Broward MPO

2035 LRTP

putting the pieces together

Needs Assessment

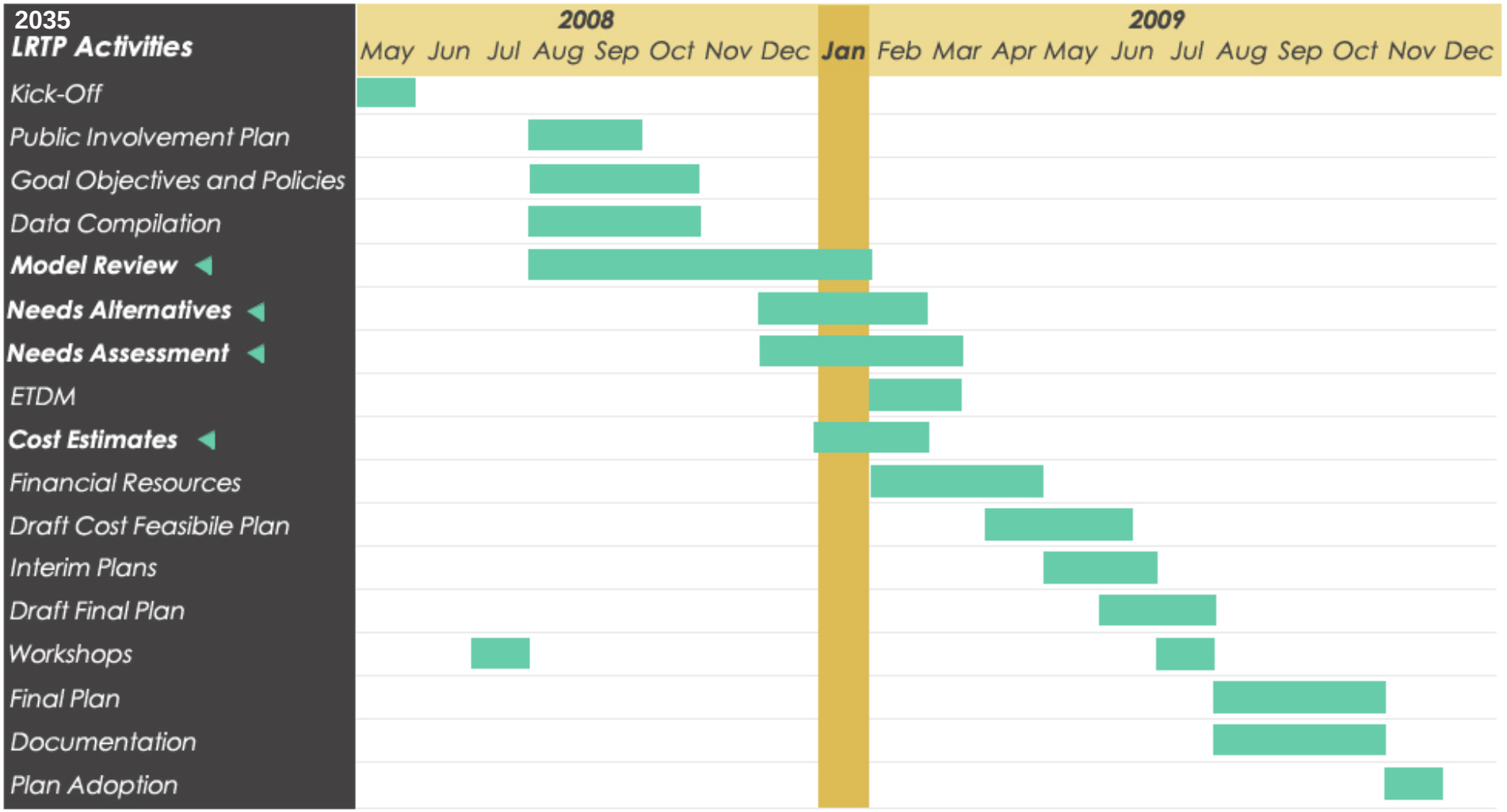
January 2009

JACOBS™

DISCUSSION TOPICS

- Updated project schedule
- Modeling approach for Broward County 2035 LRTP
- Needs Assessment status
  - Roadway
  - Transit
  - Pedestrian
  - Bicycle
- Next steps

SCHEDULE


2035
LRTP Activities
2008
May Jun Jul Aug Sep Oct Nov Dec
Jan
2009
Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Kick-Off
Public Involvement Plan
Goal Objectives and Policies
Data Compilation
Model Review
Needs Alternatives
Needs Assessment
ETDM
Cost Estimates
Financial Resources
Draft Cost Feasibile Plan
Interim Plans
Draft Final Plan
Workshops
Final Plan
Documentation
Plan Adoption

Modeling Approach: Broward County 2035 LRTP

Data Compilation

Model Development

Develop Existing & Committed Transportation Network (2013/2014)

Analyze Future Travel Demand & Pattern (2035)

Identify Deficiencies (Highway & Transit)

Identify Highway & Limited Transit Improvements (Highway Emphasis Network)

WE ARE HERE

Identify Transit & Limited Highway Improvements (Transit Emphasis Network)

Create Balanced Network (Needs Plan)

Evaluate each Project

Prioritize Projects

Test 2035 Cost Feasible Plan

2035 NEEDS ASSESMENT-ROADWAY UPDATE

2035 Highway Emphasis Network

2035 Highway improvements include

- Signal synchronization
- Grade separation (at some arterials and railroad crossings)
- Construct logical missing roadway links
- Road widening
- New interchanges and/or modifications
- ITS improvements such as open road tolling
- Reversible lanes, Managed lanes

2035 Transit improvements include

- Transit Development Plan improvements
- Reduced headway
- Limited-stop bus service

Methodology to Identify 2035 Highway Improvements

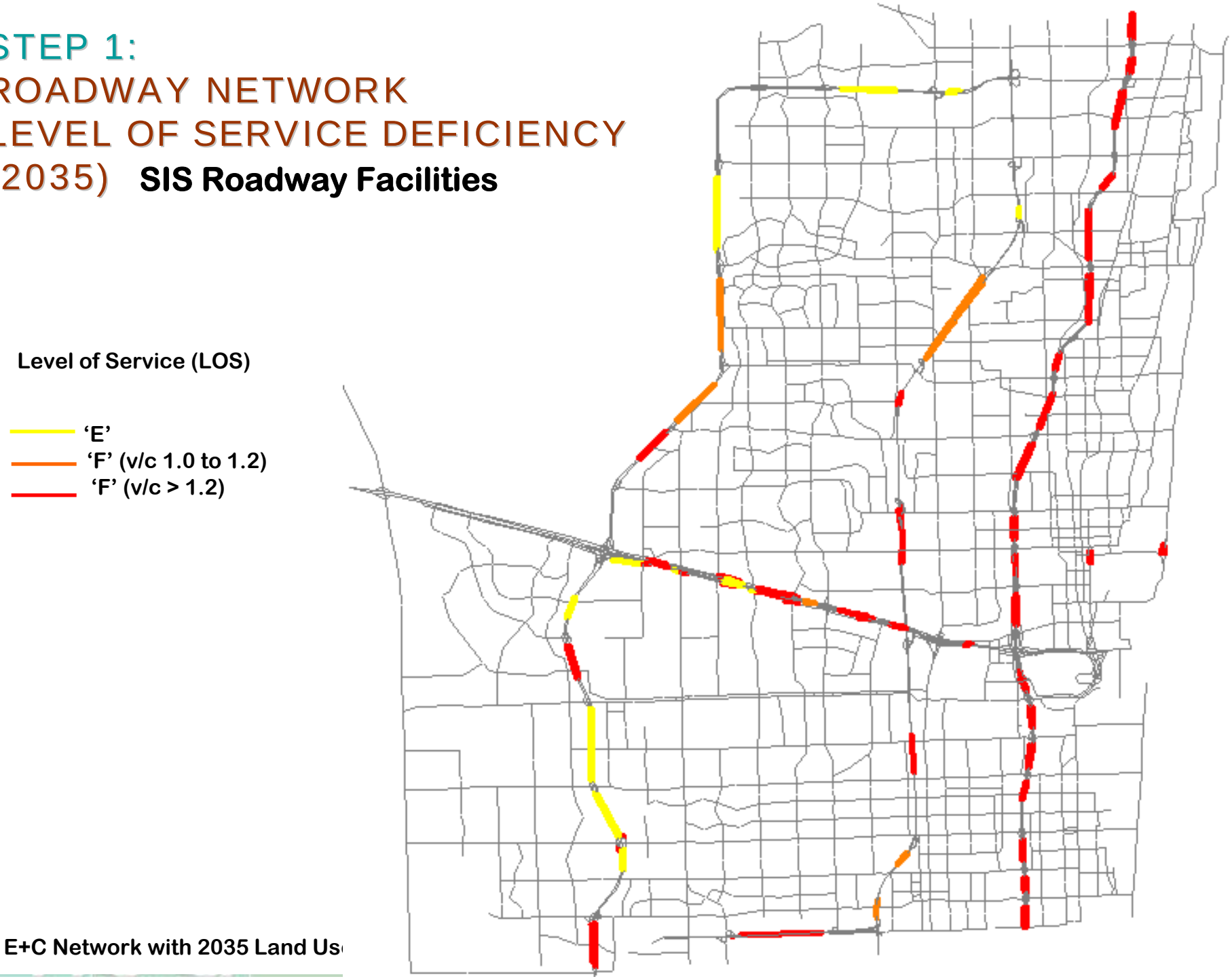
2035 Highway Needs

Step 1: Deficiency analysis (level of service) to identify problem areas in terms of capacity

Step 2: Future travel demand and trip patterns within Broward County and between Broward County and adjacent counties to identify corridors experiencing high travel movement

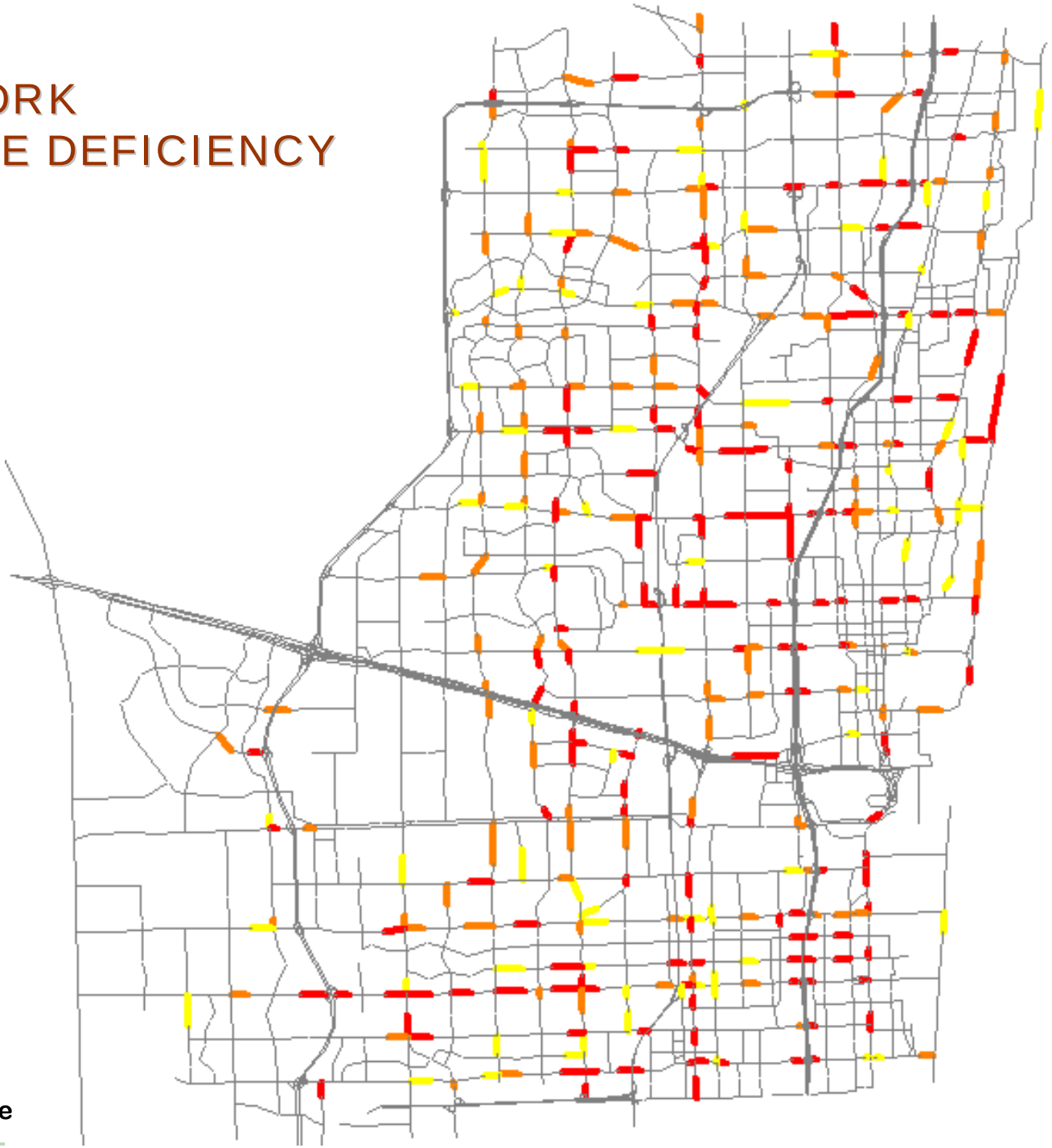
Step 3: Screen line analysis to identify supply and demand gap

STEP 1:
ROADWAY NETWORK LEVEL OF SERVICE DEFICIENCY (2035) SIS Roadway Facilities



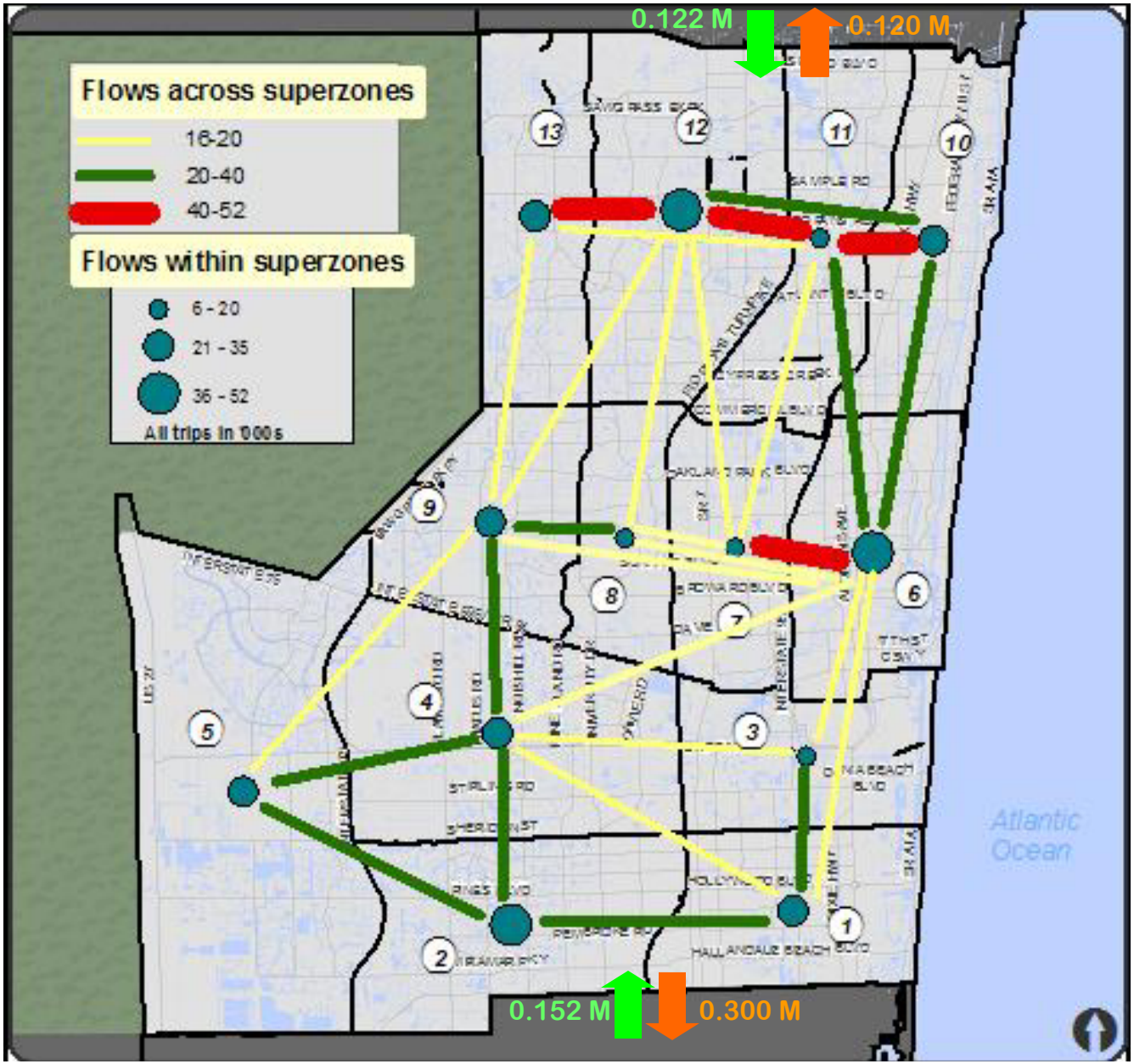
Note: E+C Network with 2035 Land Us

STEP 1:
ROADWAY NETWORK LEVEL OF SERVICE DEFICIENCY (2035) **Arterials**



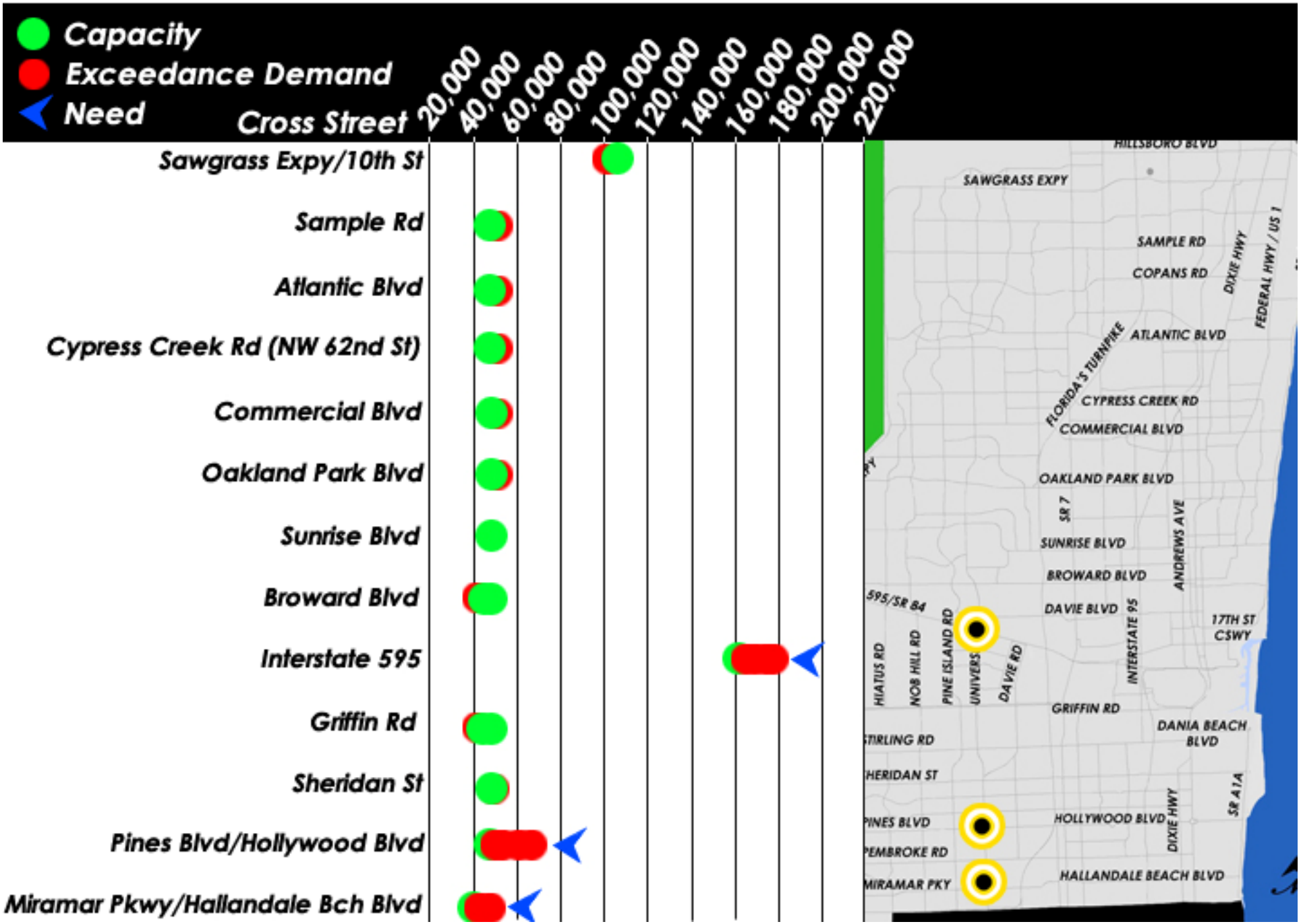
Note: E+C Network with 2035 Land Use

STEP 2: 2035 TRAVEL PATTERNS



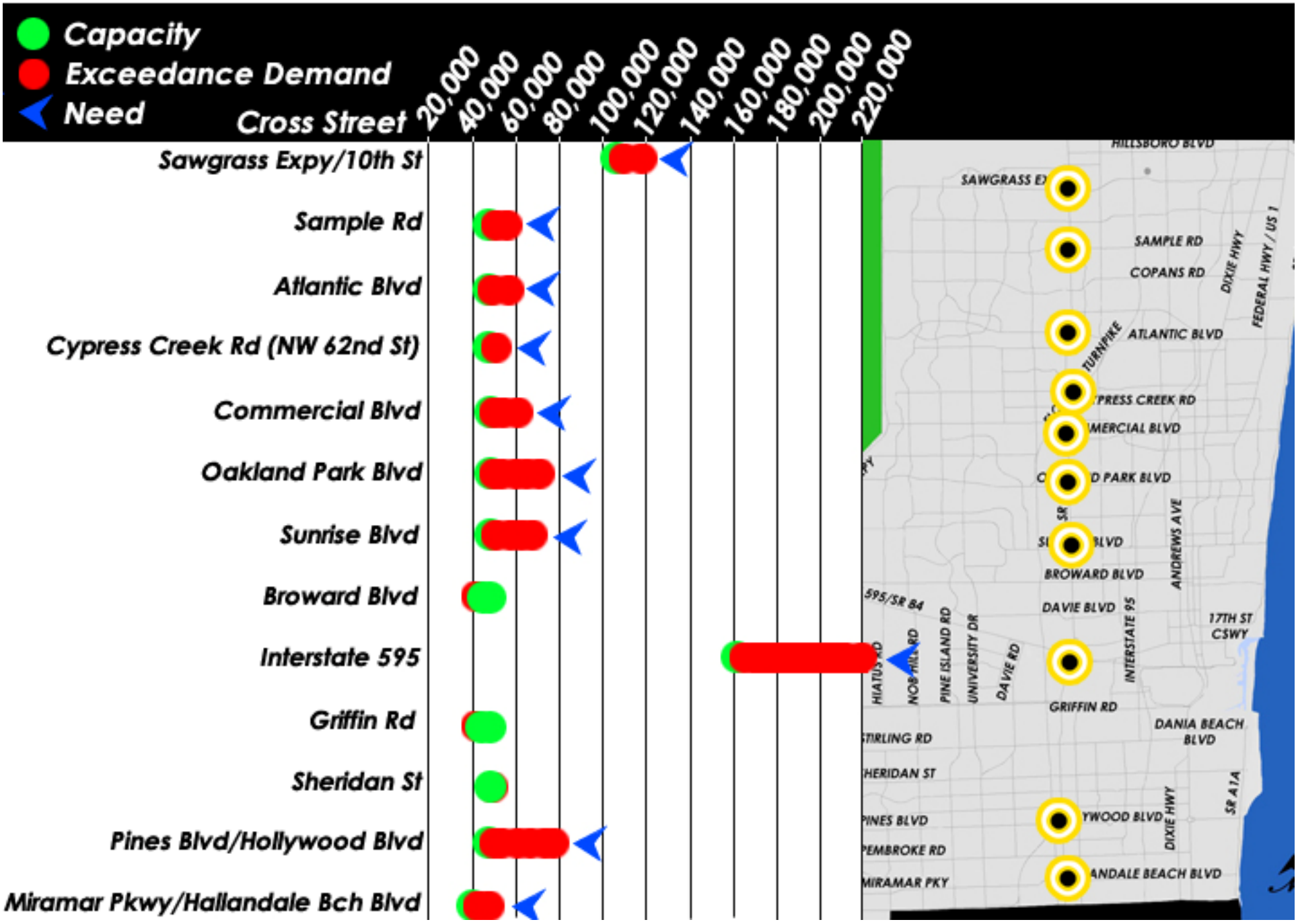
HBW person trips (two- way)

Step 3: Screen line Analysis - Profile along University Dr 2035



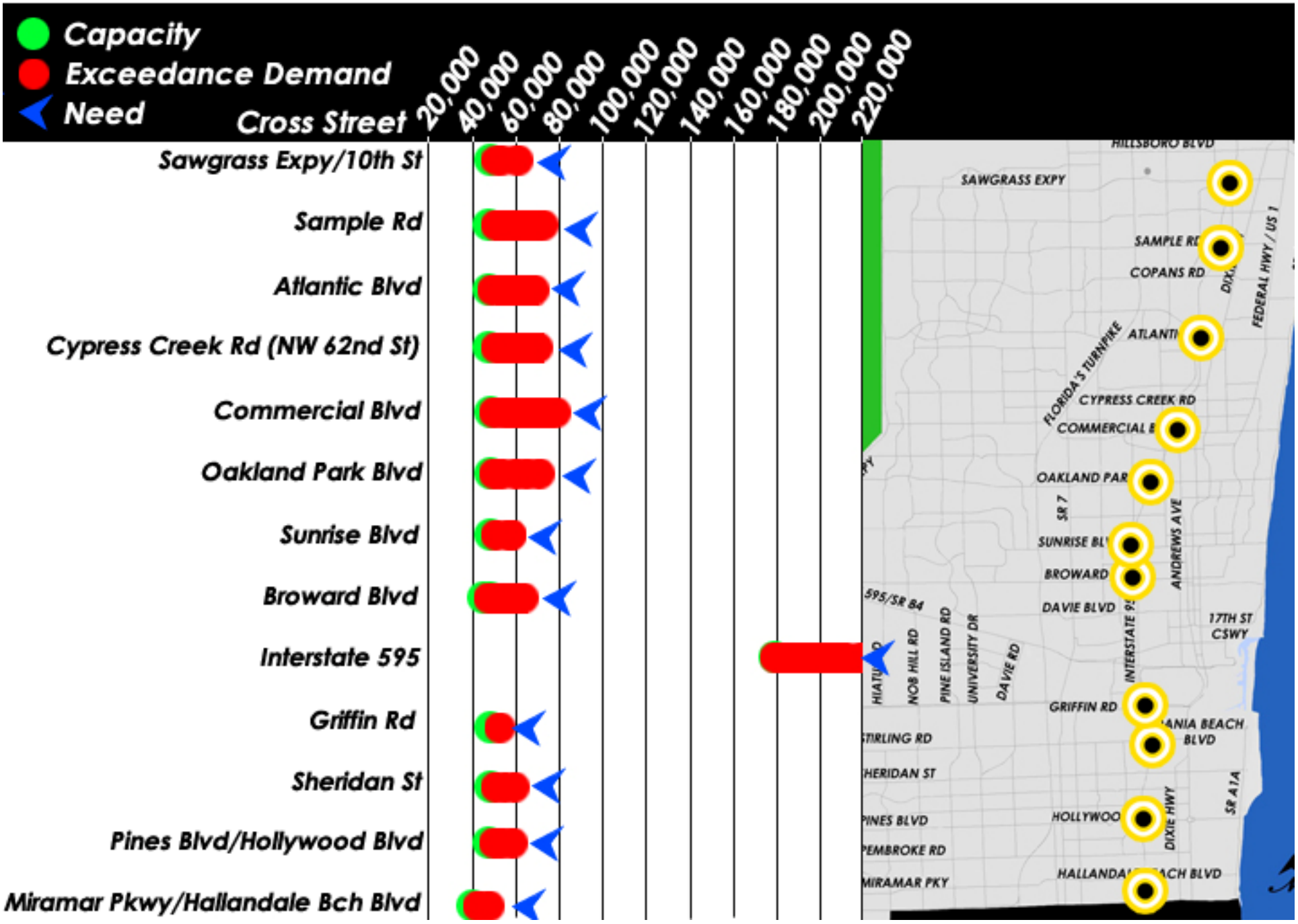
Step 3: Screen line Analysis - Profile along SR-7

2035

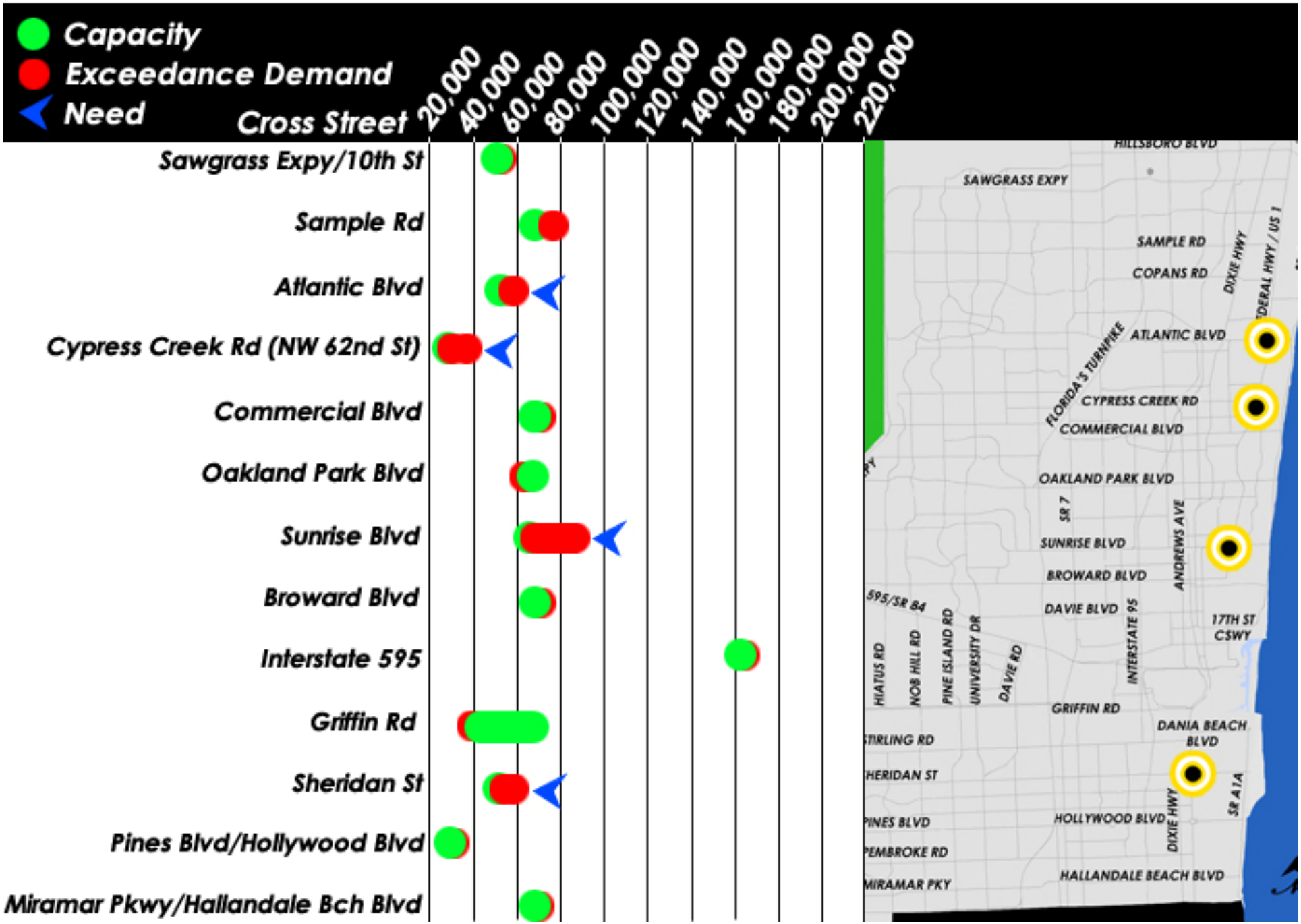


Step 3: Screen line Analysis - Profile along I-95

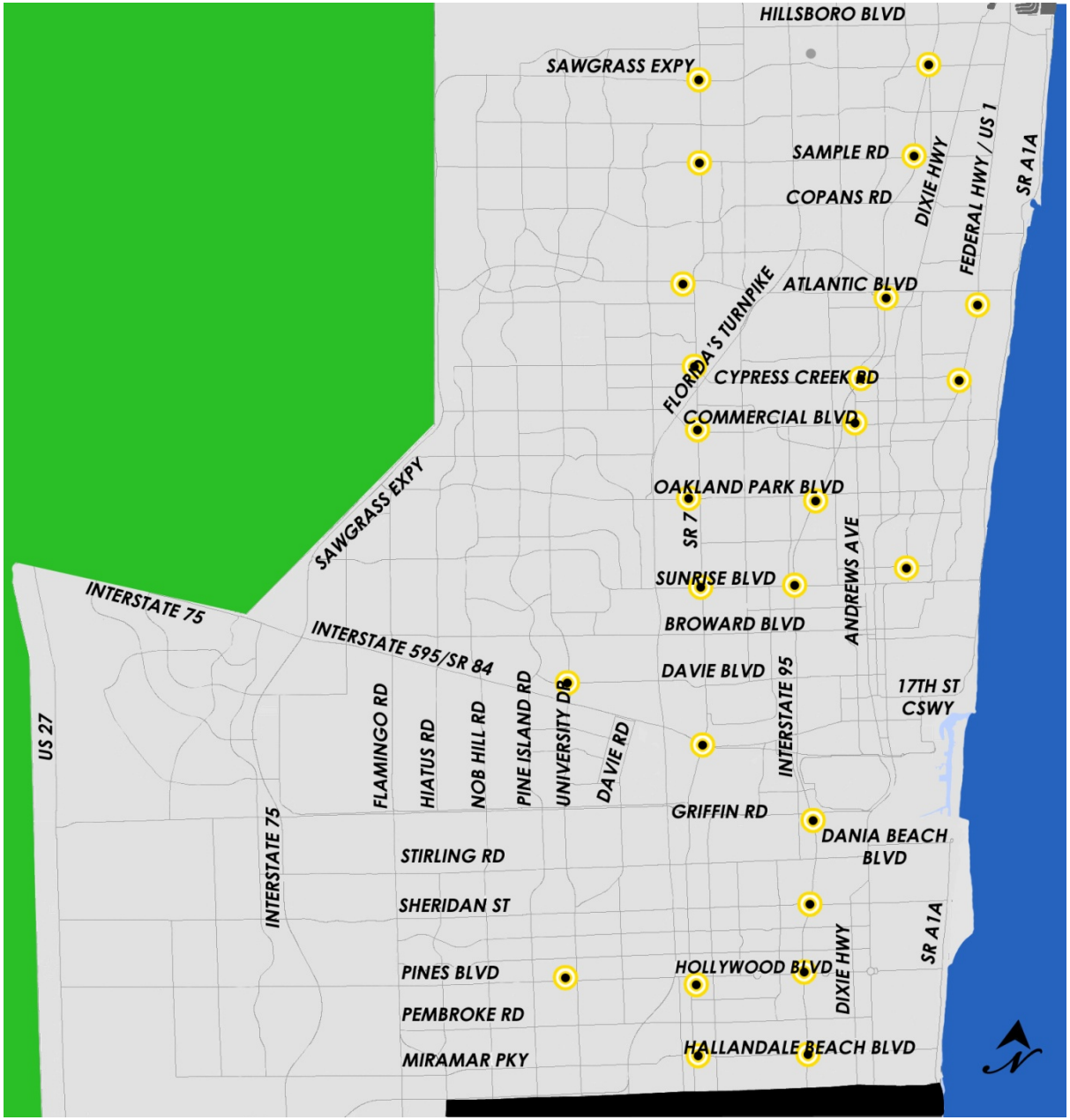
2035



Step 3: Screen line Analysis - Profile along US-1/SR-5 2035



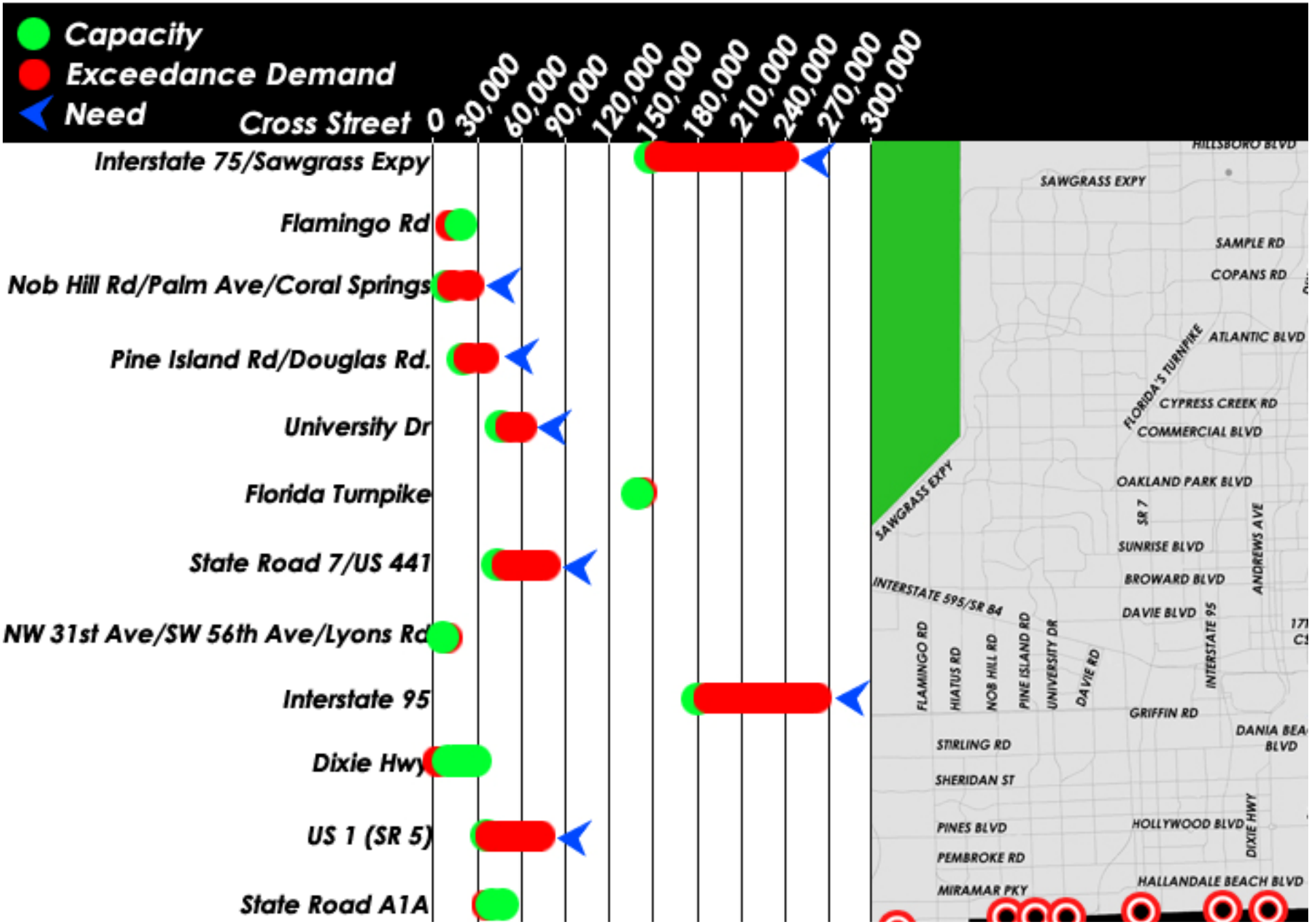
STEP 3: 2035 CONGESTED SCREEN LINE POINTS



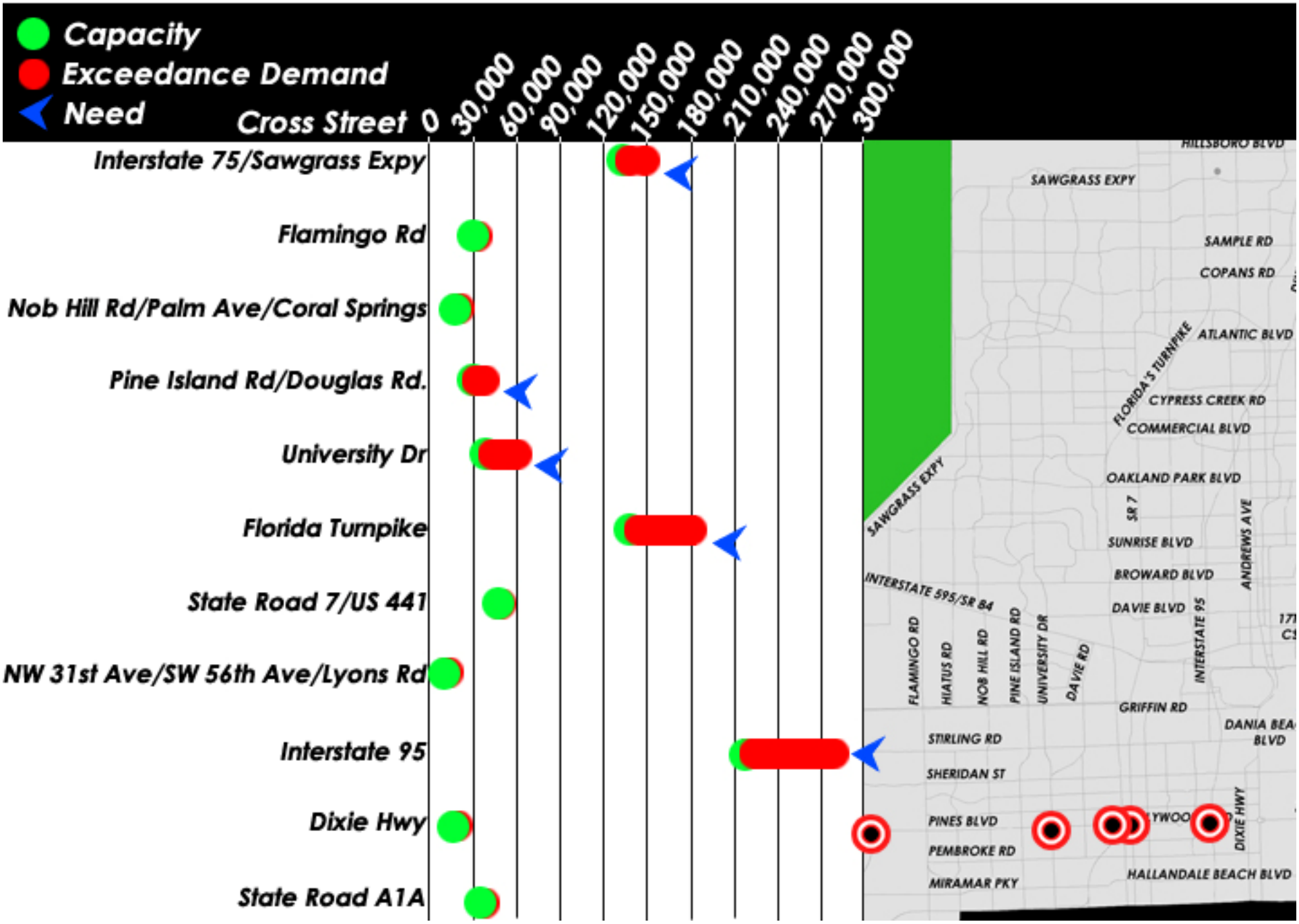
North – South Screenlines

(East-West Traffic Flow)

Step 3: Screen line Analysis - Profile along Miami Dade Co. Line 2035

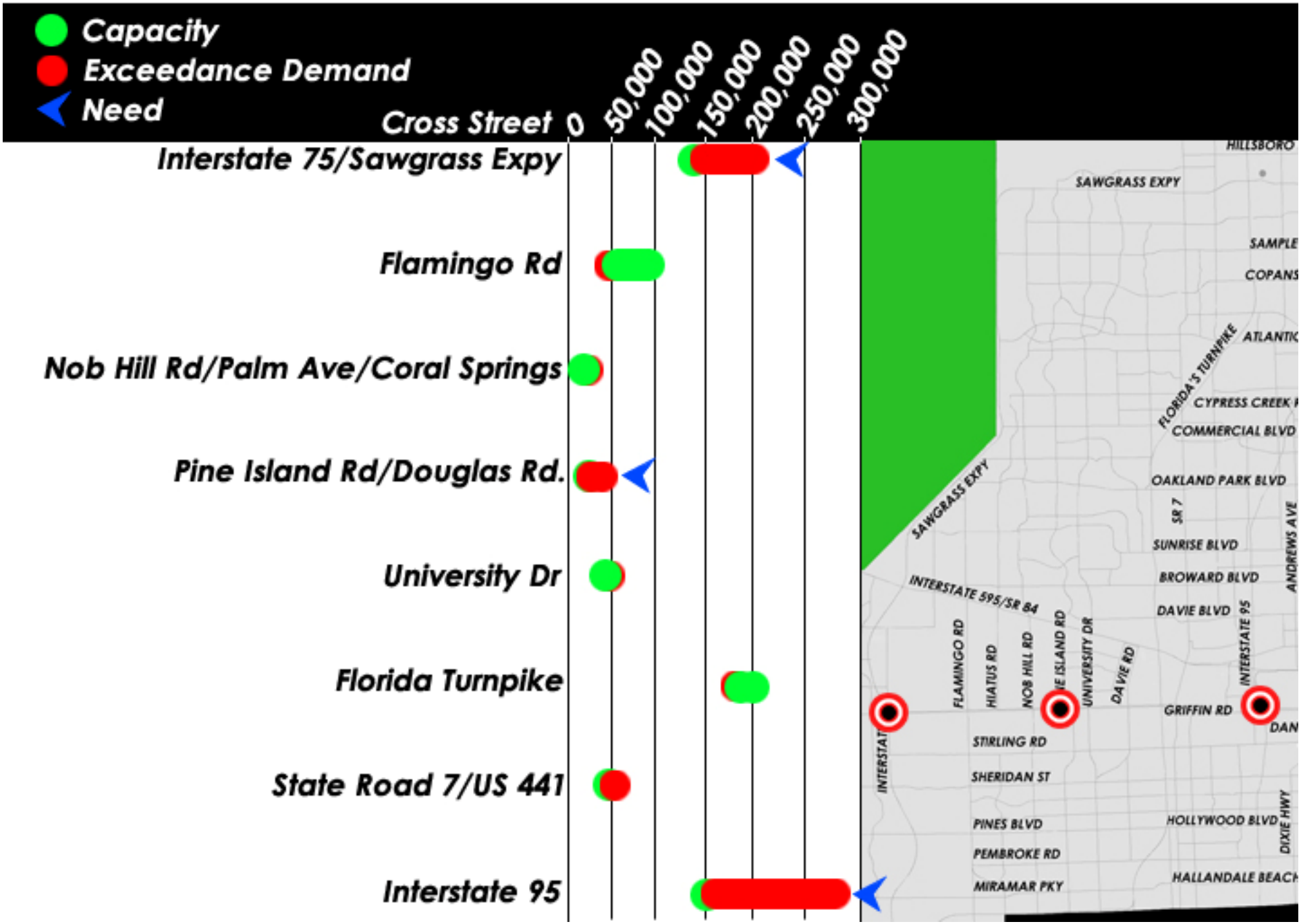


Step 3: Screen line Analysis - Profile along Pines Blvd 2035

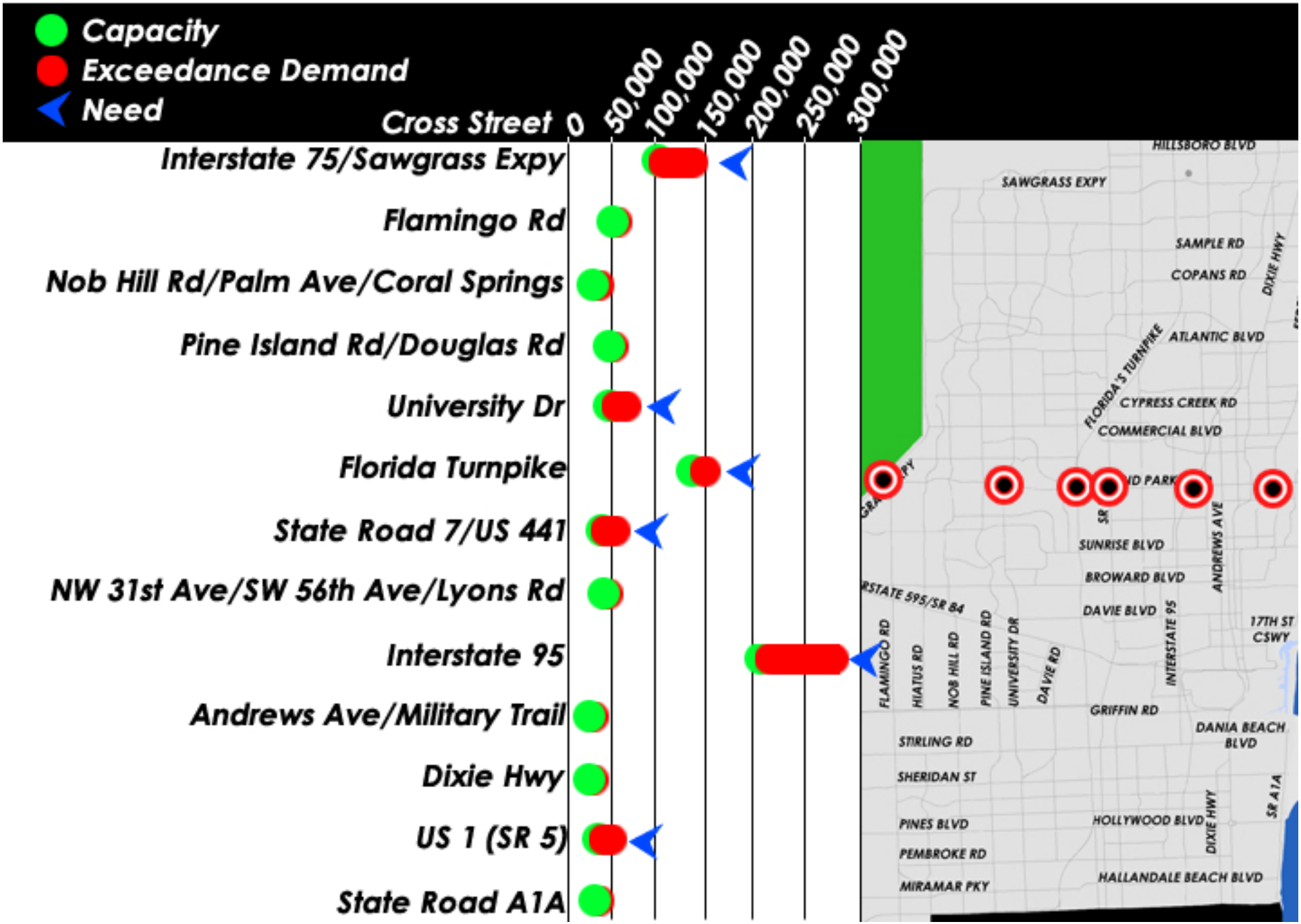


Step 3: Screen line Analysis - Profile along Griffin Rd

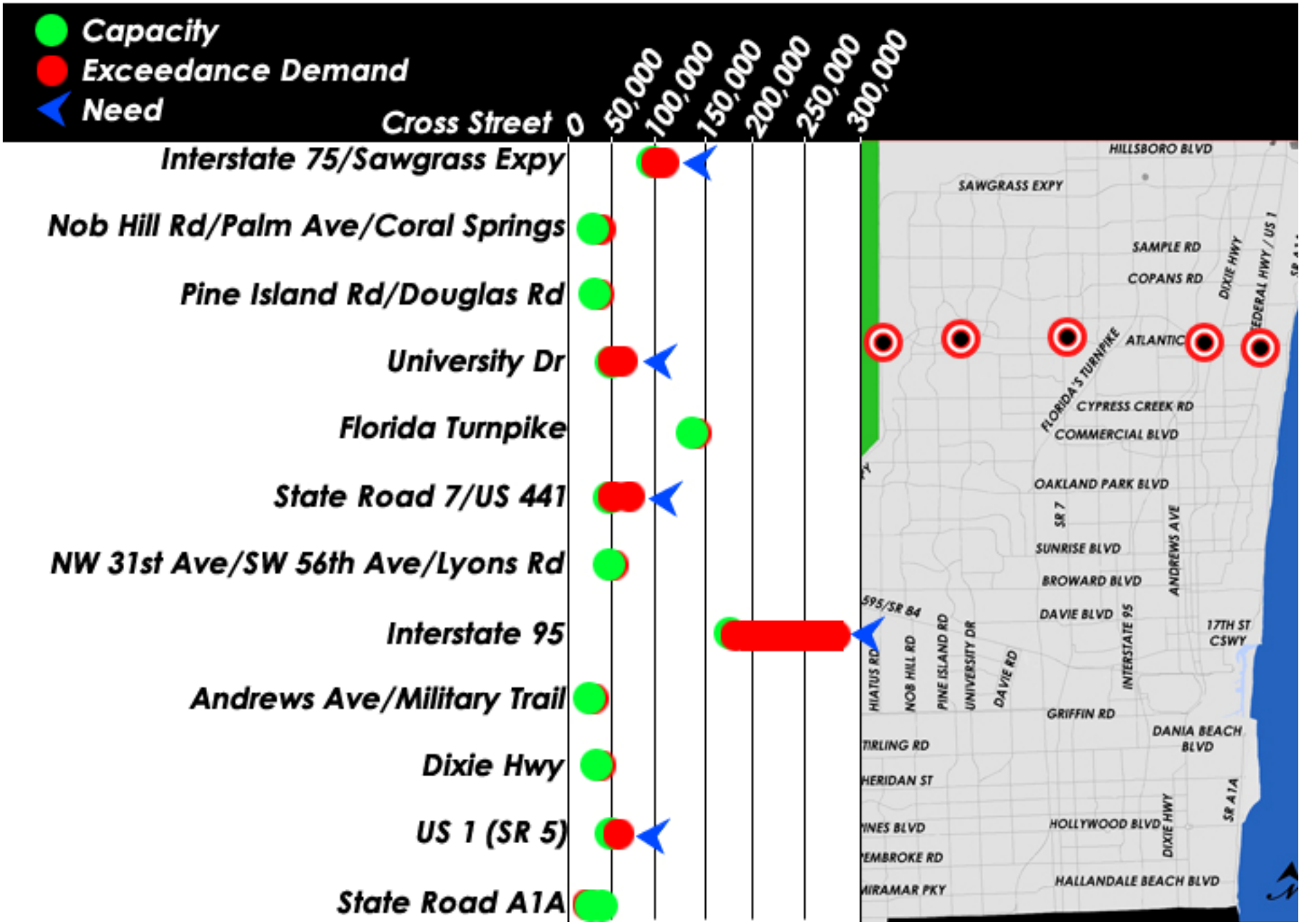
2035



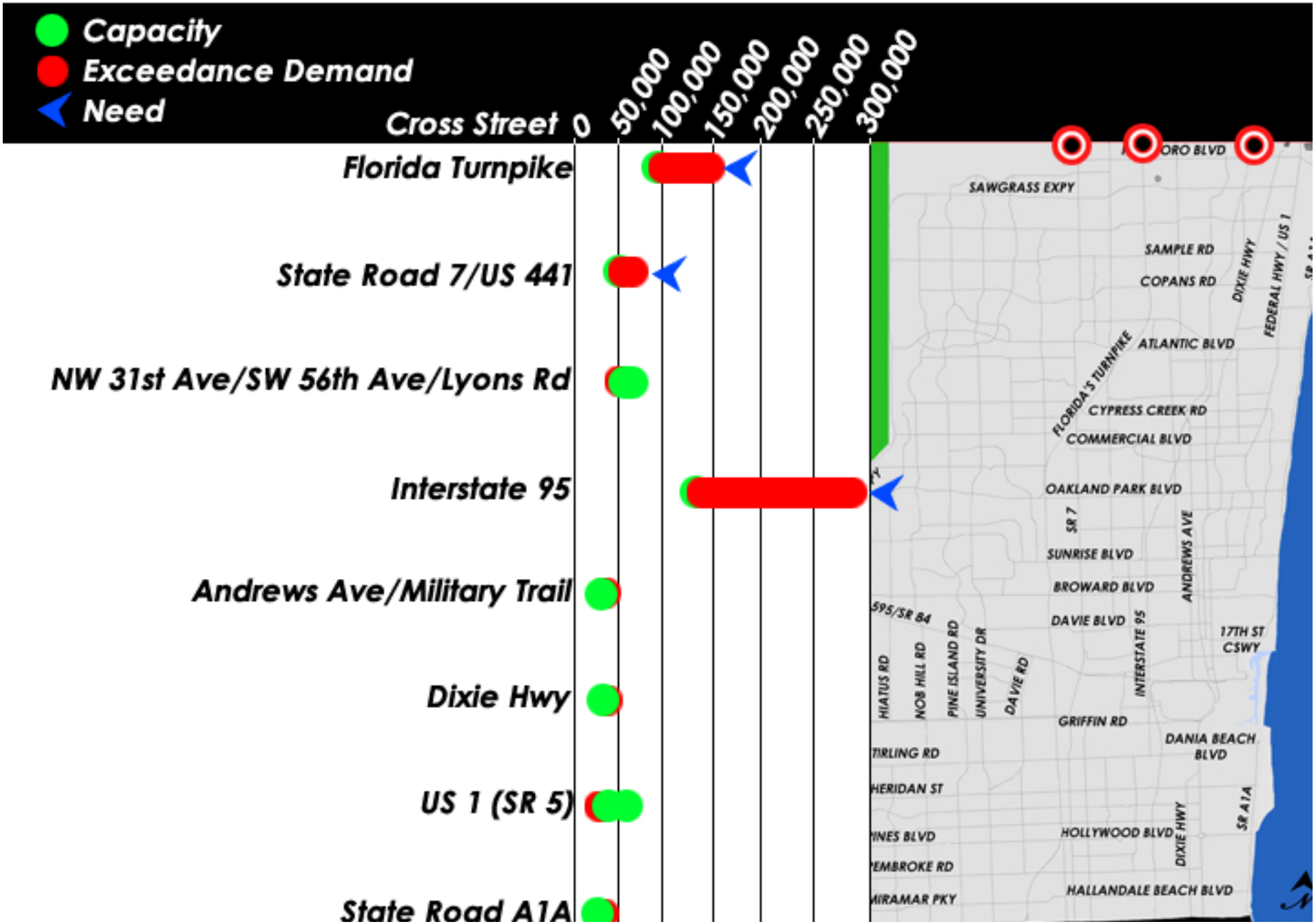
Step 3: Screen line Analysis - Profile along Oakland Park Blvd 2035



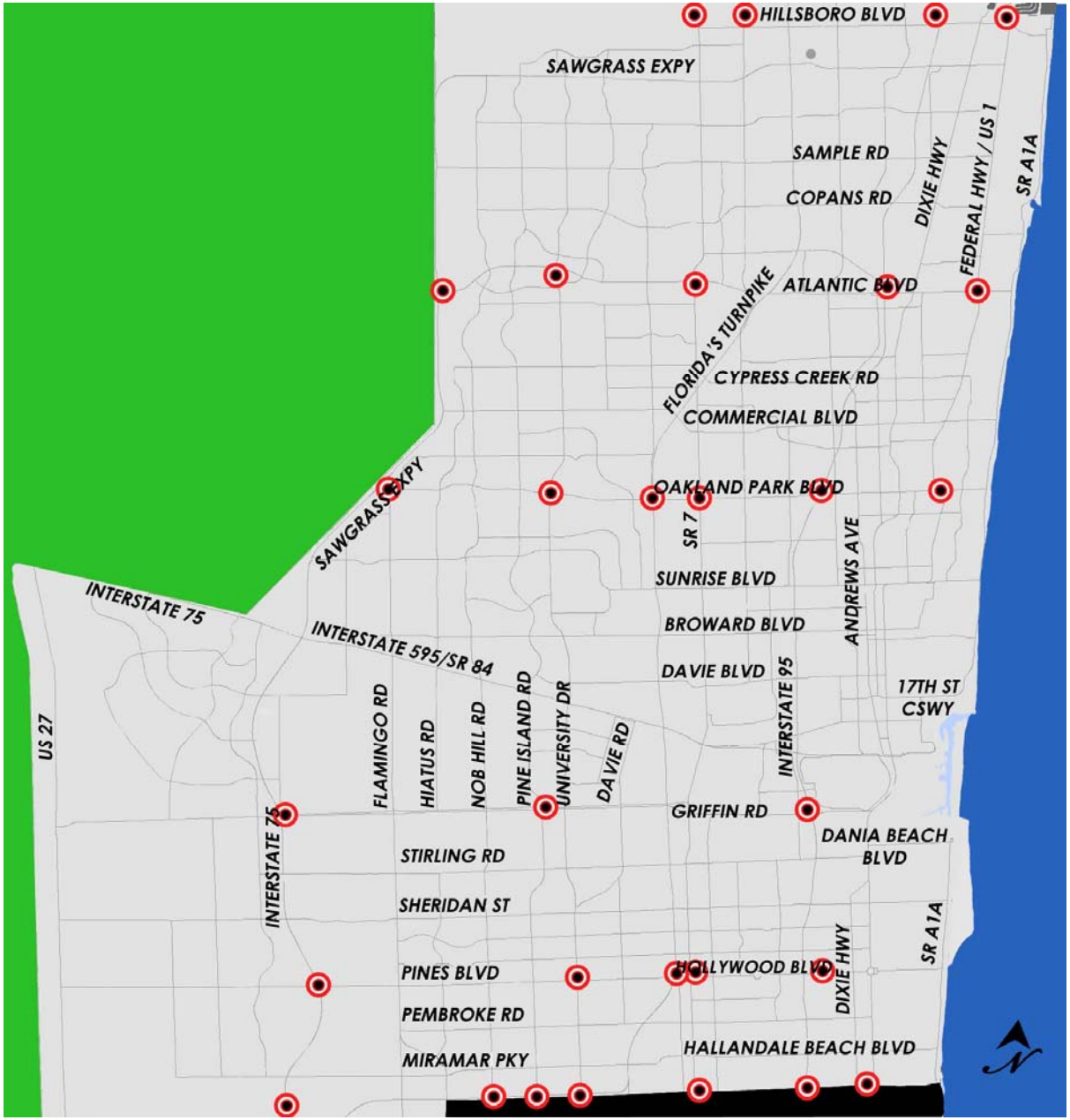
Step 3: Screen line Analysis - Profile along Atlantic Blvd 2035



Step 3: Screen line Analysis - Profile along Palm Beach Co. Line 2035



STEP 3: 2035 CONGESTED SCREENLINE POINTS



East – West Screenlines

(North-South Traffic Flows)

2035 Max Roadway

Legend

- Grade Separation
- Tri-Rail Grade Separation
- Areas of New Roadways
- 6- 8 lanes
- Limed Access Highway
- Signal Progression
- 8- 10 Lanes
- New Link/ Road
- Reversible Lanes
- Manages Lanes
- Open Road Tolling

2035 NEEDS ASSESMENT-TRANSIT UPDATE

2035 Transit Emphasis Network

2035 Highway improvements include

- Signal synchronization
- Grade separation (at some arterials)
- Construct logical missing roadway links
- Interchanges modifications
- ITS improvements such as open road tolling
- Reversible lanes and Managed lanes

2035 Transit improvements include

- Bus Rapid Transit (BRT)
- Light Rail Transit (LRT)
- Commuter Rail (CR)
- “One-seat ride” to major activity centers
- Reduced headway
- Limited-stop bus service

Methodology to Identify Transit Improvements

2035 Transit Needs

Step 1: Deficiency analysis (decrease in mode split)

Step 2: Future travel demand and trip patterns within Broward County and between Broward County and adjacent counties to identify corridors experiencing high travel movement

Step 3: Provide high quality transit in corridors and on highest performing BCT routes both existing and in future (2018) per BCT's Transit Development Plan (TDP)

Step 4: Provide direct connections or "one-seat" ride to major employment or activity centers

Step 5: Provide transit service in areas designated as TOC, TOD, RAC, LAC

Step 6: Increase transit service for transit dependent population

STEP 1: 2035 DEFICIENCY IN TRANSIT UTILIZATION

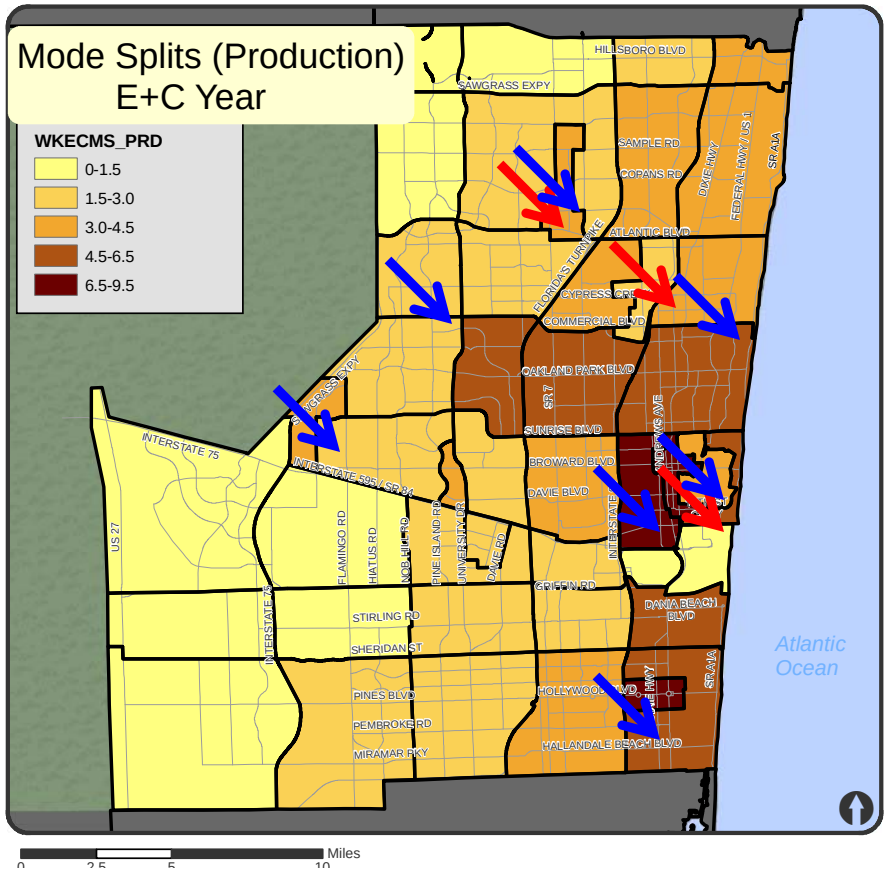
2035 Transit Needs

Step 1: Deficiency analysis (reduction in mode split)

HBW trips mode split for peak hour reduces from 2.09% in 2005 to 1.64% in 2035

Attraction End

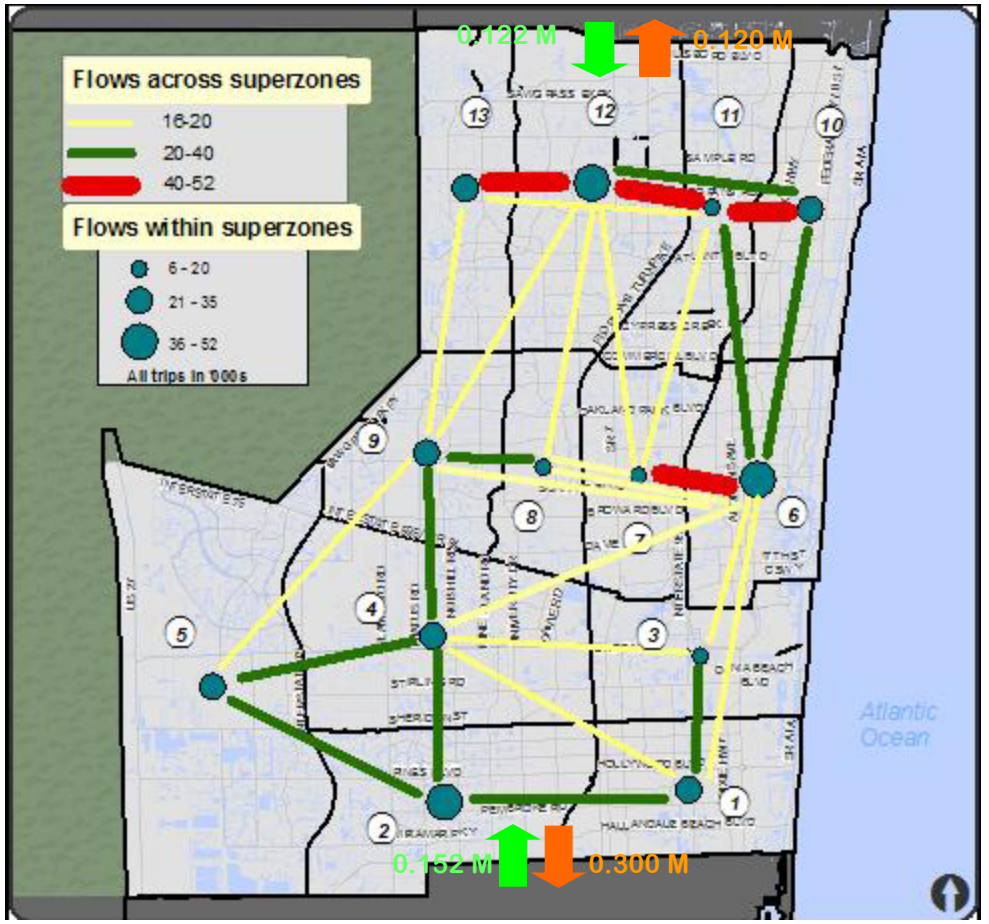
Production End



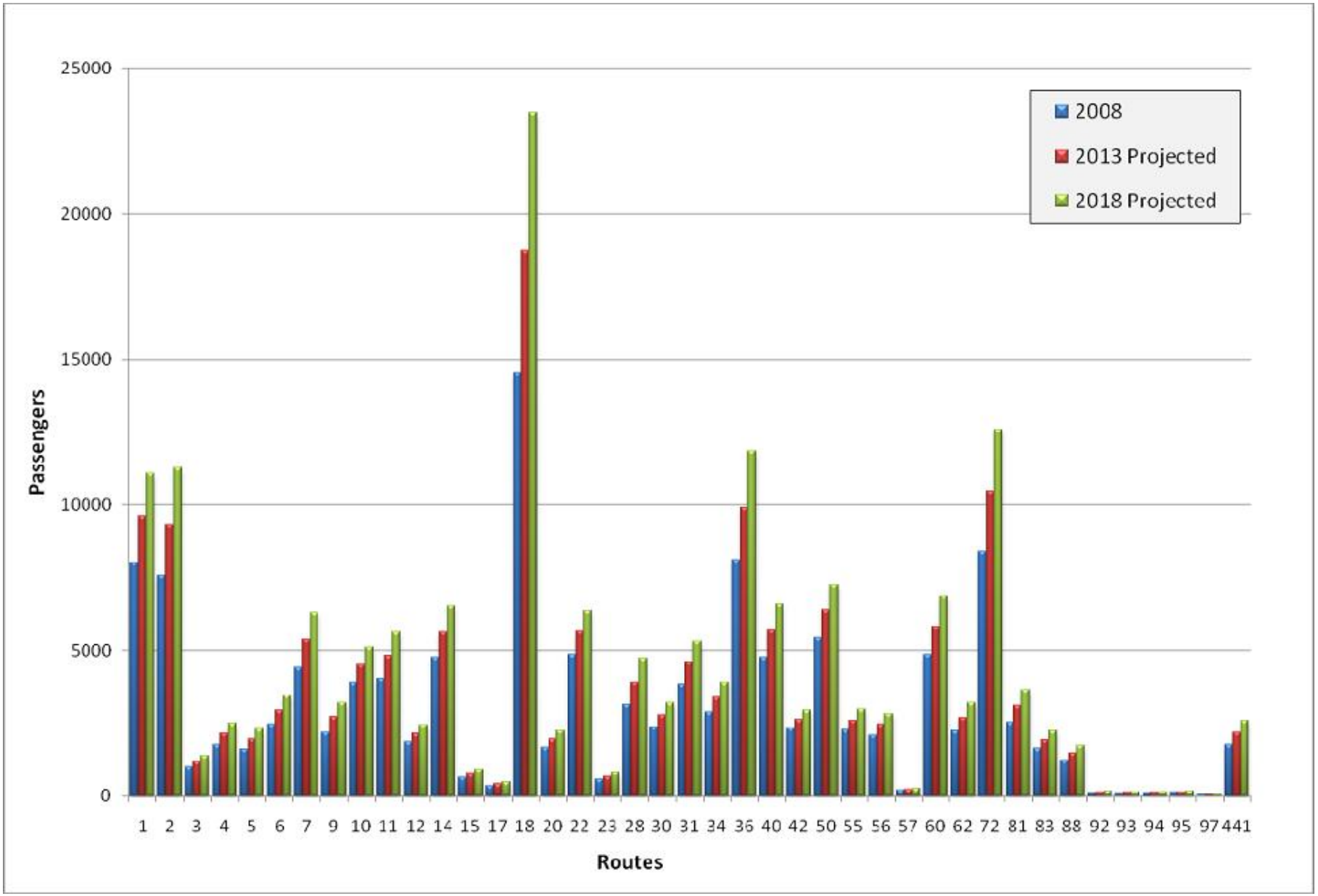
STEP 2: 2035 TRAVEL PATTERNS

2035 Transit Needs

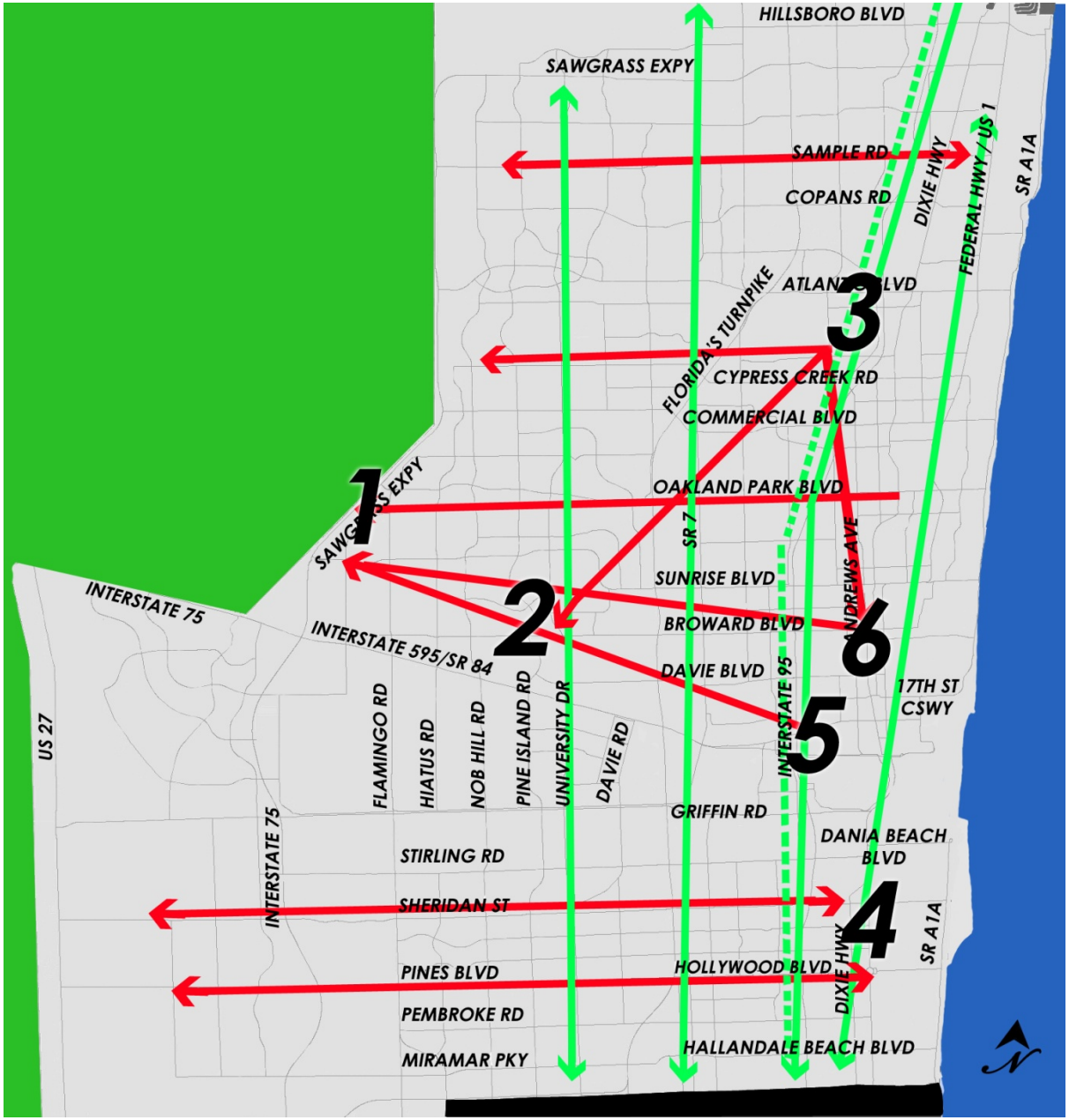
Step 2: Future travel demand and trip patterns within Broward County and between Broward County and adjacent counties to identify corridors experiencing high travel movement



STEP 3: 2018 BCT HIGH PERFORMING ROUTES + PRIORITY TDP



STEP 4: 2035 DIRECT CONNECTIONS BETWEEN MAJOR ACTIVITY CENTERS (ONE SEAT RIDE)



Legend

1 Sawgrass Mills

2 Plantation Midtown

3 Cypress Creek Area

4 Downtown Hollywood

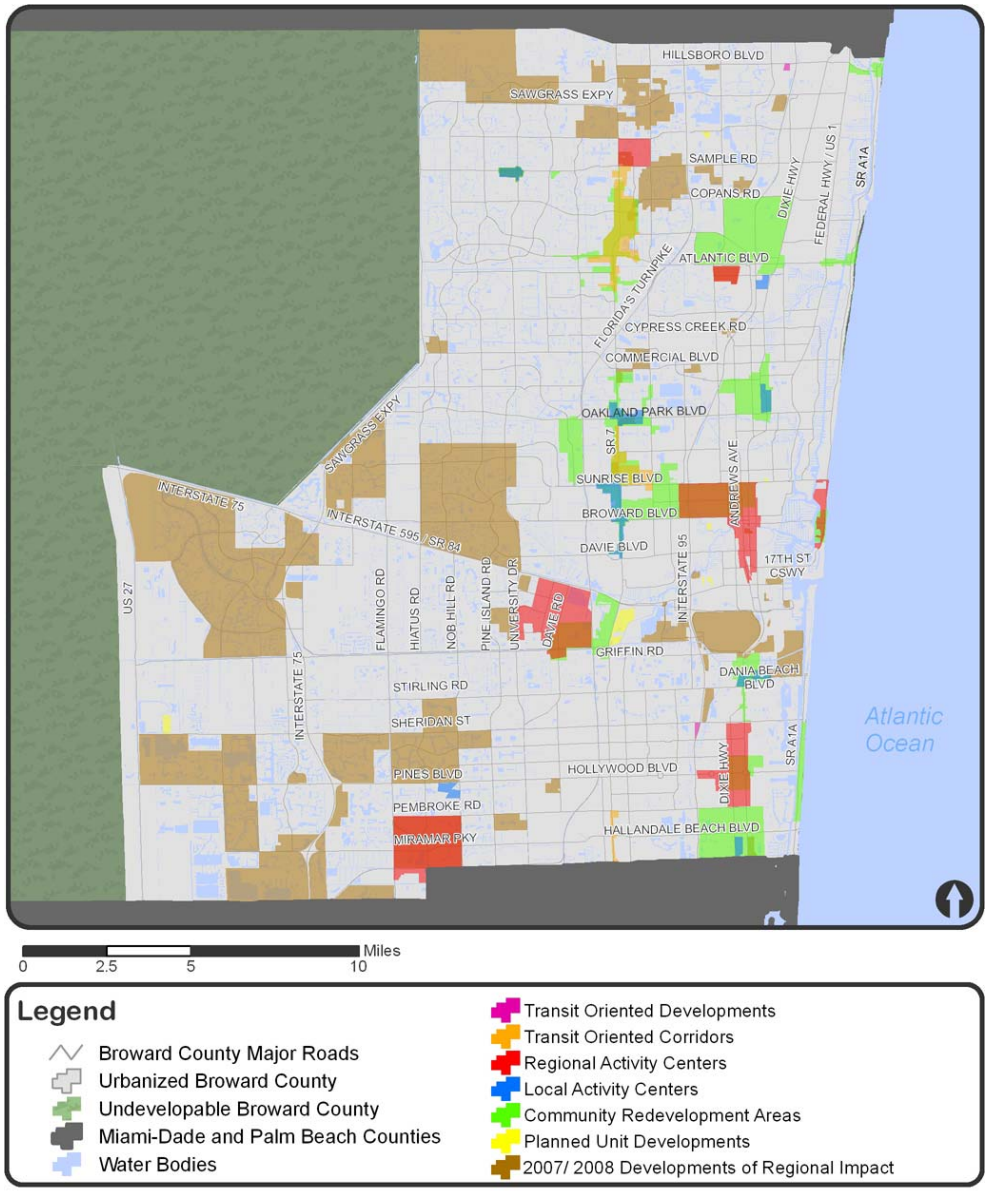
5 FLL Airport

6 Downtown Fort Lauderdale

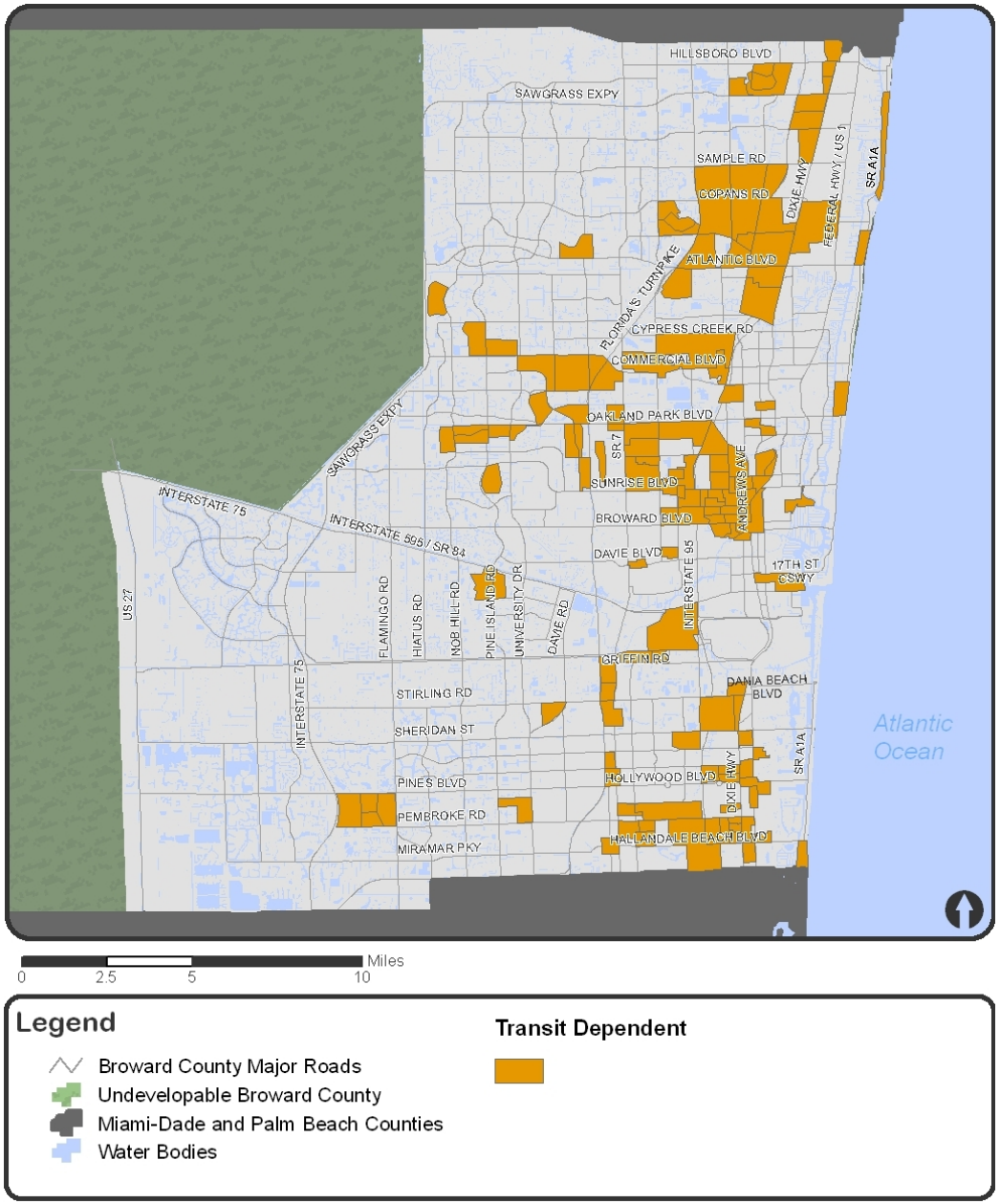
STEP 5: TRANSIT-ORIENTED LAND USE

2035 Transit Needs

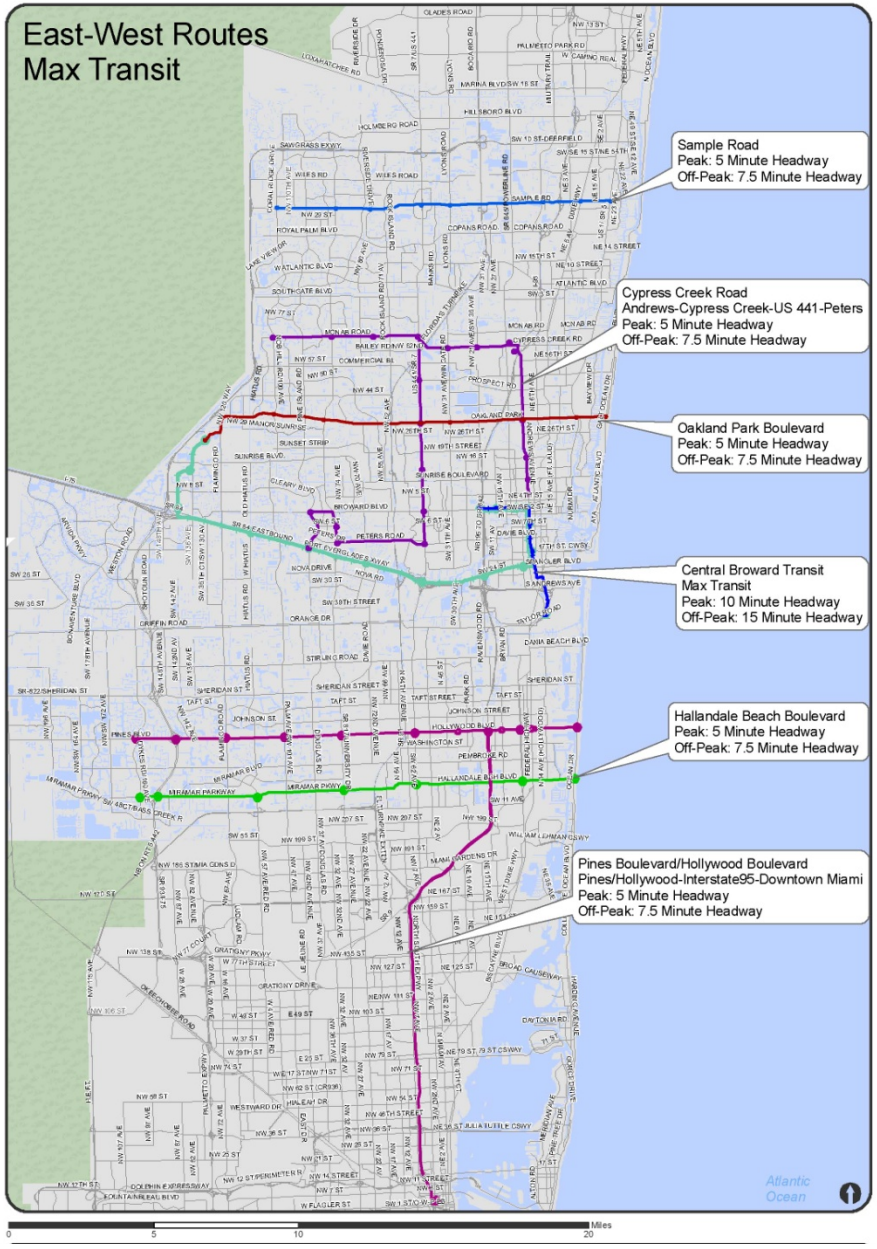
Step 5: Provide transit service in areas designated as TOC, TOD, RAC, LAC



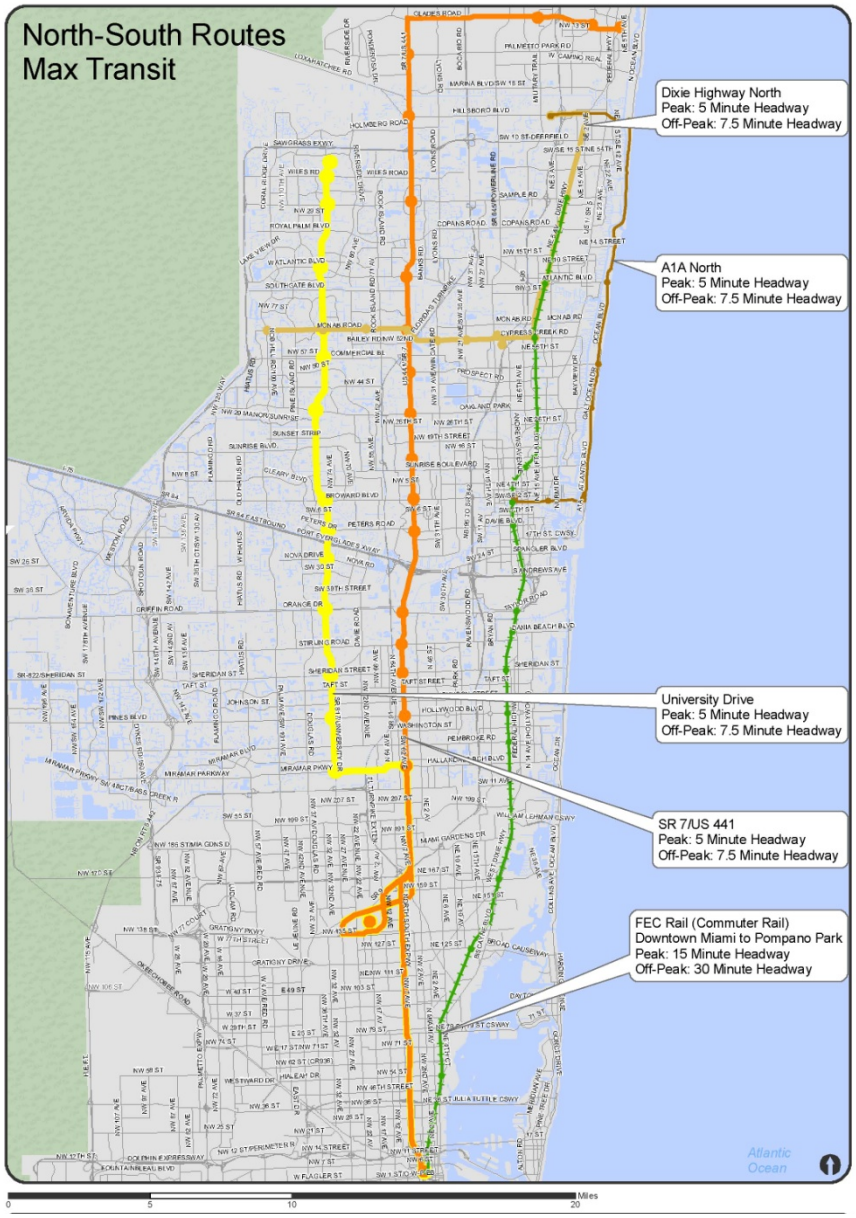
STEP 6: 2000 TRANSIT DEPENDENT POPULATIONS



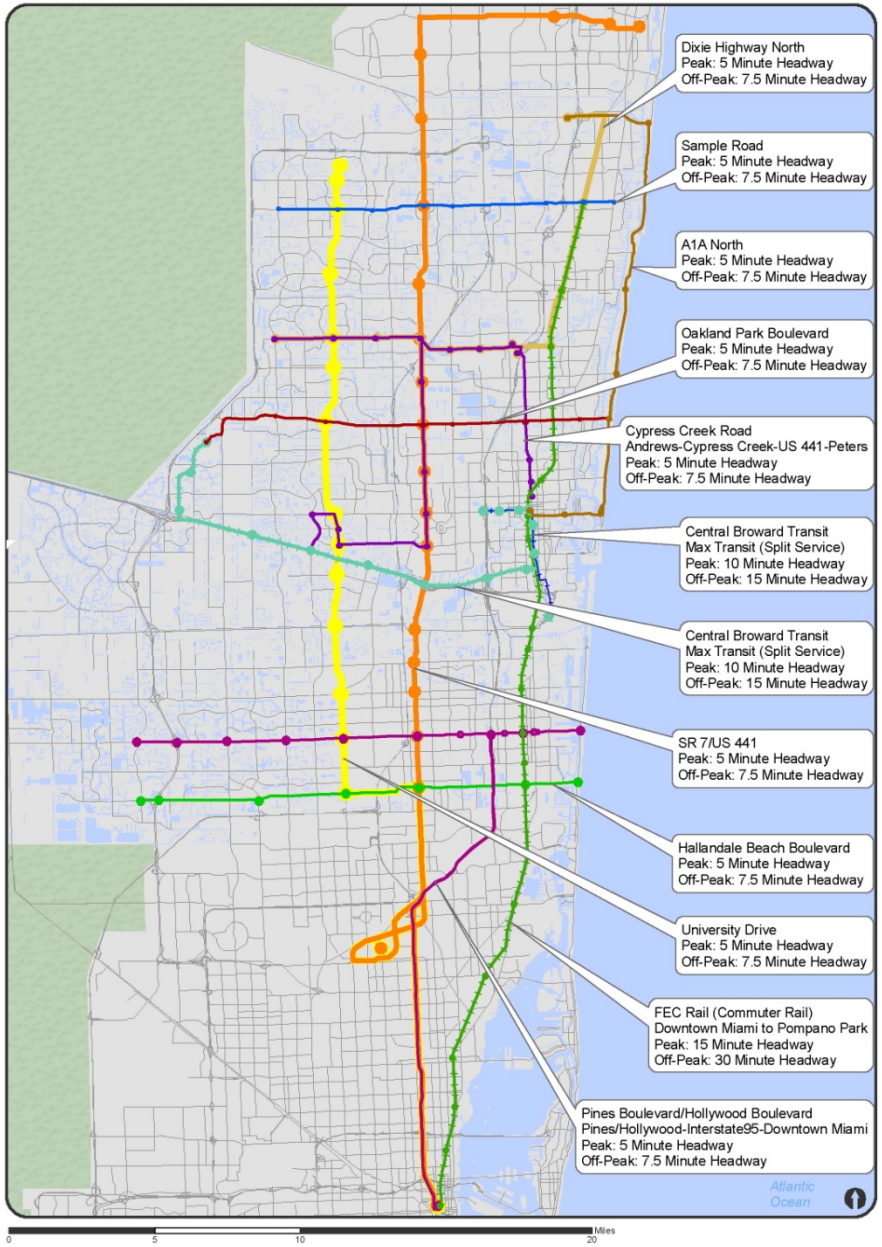
2035 HIGH CAPACITY TRANSIT - EAST/WEST



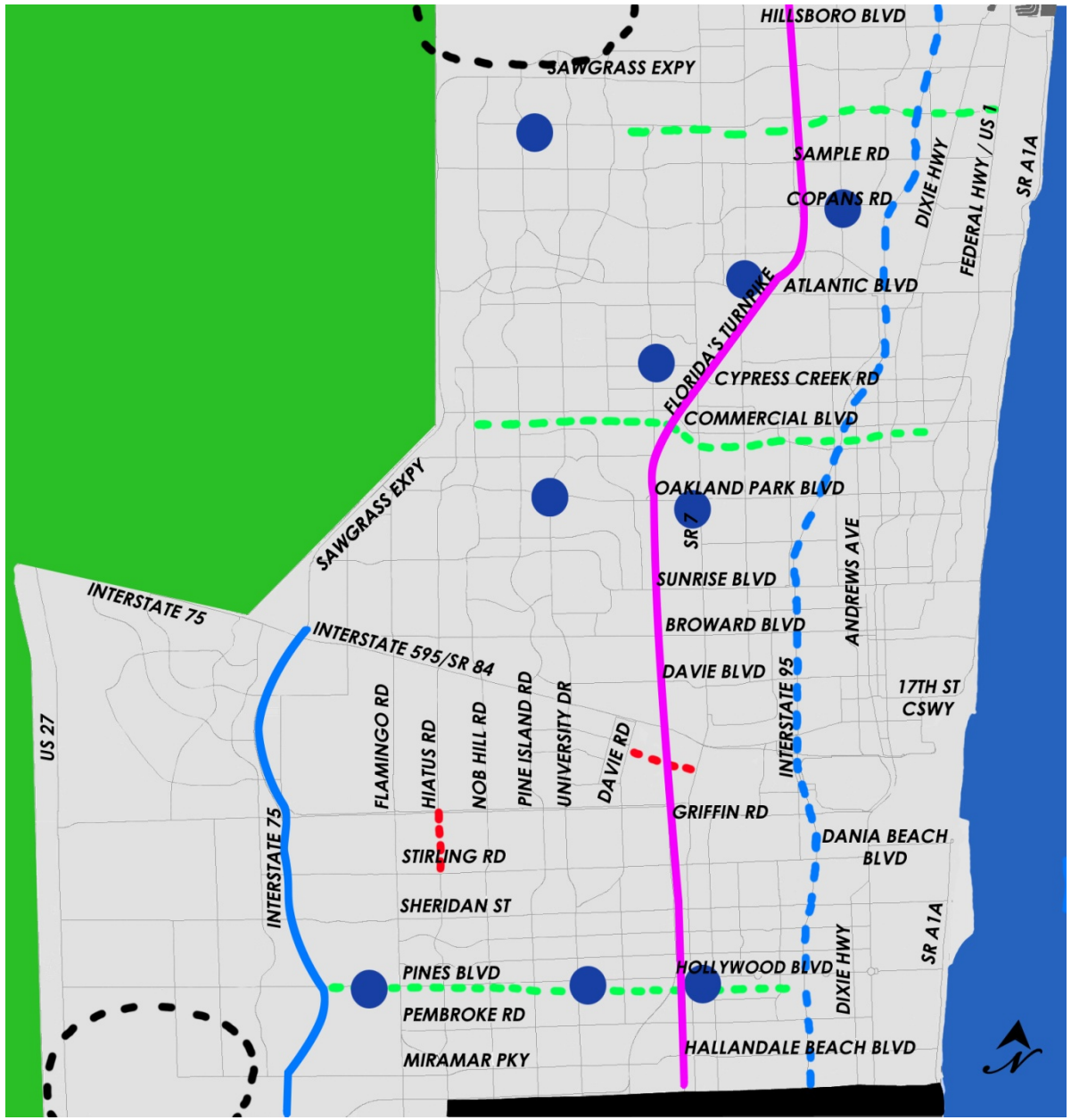
2035 HIGH CAPACITY TRANSIT – NORTH/SOUTH



2035 HIGH CAPACITY TRANSIT – Total System



2035 Targeted Roadway Improvements



Legend

- Grade Separation
- Signal Progression
- Reversible Lanes
- Manages Lanes
- Open Road Tolling
- New Road

2035 NEEDS ASSESMENT-PEDESTRIAN UPDATE

Methodology to Identify Pedestrian Improvements

2035 Pedestrian Needs

Step 1: Assess regional roadway network for sidewalk availability (excluding limited access facilities)

- Three levels of availability: Full (sidewalk on both sides); partial (only on one side); and none
- Create GIS map that shows regional roadway network and sidewalk availability (include greenways)

Step 2: Identify current and planned pedestrian activity centers

- Current includes sports facilities, schools, hospitals, libraries, mixed use centers, major transit stops (transfer centers, terminals, and Tri-Rail stations), open spaces and beaches
- Planned includes Local Activity Center, Transit Oriented Development or Corridor, Regional Activity Center, and Mixed Use areas on the Broward County Future Land Use Atlas.

Methodology to Identify Pedestrian Improvements

2035 Pedestrian Needs

Step 3: Assess sidewalk availability on regional roadway network within ¼ to ½ mile of pedestrian activity centers

- Create GIS map for region, plus maps for each activity center that has partial availability
- Six levels of assessment associated with level of need:
  - ¼ mile, no facilities – greatest need
  - ¼ mile, partial facilities – second priority
  - ¼ mile, full facilities – no need
  - ½ mile, no facilities – third priority
  - ½ mile, partial facilities – fourth priority
  - ½ mile, full facilities – no need

Step 4: Present assessment results using GIS map for region, plus maps for each activity center that has partial availability

2035 NEEDS ASSESMENT-BIKE UPDATE

Methodology to Identify Bicycle Improvements

2035 Bicycle Needs

Step 1: Assess regional roadway network for bike lane and path availability (excluding limited access facilities)

- Three levels of availability: Full (lanes or paths on both sides); partial (lane or path on only one side); and none.
- Create GIS map showing regional bike lane and path availability (include greenways)

Step 2: Identify current and future bicycle activity centers

- Current includes schools, hospitals, libraries, major transit stops (transfer centers, terminals and Tri-Rail stations), and recreation areas
- Future includes same land use designations as for pedestrian.

Methodology to Identify Bicycle Improvements

2035 Bicycle Needs

Step 3: Assess bicycle lane and path availability on regional roadways that connect to bicycle activity centers

- Three levels of assessment:
  - Poor availability – regional roadway with no bike lanes or paths
  - Moderate availability – regional roadway with lane or path on one side
  - Good availability – regional roadway with lanes or paths on both sides

Step 4: Combine assessment results with Bicycle Suitability Map to develop priorities

- Roadways with High interaction with traffic may not be best locations to encourage bicycle traffic so these may get lower priority
- Roadways with Least interaction with traffic may not need bicycle improvements as much as others
- Roadways with Low or Moderate interaction with traffic and lack of facilities may be highest priorities

Step 5: Present assessment results using GIS map for region

Next Steps

- Develop a balanced network
- Coordinate to identify Airport, Port, & Freight projects
- Identify bike/ped improvement projects
- Identify TDM strategies

Thank you!!