

Hillsborough County MPO Transit Study

Transit Concept for 2050
November 2007



Transit Technologies



- Bus
 - Light Rail
 - Commuter Rail
- Rail





- Standard or articulated high-capacity vehicles
- Special lanes or signal priority – Bus Rapid Transit
- Advantage of flexible service
- Congestion problem



Capacity of about one new arterial lane

Commuter Rail

- Locomotive pulling passenger cars
- Shares freight tracks
- Flexible capacity
- Peak hour service
- Long haul or suburb to city
- Needs to run flat and straight



Capacity of about one new lane of Interstate



Light Rail

- Powered from above by electric wires
- Has its own tracks
- Frequent service
- All day service
- Suburb to city and urban area travel
- Quick acceleration
- Can climb and turn



Capacity of about four new arterial lanes

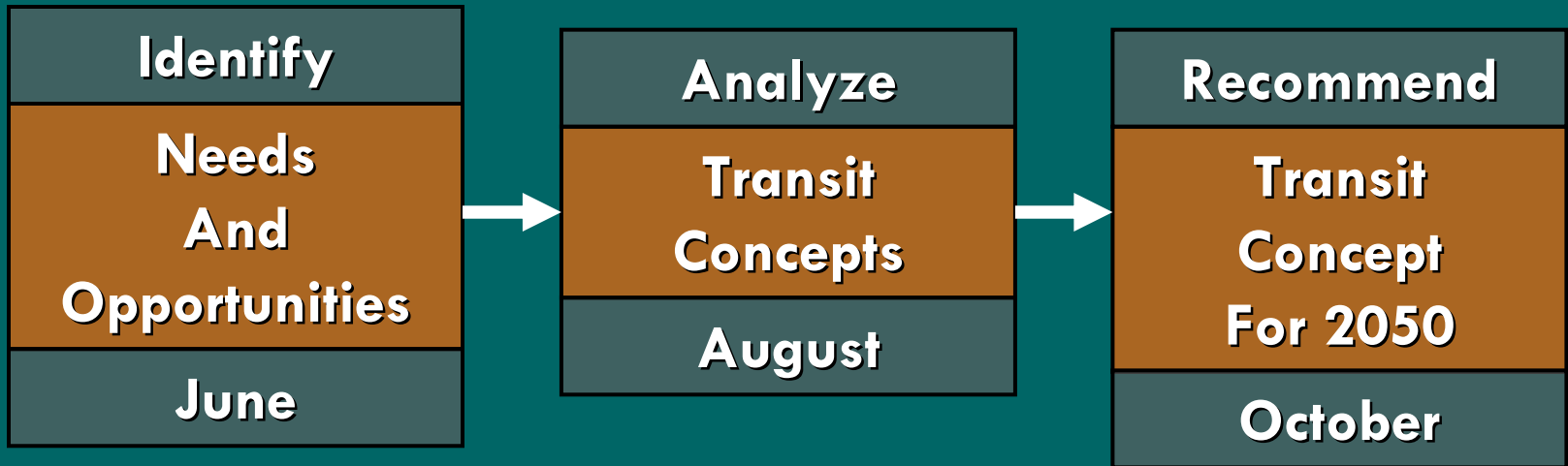


- Congested travel is projected to increase by 1,000% by 2050
- Average commute time for vehicles would triple
- Rail transit provides reliable trip times that don't change
- Bus transit can also do this in exclusive or special purpose lanes



Study Summary





Transit Concept For 2050 Brochure

Overview

The MPO Transit Study was initiated in Fall 2006 to identify long range transit needs that will improve mobility, economic vitality, and quality of life within Hillsborough County. First, community values were identified through a series of focus groups held throughout the county in late 2006. Through an extensive public participation series of transit scenarios workshops in Spring 2007, transit connections were identified and discussed. During the summer, four Transit Concept options were evaluated for system configuration, costs and benefits. The resulting preferred Transit Concept for 2050 is the composite of tradeoffs in order to produce the greatest benefit for the county.

The Transit Concept for 2050 will provide input to the MPO Long Range Transportation Plan, Comprehensive Plans for the cities and the county, the Hillsborough Area Regional Transit (HART) Transit Development Plan, and the action plan for Tampa Bay Area Regional Transportation Authority (TBARTA). Working together, these plans will provide the policy framework for multimodal transportation improvements to support local and regional managed growth and economic vitality.

Transit Concept

The MPO's Transit Concept for 2050 (see map on page 2) serves local and inter-regional travel needs within the Tampa Bay area. Providing alternative ways to travel along major commuting corridors, the concept depicts an overall transit system that best serves existing communities and activity centers as well as projected growth within the county. Capitalizing on existing land use plans, the concept maximizes potential land usage for key corridors, while providing quality transit service for the greatest number of potential riders.

To meet local travel needs as well as providing key regional connections in conjunction with TBARTA, the concept builds on a base of local and community circulator buses to include *regional/commuter rail, light rail and premium bus*. Each of these technologies provides a distinct type of service to meet the various needs of transit riders. Where is the passenger going? How long is the trip? Is it a work trip or a trip to an entertainment or shopping destination? Characteristics vary with each type of service. The preferred concept addresses the variations in service, minimizing transfers and interruptions between destinations and maximizing amenities around the varying types of transit stations.



Transit Concept For 2050 Summary Report



TRANSIT CONCEPT FOR 2050



Summary Report

October 29, 2007

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Transit Concept for 2050





- Basis of Concept
 - Improve Mobility
 - Support Economic Vitality
 - Quality of Life and Growth Management
- Transit Service Characteristics
 - Major Destinations
 - Quality of Service
 - Service Area



- Identified best opportunities for transit corridors
 - Past studies and current concepts
 - Built system concept
- Determined projected growth
 - Compared concepts with trend for 2050
 - Created a transit oriented future concept
- Tested technology choices
 - Evaluated capacity of transit corridors to accommodate development
 - Evaluated overall ridership potential and order of magnitude costs



Light Rail

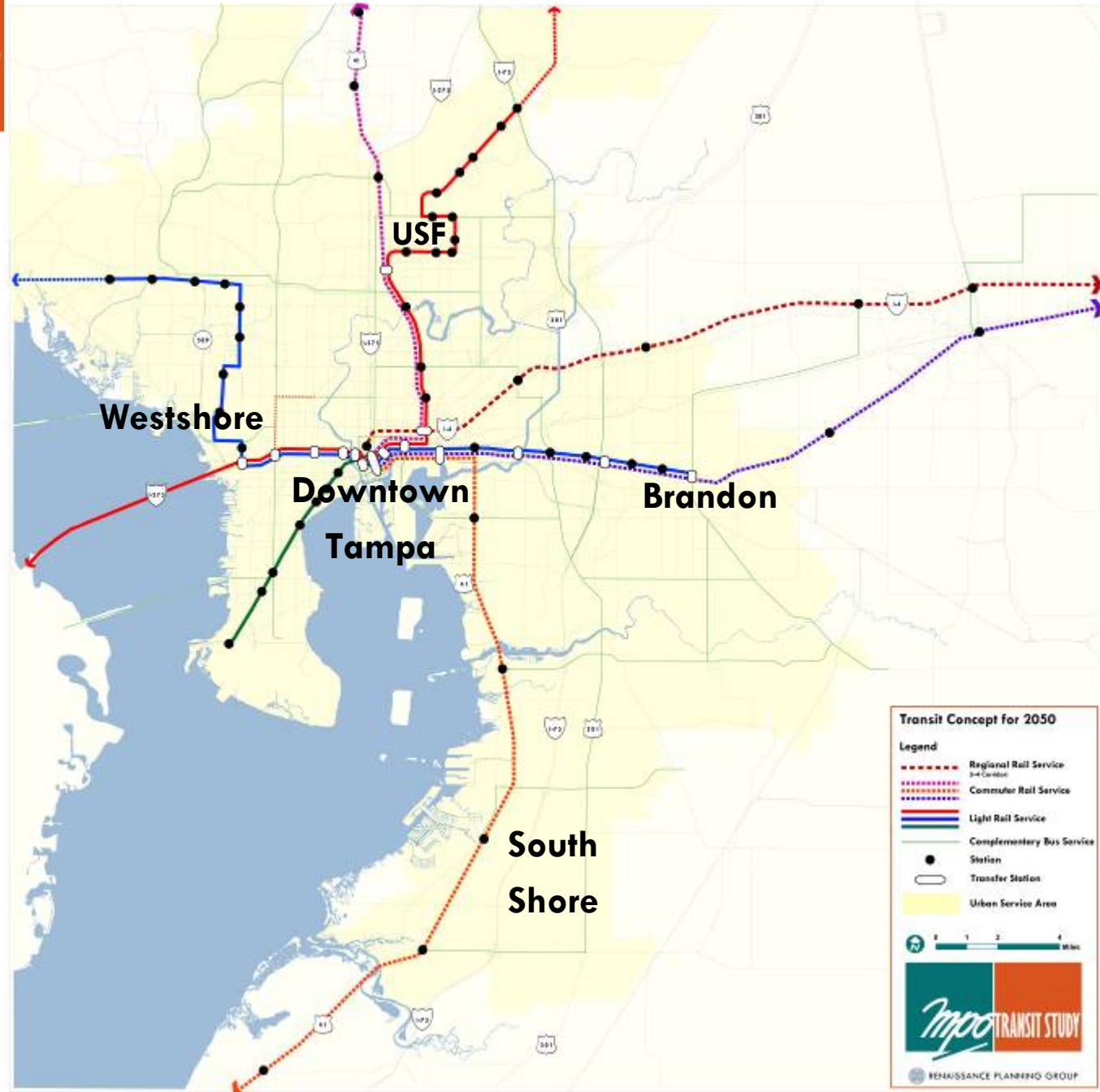
- New Tampa-Westshore
- Brandon-Westchase
- South Tampa-Downtown

Commuter Rail

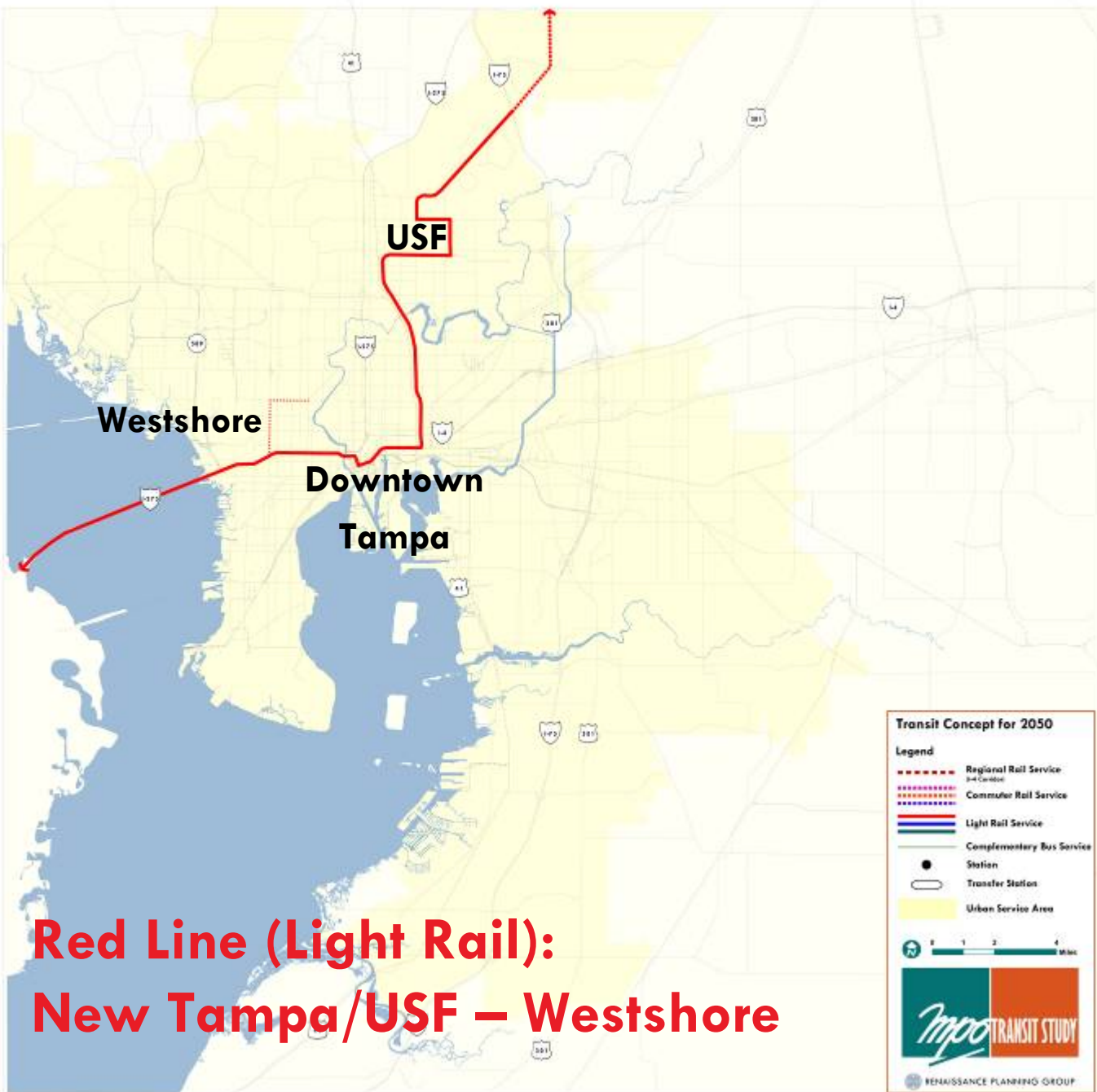
- Lutz
- SouthShore
- Plant City

Bus

- Complementary Bus Network

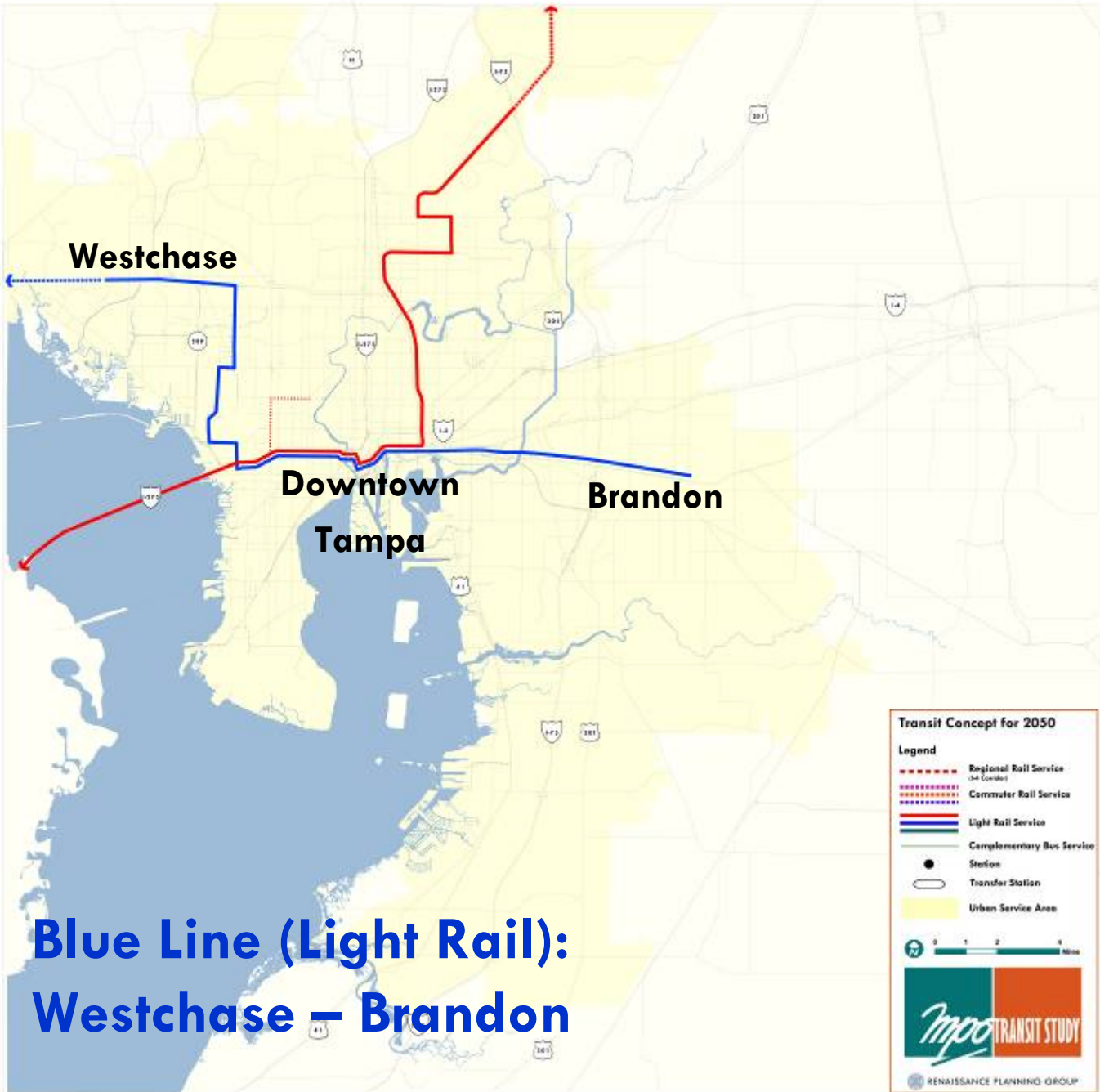


- Connects major activity centers
- Continuous all-day service
- Closely spaced station
 - 30 miles
 - 26 Stations
- Serves urban living, transit dependent, choice riders & special event
- Capacity to supports future growth



**Red Line (Light Rail):
New Tampa/USF – Westshore**

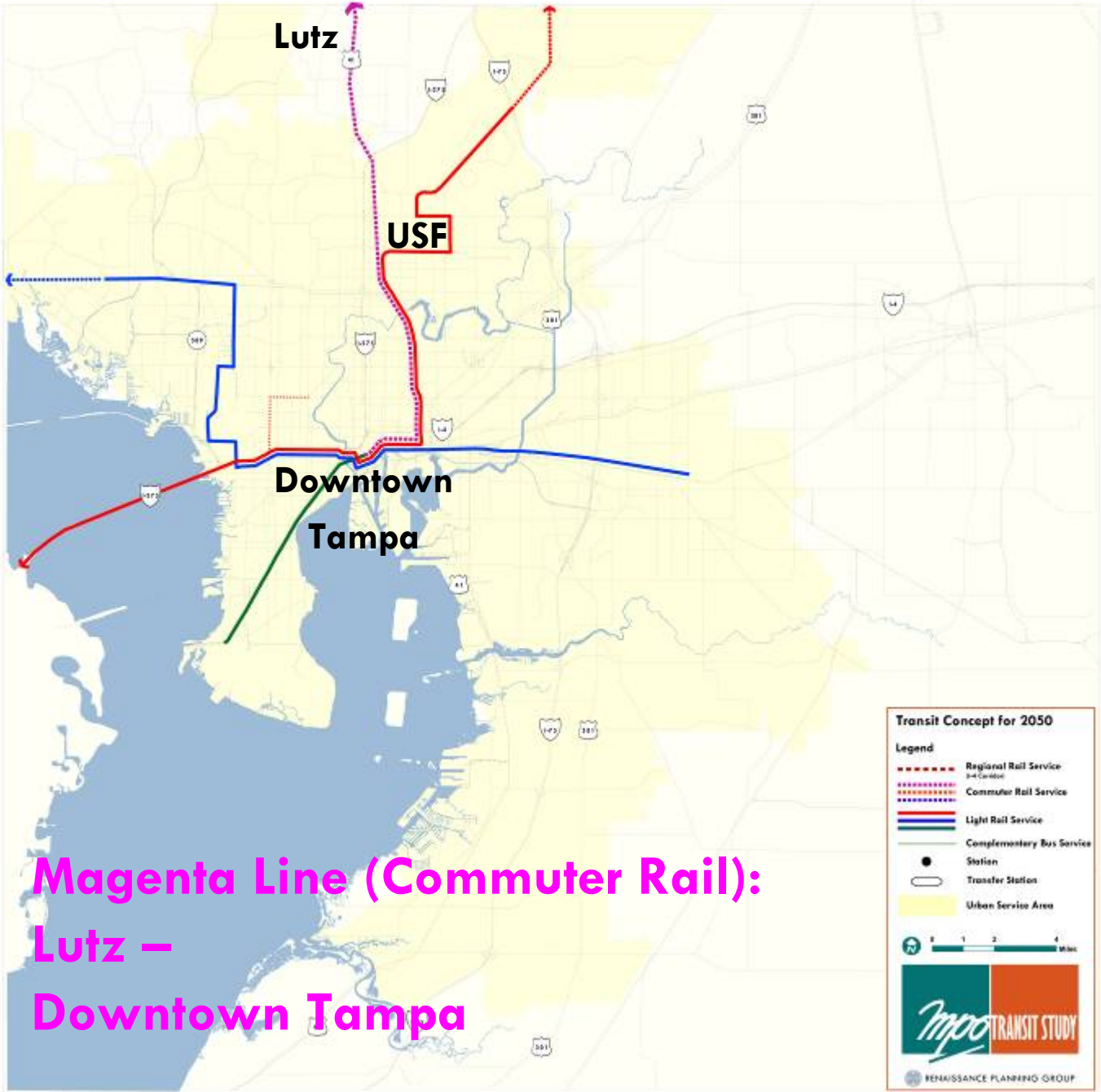
- Connects housing & employment
- Brandon as regional center
- Infill east of CBD
- Closely spaced station
 - 27 miles
 - 27 Stations
- Serves urban living, transit dependent, choice riders & special event



- Serves densely populated area and activity centers
- Closely spaced station
 - 8 miles
 - 9 Stations
- Serves urban living, transit dependent, choice riders & special event



- Commuter rail service to north Hillsborough and Pasco counties
- Peak period travel & transfer stations to light rail
- Express service
 - 17 miles
 - 6 Stations
- Provides alternative to commuters, transit dependent & underserved areas
- Added capacity alternatives to major road investments




Transit Concept for 2050

Legend

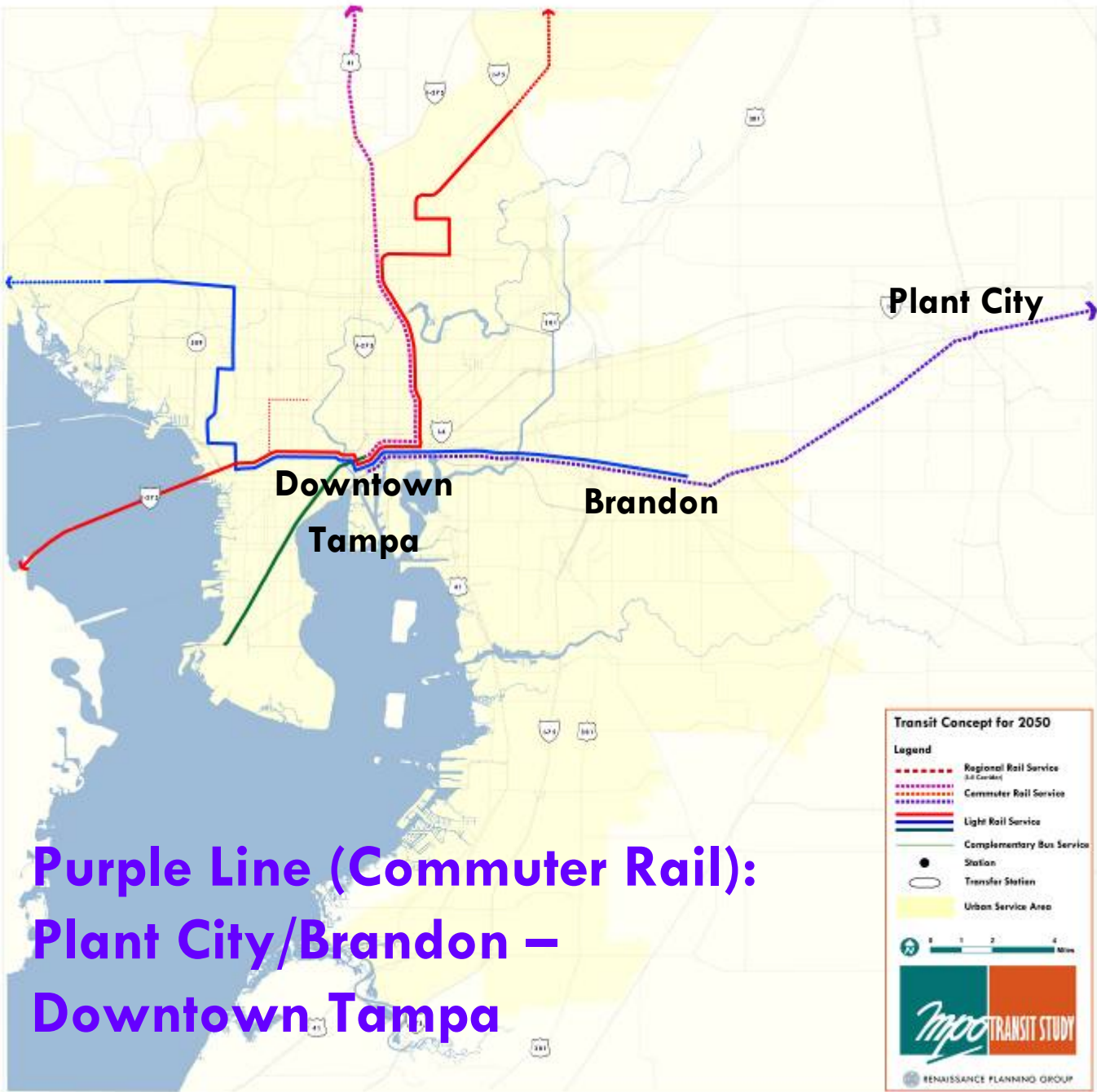
- Regional Rail Service
3-4 Car Model
- Commuter Rail Service
- Light Rail Service
- Complementary Bus Service
- Station
- Transfer Station
- Urban Service Area

0 1 2 4 Miles



RENAISSANCE PLANNING GROUP

- Commuter rail service to Plant City, Brandon and Polk County
- Peak period travel & transfer stations to Brandon light rail
- Express service
 - 26 miles
 - 5 Stations
- Provides alternative to commuters, transit dependent & underserved areas
- Added capacity alternatives to major road investments




**Purple Line (Commuter Rail):
Plant City/Brandon –
Downtown Tampa**

Transit Concept for 2050

Legend

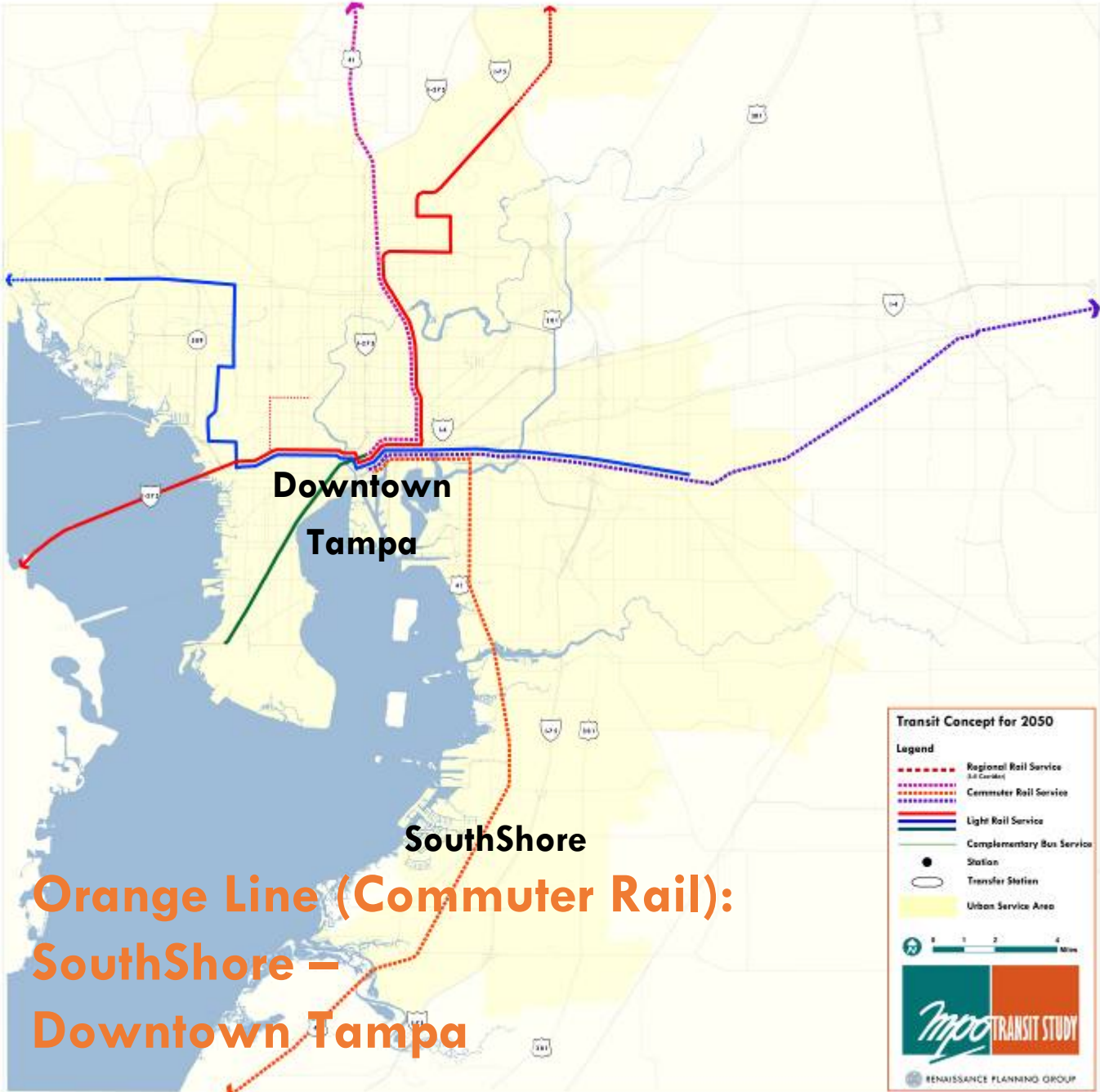
- Regional Rail Service (3.0 Car/Mi)
- Commuter Rail Service
- Light Rail Service
- Complementary Bus Service
- Station
- Transfer Station
- Urban Service Area

0 1 2 4 Miles



RENAISSANCE PLANNING GROUP

- Commuter rail service to SouthShore and Sarasota/Manatee counties
- Peak period travel & transfer stations to light rail
- Express service
 - 26 miles
 - 7 Stations
- Provides alternative to commuters, transit dependent & underserved areas
- Added capacity alternatives to major road investments



Transit Concept for 2050

Legend

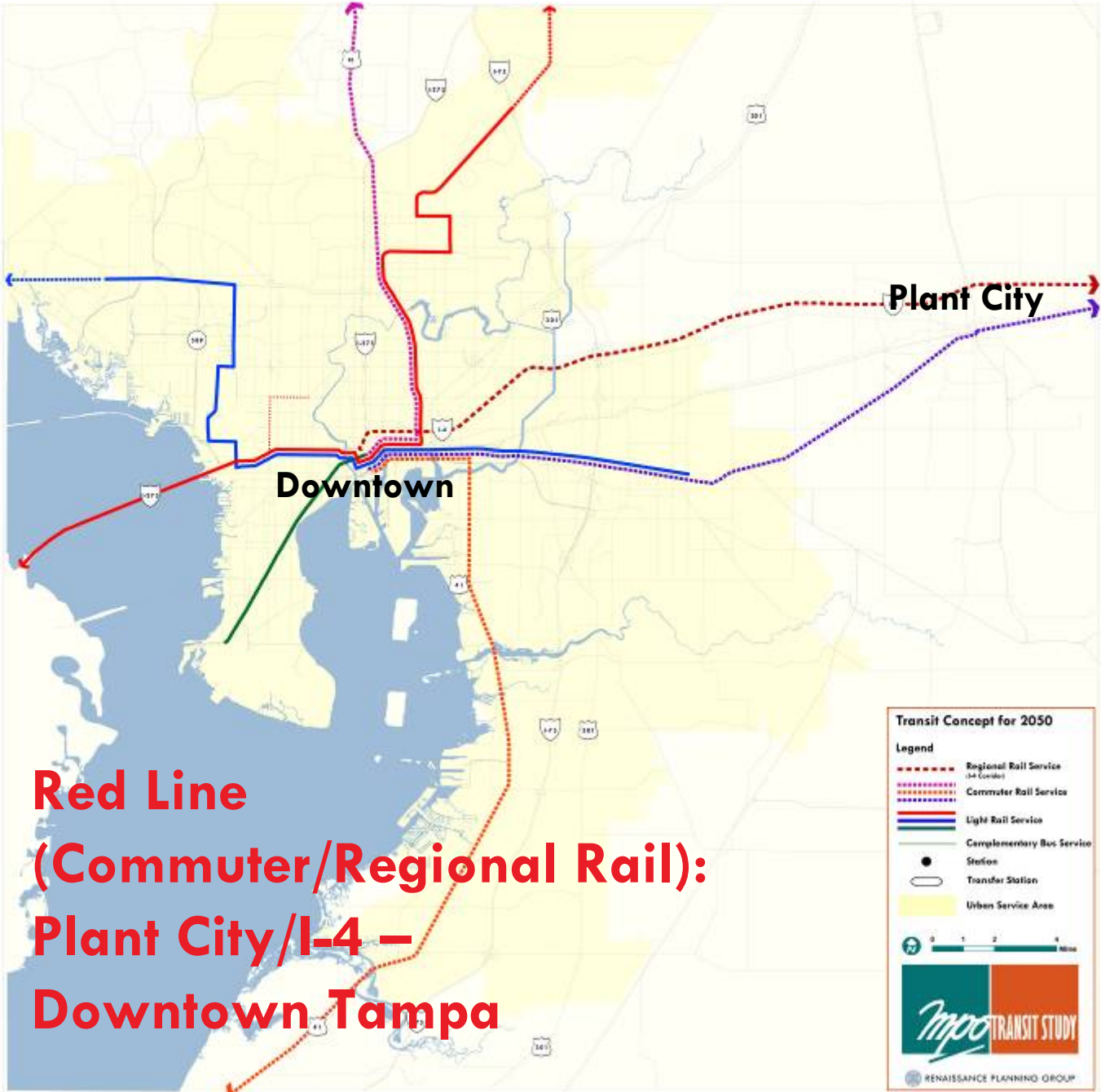
- Regional Rail Service (Red dashed line)
- Commuter Rail Service (Purple dotted line)
- Light Rail Service (Blue solid line)
- Complementary Bus Service (Green solid line)
- Station (Black dot)
- Transfer Station (Black oval)
- Urban Service Area (Yellow shaded area)

0 1 2 4 Miles



RENAISSANCE PLANNING GROUP

- Commuter rail service to Plant City along I-4 and East Central Florida
- Peak period travel to Tampa
- Express service
 - 26 miles
 - 5 Stations
- Provides alternative to commuters, transit dependent & underserved areas
- Added capacity alternatives to major highway investments




Transit Concept for 2050

Legend

- Regional Rail Service (44 Consider)
- Comuter Rail Service
- Light Rail Service
- Complementary Bus Service
- Station
- Transfer Station
- Urban Service Area

0 1 2 4 Miles



RENAISSANCE PLANNING GROUP

Light Rail

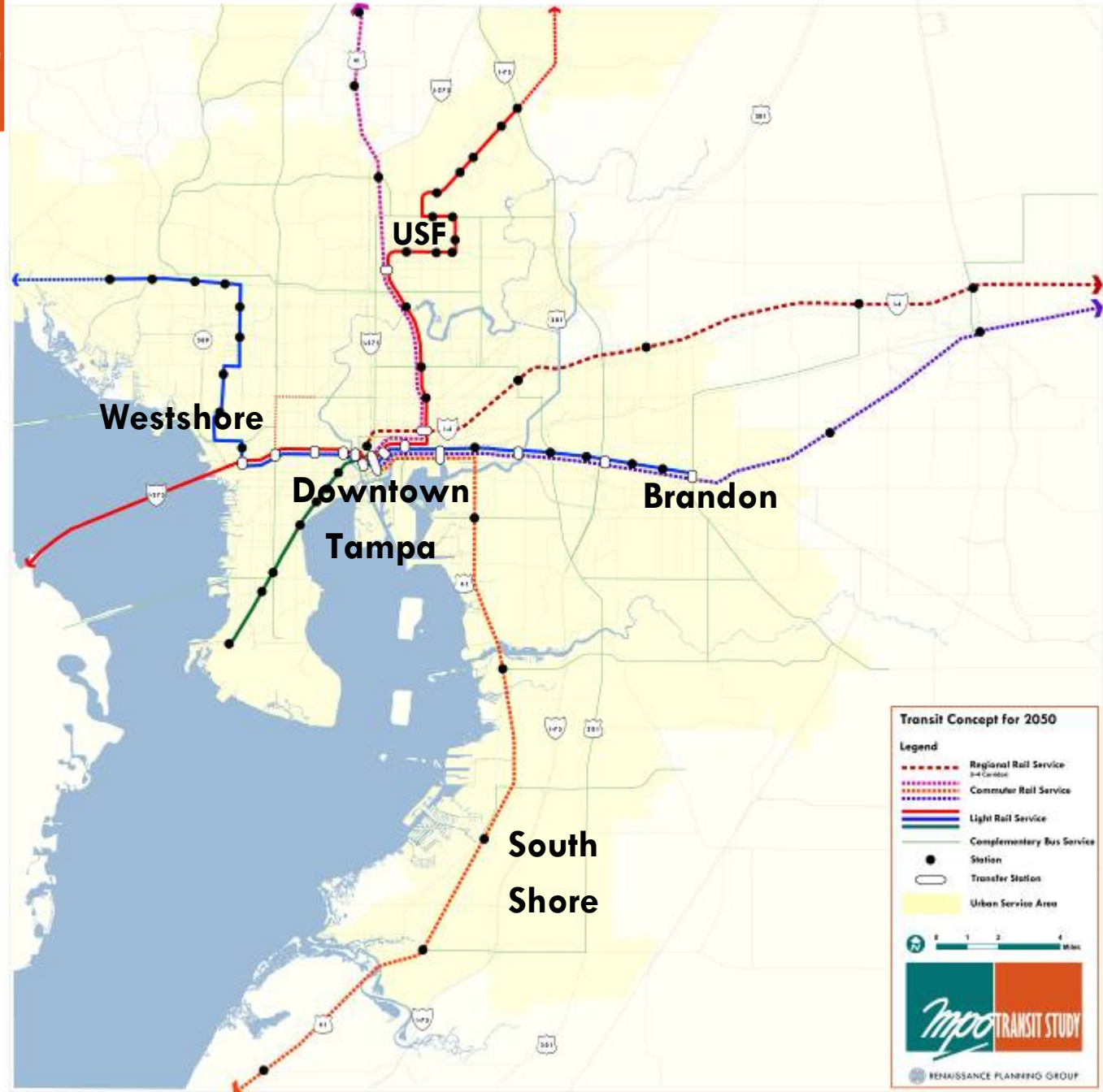
- New Tampa-Westshore
- Brandon-Westchase
- South Tampa-Downtown

Commuter Rail




- Lutz
- SouthShore
- Plant City

Bus





- Complementary Bus Network



Light Rail (Average 1 mile station spacing)

- New Tampa-Westshore (Red Line) 30 miles  26 stations
- Brandon-Westchase (Blue Line) 27 miles  27 stations
- South Tampa-Downtown (Green Line) 8 miles  9 stations

Commuter Rail (Avg. 3-5 mile station spacing)

- Lutz (Magenta Line) 17 miles  6 stations
- SouthShore (Orange Line) 26 miles  7 stations
- Plant City/Brandon (Purple Line) 26 miles  5 stations
- Plant City/I-4 (Red Line) 26 miles  5 stations

Hillsborough County

- Light Rail
 - 65 miles and 62 stations
- Commuter Rail
 - 95 miles and 23 stations

Denver

- Light Rail
 - 72 miles and 65 stations
- Commuter Rail
 - 80 miles and 20 stations



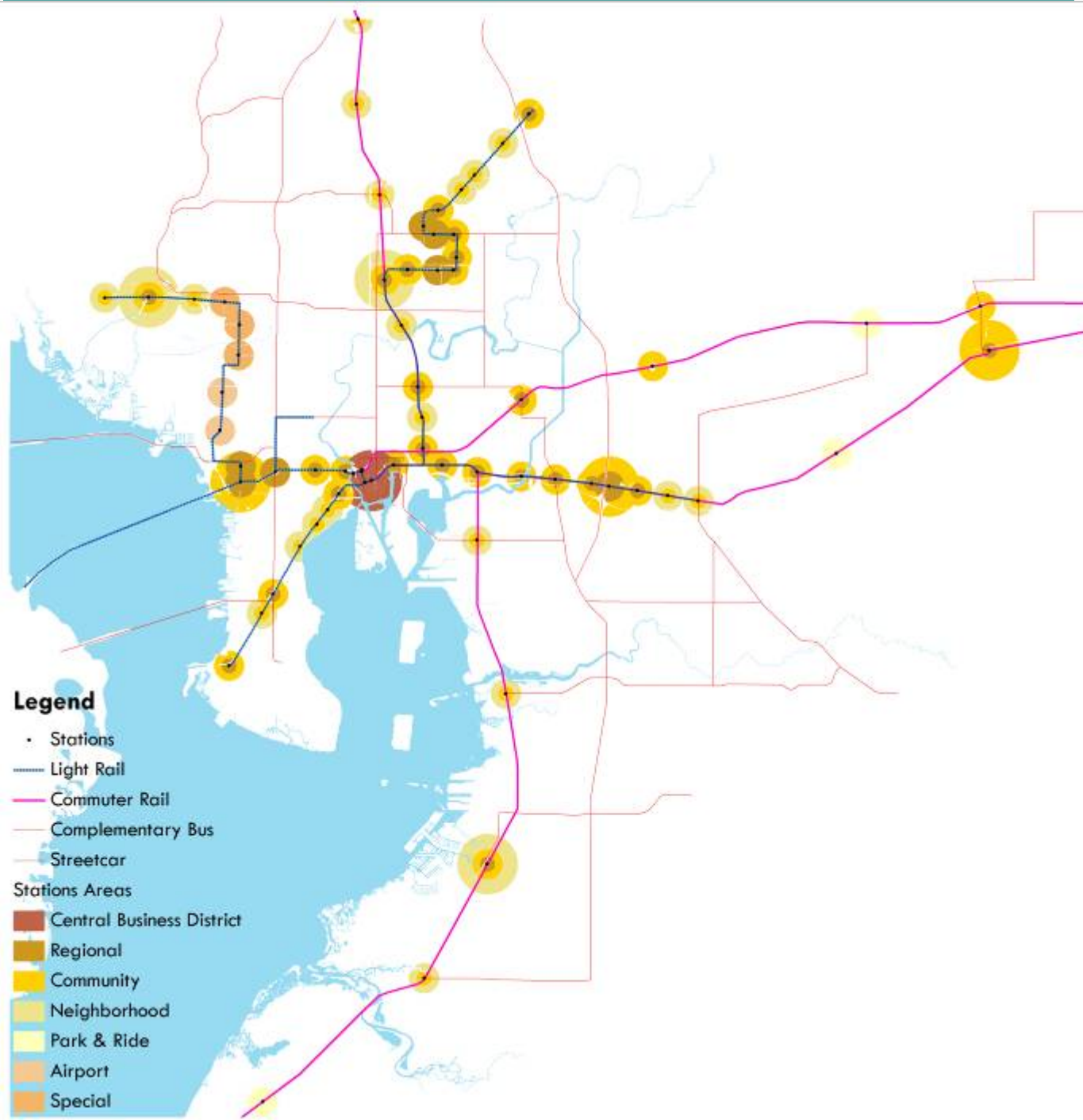
Denver

Analysis of 2050 Transit Future



Station Types

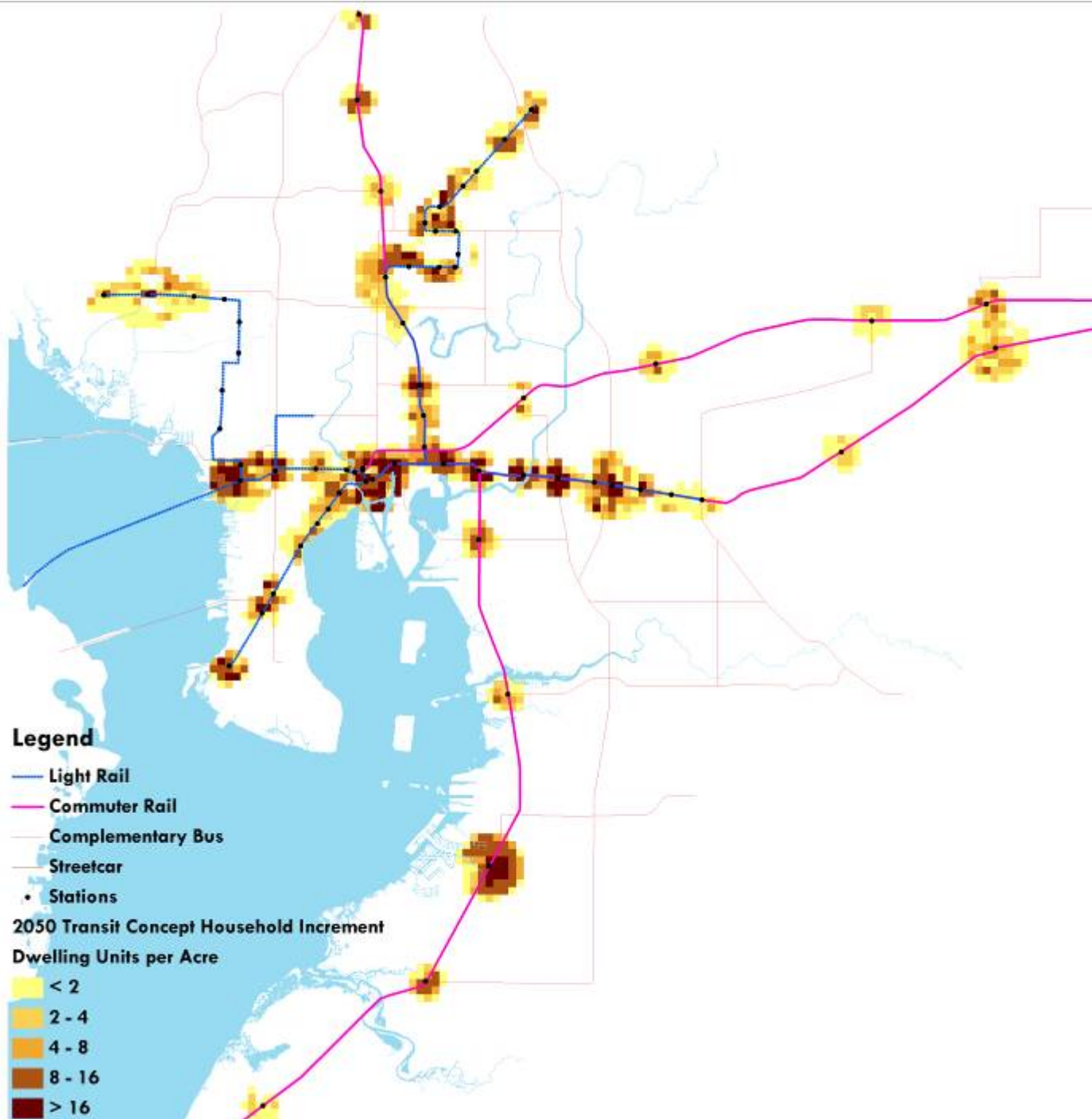
- Regional**
 50-100 DU/Ac
 30-500 Jobs/Ac
- Community**
 20-75 DU/Ac
 5-100 Jobs/Ac
- Neighborhood**
 10-50 DU/Ac
 2-15 Jobs/Ac



HH Density
Transit Concept



DU/Acre (2050)
Projected Transit
Growth Increment

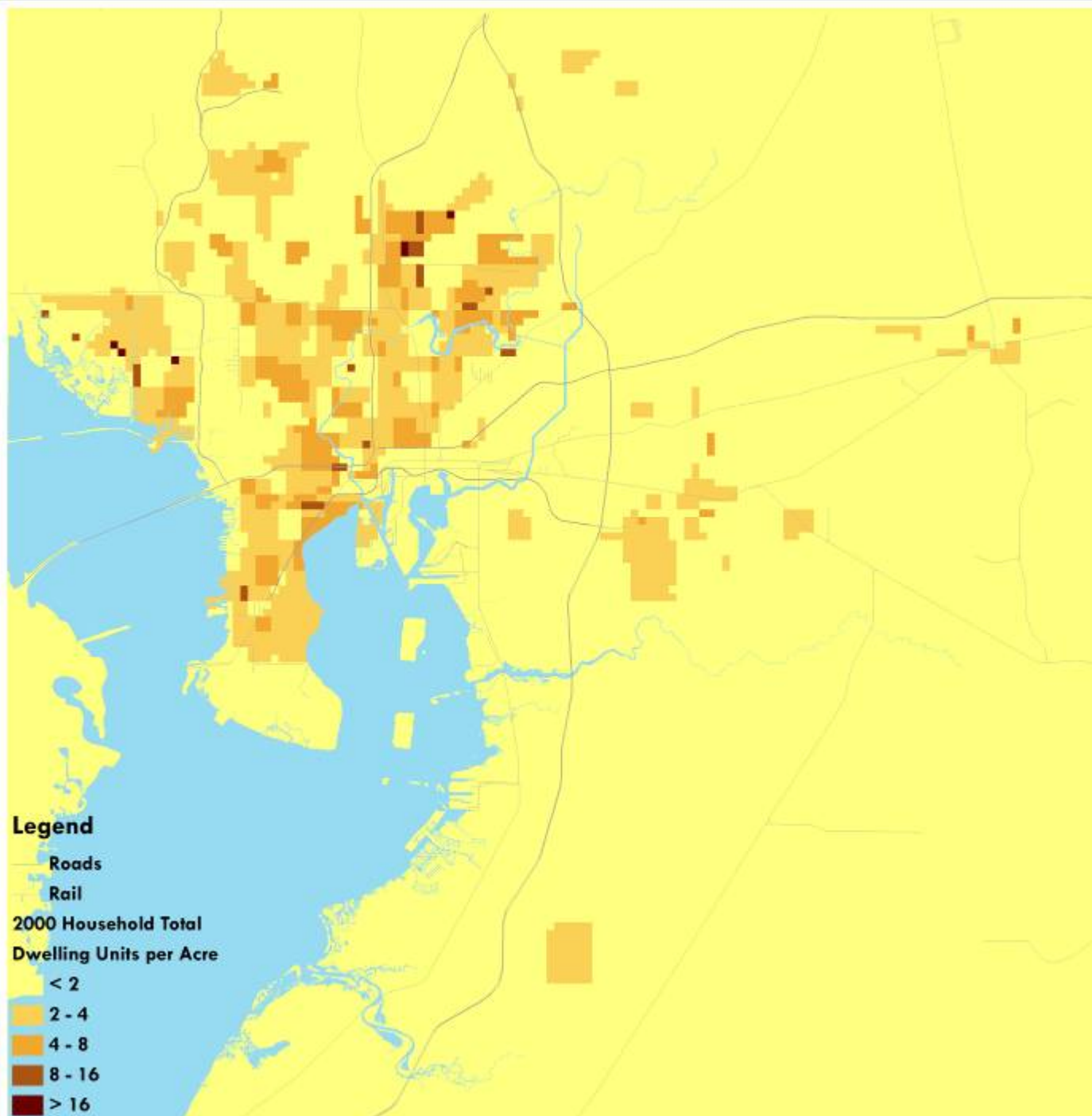


HH Density

Current

- < 2
- 2 - 4
- 4 - 8
- 8 - 16
- > 16

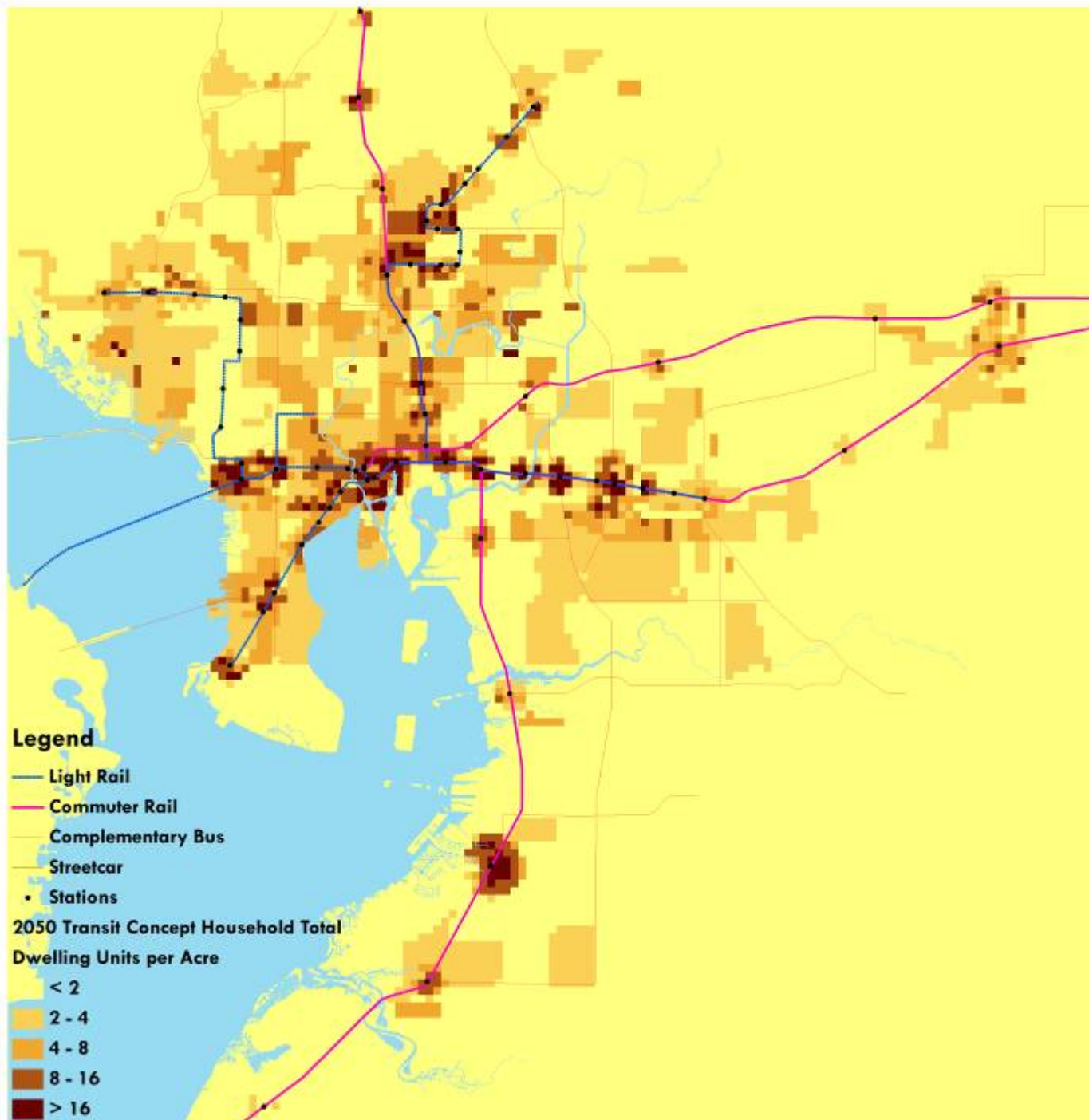
DU/Acre (2000)



HH Density
Transit Concept

- < 2
- 2 - 4
- 4 - 8
- 8 - 16
- > 16

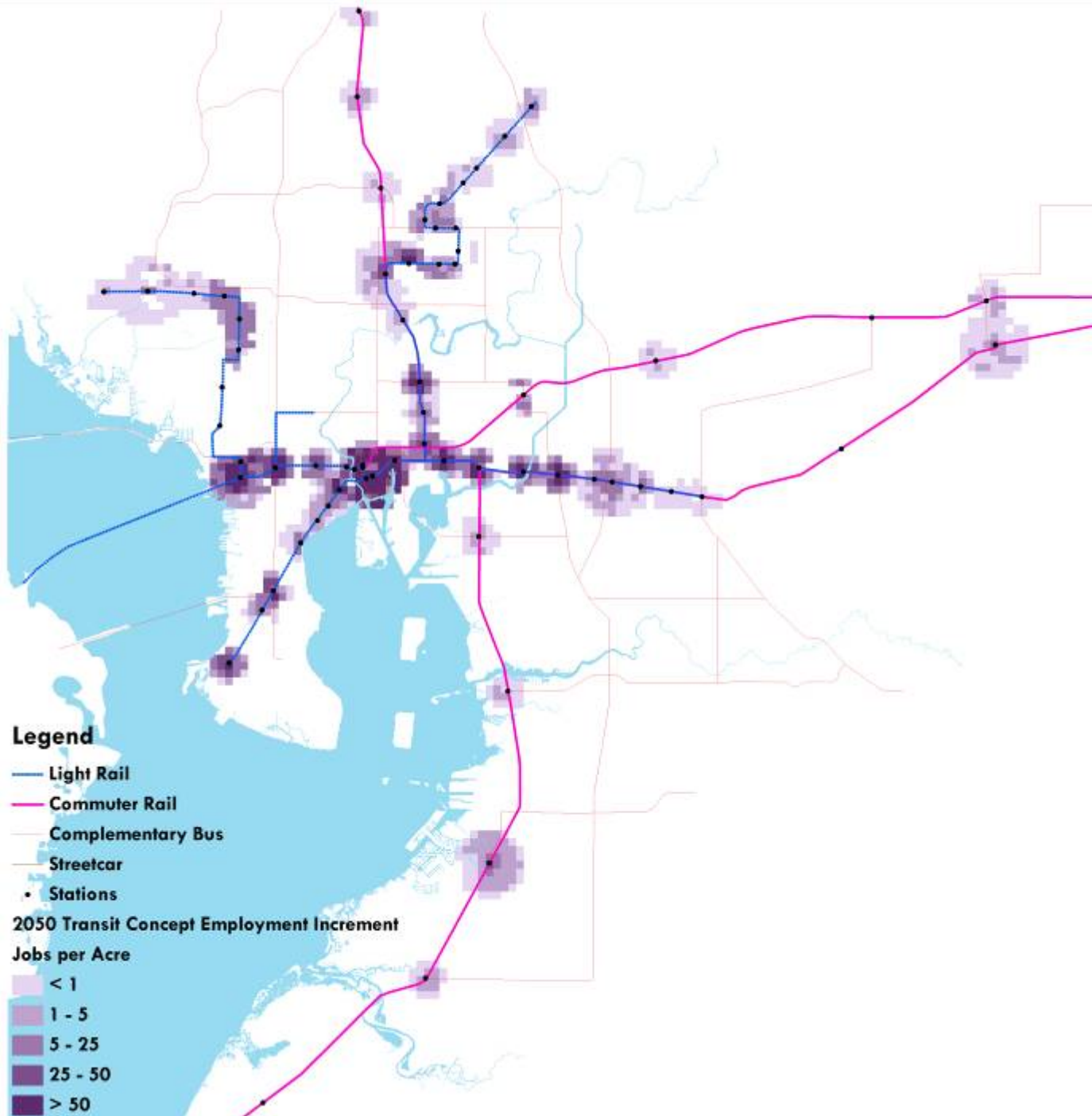
DU/Acre (2050)
Projected Total
With Transit



Jobs Density
Transit Concept

- < 1
- 1 - 5
- 5 - 25
- 25 - 50
- > 50

Jobs/Acre (2050)
Projected Transit
Growth Increment



Jobs Density

Current

< 1

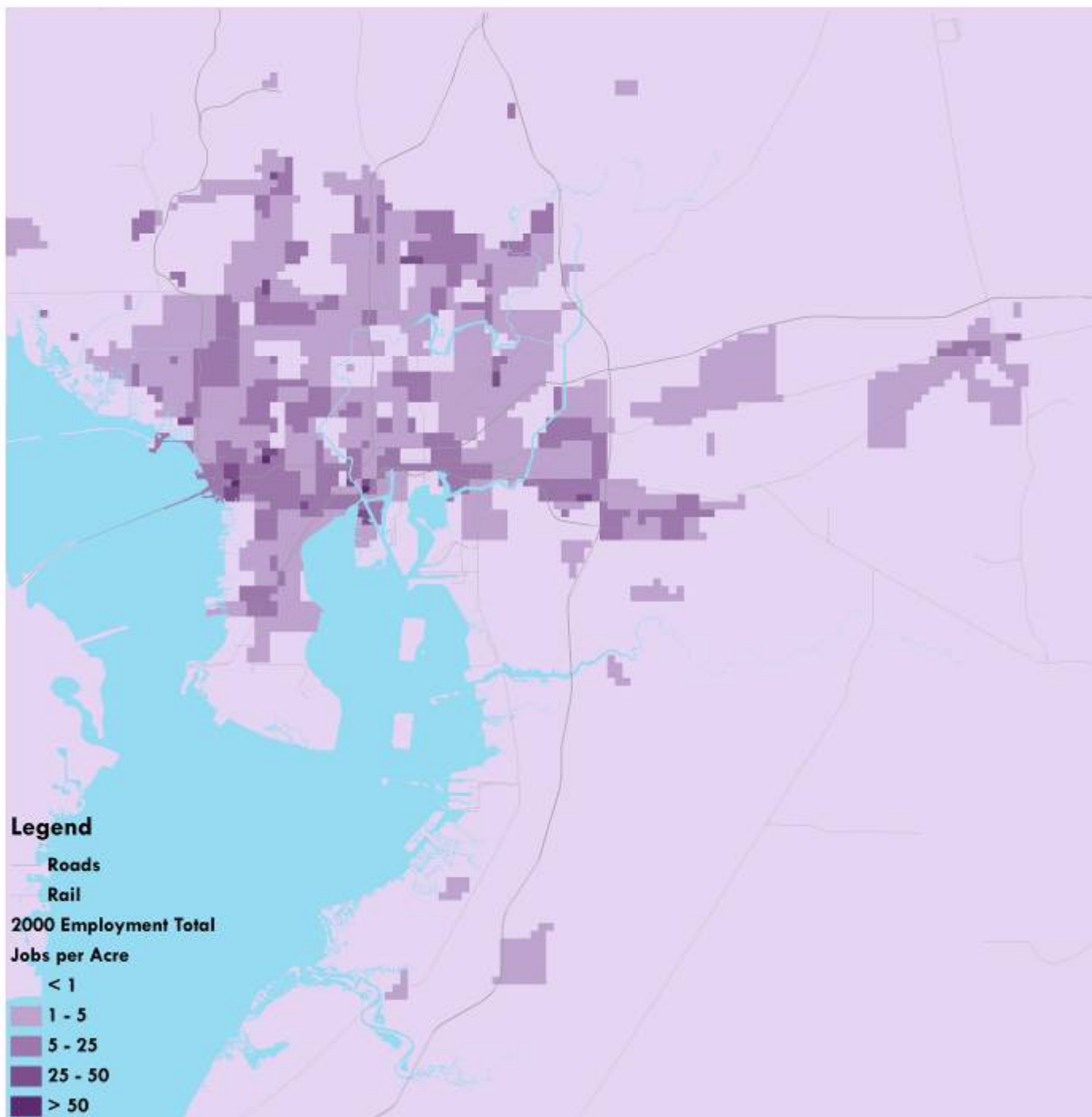
1 - 5

5 - 25

25 - 50

> 50

Jobs/Acre (2000)



Jobs Density
Transit Concept

 < 1

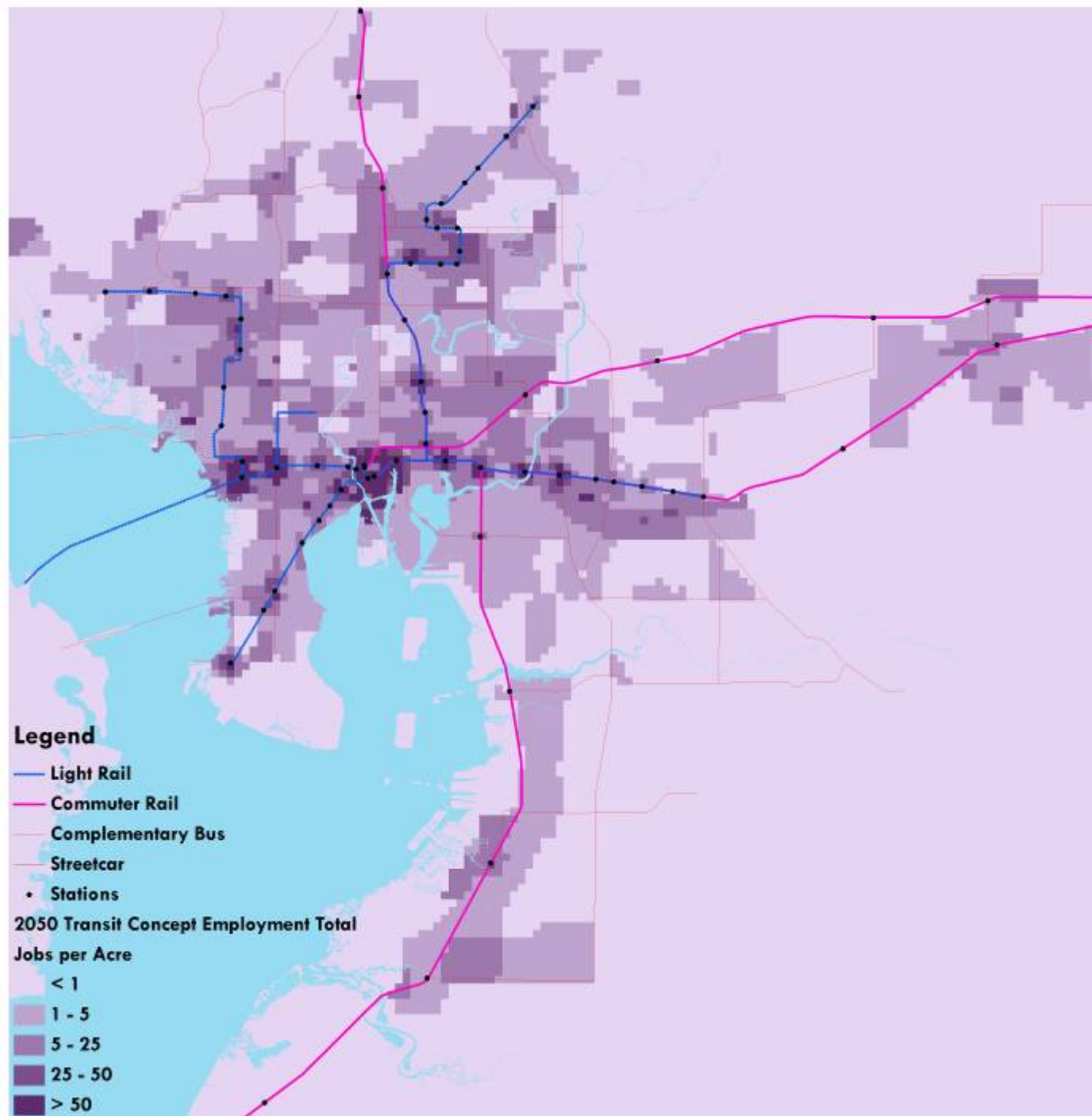
 1 - 5

 5 - 25

 25 - 50

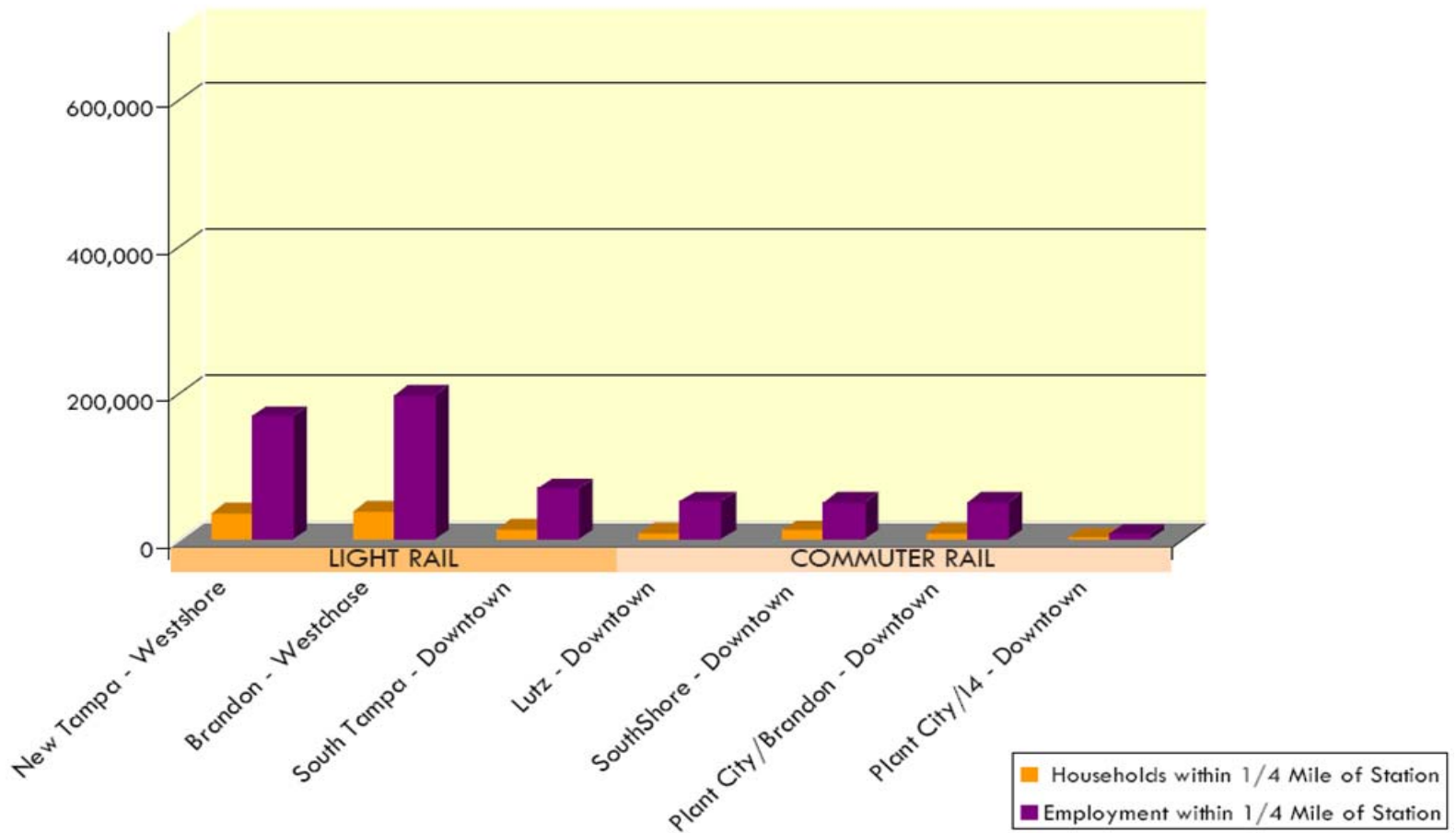
 > 50

Jobs/Acre (2050)
Projected Total
With Transit





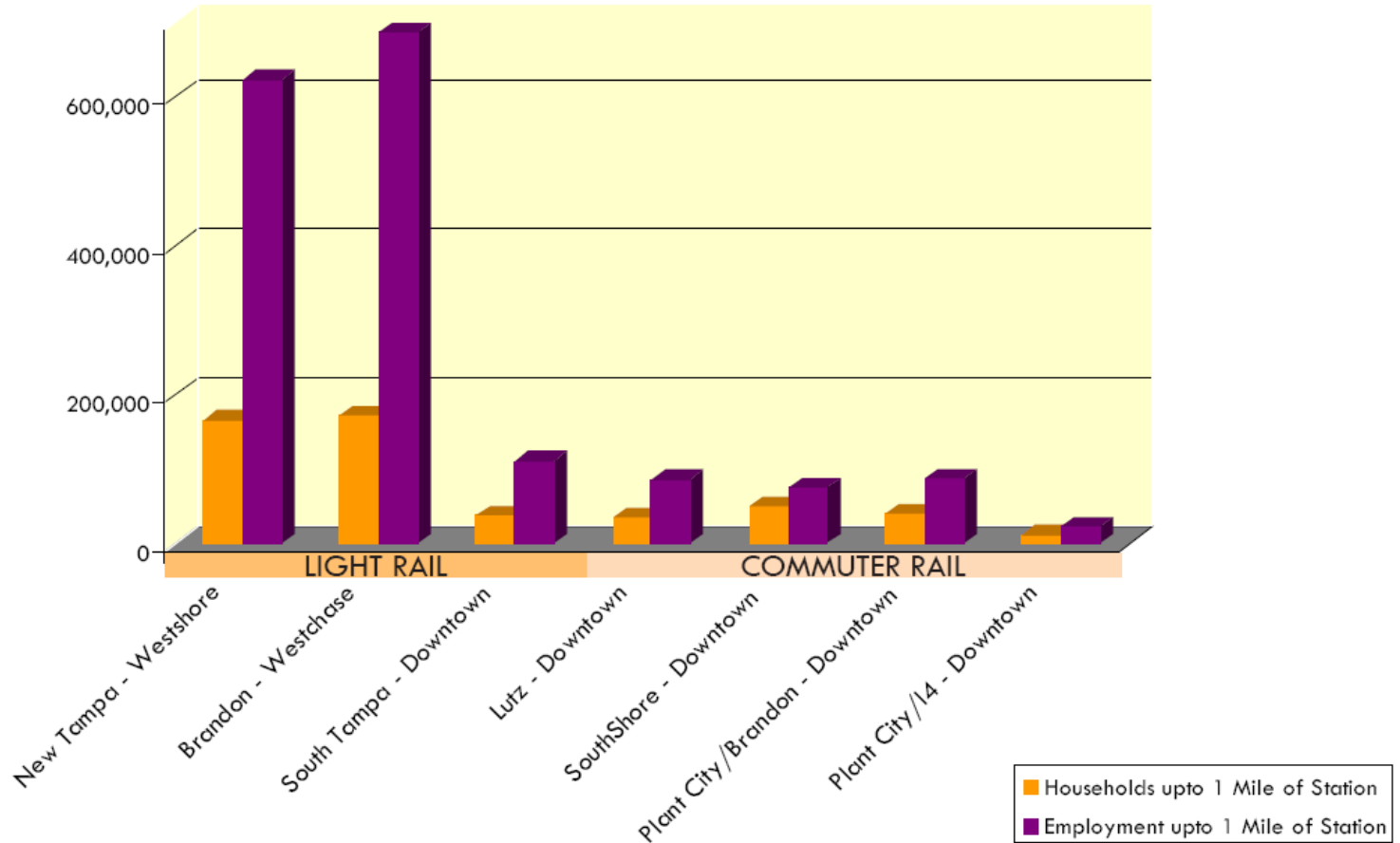
Total Households & Jobs Within Walking Distance for 2050



This figure illustrates the total projected households and jobs based on the Transit Concept for 2050 that are located within 1 / 4 mile of stations.



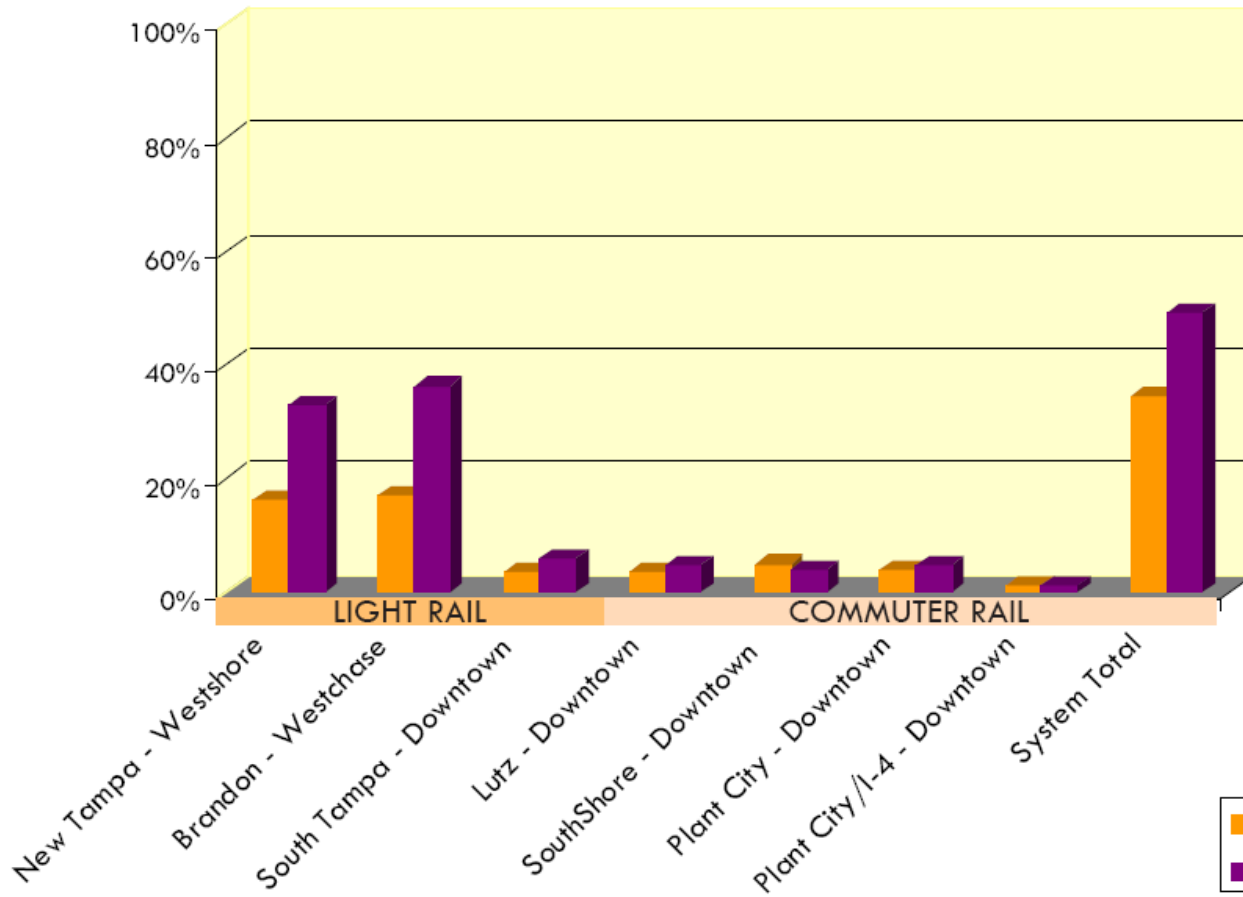
Total Households & Jobs Within One Mile for 2050



This figure illustrates the total projected households and jobs for the Transit Concept for 2050 that are located up to 1 mile from stations based on station type designation.



% of Total Households & Jobs Within Station Areas for 2050



2050 Total

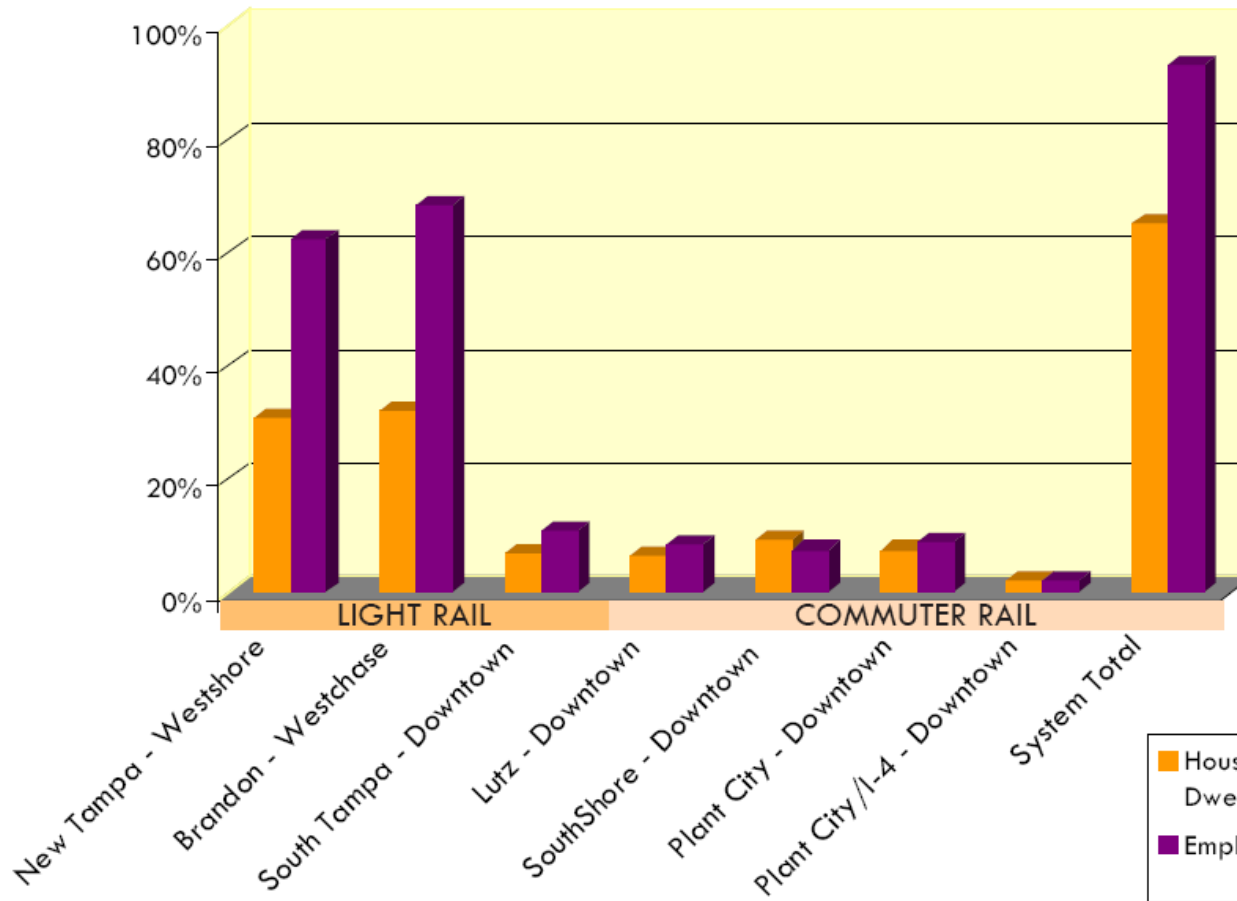
- 34% of Households
- 49% of Jobs

Can be accommodated within 1 mile of stations

■ Households (% of Total 2050 Dwelling Units)
■ Employment (% of Total 2050 Jobs)

This figure illustrates the percentage of households and jobs projected for 2050 that are served by the Transit Concept for 2050 investment.

% of New Households & Jobs Within Station Areas for 2050



New Growth by 2050

- 65% of Households
- 93% of Jobs

Can be accommodated within 1 mile of stations

■ Households (% of 2000 to 2050 Incremental Dwelling Units)
■ Employment (% of 2000 to 2050 Incremental Jobs)

This figure illustrates the percentage of the total incremental growth in households and jobs projected between 2000 and 2050 that are served by the Transit Concept for 2050 investment.

HH Density

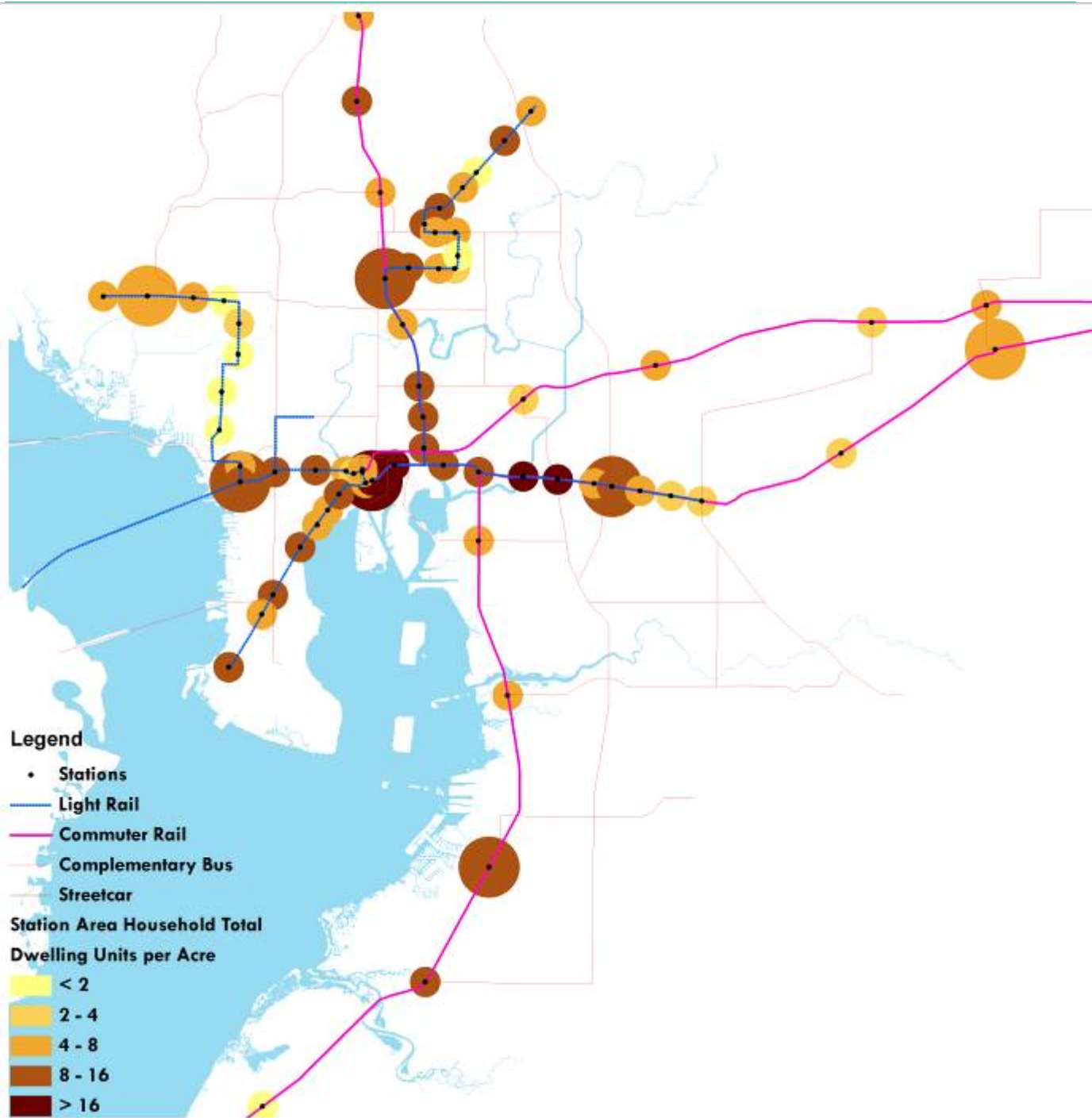
By Station

- < 2
- 2 - 4
- 4 - 8
- 8 - 16
- > 16

DU/Acre (2050)

Generalized

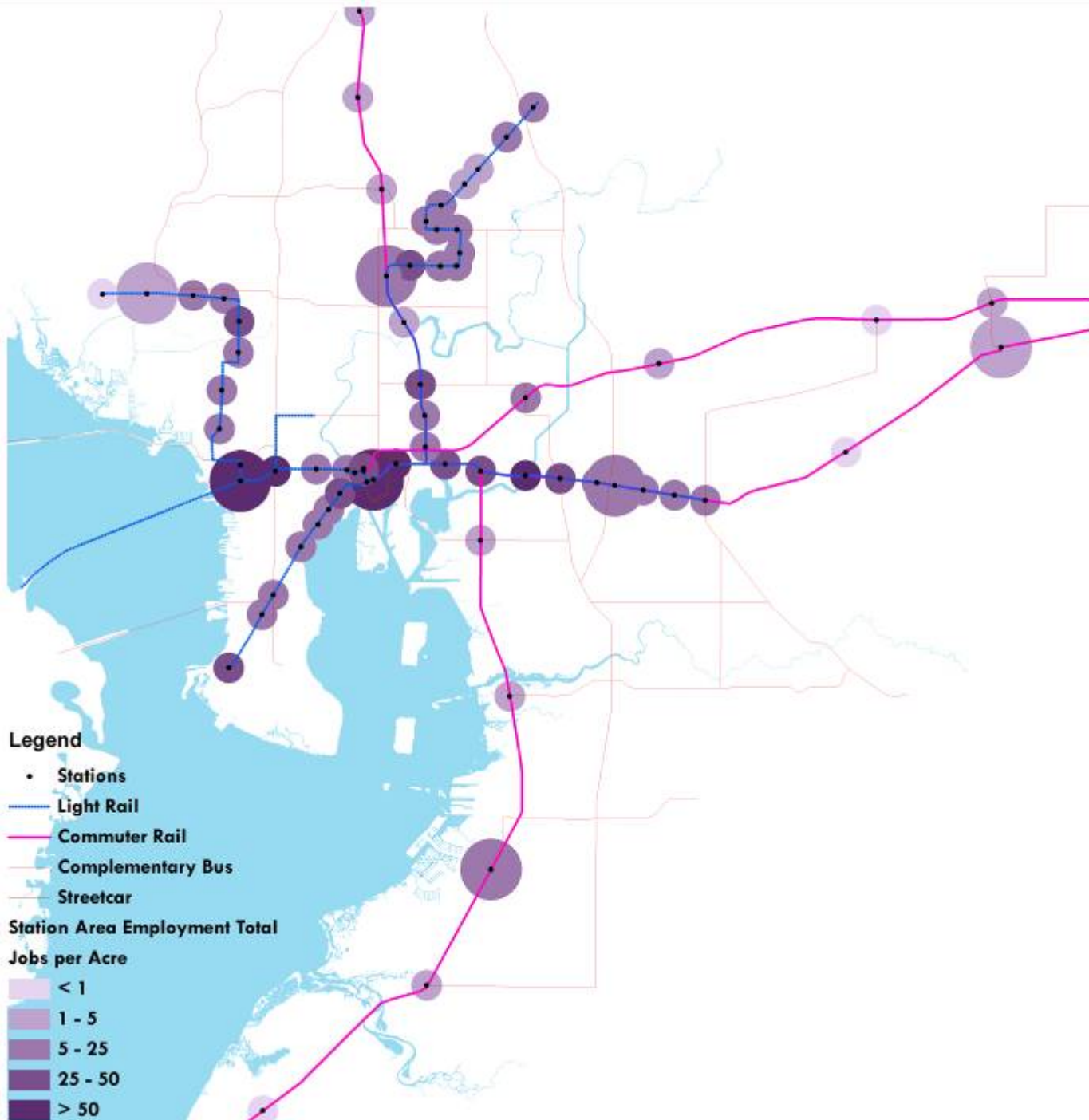
Station Intensity



Jobs Density By Station

- < 1
- 1 - 5
- 5 - 25
- 25 - 50
- > 50

Jobs/Acre (2050) Generalized Station Intensity



Station Area Density: System Average

	Within 1/4 Mile of Stations		Within 1/2 Mile of Stations	
	DUs/ Acre	Jobs/ Acre	DUs/ Acre	Jobs/ Acre
	Existing Density	2	10	1
Projected Trend 2050 Density	3	16	3	11
Projected Transit Concept for 2050	11	38	8	20
Future Land Use Capacity	11	54	9	31

The capacity of Future Land Use Plans are supportive of Transit Oriented Development.

Potential Transit Ridership

Transit Corridor	Potential Ridership (Average Daily Trips)	Potential Ridership/ Mile
LIGHT RAIL		
New Tampa - Westshore/Pinellas County	21,000*	740*
Brandon - Westchase	24,000	750
South Tampa - Downtown	8,000	1,100
COMMUTER RAIL		
Lutz - Downtown	8,000	450
SouthShore - Downtown	8,000	290
Plant City - Downtown	8,000	300
Plant City/I-4 - Downtown	3,000	90
Total	80,000	3,720

*These ridership figures are not inclusive of ridership from Pinellas County.

Capital Cost Summary

Transit Corridor	Total Cost (Million Dollars)	Cost/Mile (Million Dollars)
LIGHT RAIL		
New Tampa - Westshore/Pinellas	1,871	62
Brandon - Westchase	1,597	69
South Tampa - Downtown	363	45
Light Rail Total	3,831	63
COMMUTER RAIL		
Lutz - Downtown	322	20
SouthShore - Downtown	688	26
Plant City - Downtown	537	21
Plant City/I-4 - Downtown	784	25
Commuter Rail Total	2,331	25
System Total	6,162	40

This table estimates the capital cost for the Transit Concept for 2050 based on 2007 dollars.

Operating & Maintenance Cost Summary

Transit Corridor	Total Cost (Million Dollars)	Cost/Mile (Million Dollars)
LIGHT RAIL		
New Tampa - Westshore/Pinellas	30	1
Brandon - Westchase	26	1
South Tampa - Downtown	8	1
Light Rail Total	64	
COMMUTER RAIL		
Lutz - Downtown	6	0.4
SouthShore - Downtown	7	0.3
Plant City - Downtown	9	0.3
Plant City/I-4 - Downtown	6	0.2
Commuter Rail Total	28	0.3
System Total	91	

This table estimates the operating/maintenance cost for the Transit Concept for 2050 based on 2007 dollars.



- **MPO action**
- **Incorporate into analysis for the LRTP update**
- **Inform the TBARTA planning process**

Hillsborough County MPO Transit Study

End of Presentation

