

Hillsborough County MPO Transit Study

Transit Concept for 2050
October 17, 2007



Transit Technologies



Technologies Considered

- Bus
- Light Rail
- Commuter Rail





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



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

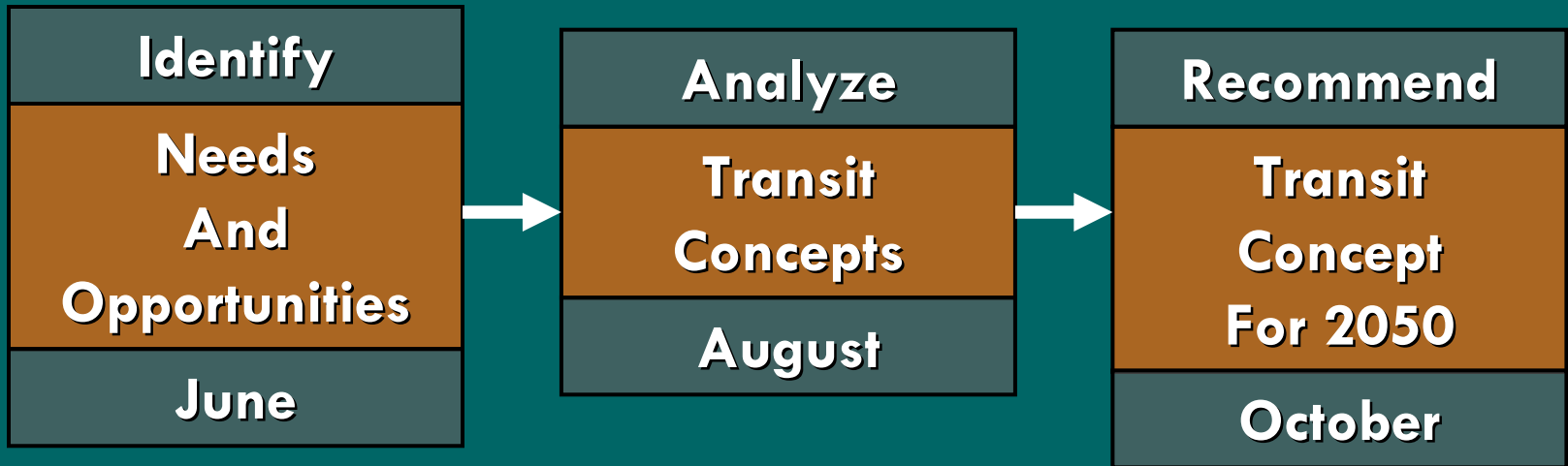


- Powered from above by electric wires
- Has its own tracks
- Frequent service
- All day service
- Suburb to city and urban area travel
- Quick acceleration
- Can climb and turn

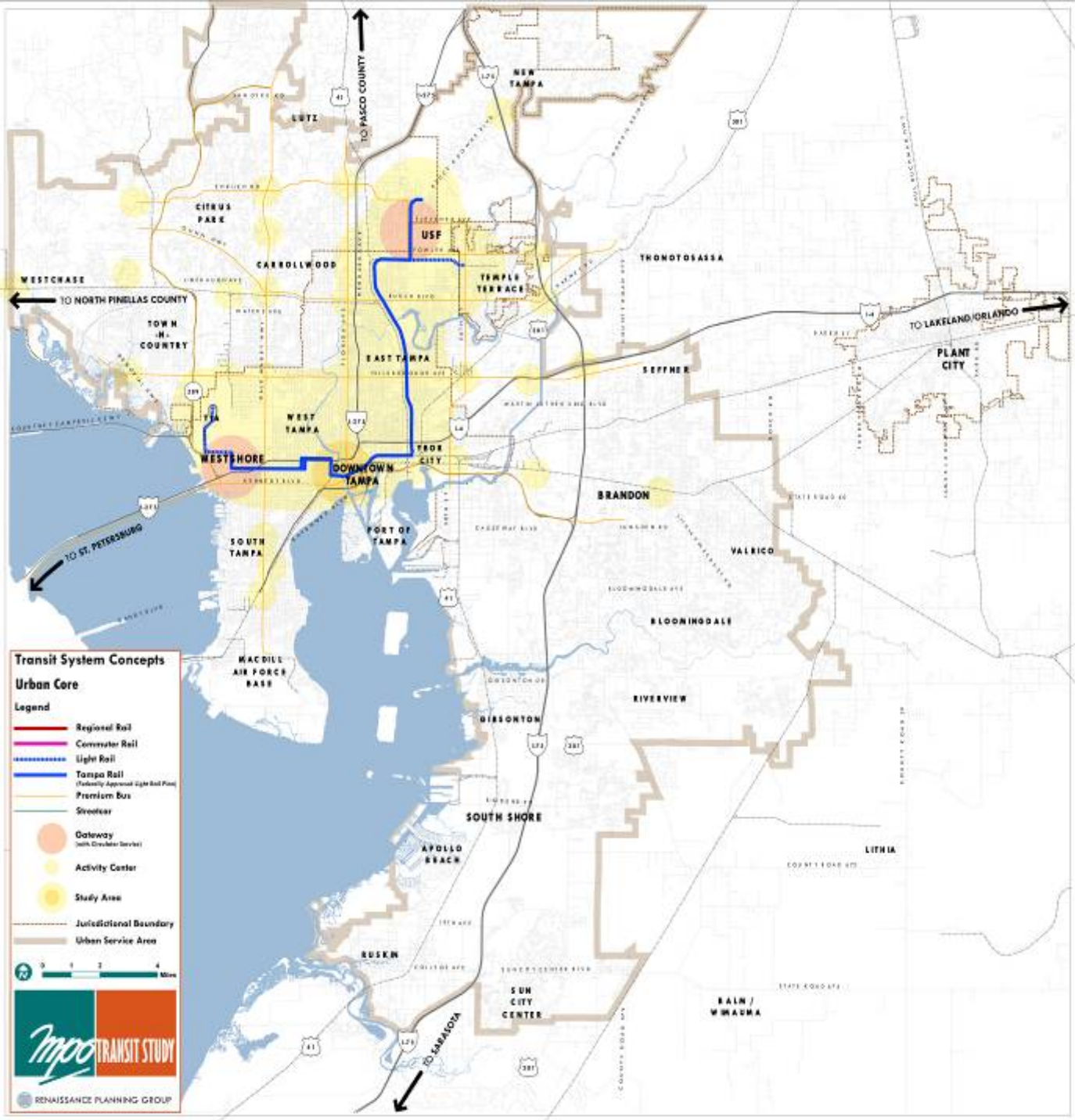


Study Summary

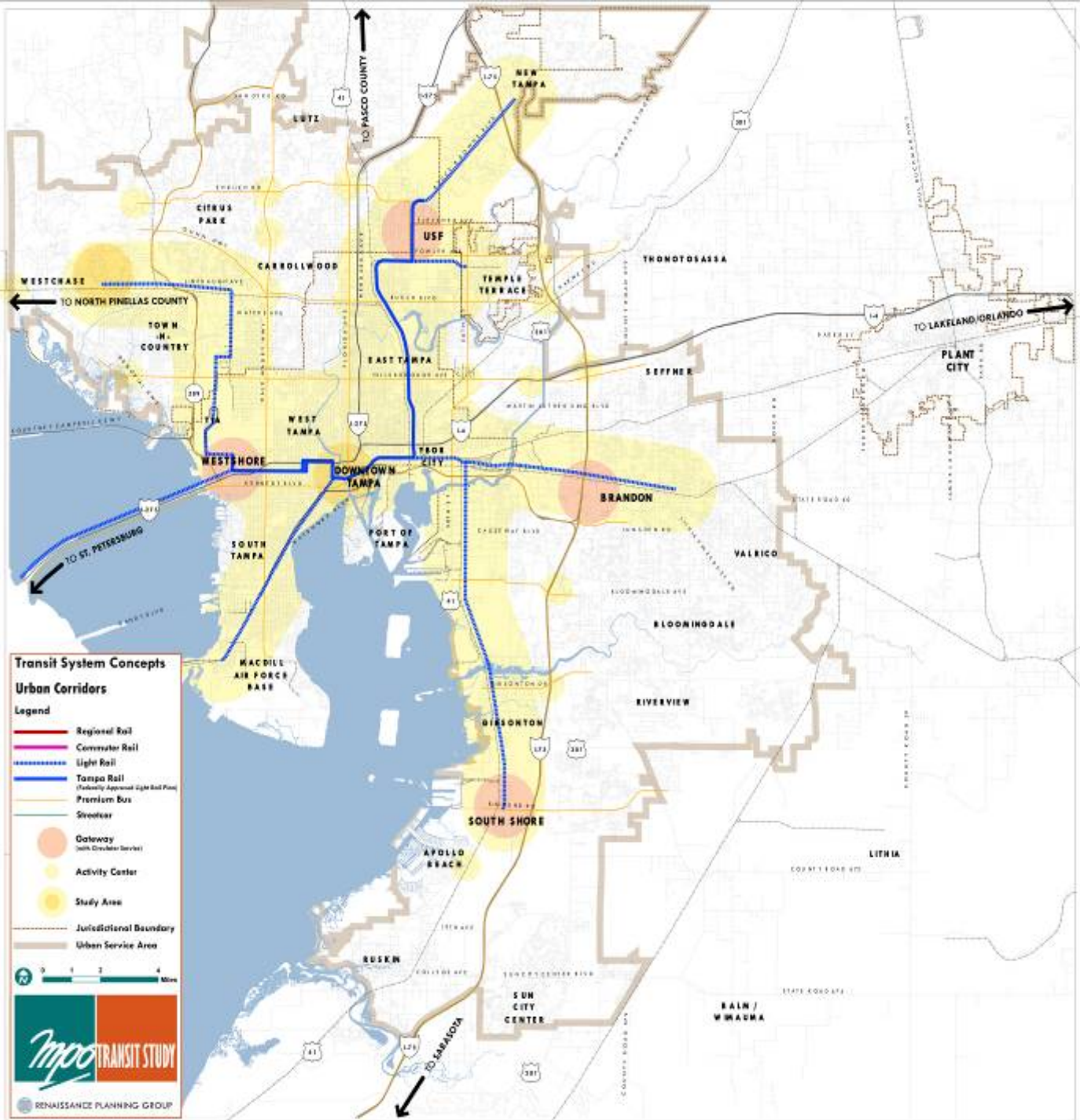




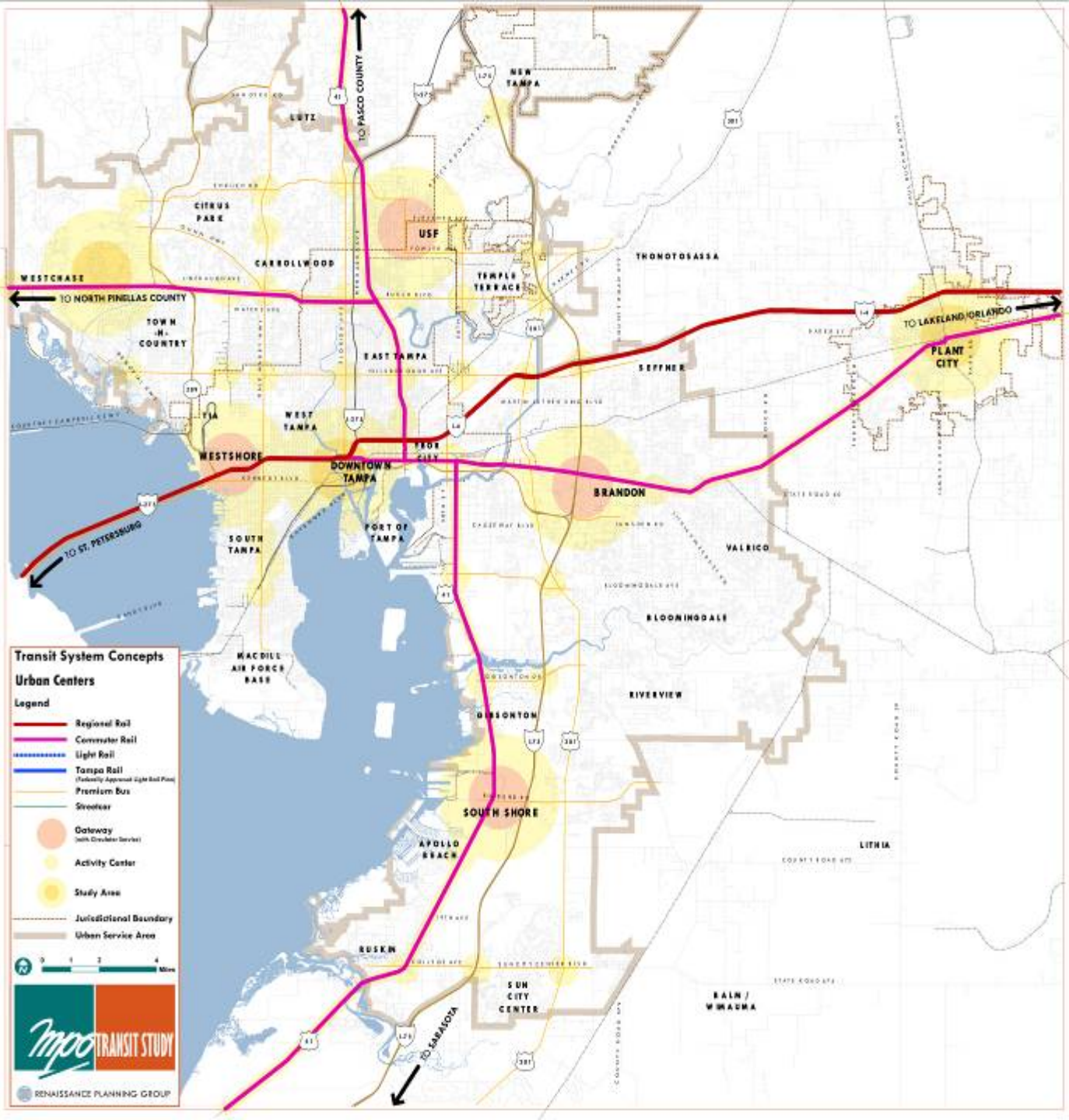
**Concept A:
Diagram**



**Concept B:
Diagram**



**Concept C:
Diagram**





Getting to the 2050 Concept

- Serving existing and emerging activity centers
- Serving growing and redeveloping areas
- Measuring the potential for station area development
- Respecting community character and land use policies
- Grounding ourselves in reality
 - Appropriate transit technology
 - Rights of way
 - Costs

Transit Concept for 2050





- **Basis of Concept**
 - Improve Mobility
 - Support Economic Vitality
 - Growth Management
- **Transit Service Characteristics**
 - Destinations
 - Transit for All
 - Service (Distance, Frequency, Time, Capacity)
- **Optimized by Benefits**
 - Maximize ability to serve largest concentrations of (existing & future) residential and employment areas with optimal balance of service



- Evaluated current capacity of transit corridors to accommodate development
- Applied transit station area prototypes (type, size, character)
- Determined projected growth (jobs & housing) for the concept vs. trend for 2050
- Identified appropriate technology to best serve destinations and range of riders (ie. balance time vs. distance)
- Evaluated overall order of magnitude cost to select technology and service type

Light Rail

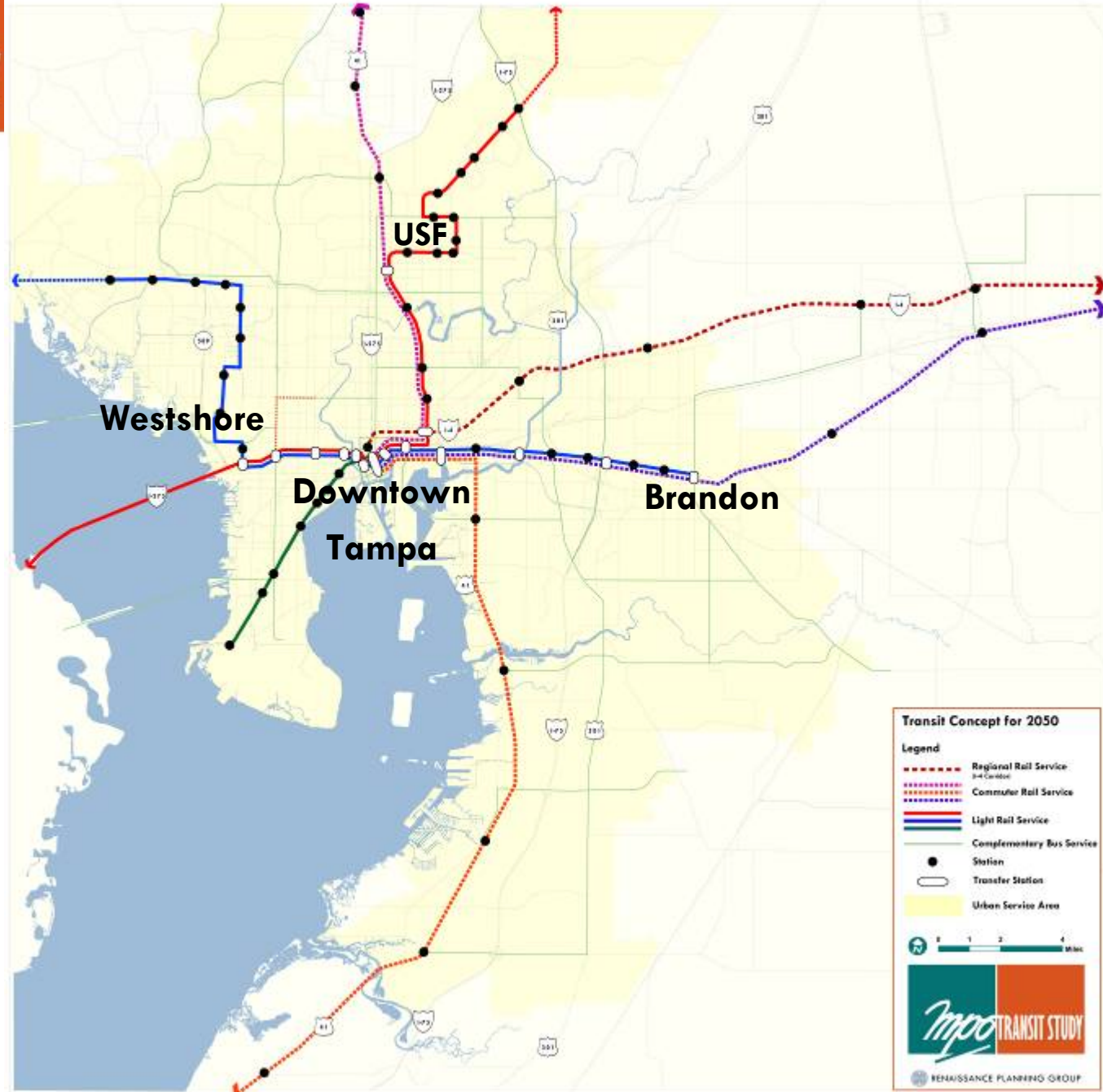
- New Tampa-Westshore
- Brandon-Westchase
- South Tampa-Downtown

Commuter Rail

- Lutz
- SouthShore
- Plant City

Bus

- Complementary Bus Network



Light Rail

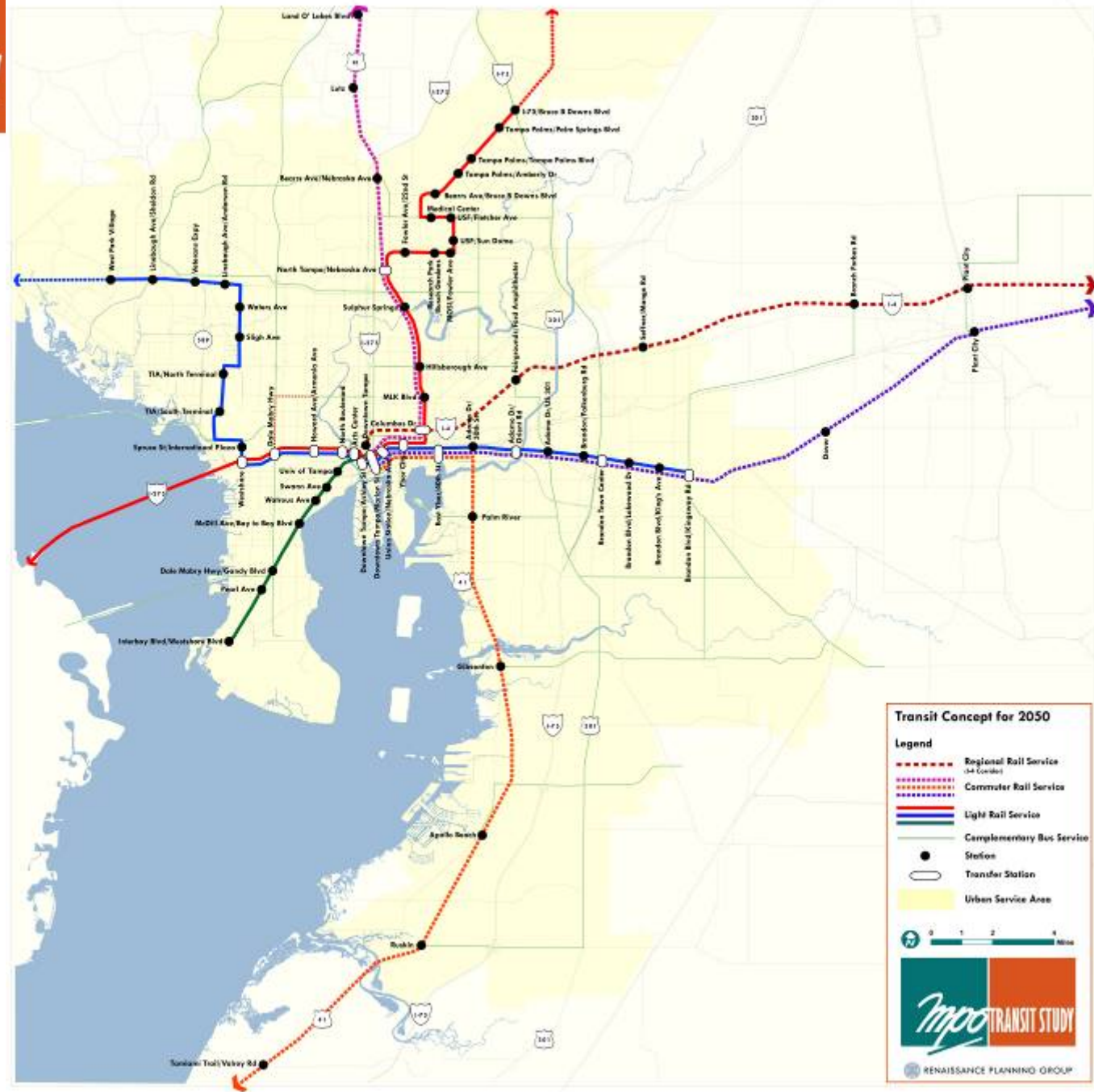
- New Tampa-Westshore
- Brandon-Westchase
- South Tampa-Downtown

Commuter Rail

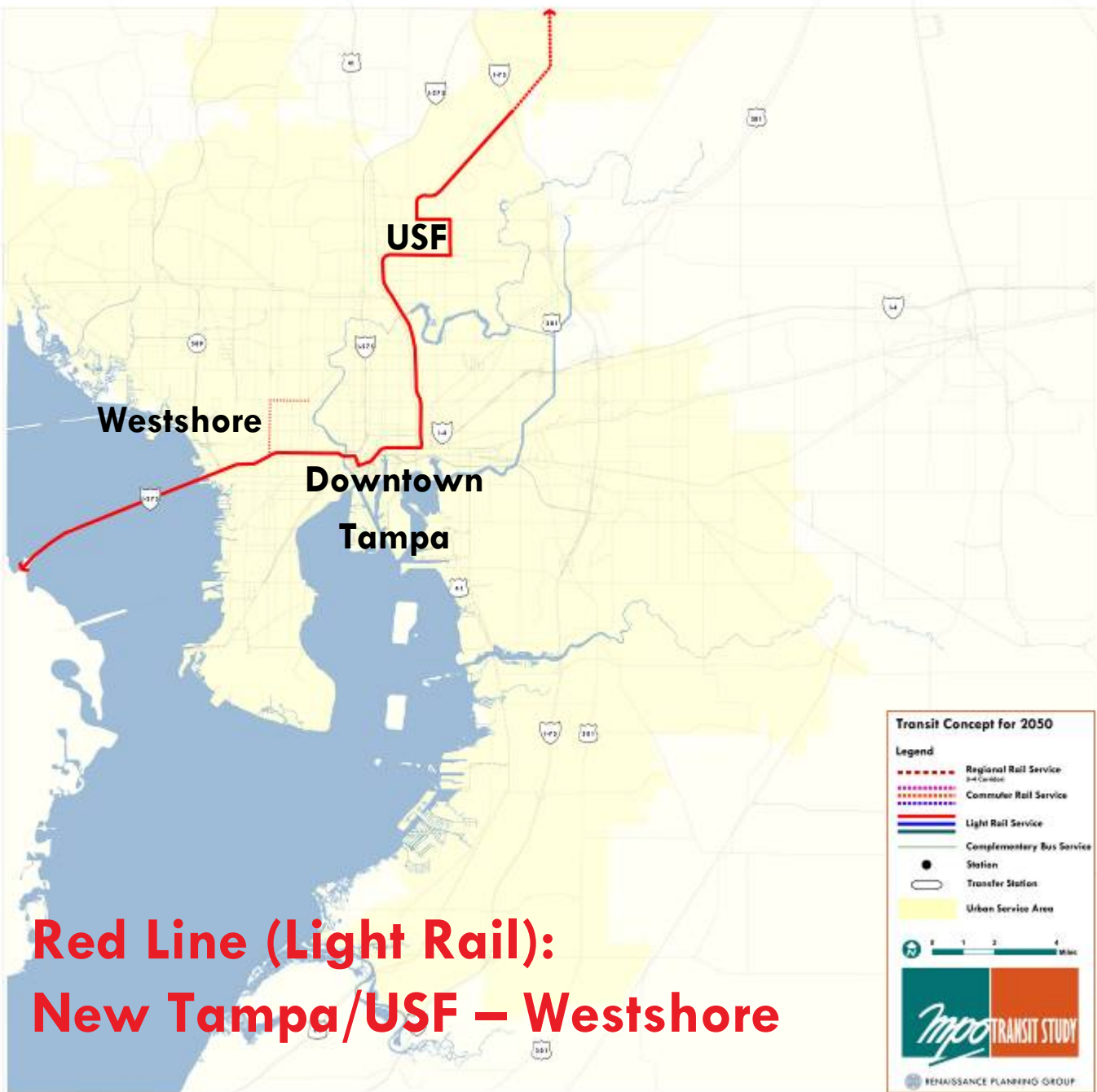
- Lutz
- SouthShore
- Plant City

Bus

- Complementary Bus Network

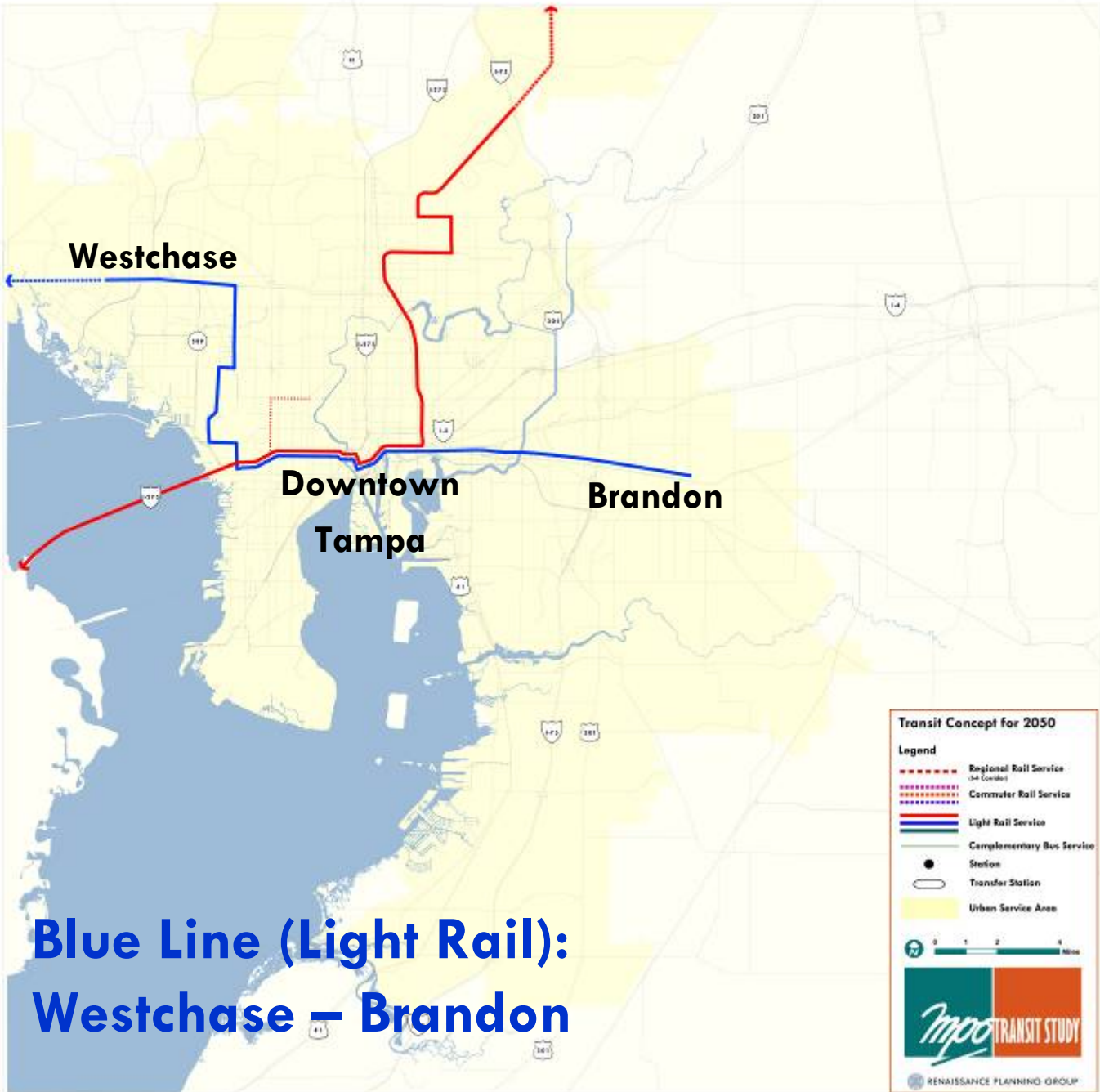


- Connects major activity centers
- Continuous all-day service
- Closely spaced station
 - 30 miles
 - 26 Stations
- Serves urban living, transit dependent, choice riders & special event
- Capacity to supports future growth

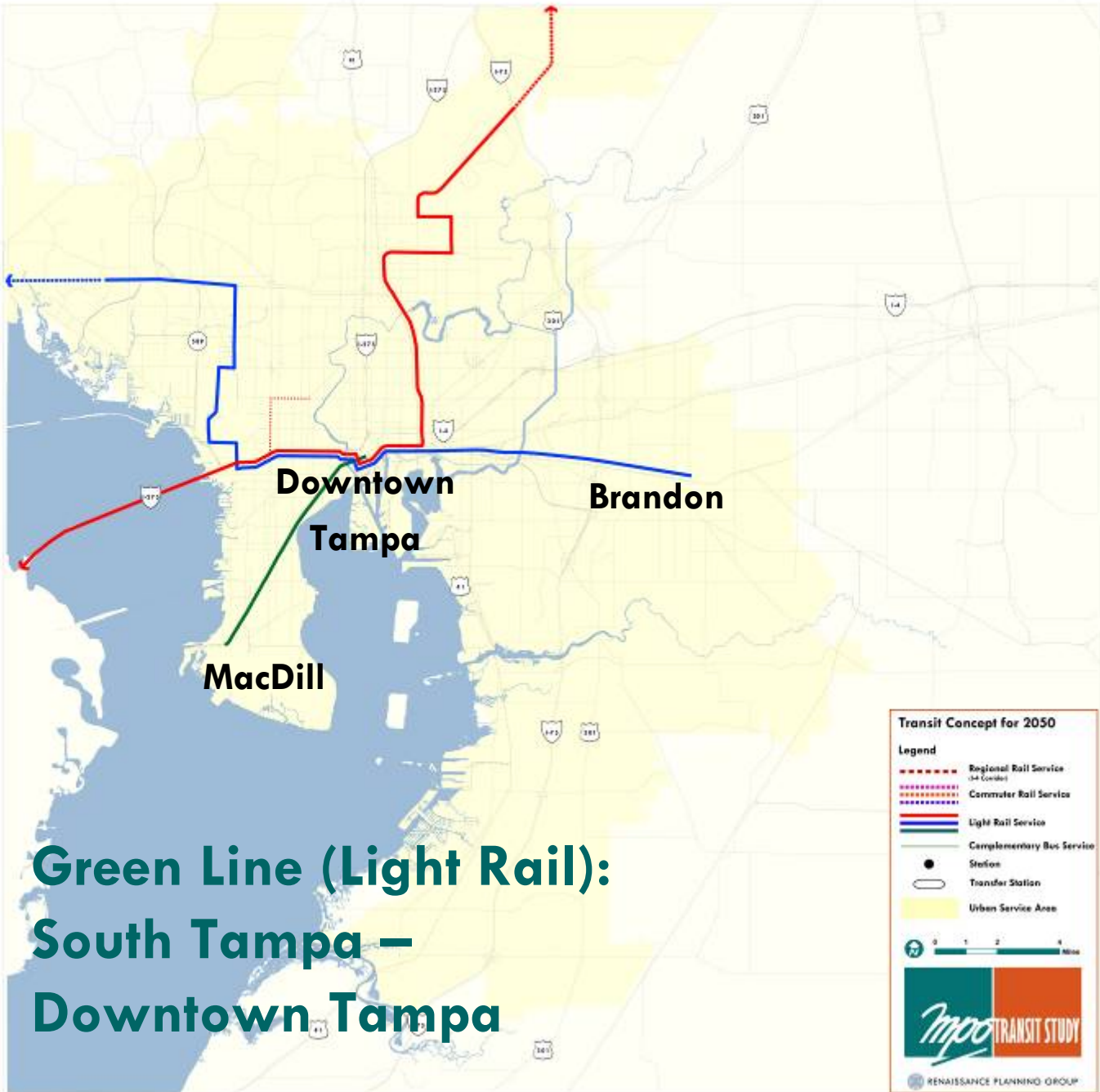


**Red Line (Light Rail):
New Tampa/USF – Westshore**

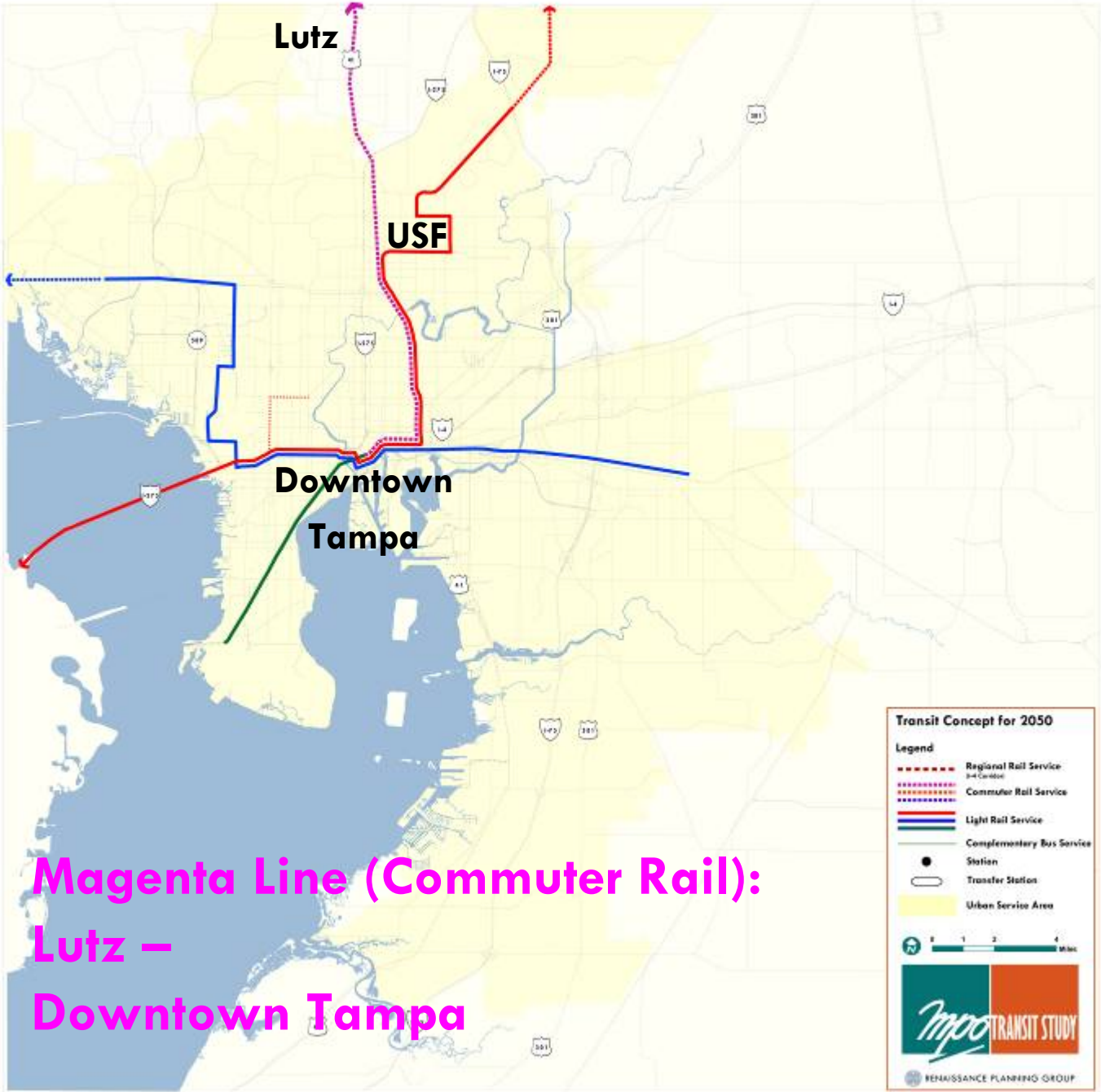
- Connects housing & employment
- Brandon as regional center
- Infill east of CBD
- Closely spaced station
 - 27 miles
 - 27 Stations
- Serves urban living, transit dependent, choice riders & special event



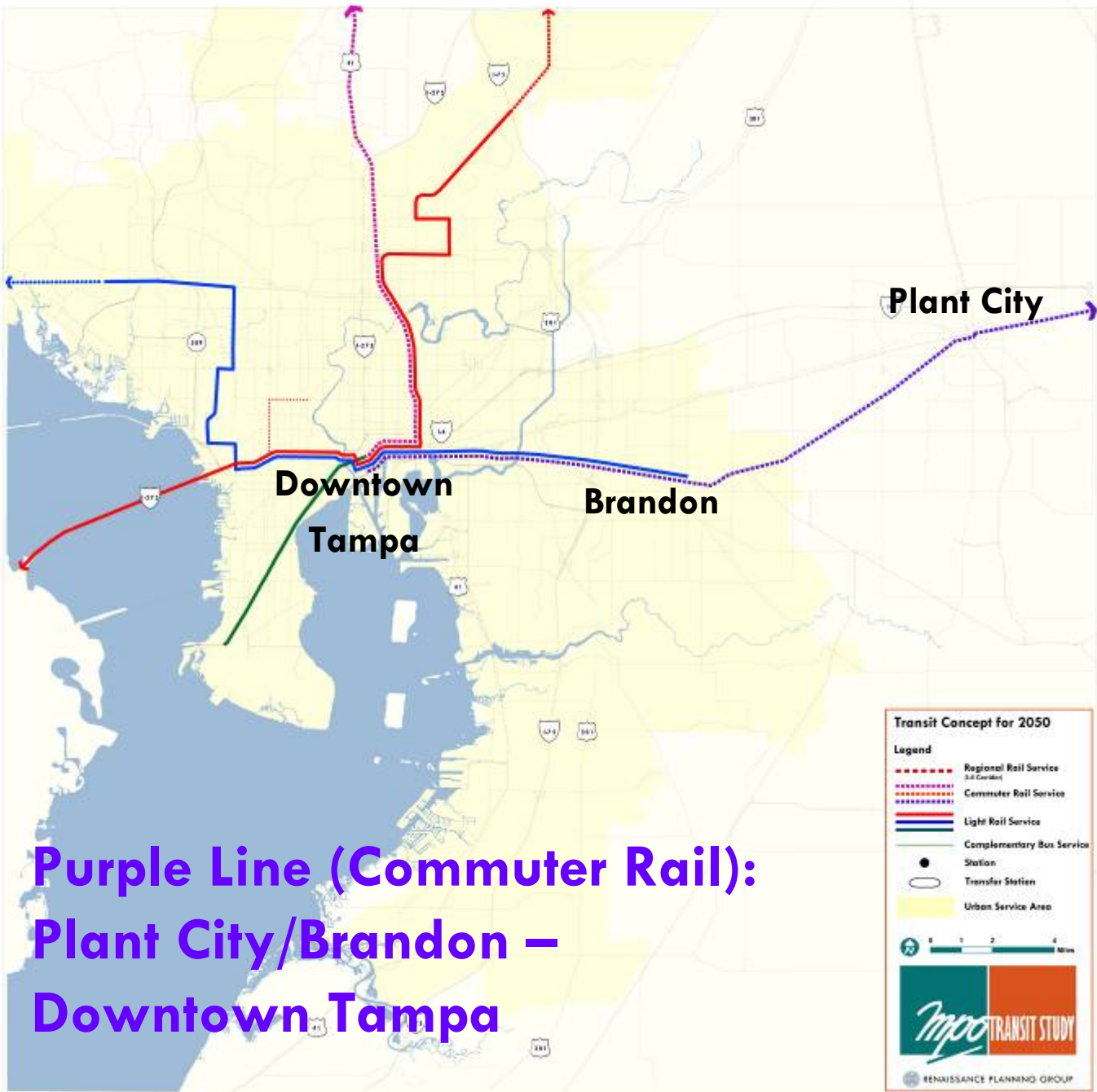
- Serves densely populated area and activity centers
- Closely spaced station
 - 8 miles
 - 9 Stations
- Serves urban living, transit dependent, choice riders & special event



- 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



- 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 Corridor)
- 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




**Orange Line (Commuter Rail):
SouthShore –
Downtown Tampa**

Transit Concept for 2050

Legend

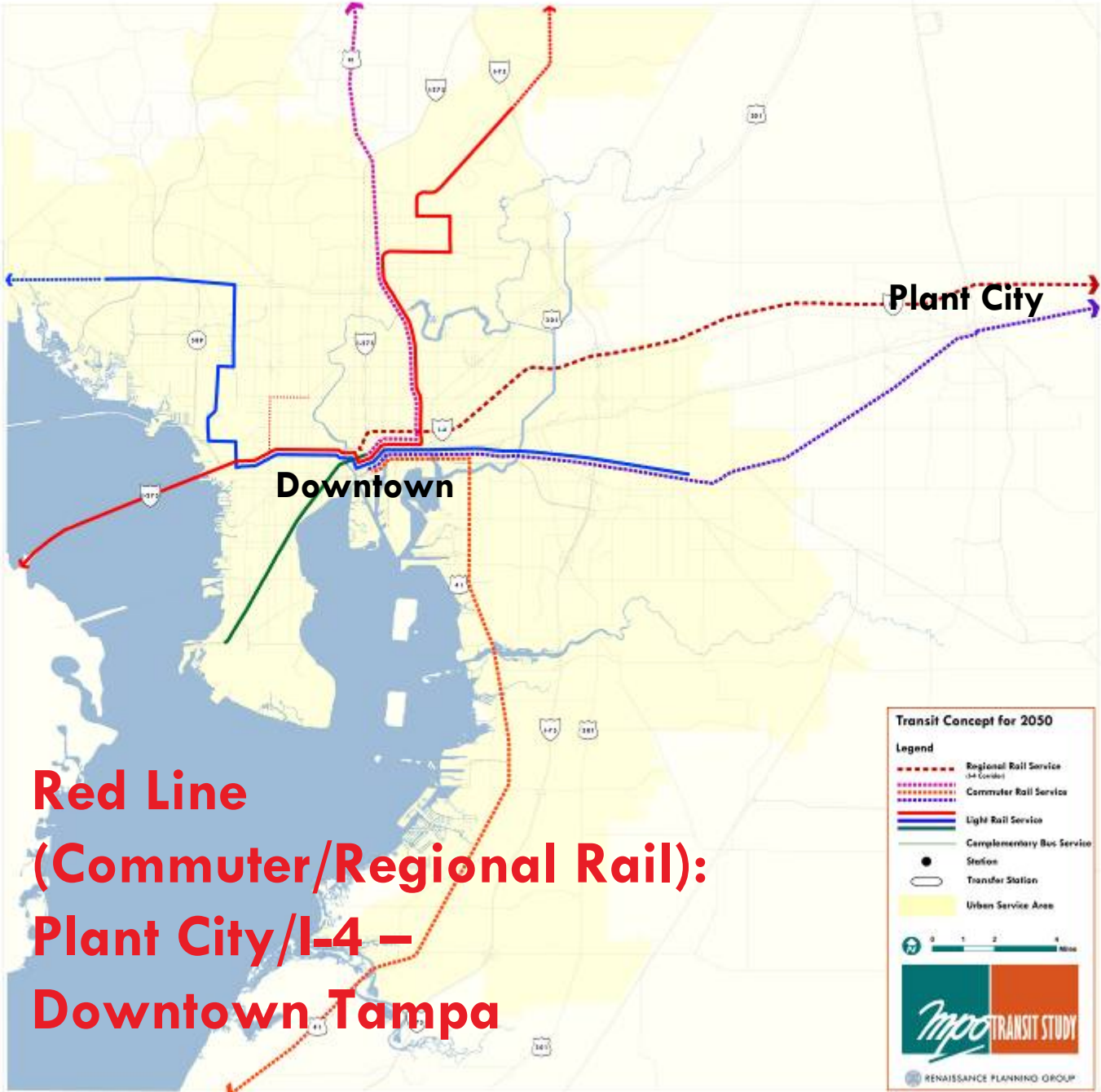
- Regional Rail Service (Red dashed line)
- Commuter Rail Service (Red dotted line)
- Light Rail Service (Blue solid line)
- Complementary Bus Service (Green solid line)
- Station (Black dot)
- Transfer Station (Black oval)
- Urban Service Area (Yellow shaded area)

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 (4 Consider)
- Commuter Rail Service
- Light Rail Service
- Complementary Bus Service
- Station
- Transfer Station
- Urban Service Area

0 1 2 4 Miles







RENAISSANCE PLANNING GROUP

Light Rail (Average 1 mile station spacing)

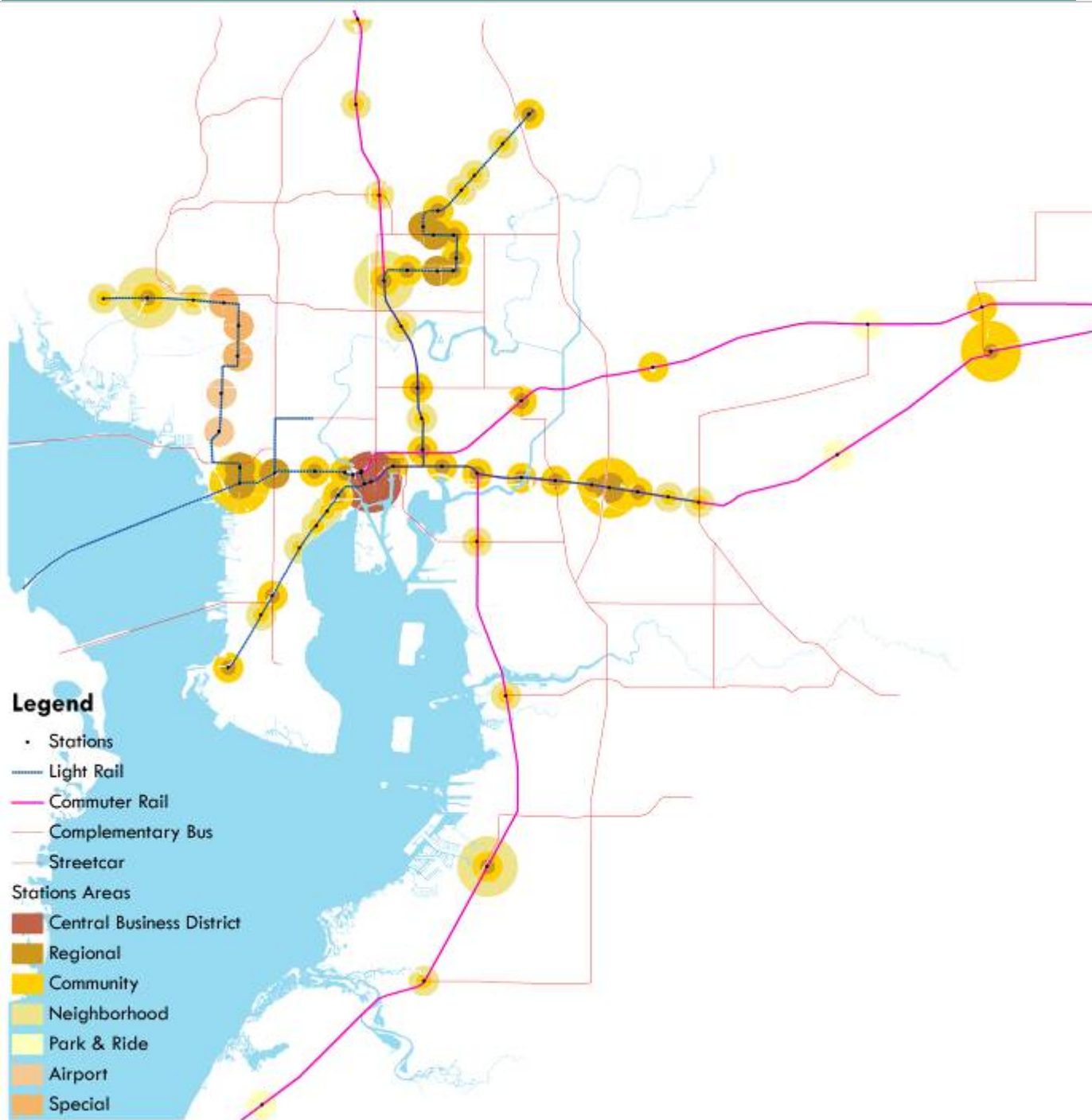
- New Tampa-Westshore (Red Line) 30 miles  26 stations
- Brandon-Westchase (Blue Line) 27 miles  27 stations
- South Tampa-Downtown (Green Line) 8 miles  9 stations

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

Station Types

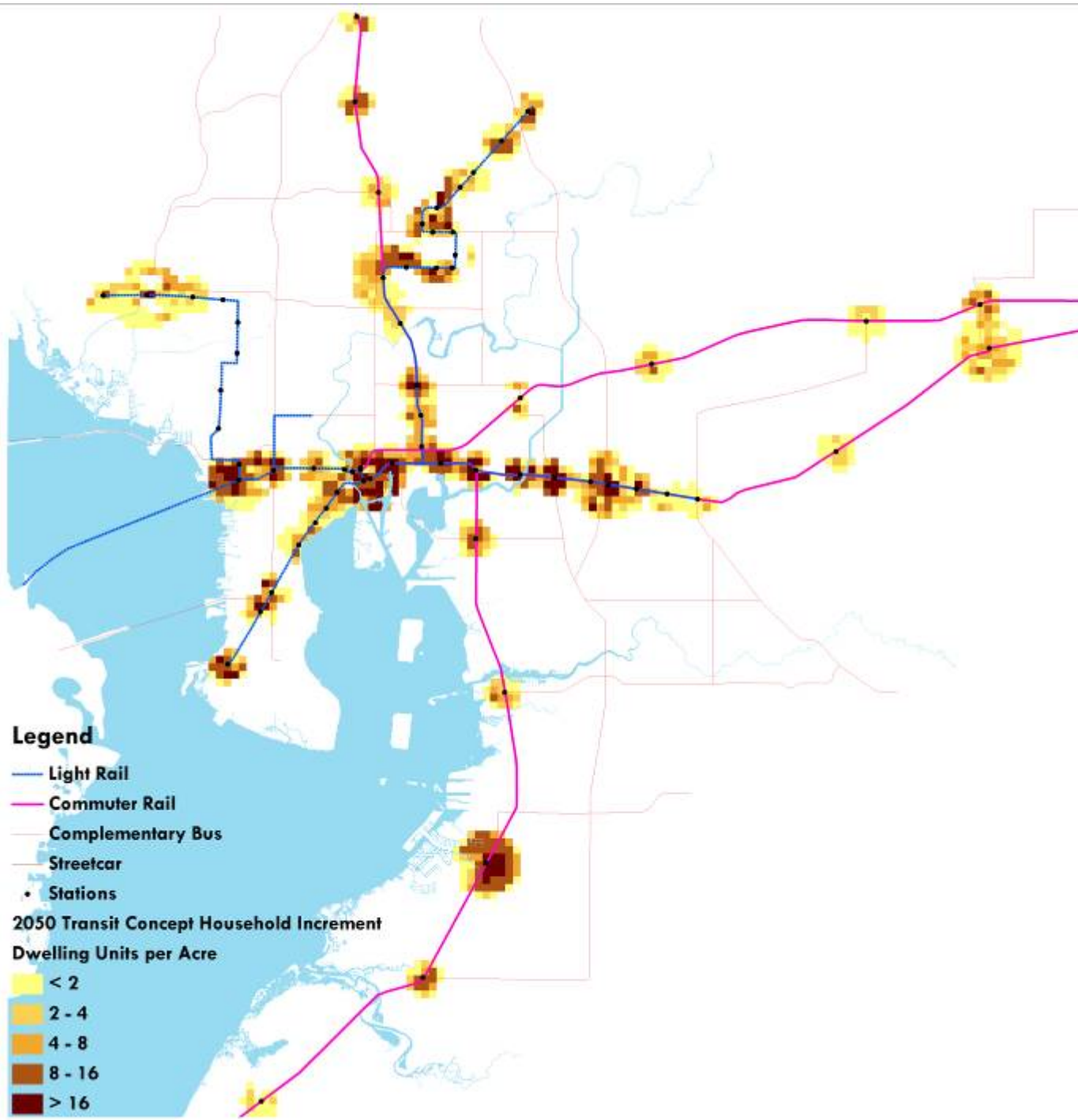
- Regional**
 50-100 DU/Ac
 30-500 Jobs/Ac
- Community**
 20-75 DU/Ac
 5-100 Jobs/Ac
- Neighborhood**
 10-50 DU/Ac
 2-15 Jobs/Ac



**HH Density
Transit Concept**

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

**DU/Acre (2050)
Projected Transit
Growth Increment**

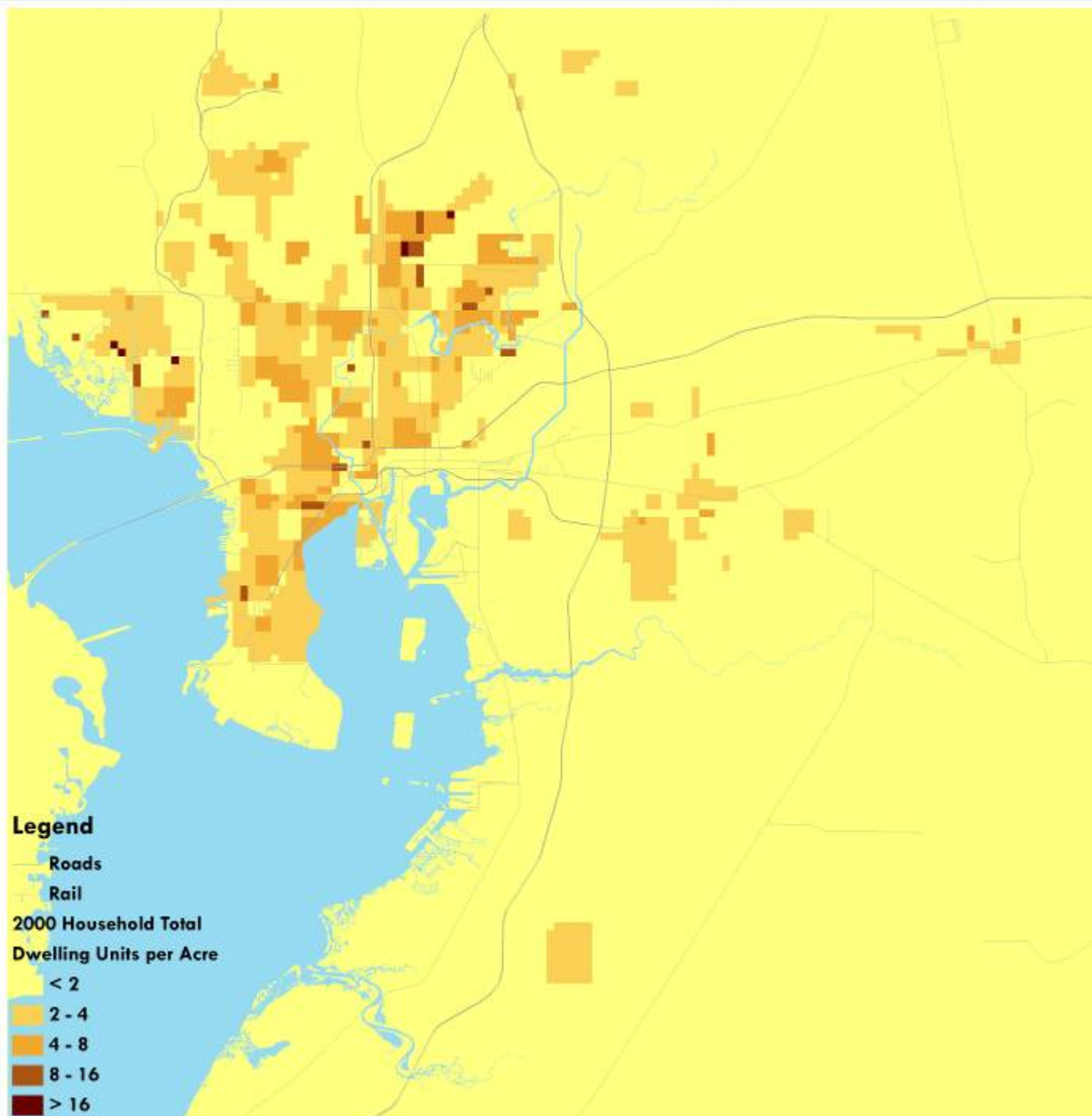


HH Density

Current

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

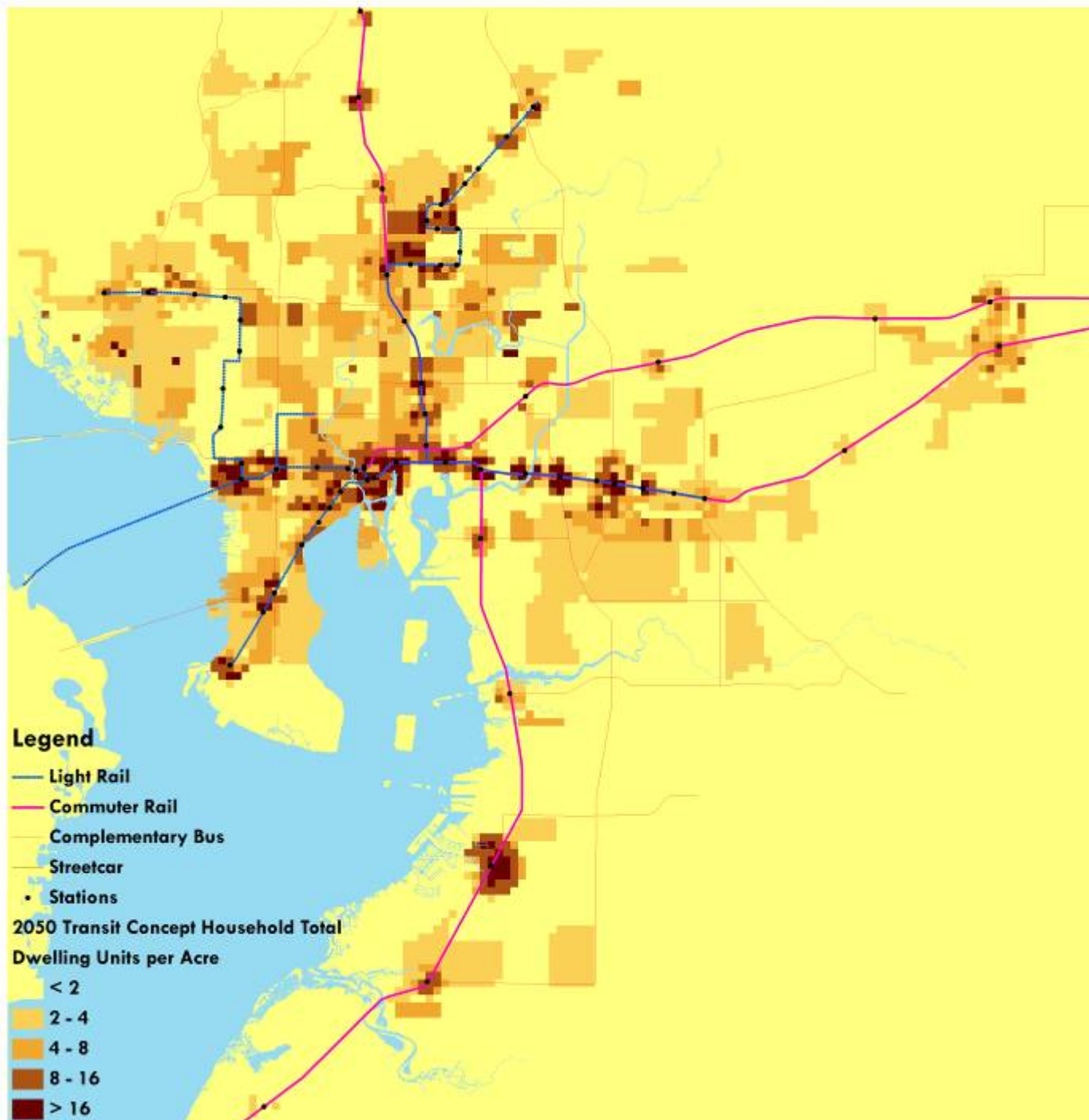
DU/Acre (2000)



HH Density Transit Concept

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

DU/Acre (2050) Projected Total With Transit

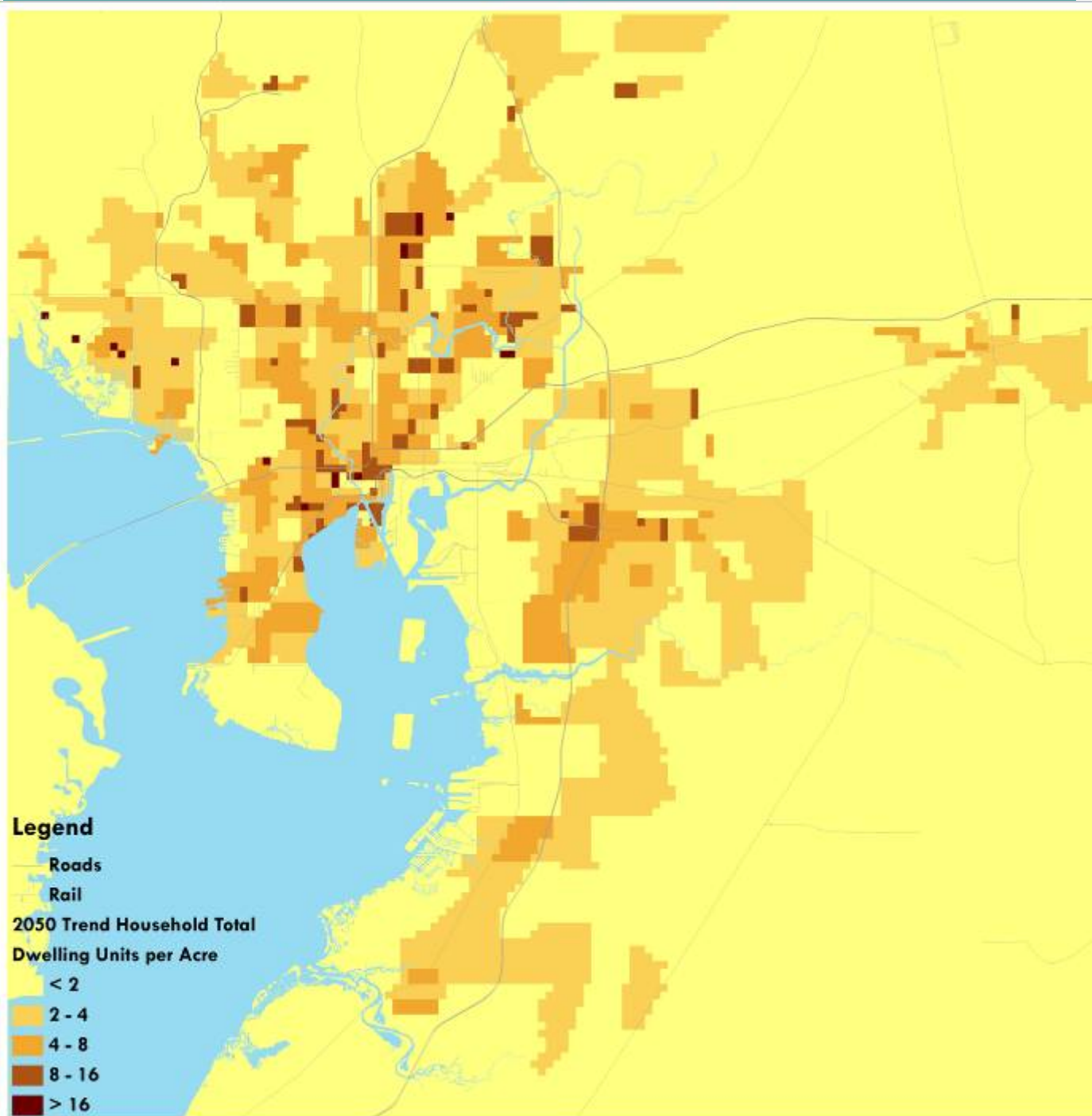


HH Density

Trend

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

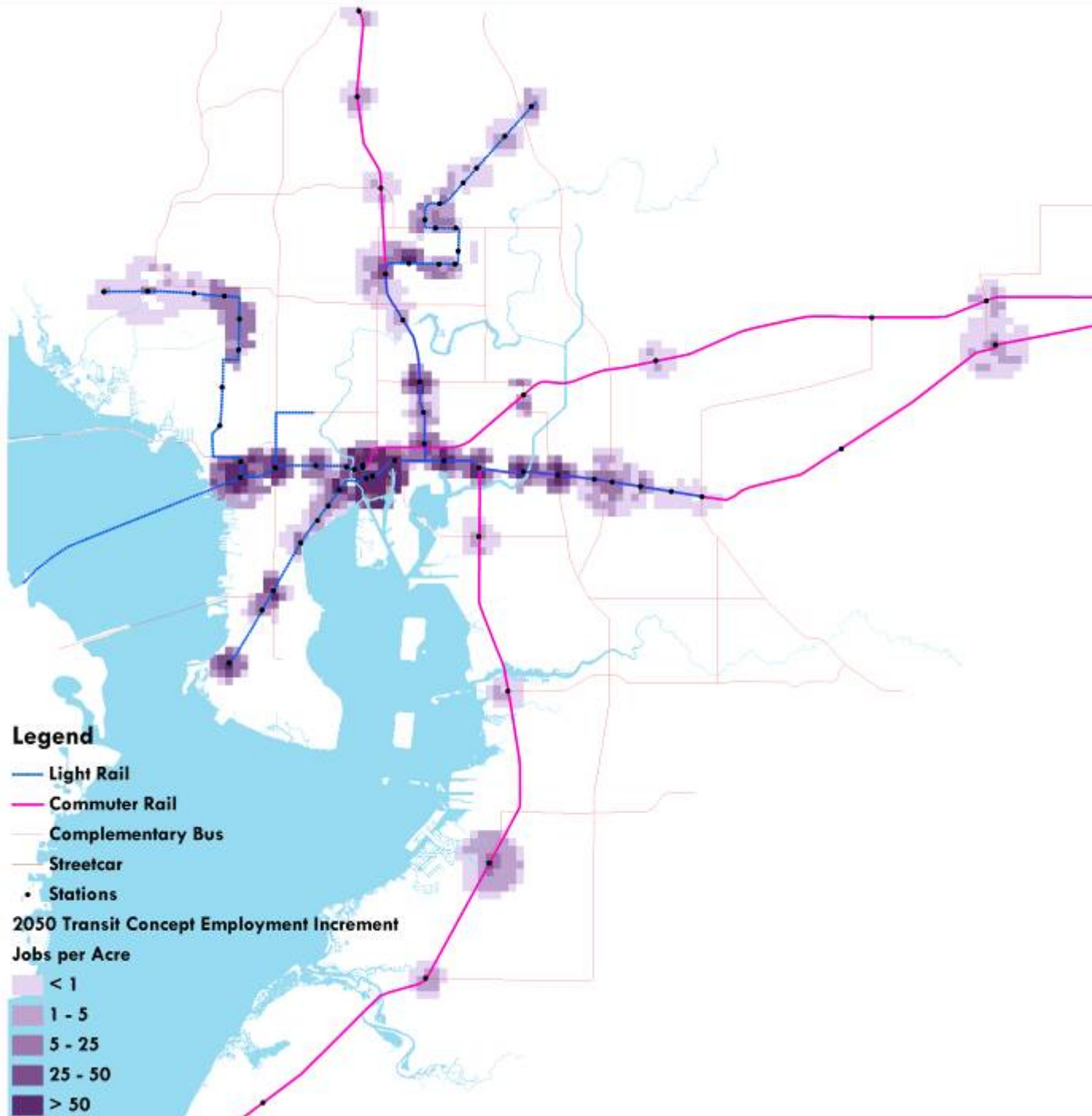
DU/Acre (2050)
Projected Total
Without Transit



Jobs Density Transit Concept

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

Jobs/Acre (2050) Projected Transit Growth Increment



Jobs Density

Current

< 1

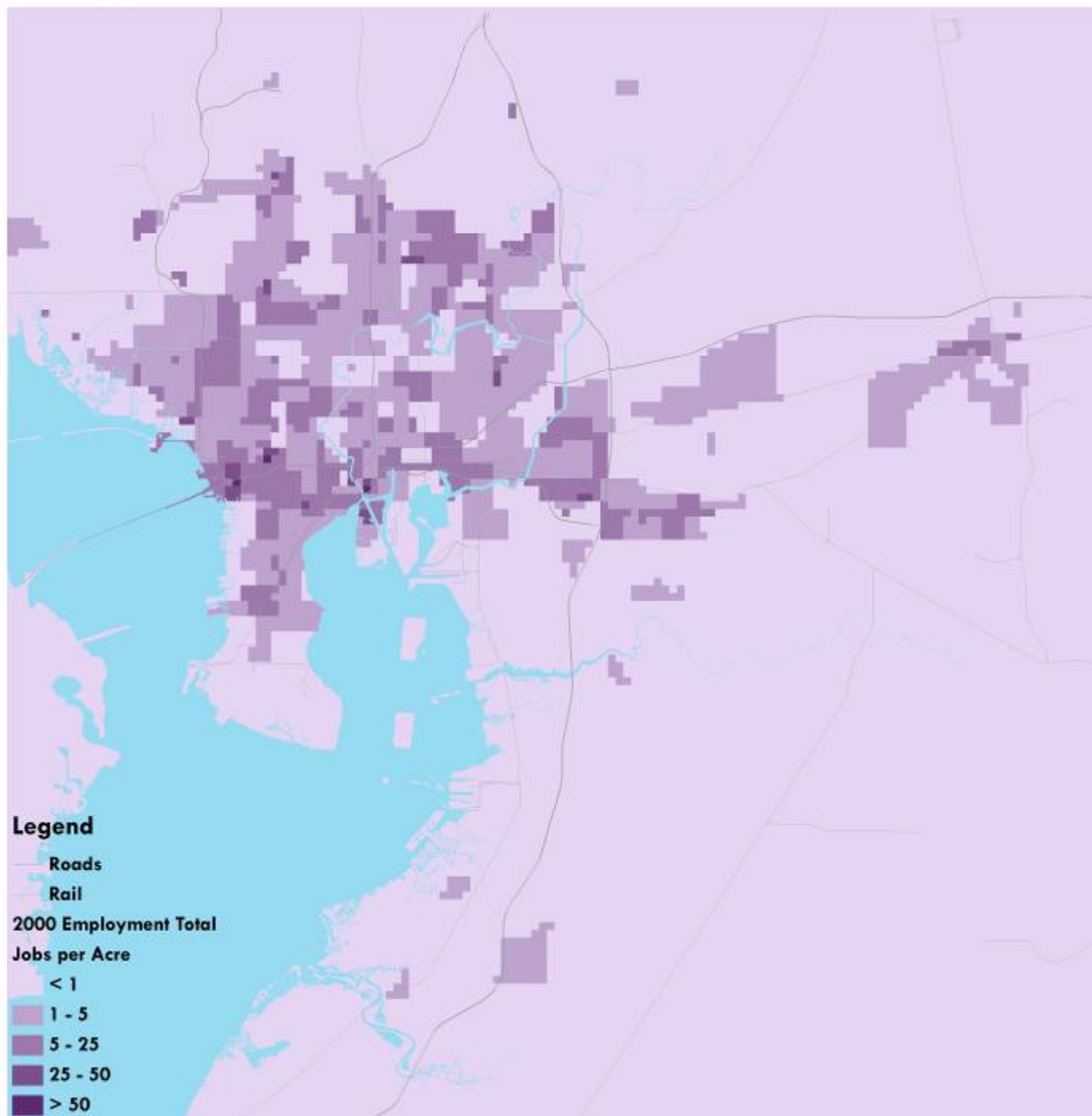
1 - 5

5 - 25

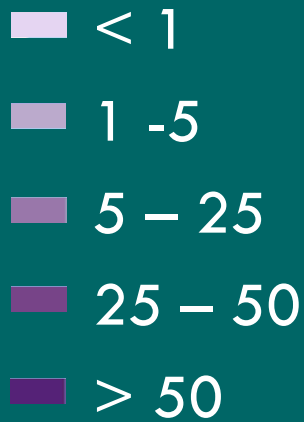
25 - 50

> 50

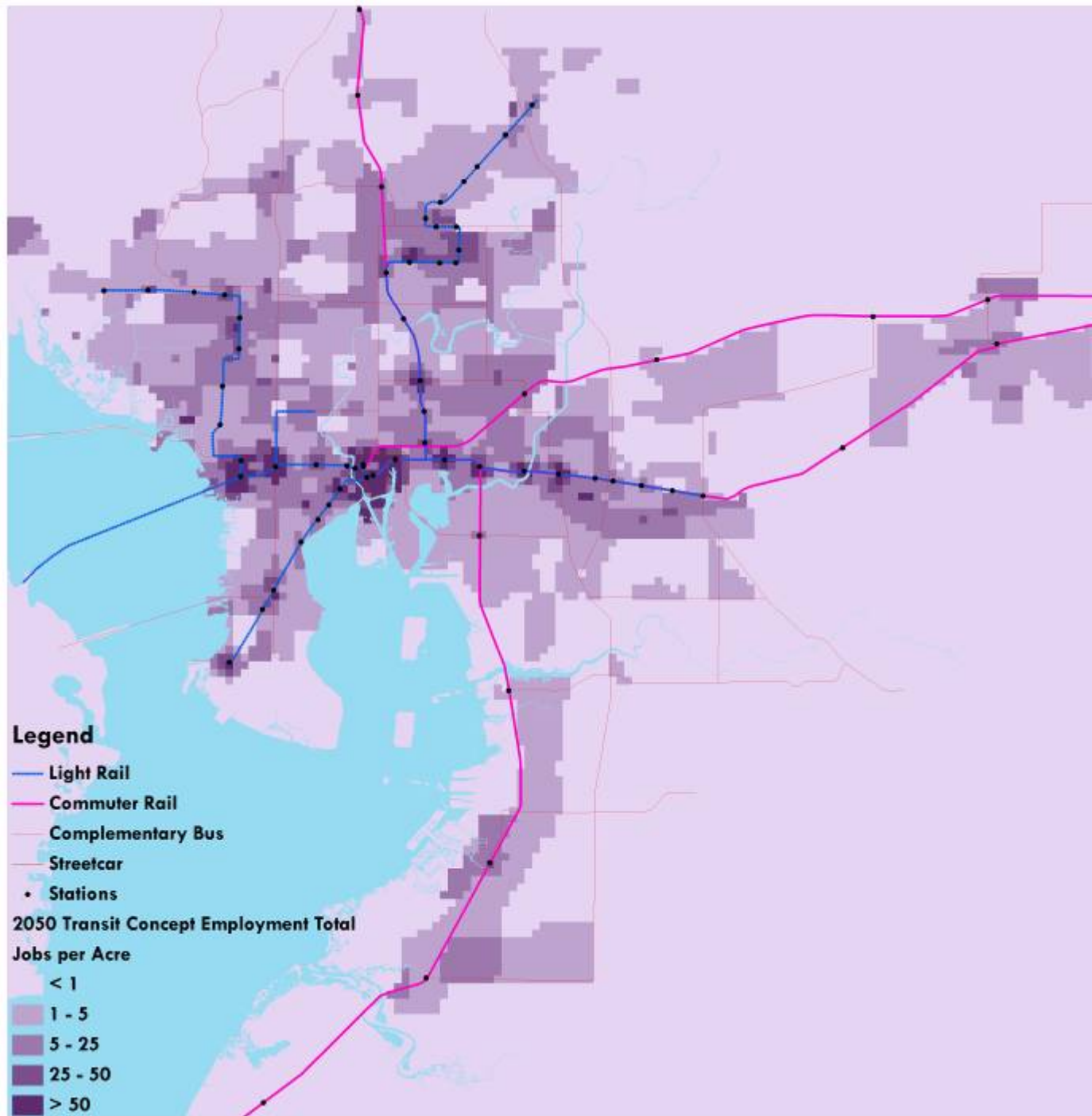
Jobs/Acre (2000)



Jobs Density Transit Concept



Jobs/Acre (2050) Projected Total With Transit



Jobs Density

Trend

< 1

1 - 5

5 - 25

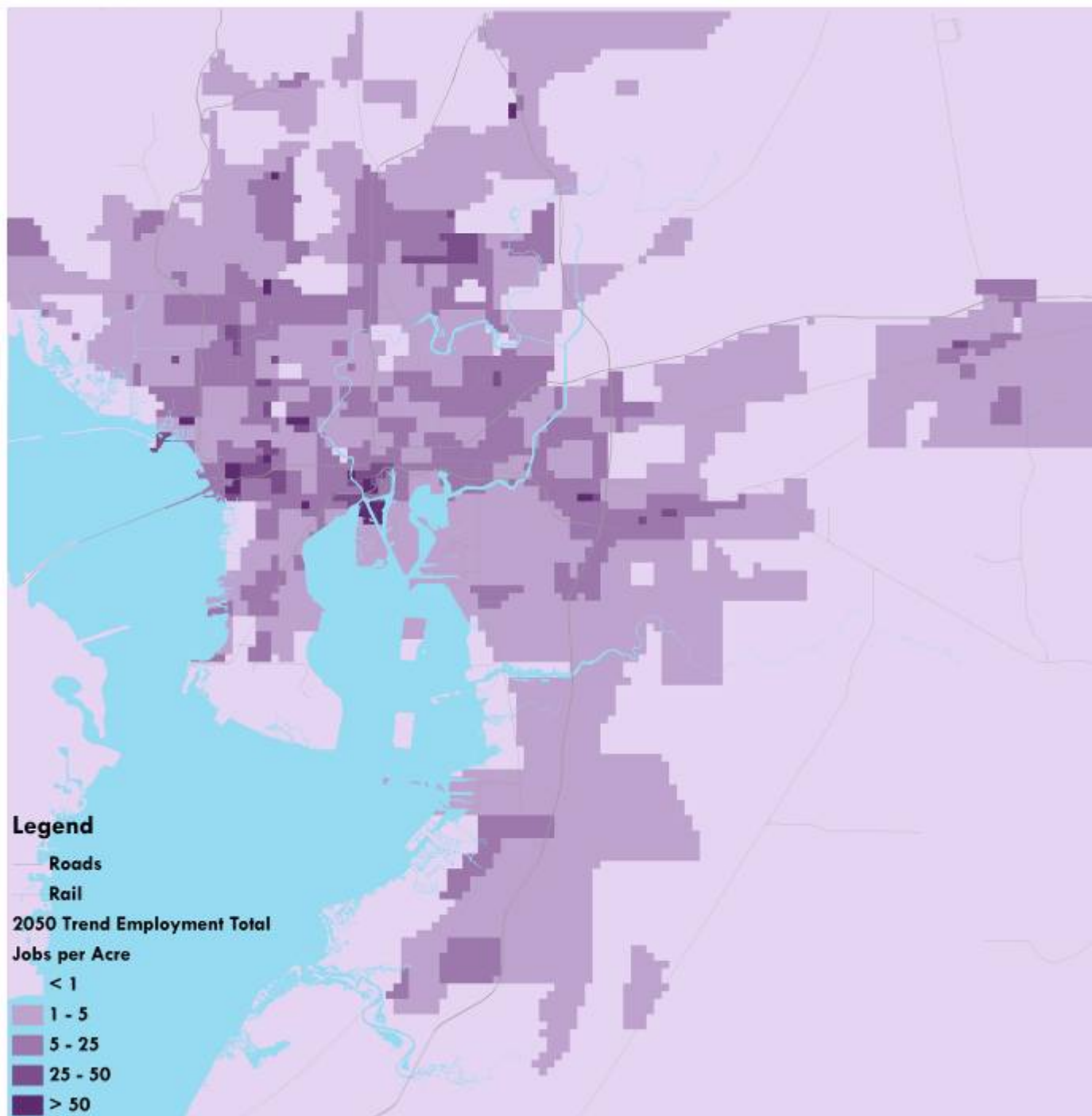
25 - 50

> 50

Jobs/Acre (2050)

Projected Total

Without Transit



HH Density

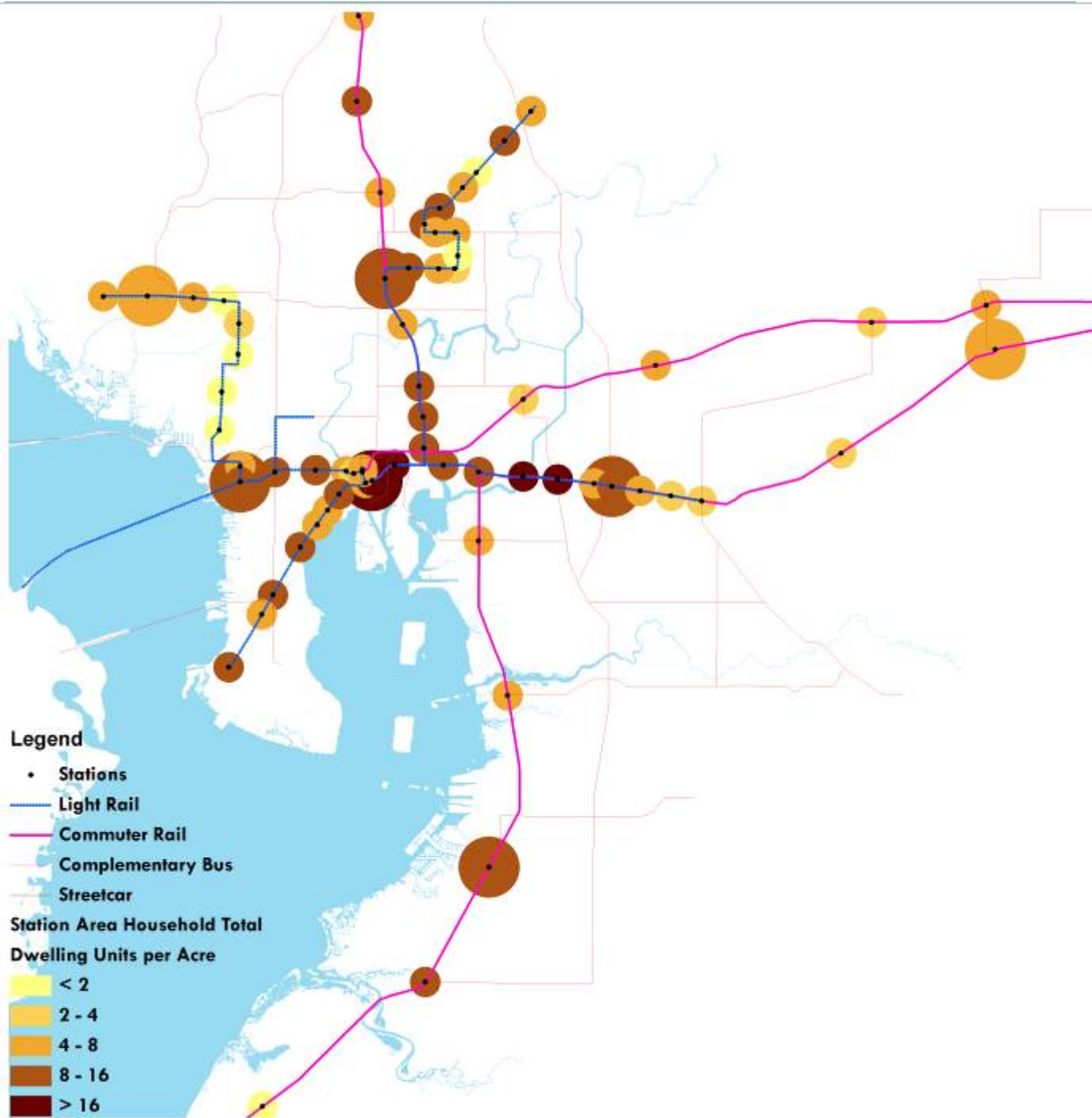
By Station

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

DU/Acre (2050)

Generalized

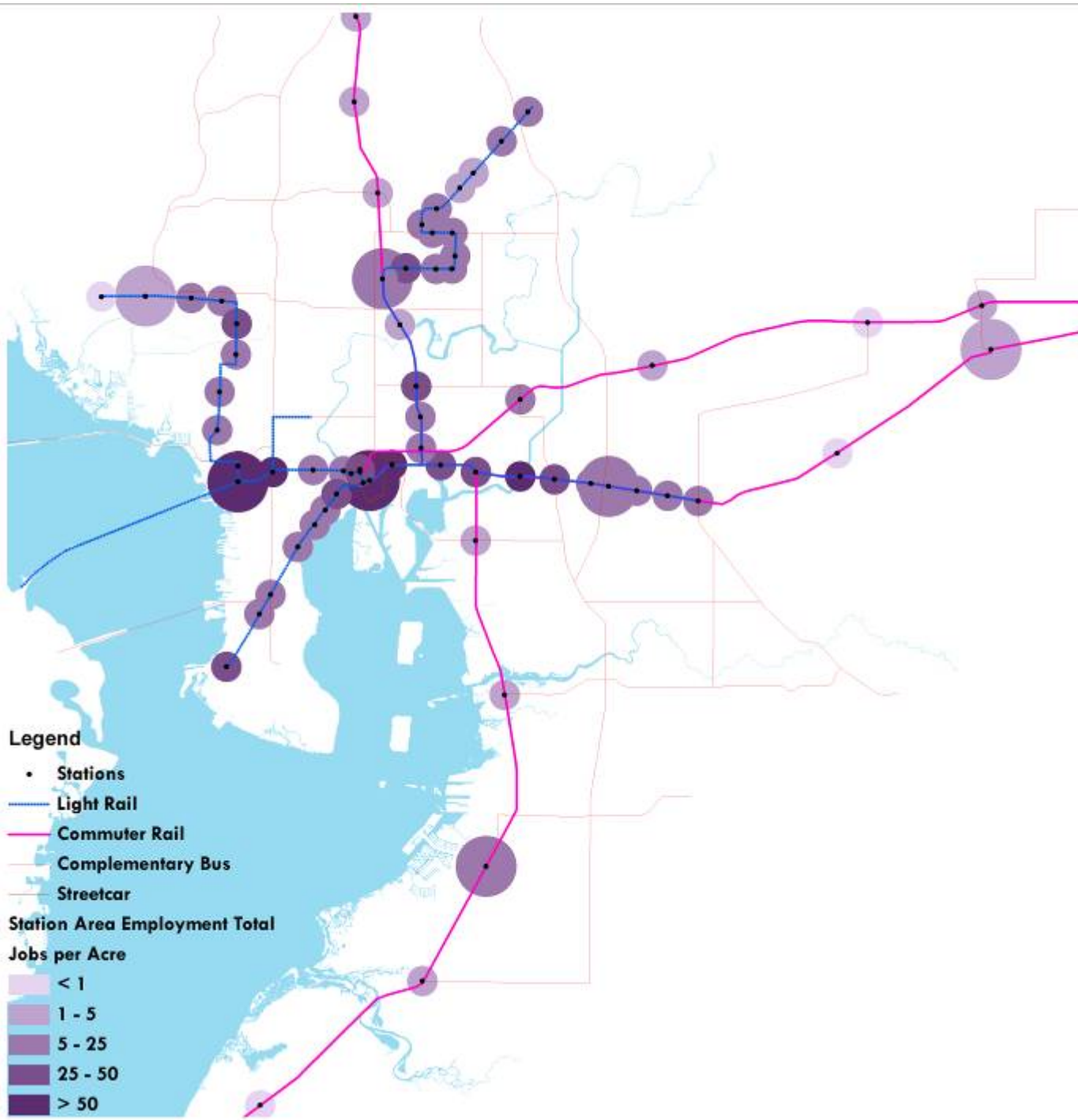
Station Intensity



Jobs Density By Station

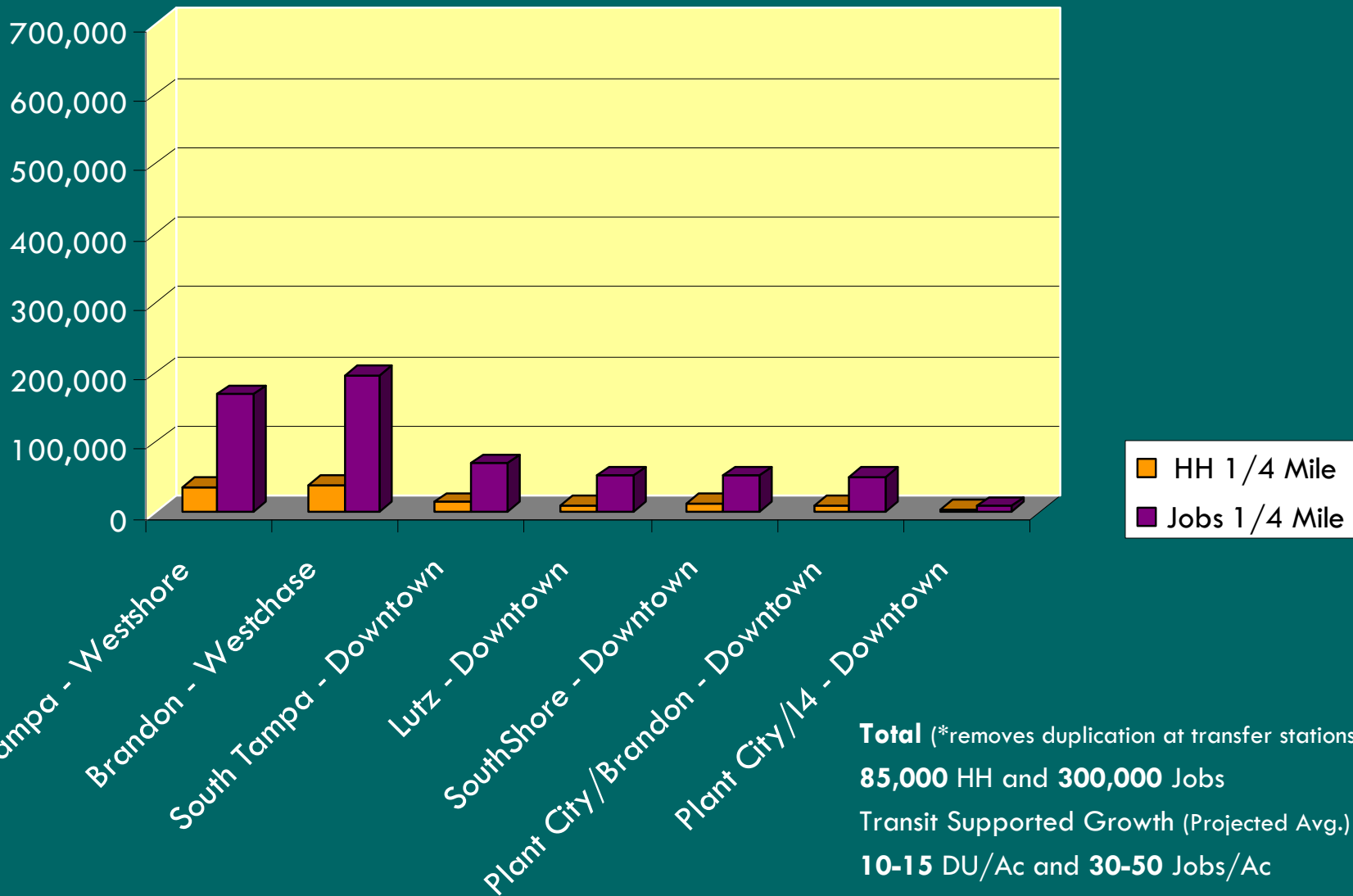
- < 1
- 1 - 5
- 5 - 25
- 25 - 50
- > 50

Jobs/Acre (2050) Generalized Station Intensity

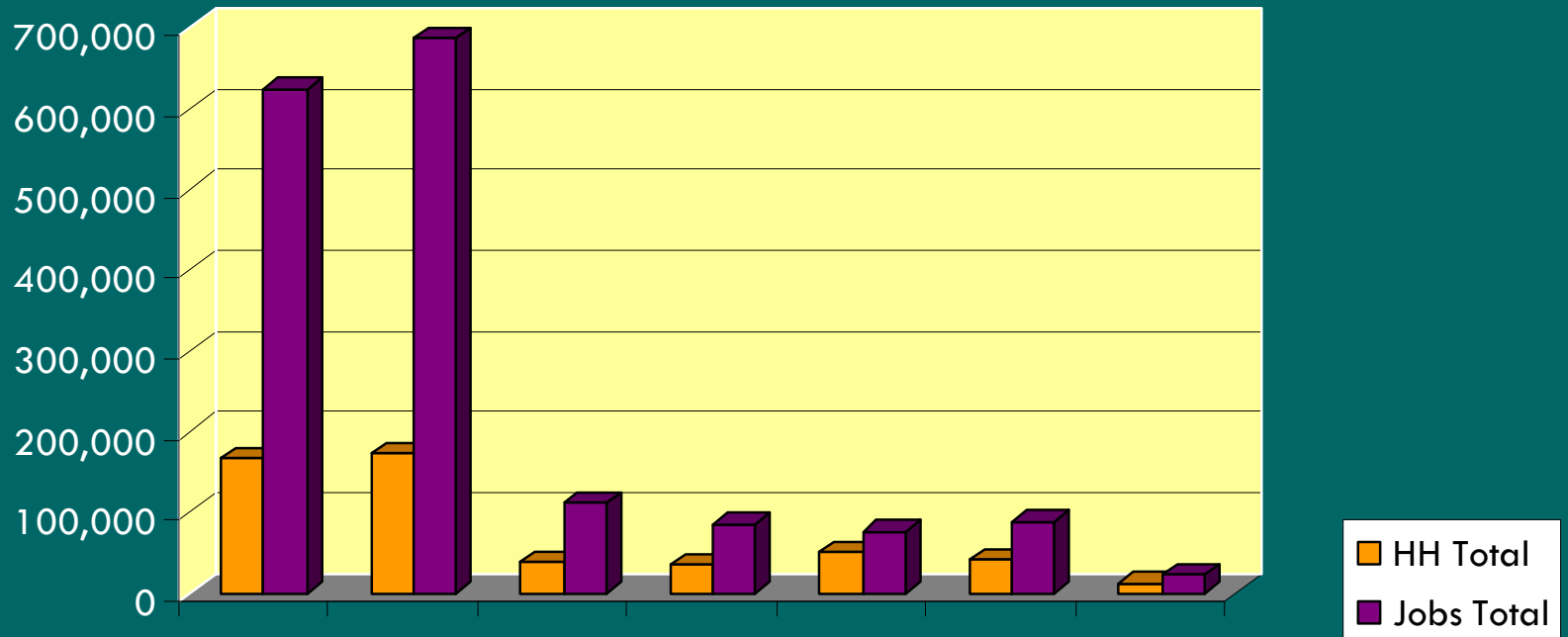




Households & Jobs Within 1/4 mile of Stations



Households & Jobs Within Station Areas (up to 1 mile)



Total (*removes duplication at transfer stations)
350,000 HH and 930,000 Jobs
 Transit Supported Growth (Projected Avg.)
6-12 DU/Ac and 15-30 Jobs/Ac

Total Households & Jobs Within Station Areas (1/4 & 1 mile)

Light Rail

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

1/4 Mile ('000s)

35k HH & 170k Jobs
40k HH & 200k Jobs
15k HH & 70k Jobs

up to 1 Mile ('000s)

165k HH & 625k Jobs
170k HH & 685k Jobs
40k HH & 110k Jobs

Commuter Rail

- Lutz-Downtown
- South Shore-Downtown
- Plant City-Downtown
- Plant City/I-4-Downtown

10k HH & 50k Jobs
10k HH & 50k Jobs
10k HH & 50k Jobs
5k HH & 10k Jobs

35k HH & 85k Jobs
50k HH & 75k Jobs
40k HH & 90k Jobs
10k HH & 25k Jobs

Total

(*removes duplication at transfer stations)

85k HH & 300k Jobs

350k HH & 930k Jobs

Transit Supported Growth

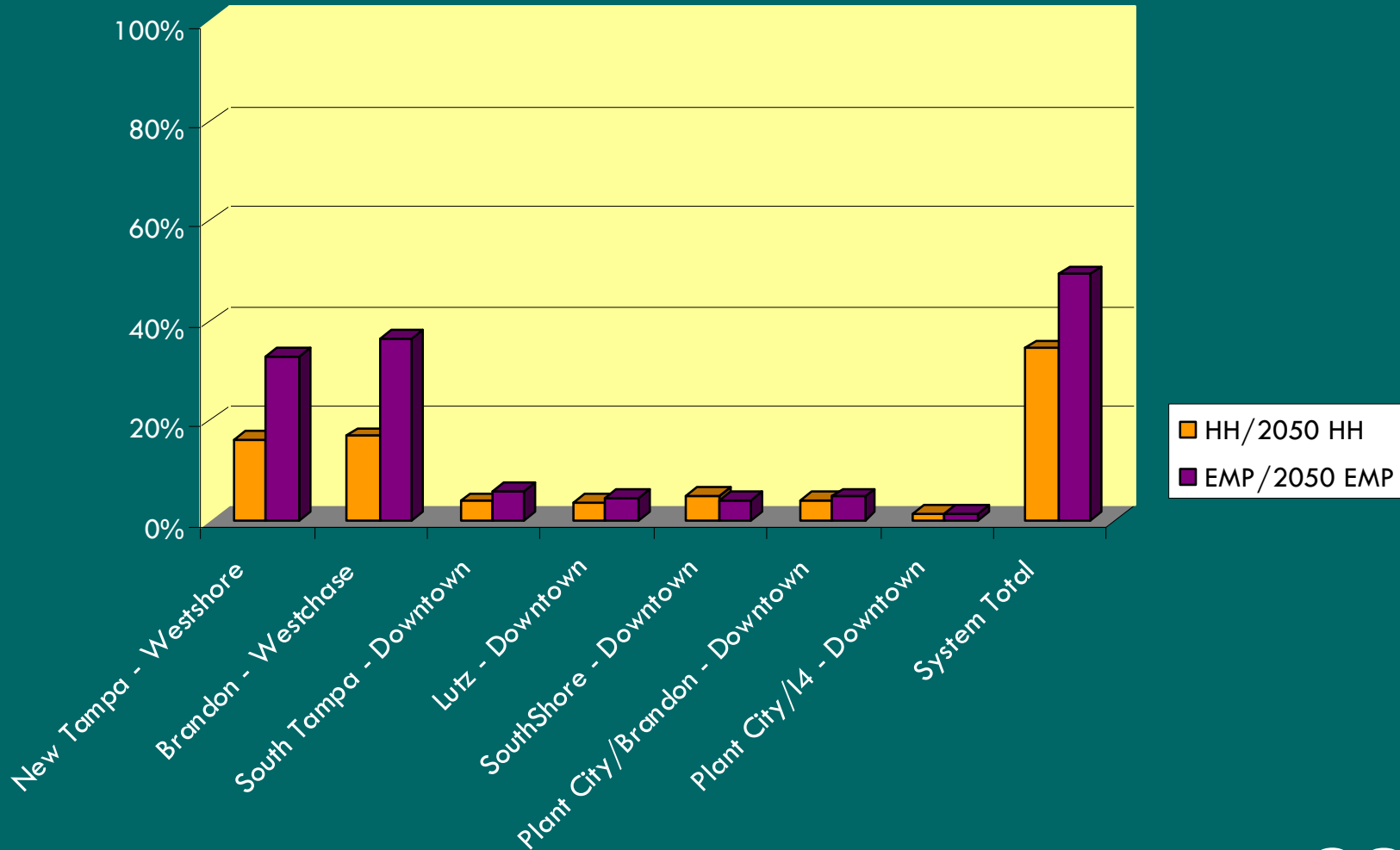
(*Projected Gross Avg Density)

10-15 DU/Ac
30-50 Jobs/Ac

6-12 DU/Ac
15-30 Jobs/Ac

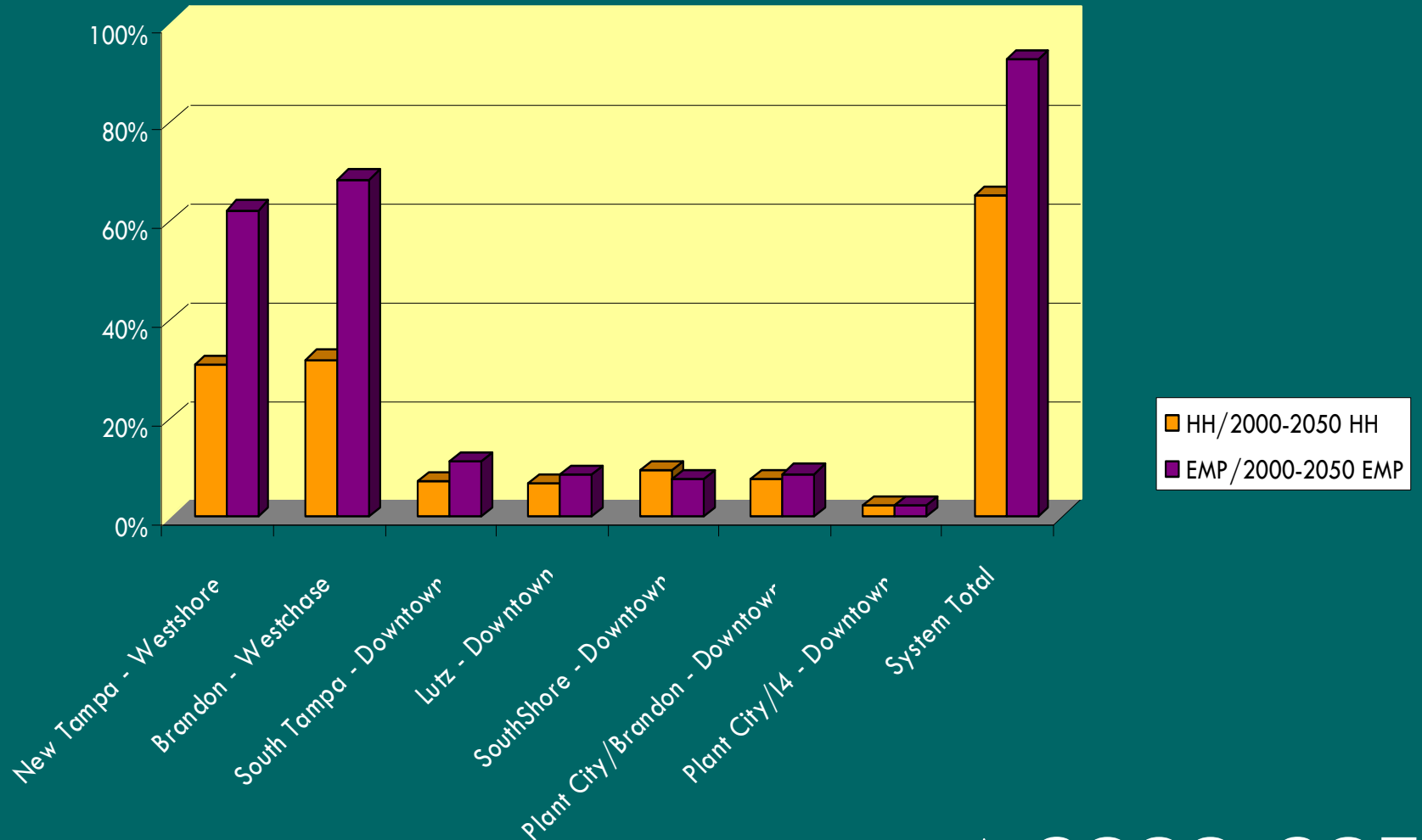


Transit Served Households & Jobs (% of Projected 2050 Growth)



2050

Transit Served Households & Jobs (% of 2000 to 2050 Growth Increment)



Δ 2000-2050

Transit Served Population & Jobs (% of 2050 Total & Growth Increment)

Light Rail

	2050	Δ 2000-2050
■ New Tampa-Westshore	16% HH & 33% Jobs	31% HH & 62% Jobs
■ Brandon-Westchase	17% HH & 36% Jobs	32% HH & 69% Jobs
■ South Tampa-Downtown	3 % HH & 6 % Jobs	7 % HH & 11% Jobs

Commuter Rail

■ Lutz-Downtown	3 % HH & 5 % Jobs	6% HH & 9% Jobs
■ South Shore-Downtown	5 % HH & 4 % Jobs	9% HH & 8% Jobs
■ Plant City-Downtown	4 % HH & 5 % Jobs	8% HH & 9% Jobs
■ Plant City/I-4-Downtown	1 % HH & 1 % Jobs	2% HH & 2% Jobs

Total

34 % HH & 49% Jobs 65% HH & 93% Jobs

* based on 1 mile radius



Light Rail

- New Tampa-Westshore (Red Line) 10-25,000 Trips Per Day
- Brandon-Westchase (Blue Line) 20-30,000 Trips Per Day
- South Tampa-Downtown (Green Line) 5-10,000 Trips Per Day

Commuter Rail

- Lutz-Downtown (Magenta Line) 1-8,000 Trips Per Day
- SouthShore-Downtown (Orange Line) 2-8,000 Trips Per Day
- Plant City/Brandon-Downtown (Purple Line) 1-8,000 Trips Per Day
- Plant City/I-4-Downtown (Red Line) 1-2,500 Trips Per Day

Total

40-90,000 Trips Per Day

Light Rail

- New Tampa-Westshore (Red Line) 1 000 Trips/Mile
- Brandon-Westchase (Blue Line) 1 100 Trips/Mile
- South Tampa-Downtown (Green Line) 1 250 Trips/Mile

Commuter Rail

- Lutz-Downtown (Magenta Line) 475 Trips/Mile
- South Shore-Downtown (Orange Line) 300 Trips/Mile
- Plant City/Brandon-Downtown (Purple Line) 300 Trips/Mile
- Plant City/I-4-Downtown (Red Line) 100 Trips/Mile

Light Rail

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

Commuter Rail

- Lutz
- SouthShore
- Plant City

Bus

- Complementary Bus Network

