X	X	X	X
SERVICE BRANDING	LOW SCALE	----	X	----	----	----	----	X	X
	MODERATE SCALE	----	----	X	X	----	----	X	X
	FULL SCALE	----	----	----	----	X	X	X	X
IMPROVED FREQUENCIES		----	----	X	X	X	X	X	X
INSTALLATION OF BUS ISLANDS AT KEY INTERSECTIONS		----	----	X	X	X	X	X	X

Note:

1. Future Baseline: Defined as what is reasonably assumed to be implemented without major capital investments along the corridor within the next one to two years.
2. *Low scale branding* is limited to vehicle wrapping and branding of service fare cards. *Moderate scale branding* includes BAT Lane stripping (in addition to Low scale branding). *Full scale branding* includes unique vehicle type, station design, system naming, etc. (in addition to low scale and moderate scale branding).

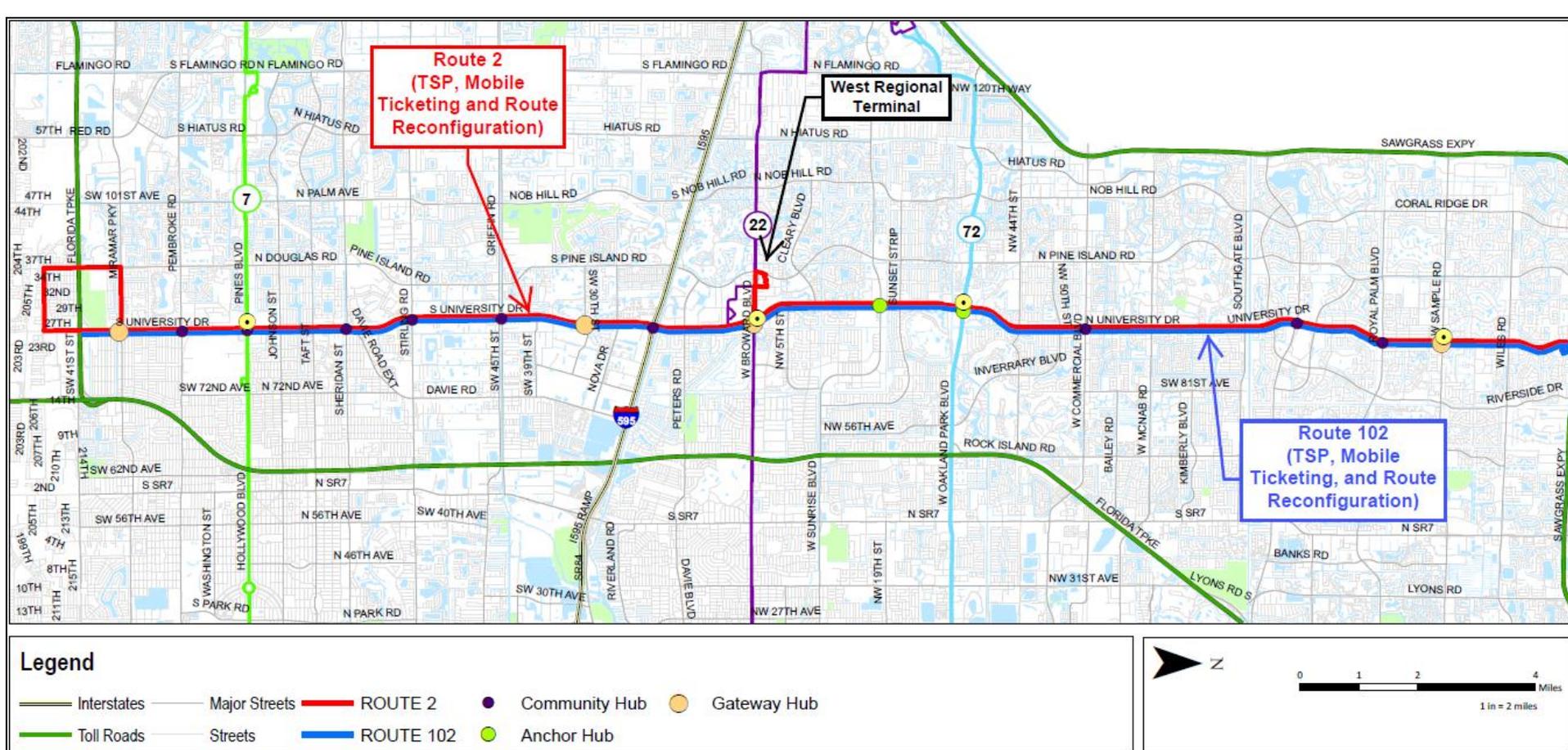
Alternative 1A (No Build)

- Nothing is implemented except projects that have already been in operation for University Drive (such as operational improvements already in place).



Alternative 1B (Future Baseline)

- Operational improvements to Routes 2 & 102: Transit Signal Priority (TSP), Universal Fare Card, Mobile Ticketing, and Routes Reconfiguration.
- Low scale branding subject to discussions with transit operators.
- Future Baseline: Defined as what is reasonably assumed to be implemented to address identified transportation deficiencies along the corridor without high capital investment within the next one to two years.

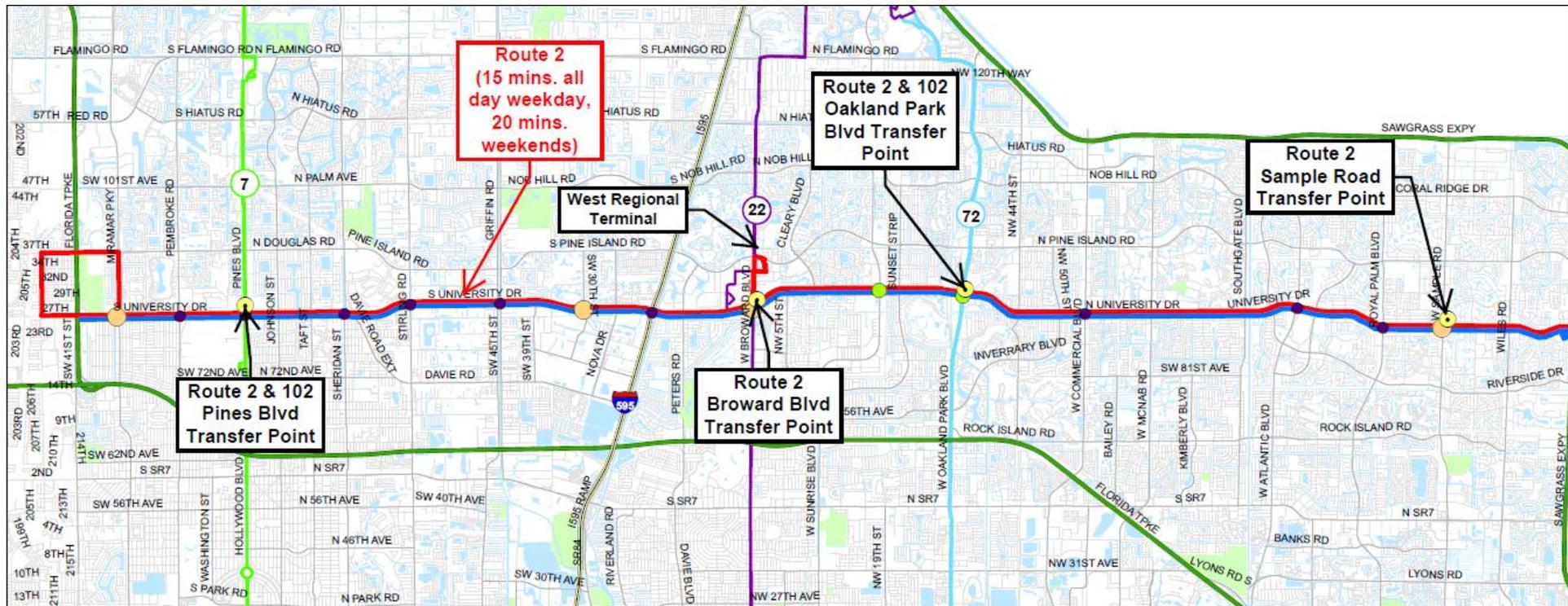


SAMPLE IMAGES OF BRANDING



Alternative 2A (Enhanced Bus Service)

- Improvements to operational characteristics:
 - Transit Signal Priority (TSP), Queue Jump lanes, Frequencies, Universal Fare Card, Mobile Ticketing, Routes Reconfiguration.
- Transit vehicles to operate in mixed traffic.
- Install bus islands at key transfer points (E.g. University & Oakland Park Blvd).
- Moderate scale branding: Branding of service fare card



BUS ISLANDS*

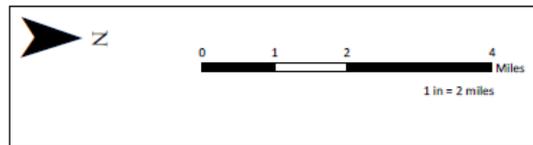
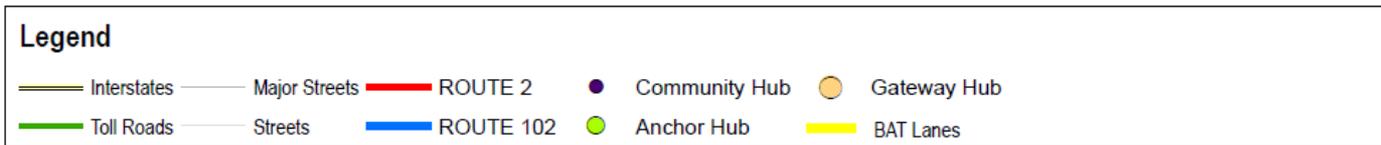
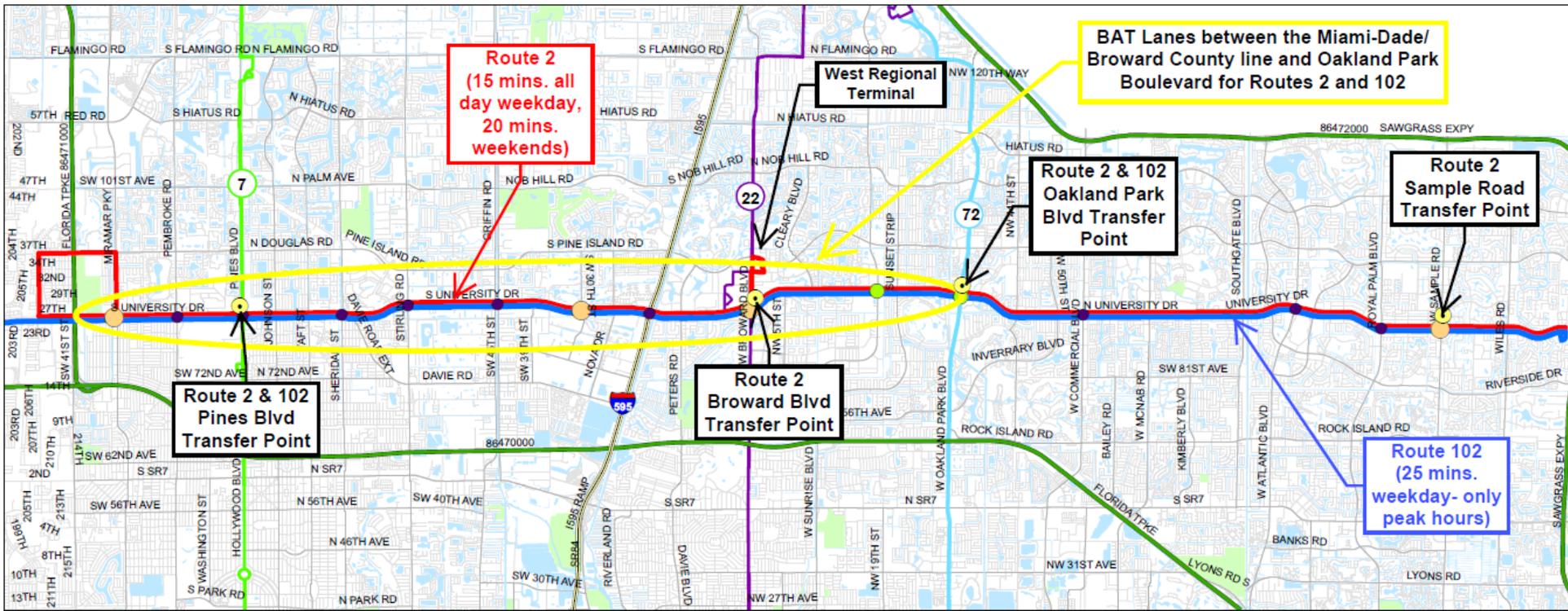
Bus Islands - Bus Stop Relocation: At University Drive



**Improvement also proposed as part of Oakland Park Blvd Study*

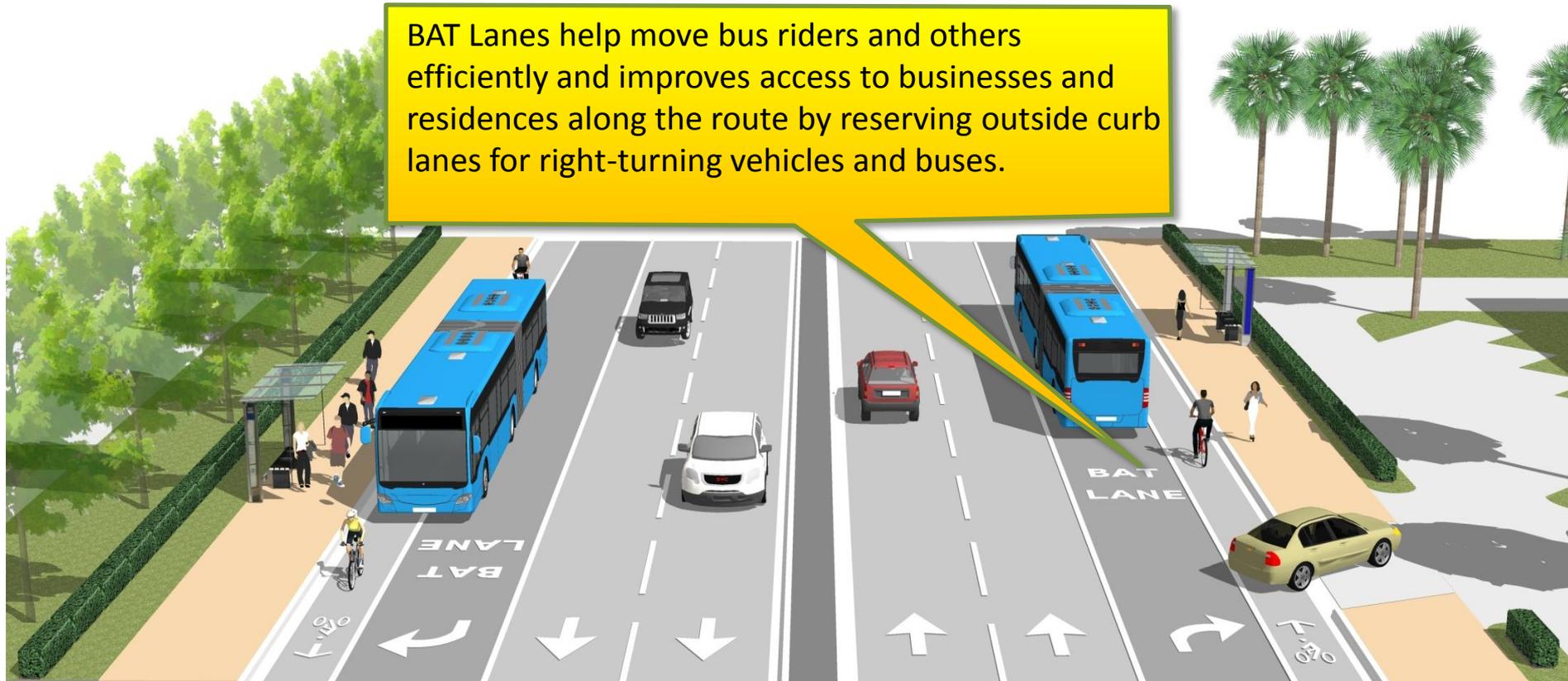
Alternative 2B (Enhanced Bus Service)

- Improvements to operational characteristics:
 - Transit Signal Priority (TSP), Queue Jump lanes, Frequencies, Universal Fare Card, Mobile Ticketing, Routes Reconfiguration.
- Introduce Business Access & Transit (BAT) Lanes (between Griffin Road & Oakland Park).
- Install bus islands at key transfer points (E.g. University Drive & Oakland Park Blvd).
- Moderate scale branding: Design of service fare card, *BAT Lane striping for E-Bus.



Business Access & Transit (BAT) Lanes

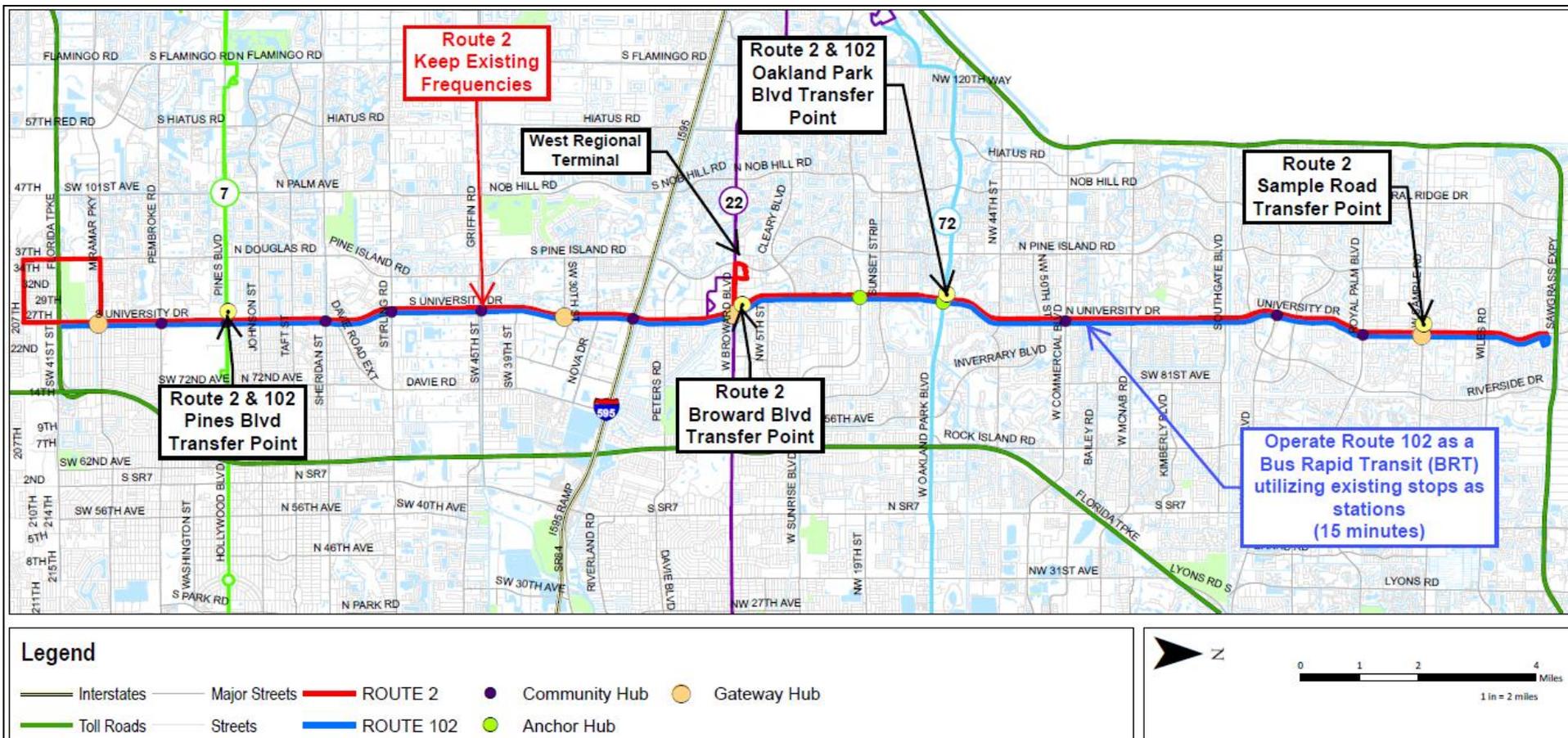
BAT Lanes help move bus riders and others efficiently and improves access to businesses and residences along the route by reserving outside curb lanes for right-turning vehicles and buses.



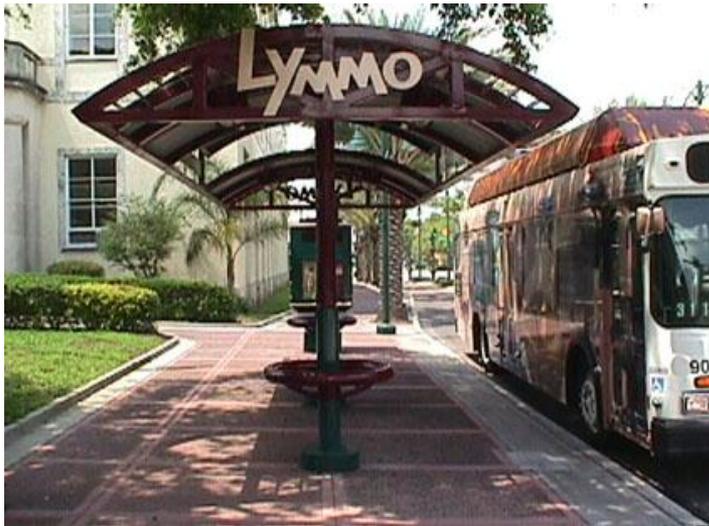
**Improvement also proposed as part of Oakland Park Blvd Study*

Alternative 3A (BRT w/out BAT Lanes)

- Conversion of Route 102 to BRT while Route 2 continues to run as a regular local service.
- BRT to operate at 15 minutes frequencies.
- BRT system will operate in existing vehicle lanes between Griffin Rd and Westview Dr.
- BRT service will feature: Level boarding vehicles with on-board bike racks; Unique branding; and Vehicle arrival/departure information; Station improvements; other BRT-type service enhancements.
- Full Scale Branding: Vehicles, Station, Special fare card, Schedule, Naming, Etc.

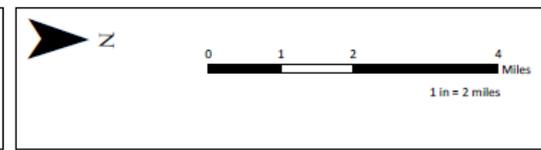
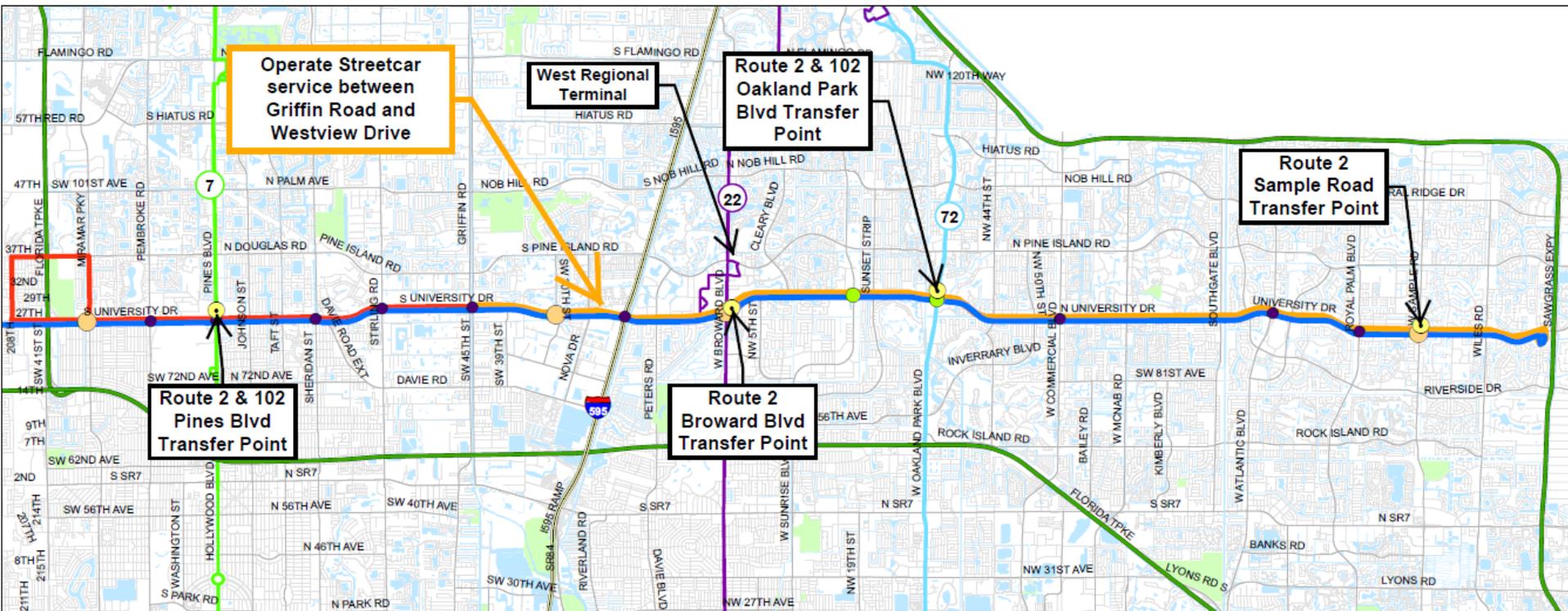


Bus Rapid Transit



Alternative 3B (Streetcar w/out BAT Lanes)

- Reconfigure Route 2 to travel between 215th Street and Griffin Road.
- From Griffin Road to Westview Drive, Route 2 will convert to Streetcar operations.
- Maintain operational improvements to Route 102.
- Proposed streetcar service will operate in existing vehicle lanes.
- Full Scale Branding: Vehicles, Station, Special fare card, Schedule, Naming, Etc.
- Station spacing: 102 (.50 to 1 mile apart). Streetcar: 300 feet to 0.50 miles apart)

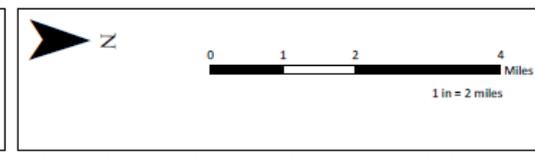
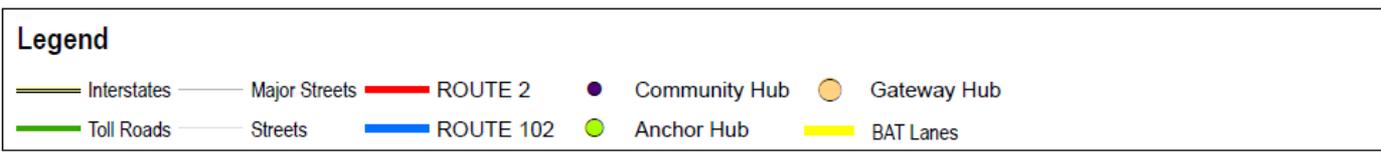
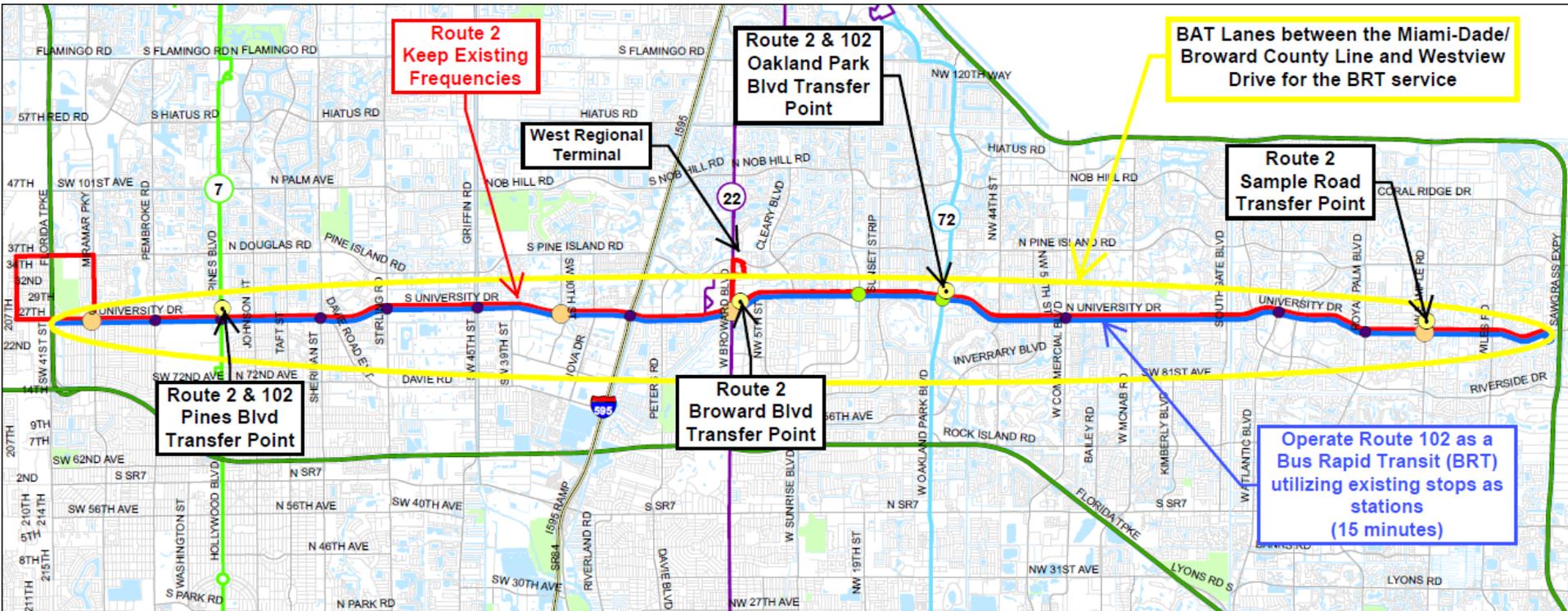


Modern Streetcars



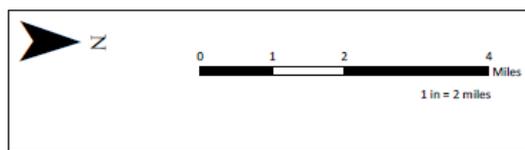
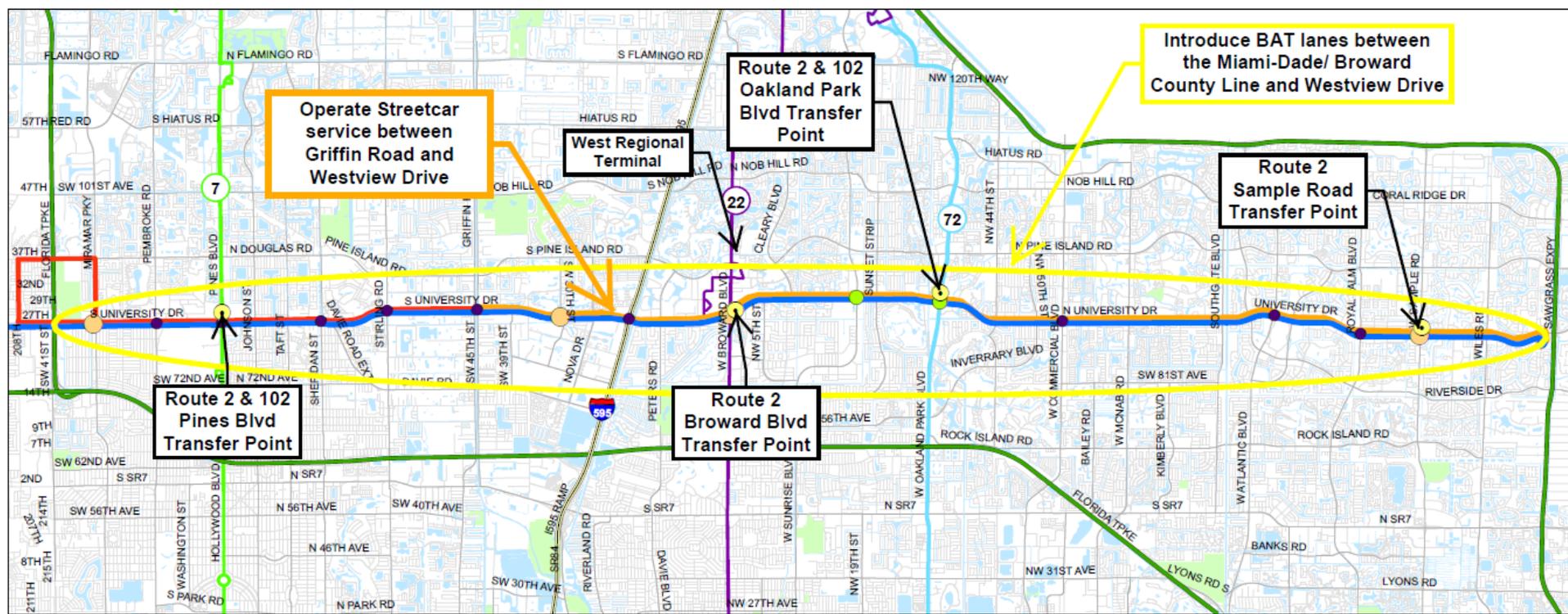
Alternative 4A (BRT w/BAT Lanes)

- Conversion of Route 102 to BRT while Route 2 continues to run as a regular local service.
- BRT to operate at 15 minutes frequencies.
- BRT system will utilize Business Access and Transit (BAT) Lanes between Griffin Rd and Westview Dr.
- BRT service will feature: Level boarding vehicles with on-board bike racks; Unique branding; and Vehicle arrival/departure information; Station improvements; other BRT-type service enhancements.
- Full Scale Branding: Vehicles, Station, Special fare card, Schedule, Naming, Etc.



Alternative 4B (Streetcar w/BAT Lanes)

- Reconfigure Route 2 to travel between 215th Street and Griffin Road.
- From Griffin Road to Westview Drive, Route 2 will convert to Streetcar operations.
- Maintain operational improvements to Route 102. Operate on BAT Lanes during peak.
- Proposed streetcar service to utilize Business Access & Transit (BAT) Lanes.
- Full Scale Branding: Vehicles, Station, Special fare card, Schedule, Naming, Etc.
- Station spacing: 102 (.50 to 1 mile apart). Streetcar: 300 feet to 0.50 miles apart)



STUDY EVALUATION FRAMEWORK

Step 1

Starting with all transit mode options, identify the most feasible premium transit modes for the corridor

Step 2

Identify potential short-term Congestion Management Strategies and potential transit supportive areas/mobility hubs

Step 3

Compare the Premium Transit Alternatives (No-Build and up to 3 Build Alternatives)

Step 4

Select the Locally Preferred Alternative

Next Steps

- Evaluation of Advanced Alternatives
- PAC #6 (Moved to Feb/Mar 2014) – Will have workshop to go over results of Tier 1 & 2 analysis
- Determination of Locally Preferred Alternative (LPA)