MPO TRANSIT STUDY

TRANSIT CONCEPT FOR 2050





Final Report

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Hillsborough County
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I. INTRODUCTION

Hillsborough County is projected to grow by 400,000 people over the next 20 years and will likely double in population by 2050. How the community will handle this growth is an important question on the minds of citizens, civic leaders and government officials. Where will new residents live and work? How will they get to and from their daily destinations? What transportation choices will be available in 20, 30 or 50 years? How can transportation investments be used to further quality of life goals, economic development strategies and sustainable growth? Is there a better way to grow and invest our transportation dollars?

At the urging of the Citizens' Advisory Committee, and the request from the Hillsborough County Metropolitan Planning Organization (MPO) Board, the MPO Transit Study commenced in November of 2006 to begin addressing these pressing questions for Hillsborough County. The timing of the MPO Transit Study also coincides with the concurrent effort by the Tampa Bay Area Regional Transportation Authority (TBARTA) to develop a regional transit master plan for the eight county region.

The MPO Transit Study included the development of scenarios to illustrate the benefits and tradeoffs associated with different mobility strategies for the county. One scenario focused on creating a major transit system for the county, while the other *no-build* concept relied primarily on roadways to address long term mobility needs. The conclusion from this study is that a major transit investment is a more desirable choice. The key findings illustrate the benefits associated with a transit rich future to address mobility needs that cannot be achieved through roadway capacity improvements alone. The 2050 Transit Vision can benefit citizens of Hillsborough County by:

- Accommodating future growth in a more efficient and sustainable manner
- Providing a fast and more reliable transportation choice for citizens over time

KEY FEATURES
TRANSIT CONCEPT FOR 2050

- Alternative mobility options within congested corridors
- Greater travel capacity within major transportation corridors during peak hours
- Enhanced connectivity between major activity centers (e.g., USF, Downtown and Tampa International Airport)
- Promotes transit supportive land use pattern and walkable mixed use neighborhoods
- Quick and convenient commutes between major residential areas and job centers
- Mix of transit service for local trips and long trips
- Integration of local and regional transit systems

FIGURE I.1 - KEY FEATURES OF TRANSIT CONCEPT FOR 2050

The Transit Concept for 2050, as outlined in the following pages, illustrates in more detail the key advantages of this transit future. The 2050 Transit Concept is set within the larger regional context that responds to local desires and opportunities concerning mobility, development patterns and the ability to accommodate future growth. Recognizing that transit must work in concert with the existing roadway system and respond to community preferences concerning land use and development patterns, the study examines a wide range of transit technologies and complementary transit supportive development options. The process involved a significant public outreach and engagement campaign; the development of guiding principles; technical analysis of future travel demand; transit rail and bus technology assessments; and conceptual level fatal flaw analysis for various transit concepts.

The Transit Concept for 2050 responds to community values centered on sustainable growth, neighborhood preservation and economic vitality. The Transit Concept for 2050 (Figure I.2) emerged from a scenario planning process designed to illustrate the potential for transit by optimizing supporting land uses and urban development patterns. In effect, the concept demonstrates how transit investments can influence countywide growth patterns, creating a more efficient use of land that in turn makes walking and transit more viable and desirable as real transportation options.

Given the complementary land use and transportation elements of the Transit Concept for 2050, the vision demonstrates how investments in transit can also aid the county and its municipalities in more effectively accommodating future growth and development.

This document summarizes the major study findings and is divided into four major sections:

- **Study Intent and Process Overview**
- **2050 Trend Analysis**
- **2050 Alternative Transit Concepts**
- **Transit Concept for 2050**

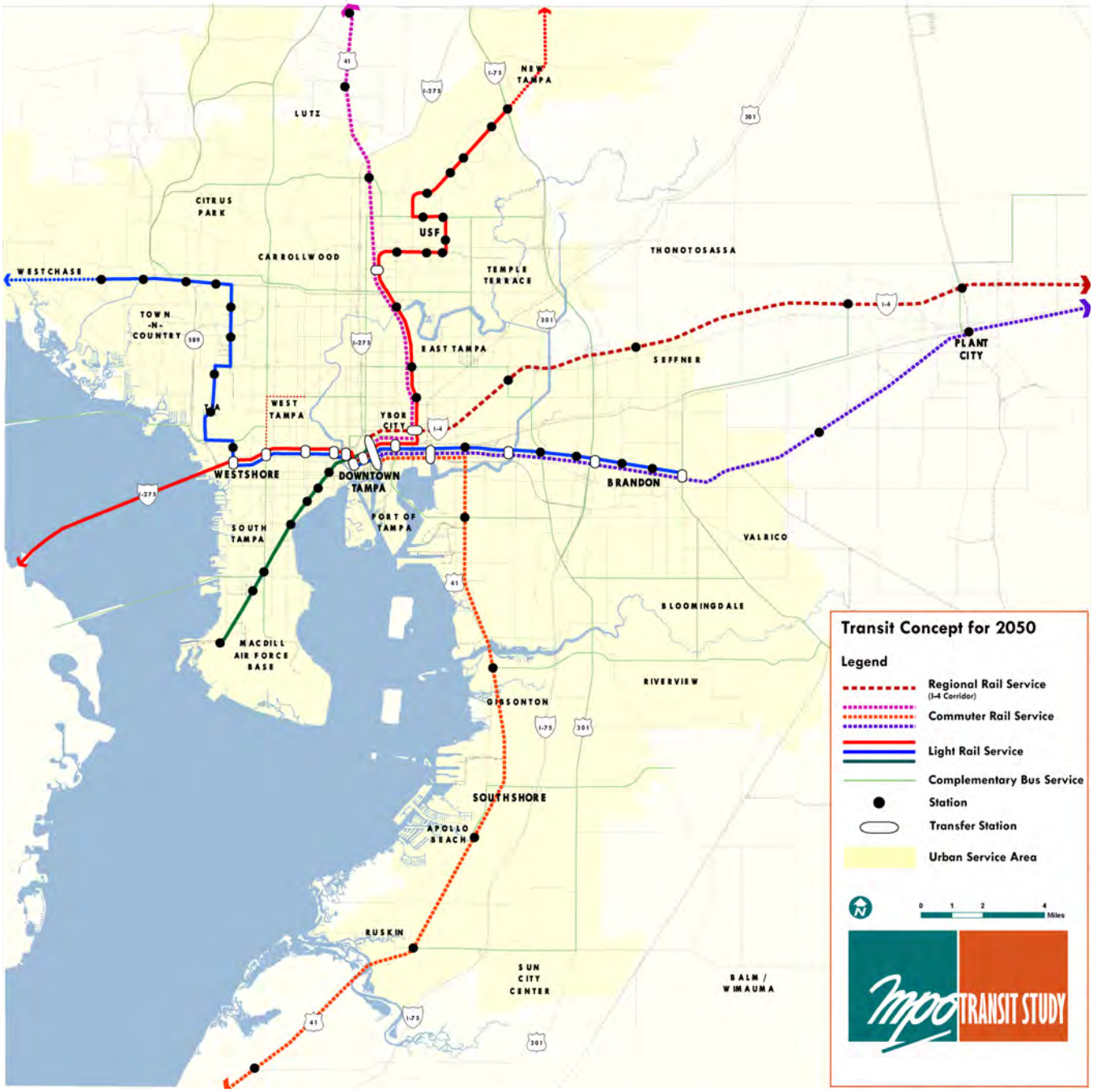


FIGURE I.2 - TRANSIT CONCEPT FOR 2050

II. STUDY INTENT AND PROCESS OVERVIEW

INTENT

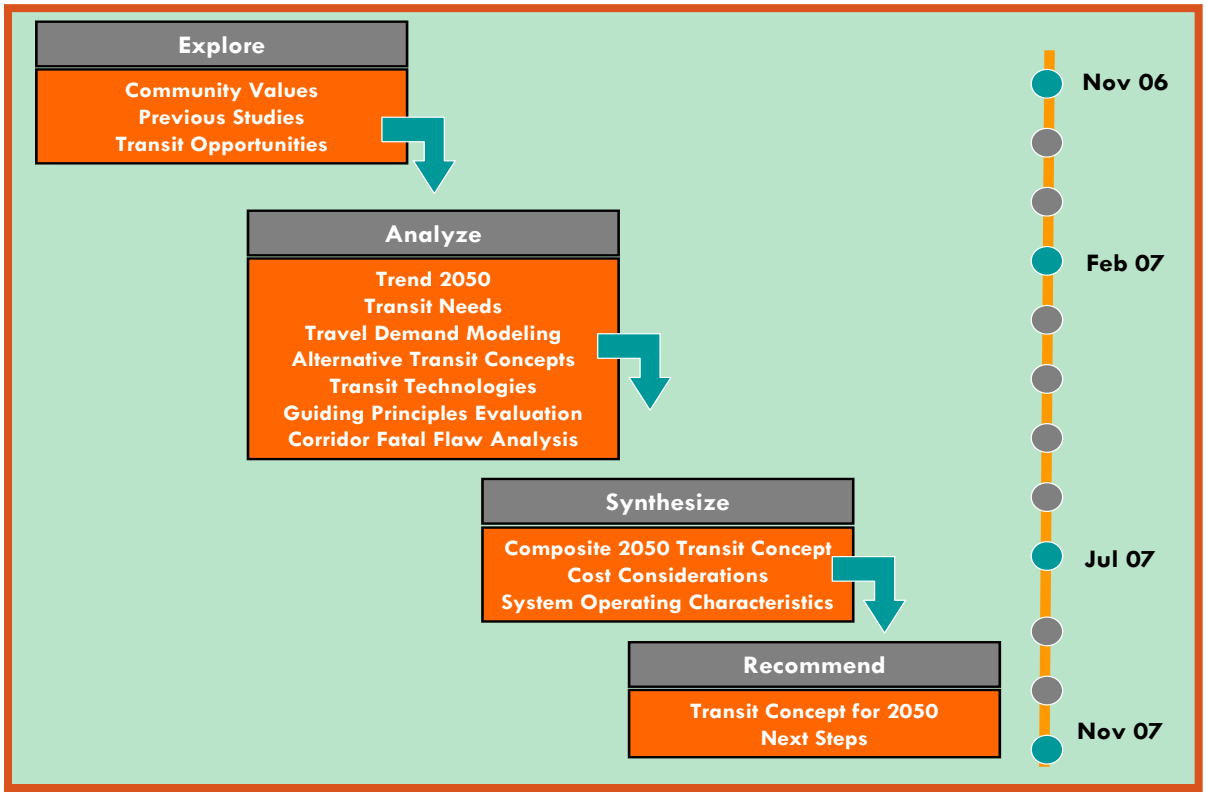
Significant consideration of transit for Hillsborough County began in 1993 with the Tampa Bay Commuter Rail Authority's Tampa to Lakeland Feasibility Study. Following this effort, several local, regional and even state initiated studies ensued looking at a wide range of alternatives for transit systems in the greater Tampa Bay region. These included consideration of high speed rail, commuter rail, light rail, bus rapid transit and other technologies.

The intent of the MPO Transit Study is to build upon and update theses previous and ongoing efforts to provide a blueprint for policy-makers to advance more detailed planning and analysis for the implementation of a countywide transit plan. Working with a 2050 planning horizon, the study looks at how to create a transit system based upon a foundation of transit supportive land uses, urban design characteristics and development strategies aimed at maximizing potential ridership and economic development opportunities. By looking at the impacts on development patterns and assessing how many people and jobs can be served by the system, it also seeks to find the best 'return on investment' scenario based on a combination of these key factors. Further, it relies on land use assumptions that are consistent with locally adopted comprehensive plans. This transit study addressed community mobility goals by providing a transit concept that can function as an attractive transportation alternative for all citizens, business interests and visitors alike.

PROCESS OVERVIEW

The year long study process (Figure II.1) occurred in four major phases: ***Exploration, Analysis, Synthesis and Recommendations.*** The process was iterative in nature with a strong public feedback loop that informed the ultimate development of the Transit Concept for 2050. The following pages provide an overview and the major findings of each phase of the study.

FIGURE II.1 - MPO TRANSIT STUDY PROCESS DIAGRAM



PHASE I - EXPLORATION

Community Involvement

The Transit Study Exploration phase began with the development of a set of guiding principles aimed at informing the development of a final transit concept. These principles emerged from a series of public focus group meetings designed to discover common themes in community values. Eight meetings were held over a month timeframe in dispersed locations across the County. Focus group participants were placed into small working groups and asked to review and prioritize a list of sample value statements. The groups discussed each value statement and how it might influence the future growth and development, quality of life, and transportation choices in their respective community. The study team translated these common community value statements (Figure II.2) into a set of guiding principles that framed the ultimate development of the Transit Concept for 2050.

Beginning with the focus groups and continuing throughout the entire study process, an extensive communications and public outreach program was employed. The outreach tools, techniques and processes were designed to stimulate public interest and participation in exploring transit alternatives. Study teams (Leadership Team, Citizens Team and Technical Team) were assembled and engaged at key decision points in the study process to obtain input and build consensus on development of the preferred transit concept. The MPO standing committees were regularly briefed on study progress, products and public feedback. Additionally, the public at-large was informed and solicited for input via study newsletters, public workshops and other outreach and feedback methods throughout the study period.

COMMUNITY VALUES STATEMENTS
TRANSIT CONCEPT FOR 2050

- "I want more quality time spent with my family and friends, and less time in traffic."
- "Give me more reliable travel times."
- "I like a growing economy, but if traffic grows with it, will gridlock choke the economy?"
- "Let's grow our small towns and save some open space rather than sprawling everywhere."
- "Traffic cuts through my community. I want to feel safe on my street, and I want my child or elderly parent to be safe, too."
- "I want goods, services, and jobs to be more accessible, especially if I don't or can't drive."

FIGURE II.2 - COMMUNITY VALUES STATEMENTS

Previous Studies

At the onset of the project, another major effort involved the review of previous and ongoing planning studies of relevance. This ranged from visioning and comprehensive planning efforts to detailed transportation studies and transit initiatives. In particular, the study team sought technical data and information related to some of the major transit studies already completed and/or currently underway. This early effort helped orient the transit opportunities exercise towards corridors and transit technologies that in many cases had already been studied.

FIGURE II.3 - TRANSIT SCENARIOS WORKSHOP

Transit Needs & Opportunities

In March 2007, approximately 250 people participated in MPO Transit Study public workshops to identify different transit opportunity corridors for Hillsborough County. Workshop participants could choose the area of the County they desired to provide input, and

worked in groups to identify specific transit corridors. During the planning exercise, the participants were asked to identify major activity centers and points of interest and then 'connect the dots' between them. Once the lines were placed on the map, participants were also asked to consider how development in the centers or along the transit lines might change over time. This helped to identify citizens' preferences on redevelopment, densities, new centers and other land use considerations.

Based on the desires of participants at these meetings, a Consolidated Transit Opportunities Map (Figure II.7) was generated to illustrate popular public opinion on desired transit connections. The map illustrated how the geographic reach of the desired transit opportunities spans much of the County's existing settlement areas. Downtown Tampa was most frequently associated with origin-destination pairs involving urban and suburban centers and regional connections. Activity centers of varying scale and desired future regional connections were also acknowledged through the scenario building process. The linking of activity centers revealed high-frequency travel corridors internal to the urban area, as well as from suburban/urbanizing locations to urban centers and regional connection points. As a result of this process, over 20 different potential transit corridors were identified and summarized into the Transit Needs and Opportunities Map (Figure II.8) for additional analysis.

FIGURE II.4 - LEADERSHIP TEAM MEETING

FIGURE II.5 - TRANSIT SCENARIOS WORKSHOP

PHASE II - ANALYSIS

With a baseline understanding of the public desires, previous studies and potential transit corridors, the next phase of the study focused on technical analysis. The analysis was structured around four major components:

- Understanding the '2050' Trend conditions and the implications of a Hillsborough County future *without* a major transit investment
- Modeling 2050 employment and population to identify transit ridership potential and centers of activity
- Refining the Transit Opportunities Map into a set of three distinct Alternative Transit Concepts (Figures IV.3-IV.5) to conduct corridor level fatal flaw analyses and consider the alternative transit technologies
- Evaluating the Alternative Transit Concept against the key community values and guiding principles

Throughout this phase, information was released to the public, the MPO advisory committees, the Technical Team, the Citizens Team and the MPO Board to further inform the development of the final concept.

PHASE III & IV - SYNTHESIS & RECOMMENDATIONS

With the major technical analysis completed, the study team proceeded to the synthesis phase. The intent during this phase was to pull together the best elements of the three alternative transit concepts by evaluating them against guiding principles (Figure II.6), the 2050 Trend and other technical considerations. This effort involved continued travel demand modeling and analysis to narrow down specific transit technologies within specific corridors.

Not only did the team focus on transportation mobility characteristics, transit planning level evaluations and relative costs for each corridor, but it also carefully considered the land use implications. For instance, how might a particular transit technology influence the future development pattern around a transit station? Where were there opportunities for transit investments to advance community redevelopment goals or ensure neighborhood preservation? Which transit corridors would best connect people and jobs? What type of service would best serve their needs? The synthesis phase resulted in the creation of the Transit Concept for 2050 (Figure I.2 and V.4).

GUIDING PRINCIPLES
TRANSIT CONCEPT FOR 2050

- Land Use
  - Maximize opportunity to meet Values Workshop (Dec. 2006)
  - Fulfil other institutional and regional goals (FDOT, HART, RTA, and others)
- Mobility / Operations
  - Maximize ridership (Total and New)
  - Target ability to attract desired travel markets
  - Maximize travel time savings
- Environment
  - Minimize disruptions (communities, natural areas, cultural resources, etc.)
  - Air quality improvements
  - Environmental justice
- Financial
  - Total system cost relative to funding capacity (capital cost, operations and maintenance)
  - Ability to attract federal and state funds
  - Opportunities to leverage other sources
- System Development
  - Passenger distribution in CBD and core growth/activity centers
  - Balance use of system capacity
  - Responsiveness to urban design and economic development principles
  - System expansion capacity and capability

FIGURE II.6 - GUIDING PRINCIPLES

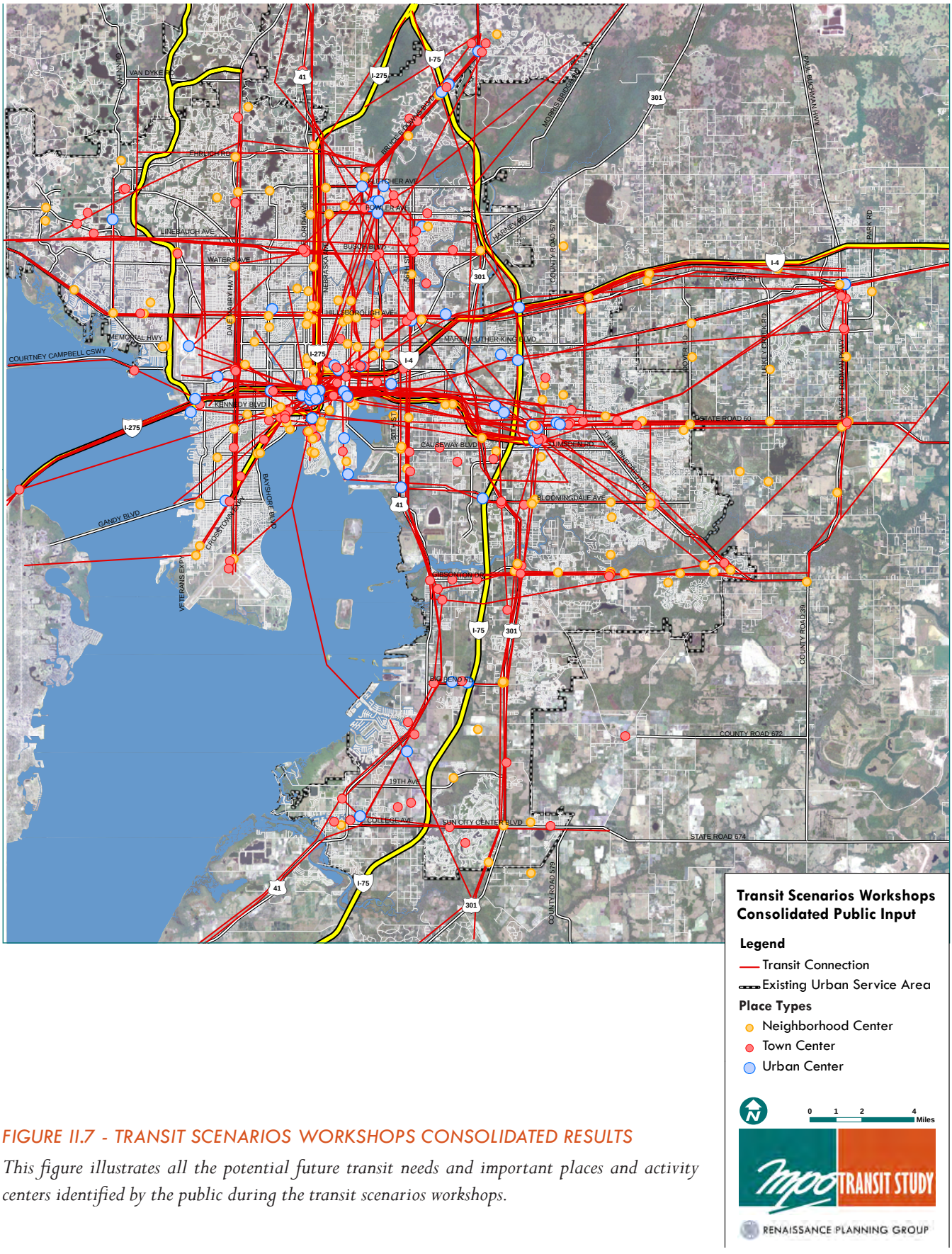


FIGURE II.7 - TRANSIT SCENARIOS WORKSHOPS CONSOLIDATED RESULTS

This figure illustrates all the potential future transit needs and important places and activity centers identified by the public during the transit scenarios workshops.

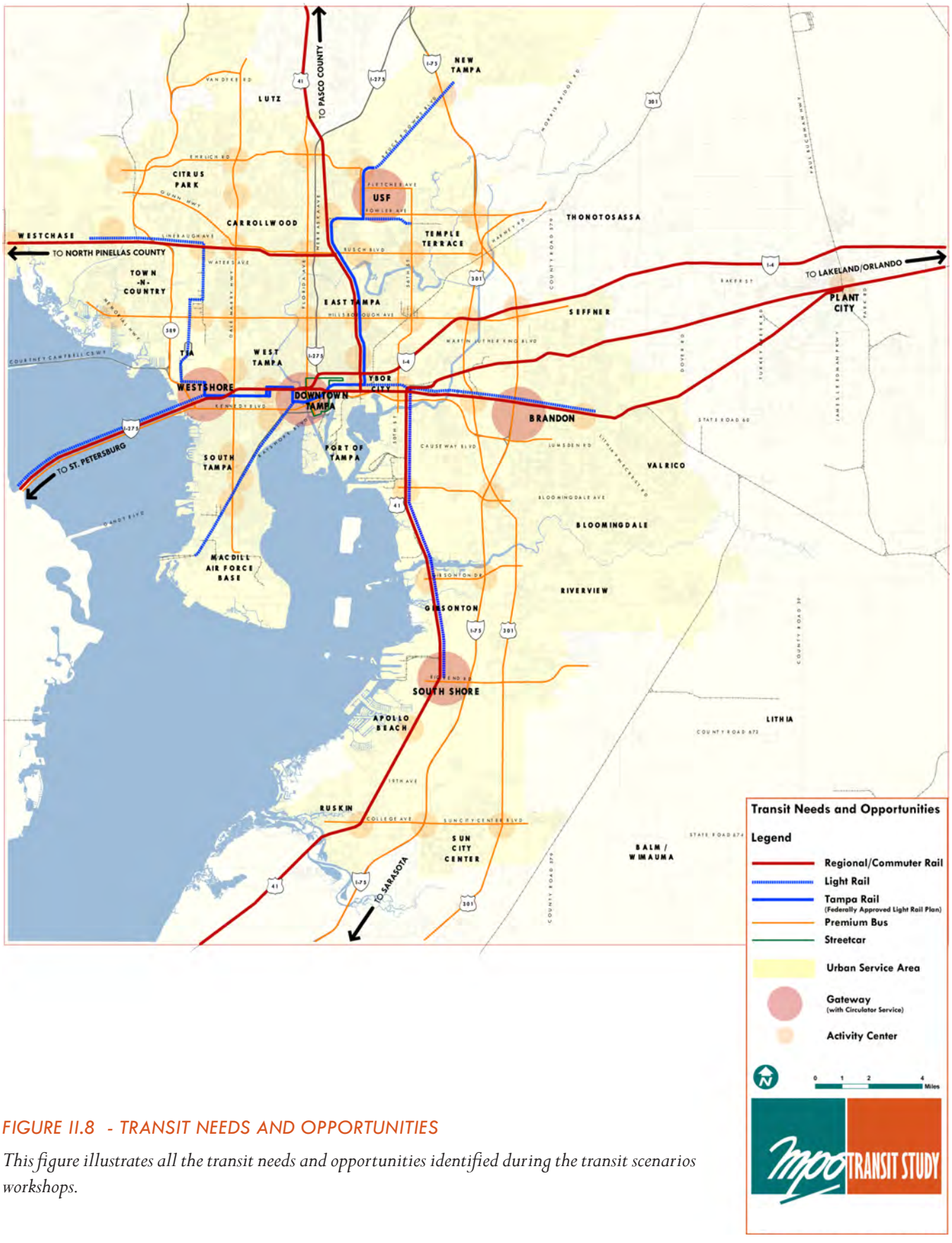


FIGURE II.8 - TRANSIT NEEDS AND OPPORTUNITIES

This figure illustrates all the transit needs and opportunities identified during the transit scenarios workshops.

III. 2050 TREND ANALYSIS

A major focus of the Transit Study was to gain a baseline understanding of the future trends for growth and development given the current policy conditions which rely predominately on automotive modes of travel. As such, the study team developed the 2050 Trend scenario or *no build* concept so that tradeoffs associated with different development and mobility policies could be adequately considered. This Trend Scenario consisted of quantitative and qualitative assumptions concerning future development patterns, population estimates and employment projections.

A great deal of planning has been done in recent years for unincorporated Hillsborough County and the cities of Tampa, Temple Terrace, and Plant City. Each jurisdiction has developed a comprehensive plan and future land use maps to guide future development. It is from these community plans that the study team developed the 2050 Trend scenario.

FUTURE LAND USE DEFINITIONS

The 2050 Trend projects future development patterns based on an interpretation of future land use plans (Figure III.1). For each jurisdiction, the future land use categories were converted into community element inventories. Each community element was associated with a specific future land use category representing a range of housing and employment densities.

Single-Use Categories

Areas designated for one single use were relatively easy to interpret and covered most of the land areas described in the existing future land use plans.

Mixed-Use Categories

Some mixed-use categories had maximum allowable proportions of employment or housing that could possess a greater concentration of housing or employment. In these circumstances, the Study Team chose a median housing and employment mix that resulted in an appropriate *jobs to housing* ratio. Since the mixed-use areas were relatively small in the overall context of countywide land uses, any discrepancies would result in negligible variations in the overall distribution of households and employment.

TRANSPORTATION ASSUMPTIONS

For future transportation conditions, the Study Team assumed the implementation of the currently adopted transportation plans that predominantly focused on providing new transportation capacity through roadway improvement projects. The 2050 Trend does not include any of the major rail transit investment options being considered in the Alternative Transit Concepts, so no stations were included that might otherwise catalyze redevelopment in existing urban areas.

Land Capacity vs. Forecast

Using the regional population control totals developed for the County as part of the FDOT's Strategic Regional Transit Needs Assessment (SRNTA) Study, the Study Team allocated all new growth to existing vacant land to create the 2050 Trend. Given the amount of available vacant land, no redevelopment or infill was assumed in the Trend. Even with the 2050 increment of growth, once the allocation was completed, there remained more land use capacity than was required to accommodate the growth forecast. To more accurately project the Trend, this allocation was further refined by dividing the county into quintiles based on existing development patterns and applying future growth projections to the most urban areas first, followed by a decreasing percent allocated to areas on the periphery. This allocation more accurately simulates the market tendency to select areas closer to existing infrastructure and jobs first and moving outwards as these lands are consumed.

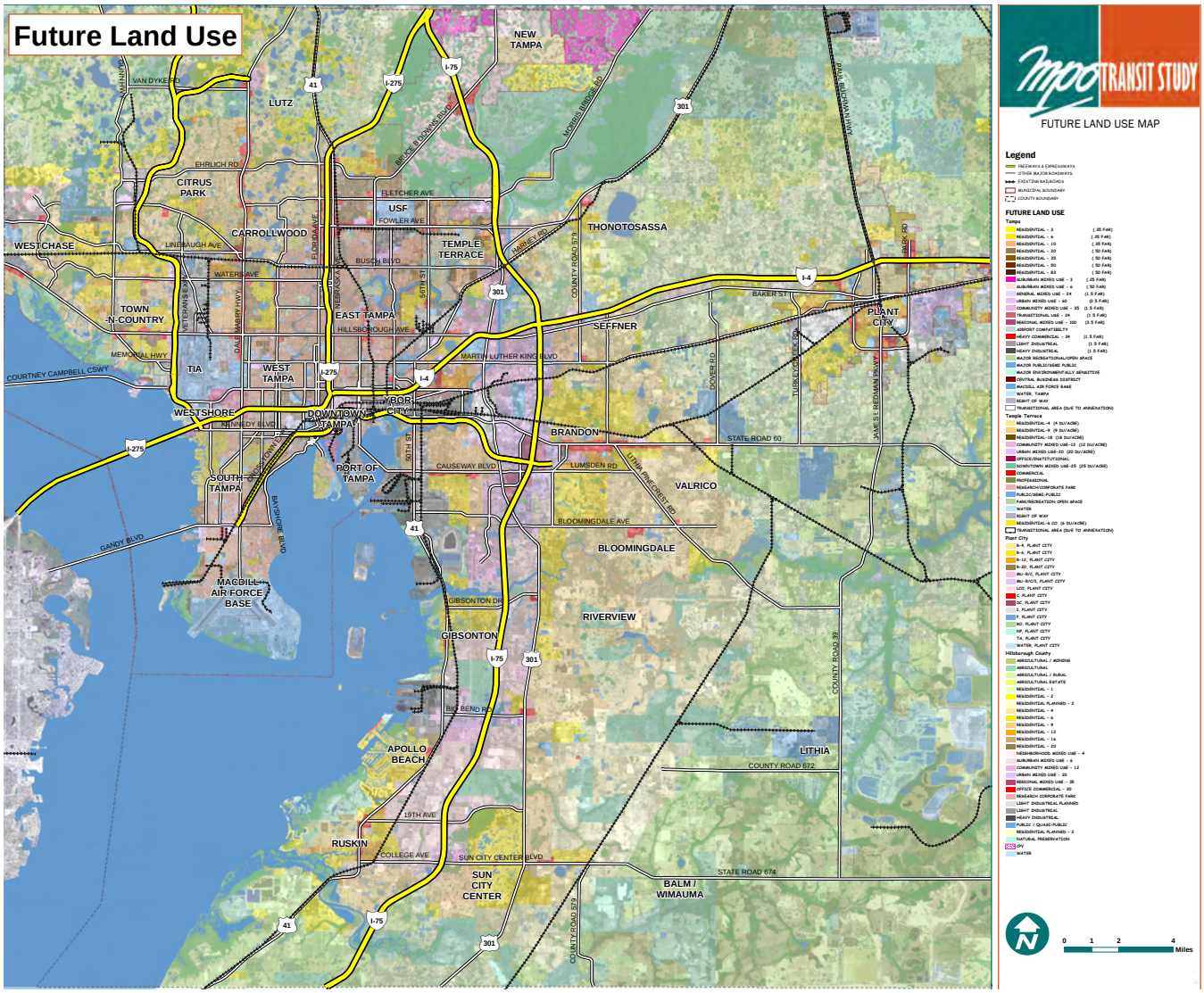


FIGURE III.1 - FUTURE LAND USE MAP

This figure illustrates the future land use designations for Hillsborough County. Refer www.theplanningcommission.org for details.

TREND CONSIDERATIONS

The 2050 Trend illustrates the potential for a continued dispersed development pattern countywide relative to current conditions (Figures III.2 and III.3). Further, it limits the amount of new growth that can be accommodated in the existing urbanized centers. This trend demonstrates that as the existing urbanized centers become saturated, growth will continue to spread towards the suburban and select rural areas of the County, especially along the I-75 corridor in the southeast quadrant of the county.

When Trend 2050 is compared with the Alternative Transit Concepts, the most notable difference is the significant increase in countywide land consumption that is predicted by the Trend. The Transit Concepts illustrate how future growth can be accommodated with less land in a more sustainable manner, furthering local growth management goals. In addition, the 2050 Trend conditions for transportation also show a significant increase in vehicle miles of travel (VMT) compared to the Alternative Transit Concepts because of dispersed land use patterns. As development patterns become more dispersed, the amount and length of roadway lane miles needed to support those patterns increases, resulting in higher VMT systemwide. Alternatively, with transit investments and a more compact development patterns, VMT is less.

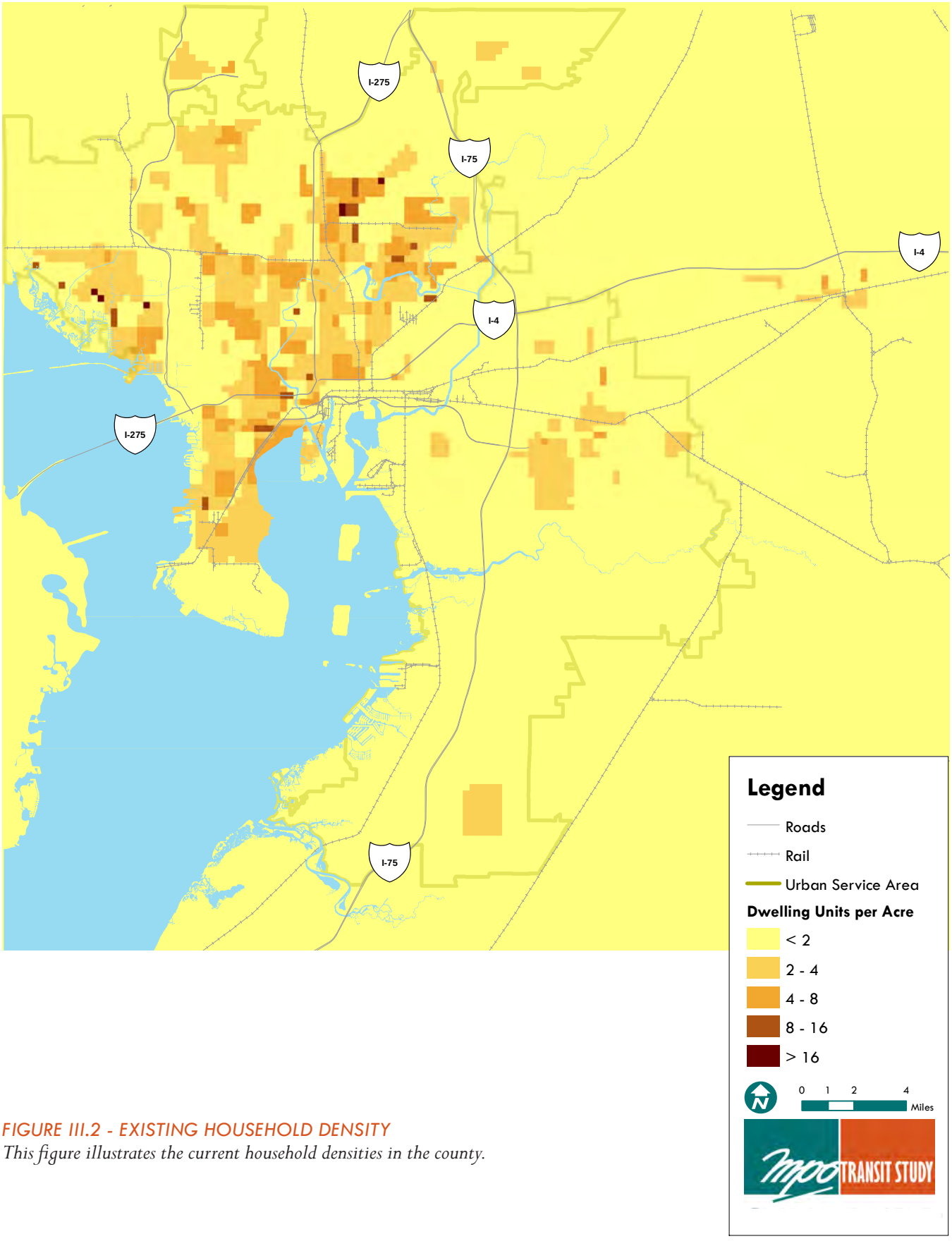


FIGURE III.2 - EXISTING HOUSEHOLD DENSITY

This figure illustrates the current household densities in the county.

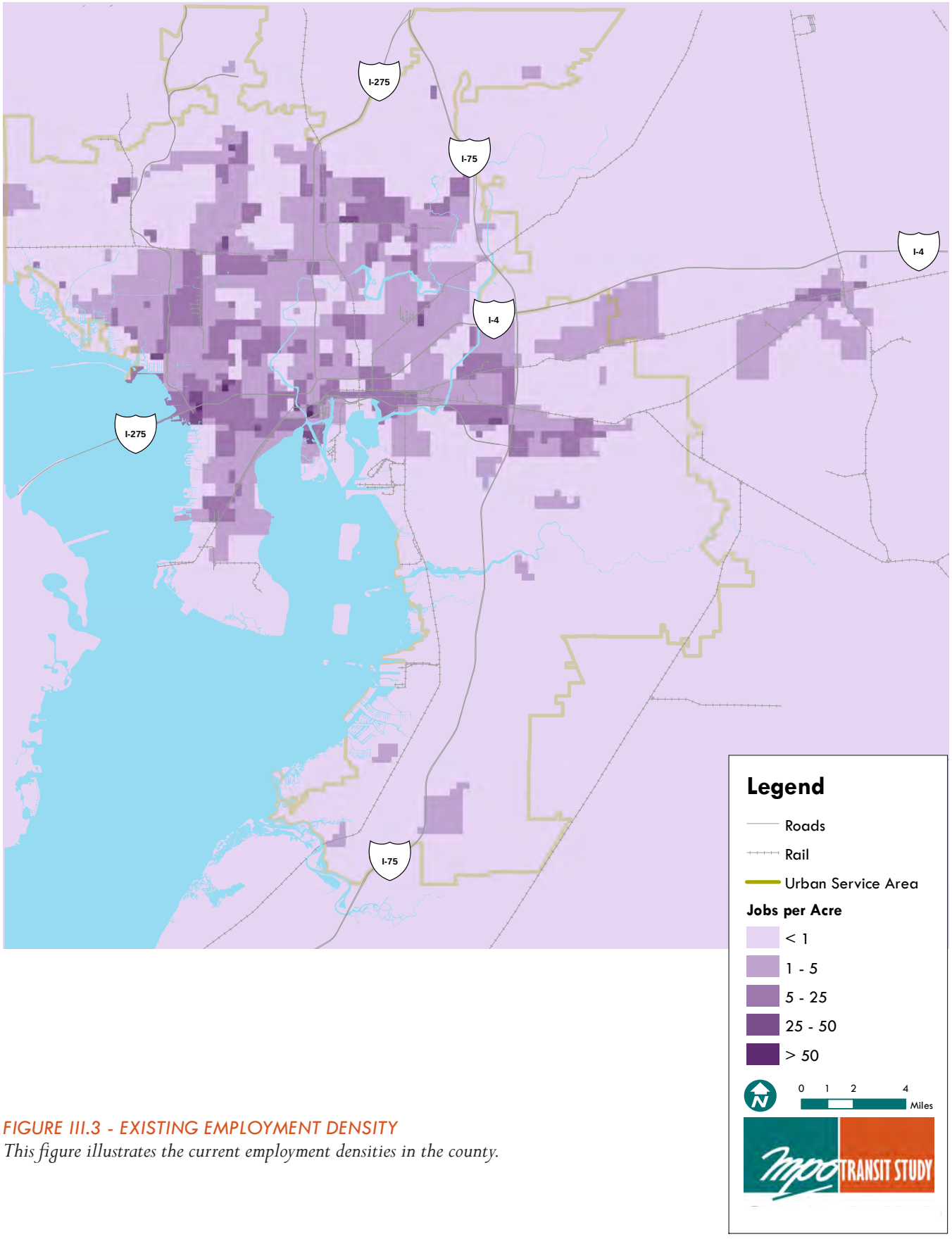


FIGURE III.3 - EXISTING EMPLOYMENT DENSITY

This figure illustrates the current employment densities in the county.

IV. 2050 ALTERNATIVE TRANSIT CONCEPTS

Three distinct Alternative Transit Concepts (Figures IV.3-IV.5) were developed to assess the impacts and performance of differing technologies and land use configurations associated with the different levels of major transit investments. Based upon the Needs and Opportunities map (Figure II.6), the three Alternative Transit Concepts were compared against the 2050 Trend. Each concept was focused on a primary transit technology, supporting land use pattern, and station area assumptions that reflected the context and the transit technology considered within a given corridor. The Mobility and Transit Elements (Figure IV.1) describes the range of commuter rail, light rail, and premium bus service design characteristics considered during the study. The major focus of each alternative transit concept is highlighted below.

Concept A - The Urban Core

- Focuses on transit oriented land development concentrating growth and redevelopment in the City of Tampa
- Provides light rail transit service connecting Downtown Tampa with USF/New Tampa, Westshore, and Tampa International Airport
- Advances a rail transit mobility strategy building upon recent initiatives

Concept B - The Urban Corridors

- Focuses on transit oriented land development concentrating growth along major "spokes" or corridors from New Tampa, Brandon, South Tampa, Westchase to Downtown Tampa
- Provides light rail transit service along major congested corridors
- Advances an expanded rail transit mobility strategy connecting suburban and urban areas

Concept C - The Urban Centers

- Focuses on transit oriented land development policies concentrating in major centers throughout the County (Plant City, SouthShore, Lutz/USF)
- Provides commuter rail transit service connecting major suburban gateways to Downtown Tampa
- Advances a transit mobility strategy supporting existing and new urban centers

TRANSIT STATION AREAS

To create the transit concepts, a complementary set of transit station area prototypes were developed using the Mobility and Transit Elements. Regional, community and neighborhood scale station area prototypes and special station area prototypes for Downtown Tampa and Tampa International Airport were used to represent the station area's corresponding land use mix, percent infill and redevelopment, site development characteristics, population, employment, and density. The station area infill and redevelopment assumptions were then adjusted to reflect the existing conditions, future land use designation, location, and the effective station area zone of influence. These assumptions accounted for the actual vacant land capacity (infill development) and realistic redevelopment potential that ranged from 10 to 50 percent within a given station area's zone of influence.

The effective zone of influence for each station area was defined as one-quarter, one-half and one-mile. The level of redevelopment, intensity and land use varied by station area based on its location along the transit corridor, the neighborhood context, and transit technology applied. The distances were used so that the transit station area assumptions could reflect a higher density, mix of use, and walkable development pattern in the transit core area compared to transit support areas located further away. As transit is most effective in walkable areas, the highest densities and mix of uses were applied to the transit core areas (one half and one quarter mile).

PEDESTRIAN

STATION CHARACTERISTICS
Average Station Area: N/A

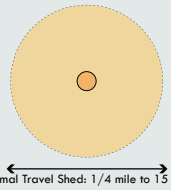
SUPPORTIVE DENSITY/INTENSITY
Dwelling Units/Acre: >8
Jobs/Acre: 8 to 30
Floor Area Ratio: N/A

TECHNOLOGY CHARACTERISTICS
Capacity: 1 Passenger/Vehicle
Speed: 5 to 15 Miles/Hour
ROW requirements: Sidewalks

Headways (at supportive density): N/A

Cost (capital cost): **<$**

BICYCLE



STATION CHARACTERISTICS
Average Station Area: N/A

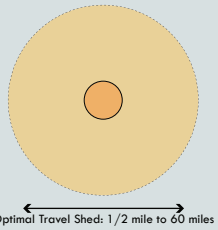
SUPPORTIVE DENSITY/INTENSITY
Dwelling Units/Acre: >8
Jobs/Acre: 3 to 30
Floor Area Ratio: N/A

TECHNOLOGY CHARACTERISTICS
Capacity: 1 Passenger/Vehicle
Speed: 5 to 15 Miles/Hour
ROW requirements: Street Running with Dedicated Lane

Headways (at supportive density): N/A

Cost (capital cost): **<$**

AUTO



STATION CHARACTERISTICS
Average Station Area: N/A

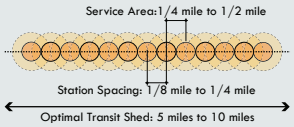
SUPPORTIVE DENSITY/INTENSITY
Dwelling Units/Acre: 2 to 8
Jobs/Acre: 2 to 30
Floor Area Ratio: N/A

TECHNOLOGY CHARACTERISTICS
Capacity: 1 to 4 Passengers/Vehicle
Speed: 30 to 70 Miles/Hour
ROW requirements: Street Running

Headways (at supportive density): N/A

Cost (capital cost): **$$**

BUS



STATION CHARACTERISTICS
Average Station Area: 140 Square Feet

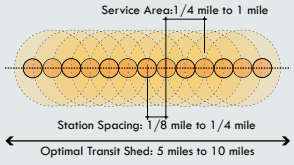
SUPPORTIVE DENSITY/INTENSITY
Dwelling Units/Acre: 6 to 8
Jobs/Acre: 8 to 30
Floor Area Ratio: 1.0 to 1.5

TECHNOLOGY CHARACTERISTICS
Capacity: 500 to 1,500 Passengers/Direction/Mile
Average Speed (for transit shed): 5 to 15 Miles/Hour
ROW requirements: Street Running

Headways (at supportive density): 15 to 20 Minutes

Cost (capital cost): **$**

CIRCULATOR



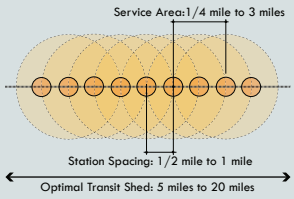
STATION CHARACTERISTICS
Average Station Area: 200 to 300 Square Feet

SUPPORTIVE DENSITY/INTENSITY
Dwelling Units/Acre: 8 to 10
Jobs/Acre: 6 to 16
Floor Area Ratio: >1.5

TECHNOLOGY CHARACTERISTICS
Capacity: 1,000 to 3,500 Passengers/Direction/Mile
Average Speed (for transit shed): 10 to 15 Miles/Hour-
ROW requirements: Street Running (streetcar) or Semi-Exclusive (trolley)
Headways (at supportive density): 15 to 20 Minutes

Cost (capital cost): **$ - $$**

BUS RAPID



STATION CHARACTERISTICS
Average Station Area: 140 to 200 Square Feet

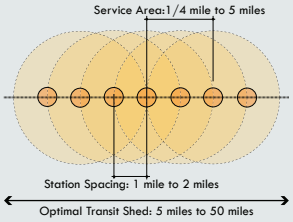
SUPPORTIVE DENSITY/INTENSITY
Dwelling Units/Acre: 4 to12
Jobs/Acre: 8 to 30
Floor Area Ratio: >1.0

TECHNOLOGY CHARACTERISTICS
Capacity: 2,000 to 10,000 Passengers/Direction/Mile
Average Speed (for transit shed): 10 to 15 Miles/Hour
ROW requirements: Semi-Exclusive

Headways (at supportive density): 15 to 30 Minutes

Cost (capital cost): **$$**

LIGHT RAIL



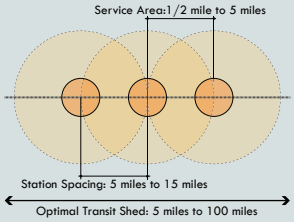
STATION CHARACTERISTICS
Average Station Area: 600 to 2,000 Square Feet

SUPPORTIVE DENSITY/INTENSITY
Dwelling Units/Acre: 6 to12
Jobs/Acre: 12 to 30
Floor Area Ratio: >2.0

TECHNOLOGY CHARACTERISTICS
Capacity: 3,000 to 18,000 Passengers/Direction/Mile
Average Speed (for transit shed): 15 to 30 Miles/Hour
ROW requirements: Semi-Excluive or Exclusive with Dedicated Guideway
Headways (at supportive density): 10 to 20 Minutes

Cost (capital cost): **$$ - $$$**

COMMUTER RAIL



STATION CHARACTERISTICS
Average Station Area: 2,000 to 5,000 Square Feet

SUPPORTIVE DENSITY/INTENSITY
Dwelling Units/Acre: >12
Jobs/Acre: >30
Floor Area Ratio: >2.0

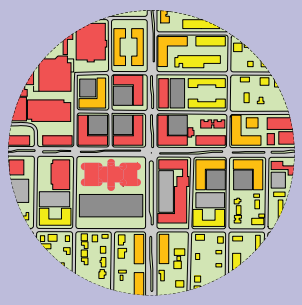
TECHNOLOGY CHARACTERISTICS
Capacity: 2,000 to 20,000 Passengers/Direction/Mile
Average Speed (for transit shed): 35 to 55 Miles/Hour
ROW requirements: Exclusive with Dedicated Railway

Headways (at supportive density): 20 to 30 Minutes

Cost (capital cost): **$$ - $$$**

FIGURE IV.1 - MOBILITY AND TRANSIT ELEMENTS

REGIONAL



URBAN CENTER

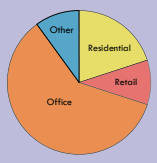
Urban Centers consist of the highest density and greatest variety of uses, including theaters, civic centers, government buildings, art galleries, museums, civic green space, lodging, multifamily residential, restaurants, and retail. Roughly 70% of the uses consist of commercial, office and retail uses. All structures, including multifamily residential, commercial/office and mixed use are generally 6-10 stories in height. Parking is mostly structured with some on-street and surface parking.

PLACE
West Shore Plaza

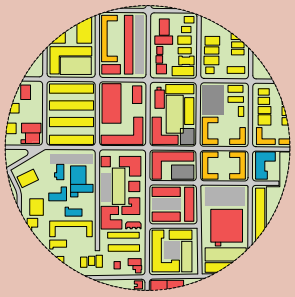
DENSITY
12 to 30 Dwelling Units/Acre
125 to 175 Jobs/Acre

INTENSITY
2.0 to 4.0 Floor Area Ratio

MIX OF USES
Based on building square footage



COMMUNITY



TOWN CENTER

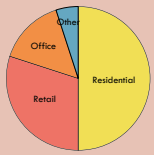
Town Centers consist of medium density residential, mixed-use, and commercial building types. Residential building types include single family attached, live/work units, single family detached, and granny-flat units. The amount of office, retail, and commercial is roughly 50% compared to residential. Commercial and mixed uses include grocery stores, book stores, movie theaters, restaurants, offices, and specialty retail, and civic uses include libraries, churches, and parks. Commercial and mixed use buildings are generally 2-4 stories in height with wide sidewalks. Parking is mostly on-street or surface with some structured parking.

PLACE
SOHO/Hyde Park, Ybor City

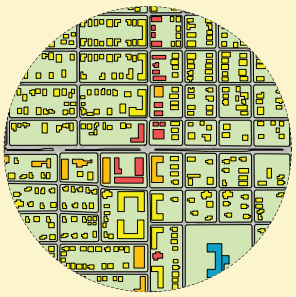
DENSITY
8 to 18 Dwelling Units/Acre
30 to 60 Jobs/Acre

INTENSITY
1.0 to 2.0 Floor Area Ratio

MIX OF USES
Based on building square footage



NEIGHBORHOOD



NEIGHBORHOOD CENTER

Neighborhood Centers consist of a primarily residential urban fabric with mixed use. Residential building types include single family homes, row-houses and town-homes. Neighborhood commercial and mixed use areas consist of uses such as cafés, professional office space, live-work units, coffee shops, bakeries, drug stores and convenience grocers, and specialty retail. Mixed use and commercial structures are not taller than 2 stories with on-street or surface parking.

PLACE
Seminole Heights, Carrollwood, Temple Terrace, West Park Village

DENSITY
6 to 12 Dwelling Units/Acre
10 to 20 Jobs/Acre

INTENSITY
0.5 to 1.0 Floor Area Ratio

MIX OF USES
Based on building square footage

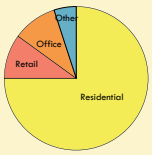


FIGURE IV.2 - TRANSIT STATION AREA DESIGN CHARACTERISTICS

The influence zones allowed each station type to better reflect the existing and future conditions based on the neighborhood context (i.e. Downtown, SouthShore) and type of station (i.e. Light Rail, Commuter Rail, Park and Ride) to produce more realistic projections.

One of the key measures considered in developing each concept was the jobs to housing balance. Transit corridors and station areas were configured to create a more equal distribution of both employment and residential. Those corridors with the strongest connections between major activity centers also resulted in creating some of the best ridership estimates when modeled. For each transit concept developed, a unique set of socioeconomic data (TAZ data) was also developed to populate the travel demand model.

TRANSIT TECHNOLOGIES

Transit technology considerations sought to identify the best service for each corridor. Operational factors such as frequency of service and duration of trip between major destinations were also considered. Each corridor was tested against performance measures to find the right balance between operating concerns and transit rider needs. Doing so helped narrow down the range of technologies considered in each corridor and contributed to the selection of the final Transit Concept for 2050.

COST ESTIMATES

Planning level cost estimates were prepared to help evaluate the cost versus benefit for each corridor and transit segment. This analysis further enabled the narrowing down of options within each corridor, enabling the selection of the transit investment relative to the ridership potential, development considerations, and activity centers served.

CONCEPT EVALUATIONS

The Alternative Transit Concept evaluation was to identify the best elements of each concept that when combined could identify the countywide transit concept to serve local commuting needs, connect major destinations and activity centers, support community values related to development character and provide regional mobility connections.

The Alternative Transit Concepts were evaluated through a quantitative and qualitative analysis and evaluated for their ability to support the guiding principles.

- Land Use – how many new jobs and housing could be served by transit?
- Mobility – what is the optimum balance to attract desired travel markets and travel time savings?
- System capacity – how many trips could be accommodated by transit?
- Coverage – which system configuration would provide access to the greatest number of people?
- Environment – what are the benefits for improving quality of life?
- Cost – what corridors are most viable given order of magnitude cost considerations?

Similar to the 2050 Trend allocation of growth, 2050 future employment and population projections were distributed reflecting the Transit Station Area characteristics of the Alternative Transit Concepts. Each concept used the same 2050 Trend population control totals which assumes sustained growth resulting in almost a doubling in population by 2050. This analysis assumed the 2005 population estimate of 1.1 million growing to over 2.2 million people by 2050.

Each concept was compared to the 2050 Trend, and modeled in the West Central Florida Regional Planning Model (WCFRPM) to demonstrate travel demand and potential ridership. The WCFRPM was selected to coordinate with the regional travel network model. While this model helped the Study Team to evaluate the broad level comparisons in ridership, these results were often underestimated due to the lack of sensitivity in the model to capture walking trips. The model did not adjust for the existing fix route bus networks, which skewed the results towards existing conditions. As such, the study team identified other measures to the model results and to compensate for these limitations.

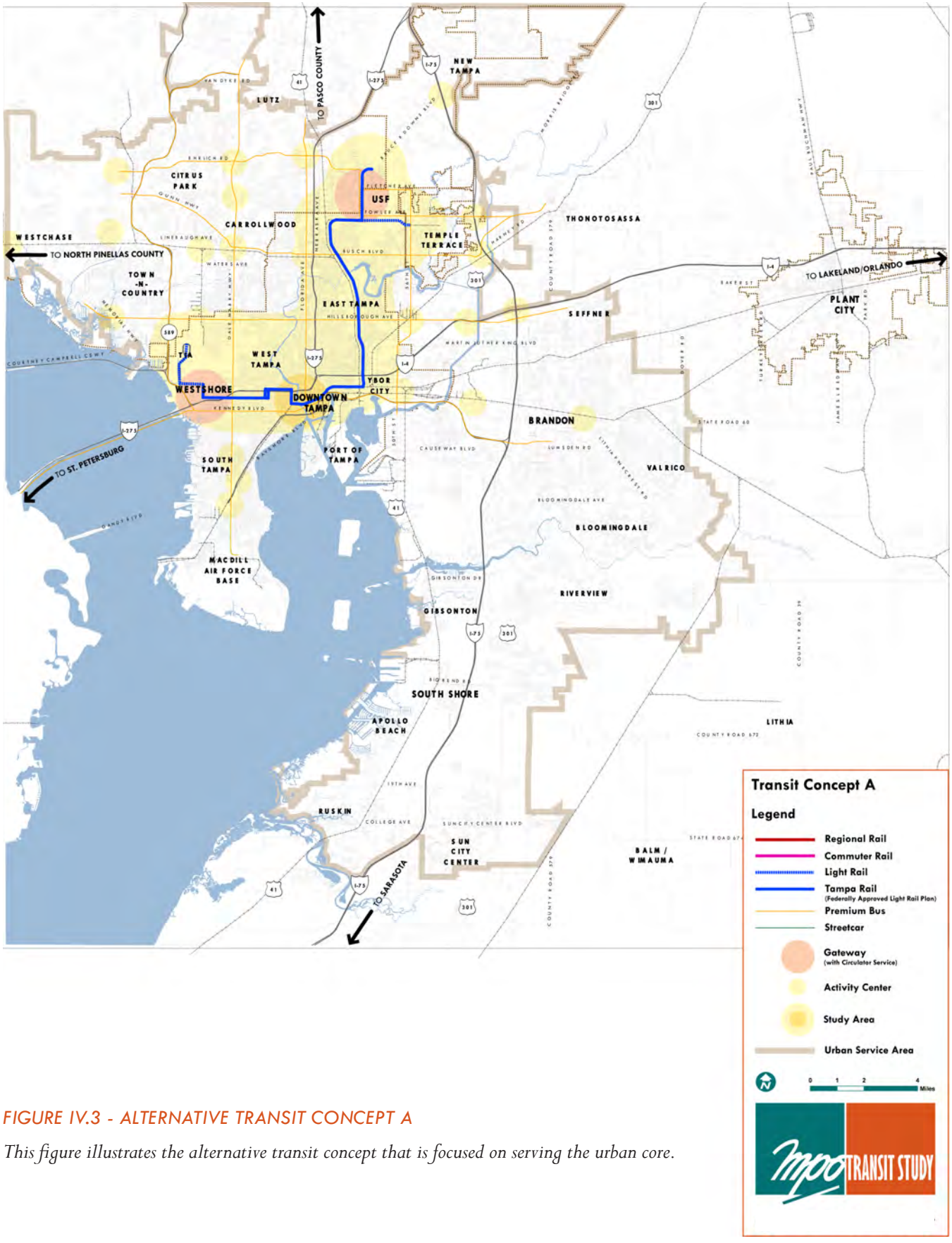


FIGURE IV.3 - ALTERNATIVE TRANSIT CONCEPT A

This figure illustrates the alternative transit concept that is focused on serving the urban core.

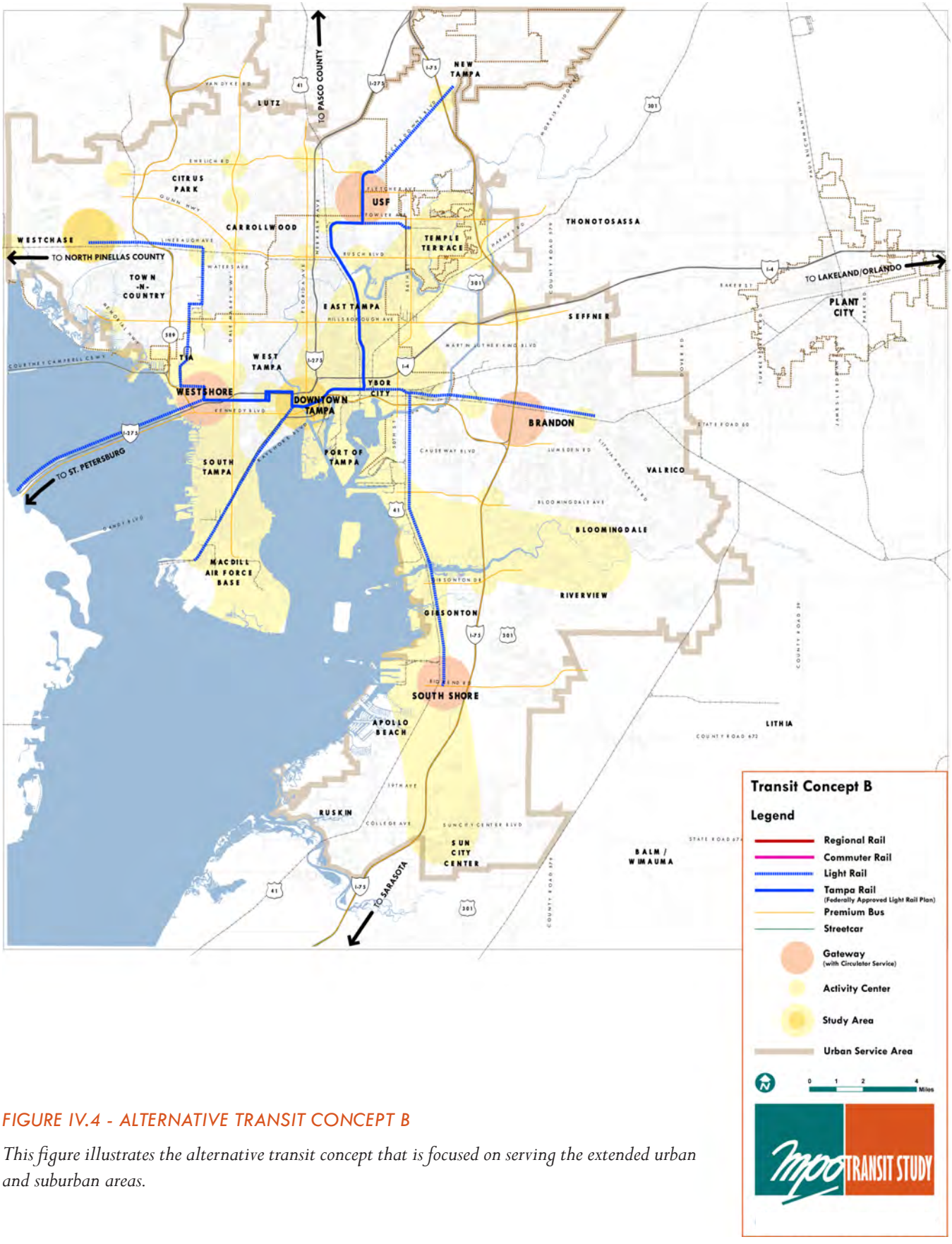


FIGURE IV.4 - ALTERNATIVE TRANSIT CONCEPT B

This figure illustrates the alternative transit concept that is focused on serving the extended urban and suburban areas.

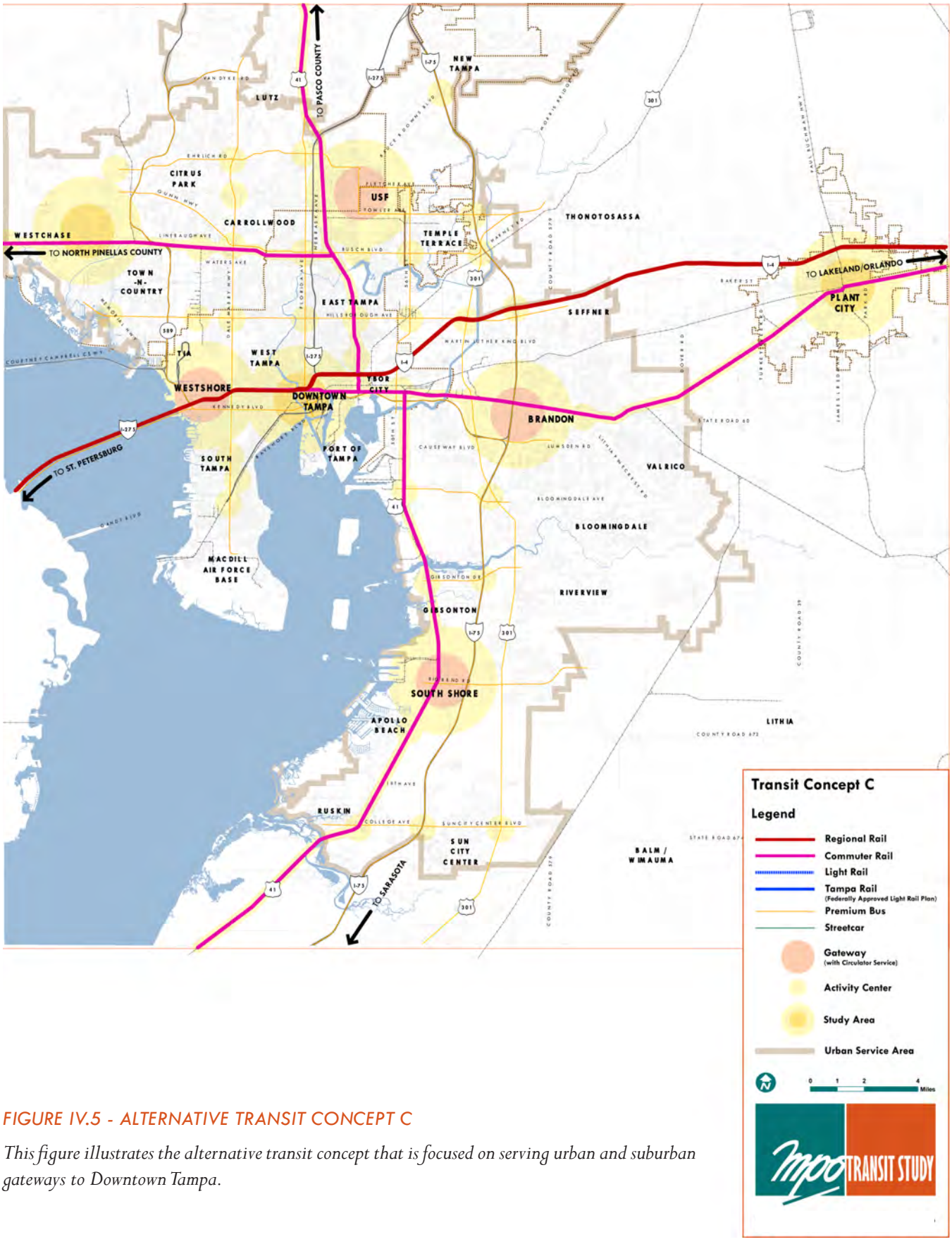


FIGURE IV.5 - ALTERNATIVE TRANSIT CONCEPT C

This figure illustrates the alternative transit concept that is focused on serving urban and suburban gateways to Downtown Tampa.

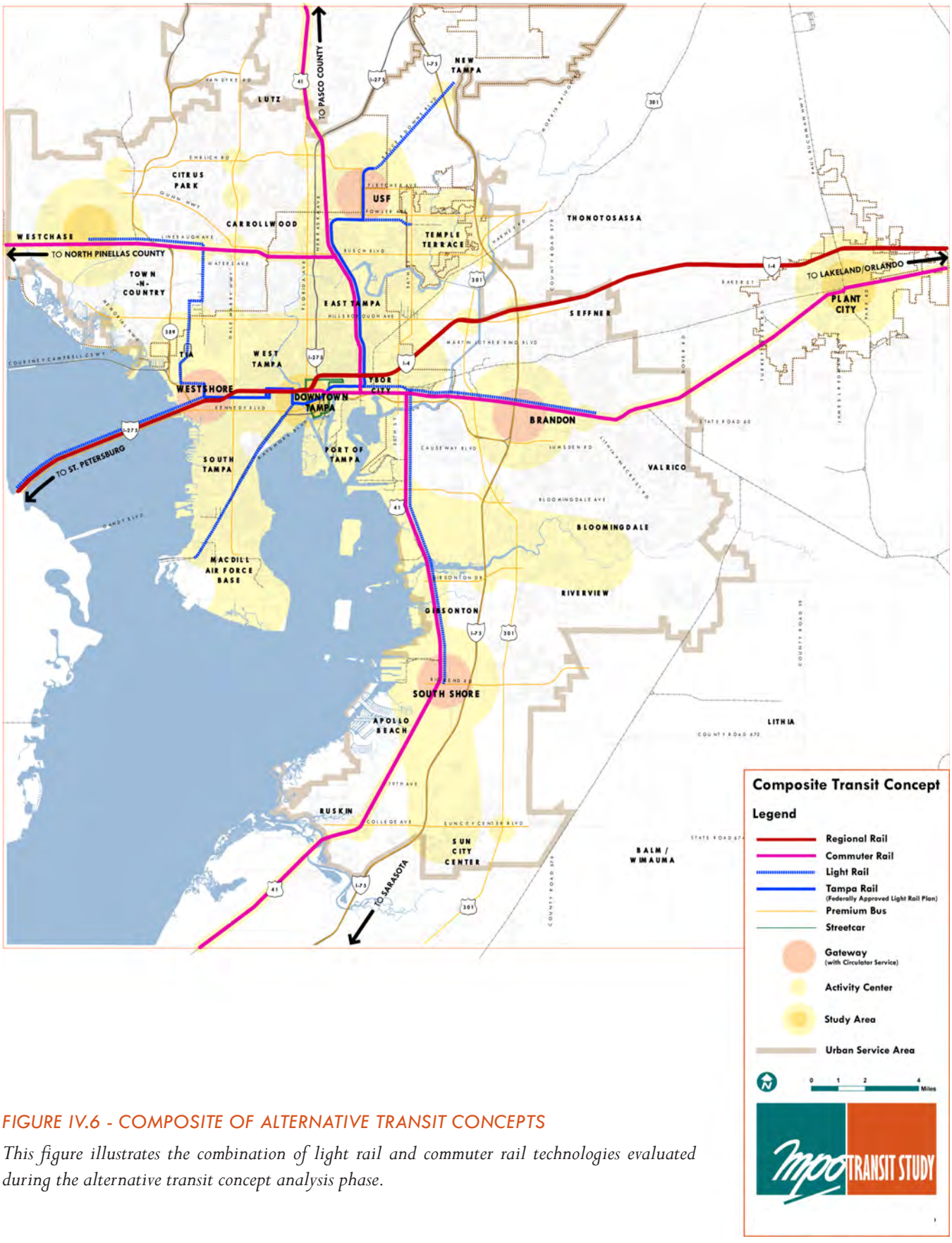


FIGURE IV.6 - COMPOSITE OF ALTERNATIVE TRANSIT CONCEPTS

This figure illustrates the combination of light rail and commuter rail technologies evaluated during the alternative transit concept analysis phase.

Concurrently, the Study Team conducted a fatal flaw level feasibility analysis for each major corridor to test the viability of different transit technologies. This process allowed for continuous refinement of the concepts to optimize performance of different transit concept configurations, while ultimately focusing on how transit oriented land use development patterns and transit technologies could best support mobility, economic vitality and future growth within the county.

TRANSIT CONCEPT FOR 2050 DEVELOPMENT

The final Transit Concept for 2050 illustrated in the following section was developed to create a system that maximized transit access to locations where the highest concentrations of jobs and future populations are likely to exist. Since each alternative transit concept (A, B and C) as described in the previous section was based on a particular transit technology (light rail and commuter rail) combined with a specific land use strategy, the ultimate configuration of the Transit Concept for 2050 was based on creating the best combination of these factors, balanced against other considerations related to transit service performance, relative costs, community values, transportation system capacity and environmental impacts. The following highlights the salient points regarding each of these considerations.

Land Use

For each proposed transit corridor, analysis of the potential land capacity, consideration of community design preferences and projected jobs to housing balances revealed that some corridors were better suited for higher development intensities with opportunities for multiple transit stations, whereas others were better suited for station areas more spread apart. These land use patterns in turn influenced the location, type, spacing and number of transit station areas within a given corridor, thus influencing the viability of a particular transit technology.

Mobility

A major factor in determining the preferred type of transit technology in a given corridor was optimizing travel times between major destinations. Corridors where travel via transit provided improved connections and time savings along the major commuting routes over vehicular travel were most desirable.

System Capacity

Increasing transportation capacity via transit is a major goal transit system planning. In particular, ridership projections were evaluated in each corridor to evaluate how much added capacity could be created. In areas where vehicular capacity is reaching its limit, or roadway building is otherwise constrained, the study sought to optimize creation of added capacity through transit in some of the most congested corridors.

Coverage

Improving accessibility for all citizens of Hillsborough County through transit was a major goal of the study. The transit corridor evaluations compared the total population and employment that could be served by each transit line. Those corridors with the highest concentrations of jobs and housing within the transit zone areas of influence (located within one mile or less) were desired.

Environment

Air quality and land consumption were the two key environmental factors considered during the transit corridor evaluations. When modeled, the transit system components that resulted in lower auto emissions and consumed less land were most desirable.

Cost

A preliminary fatal flaw level analysis was conducted for each corridor along with a planning level order of magnitude cost comparison. Within a specific corridor, cost considerations were based on evaluations of available rights of way, existing rail lines, capital costs for differing transit technologies, and other factors.

As each transit corridor was evaluated against the factors noted above, the distribution of employment and population across the county was summarized and compared to the 2050 Trend projections. This process allowed the comparison of the future development and mobility considerations associated with a 2050 future *with* and *without major transit investments*. As an iterative process, different land use assumptions and transit technologies were tested to identify the best combination needed to support various corridor mobility, development and quality of life goals.

Transit technology analysis within each corridor focused on balancing the service characteristics (time, distance, etc.), land development implications, conceptual transit planning factors and cost considerations. For example, light rail has the ability to navigate greater grade changes and tighter turning radii but may not serve longer distance rapid commuter travel as well as heavy commuter rail technology. Overall order of magnitude cost estimates were prepared to determine appropriateness of providing transit along those segments relative to their potential investment (cost) and benefits (ridership, service characteristics, land use implications). The evaluation of all these factors within a given corridor helped the study team to ultimately determine the most appropriate transit technology (commuter rail, light rail and/or premium bus service) for a given corridor and identify the major station areas and destinations to be served by transit.

V. TRANSIT CONCEPT FOR 2050

The MPO Transit Concept for 2050 provides a framework for creating viable, alternative transportation choices for Hillsborough County citizens through a major transit investment. The concept demonstrates that transit would substantially improve the County's ability to accommodate future growth and address its mobility needs. Technical analysis outlined in this section illustrates how transit can support substantial future growth in the county along its major corridors by attracting concentrations of new development around its station areas, and with transit providing the additional capacity to enable movement to and from these workplaces and housing areas. The Transit Concept was conceived to maximize potential ridership and overall system performance through the coordinated application of transit and supportive land use strategies. This concept presents a transit future where transportation investments and future development patterns work together in support of adopted growth management goals.

This Transit Concept for 2050 (Figure V.4) consists of three light rail lines, four commuter rail lines, and a supporting premium bus network. The concept connects existing and planned areas of intense activity and provides mobility options for major congested corridors. The concept's primary transit corridors were selected based upon growth trend analysis, including jobs to housing ratio projections and consideration of land development policies. This analysis helped create a transit concept that would be optimized by supporting land uses, densities and station area designs that promote a walkable environment at major activity centers or station areas. While the system is anticipated to be supported by a feeder bus network, it is most efficient when it captures the highest number of "walking to transit trips." Along with transit service characteristics, the urban form of a particular station area has a significant influence on ridership potential. The ultimate transit concept capitalizes on this fact and also assumes a high level of future growth and development coming to these centers based on land capacity and economic market influences.

TRANSIT CONCEPT FOR 2050 SERVICE CHARACTERISTICS

The Transit Concept for 2050 includes regional rail, light rail and a premium bus network. Each of these technologies provides a distinct type of service to a different range of transit riders. Travel characteristics, such as the length of trips, travel time, type of trip (work, shopping, recreation, event, etc.), ease of service with minimal transfer and interruptions between destinations, and amenities around the transit stations differ with the type of service and the neighborhoods served.

Regional/Commuter Rail

Four commuter rail segments are proposed to serve travelers between Downtown Tampa to destinations in Lutz, Plant City, SouthShore, and beyond to Pasco, Polk, Sarasota and Manatee counties using existing rail corridors. Commuter rail service to Plant City along the I-4 corridor would serve to supplement regional travel along the Orlando/Lakeland to Tampa corridor.

- **Magenta Line** (Lutz to Downtown Tampa) - 17 miles & 6 stations
- **Orange Line** (SouthShore to Downtown Tampa) – 26 miles & 7 stations
- **Purple Line** (Plant City/Brandon to Downtown Tampa) – 26 miles & 5 stations
- **Red Line** (Plant City/I-4 to Downtown Tampa) – 26 miles & 5 stations

FIGURE V.1 - COMMUTER RAIL TECHNOLOGY

High capacity passenger locomotive rail service would provide improved travel times for regular commuters between suburban areas to Downtown Tampa with limited stops along congested road corridors. To provide reduced travel times, the system includes stations spaced three or more miles apart, and can incorporate express trains that do not stop at every station during times of peak demand.

Commuter rail service would be supported by park and ride lots, bus feeder service, and circulators. Station area development would provide service amenities for commuters, easy pedestrian access to jobs and housing opportunities around the stations, and help maximize the return on the transit investment.

Light Rail

Three light rail segments would connect the major gateways and activity centers in Hillsborough County. Light rail will provide continuous all day service between New Tampa/USF, Brandon, Westchase, St. Petersburg, Westshore and Downtown Tampa.

- **Red Line** (New Tampa/USF to Pinellas County) – 30 miles & 26 stations
- **Blue Line** (Westchase to Brandon) – 27 miles & 27 stations
- **Green Line** (South Tampa to Downtown Tampa) – 8 miles & 9 stations

FIGURE V.2 - LIGHT RAIL TECHNOLOGY

Light rail passenger service provides flexible service that will navigate along existing rail corridors, transition to share surface streets with cars, and accommodate tighter turns and change in elevations. Transit station spacing averaging one to two miles apart would serve a wide range of trip purposes, including work, shop, recreation and special events, while connecting key activity centers with predictable destination-to-destination travel times. Express service would provide reduced travel times during peak periods.

Light rail would include limited kiss-and-ride facilities, bus feeder service, circulators and supportive station area development. Key bus-to-rail and rail-to-rail transfer stations provide convenient, reliable end-to-end service. Station area development would help maximize the major transit investment with strong pedestrian access to the transit facilities, provide a compact, vibrant user experience and, in turn, allow transit to support access to jobs and housing development.

Premium Bus

Premium bus transit provides a complementary network of continuous, rapid bus service connections between the County's activity centers, suburban communities, along congested corridors in the urbanized core area, and Downtown Tampa.

Premium bus service provides longer distance destination service through an enhanced commuter service or connecting to commuter or light rail. Premium bus will serve in-town areas with limited stops along major corridors (i.e. Hillsborough Avenue), or connect major regional centers located at edges of the urban core area (i.e. USF to Brandon) while by-passing the need to travel downtown.

FIGURE V.3 - PREMIUM BUS TECHNOLOGY

Premium bus service would operate along dedicated or shared roadways within existing major corridors. Elements would include enhanced user facilities, travel information displays, bus feeder and circulator service, and supportive station area development. Station area development could help maximize transit investment with easy pedestrian access to provide an enhanced user experience, and support jobs and housing development.

Premium bus service will combine with streetcars, enhanced regular bus, and circulators to provide an integrated and improved transit system.

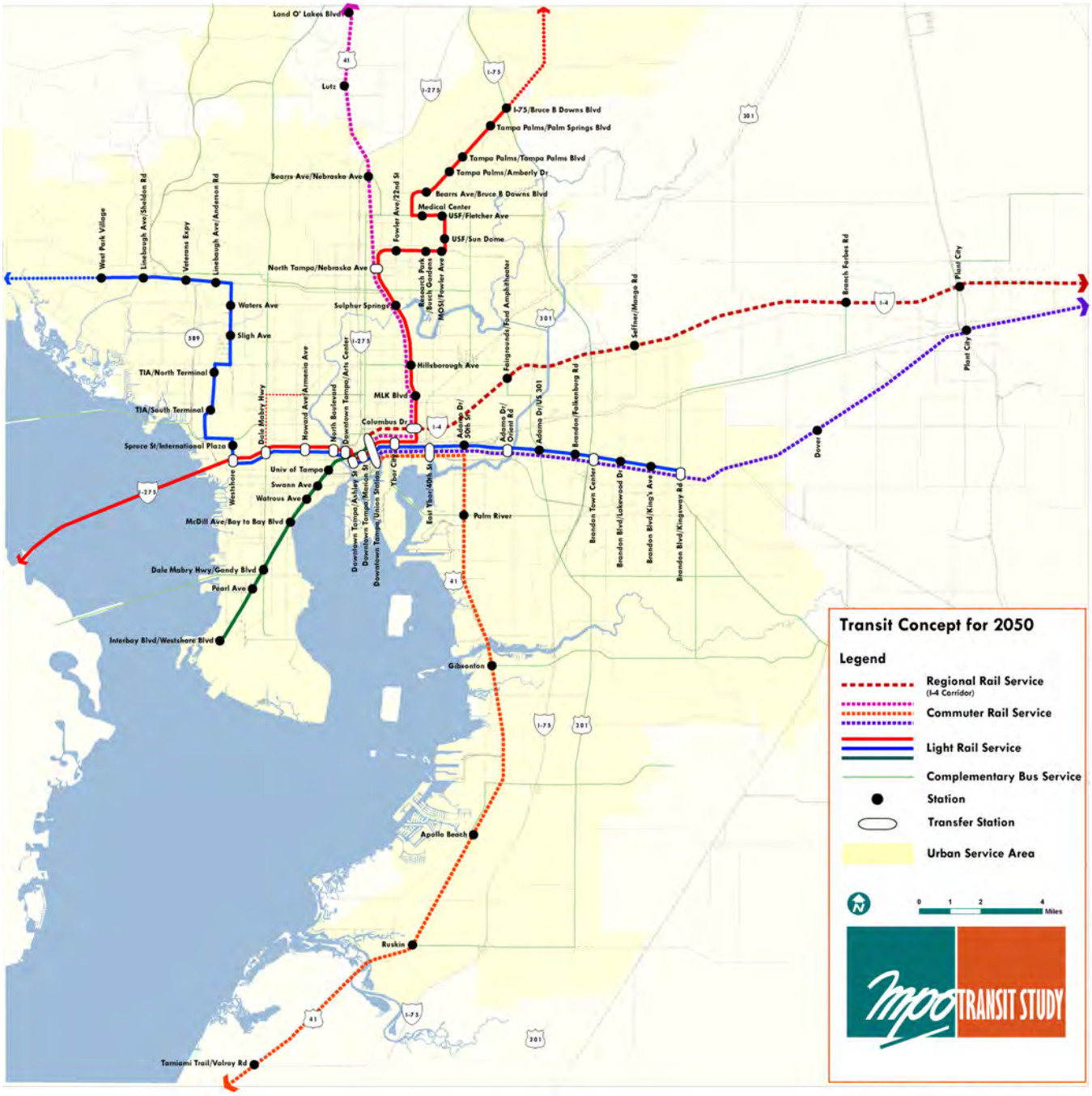


FIGURE V.4 - TRANSIT CONCEPT FOR 2050 STATION MAP

This map illustrates the potential transit corridors, transit technologies and stations identified for planning and analysis purposes.

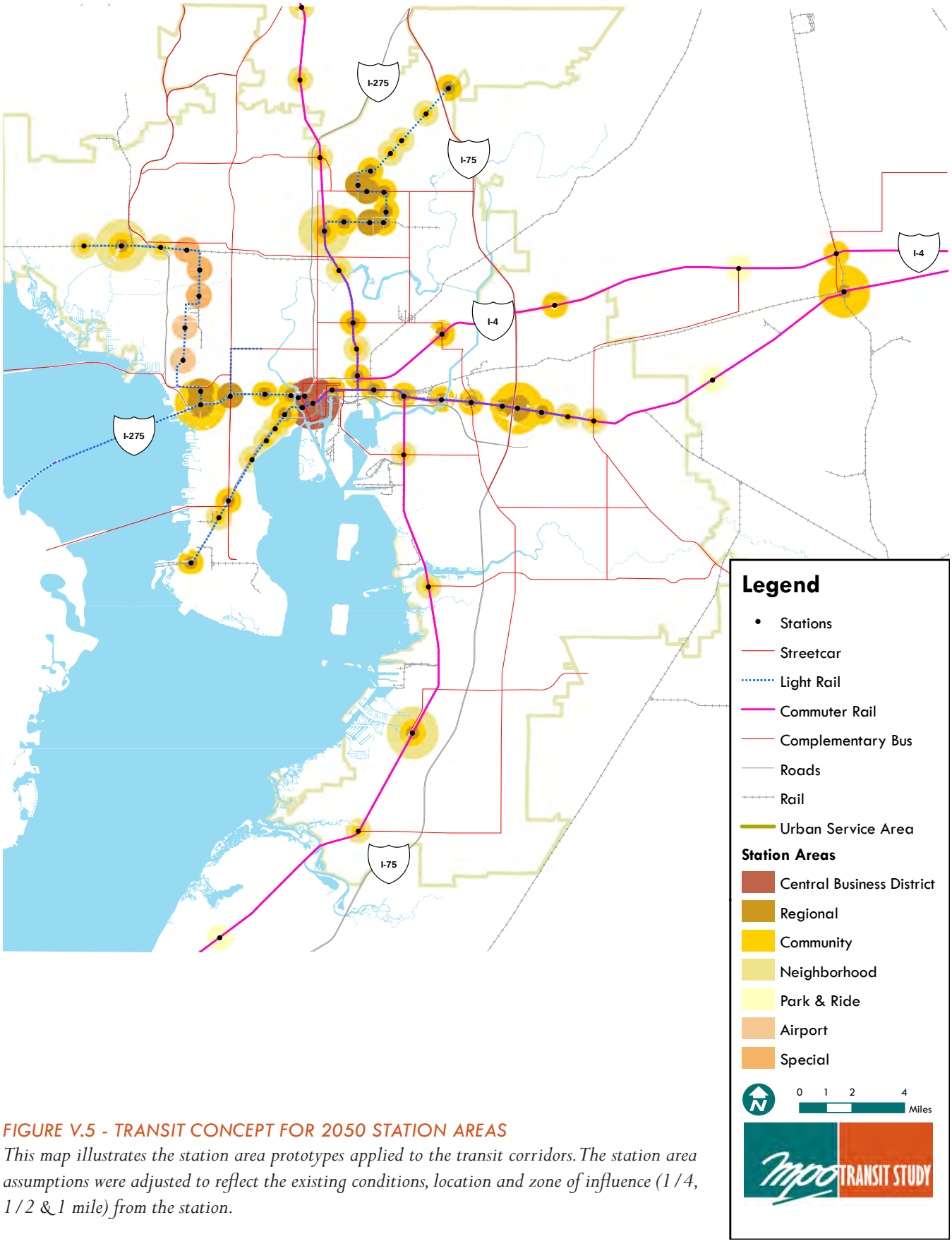


FIGURE V.5 - TRANSIT CONCEPT FOR 2050 STATION AREAS

This map illustrates the station area prototypes applied to the transit corridors. The station area assumptions were adjusted to reflect the existing conditions, location and zone of influence (1/4, 1/2 & 1 mile) from the station.

TRANSIT CONCEPT FOR 2050 KEY BENEFITS AND CONSIDERATIONS

The MPO Transit Study was completed as the Transit Component for the County's upcoming Long Range Transportation Plan update. The Transit Concept for 2050 illustrates how future growth, development and transportation investments can provide countywide mobility and growth management benefits. The Transit Concept for 2050 represents an integrated system concept and was prepared to provide the greatest benefits to the widest range of potential transit riders. The concept focuses on addressing local travel needs while also integrating with the larger regional multi-modal transportation system currently being studied for the eight-county Tampa Bay area. The geographic reach of the Transit Concept for 2050 encompasses all the existing and future major employment and residential areas in Hillsborough County.

The following provide a summary of potential benefits associated with the Transit Concept for 2050 and the analysis illustrates the tradeoffs associated with a 2050 future *with* and *without major transit investments*.

Economic Vitality

The Transit Concept for 2050 provides identifiable benefits to the County's existing urbanized areas by increasing the capacity of these areas to support new growth. Most importantly, the provision of transit in the existing urbanized areas will add capacity for the creation of more jobs and housing. Existing transportation concurrency policies limit the ability of these urbanized areas to achieve targeted growth because they lack the ability to add roadway capacity due to community choice, cost or engineering factors. As such, transit serves as an attractive alternative travel mode to communities that are approaching roadway build out conditions. Transit creates the opportunity for urbanized areas to continue growing by accommodating a significant proportion of new growth travel demand with fixed guideway corridors, thereby sustaining economic vitality for the long term.

In addition, the Transit Concept improves accessibility for all. Enhanced connections to major activity centers, including employment, medical, educational, shopping and cultural activities, and transportation hubs, such as the Tampa International Airport, will be attractive to not only the transit dependent rider, but also the commuter, business traveler, student, senior, tourist, choice and lifestyle riders.

In the Transit Concept for 2050, the major existing activity/employment centers that will be served by transit include Westshore, Downtown Tampa, Ybor City, Brandon, and USF. These will be seamlessly connected to the emerging centers including Seminole Heights, East and West Tampa, and the SR60/Adamo Drive area east of Downtown Tampa. This concept will also support regional competitiveness by connecting the Tampa Bay's two major cities (Tampa-St. Petersburg) and their economies, while increasing the capacity of existing businesses to expand by providing mobility options for its workforce. As housing choices and urban living are important to the retention of a diversified workforce (i.e. creative class, recent area graduates, transit dependent workers) for the region, transit also enhances the viability of economic development through improved labor force accessibility and inter-county connection options.

Growth Management

The Transit Concept for 2050 supports existing Comprehensive Plan policies. The ability for transit to accommodate projected growth and serve its mobility needs is significant. It promotes more compact, walkable development patterns, increases growth capacities within the existing centers thereby reducing the pressure to grow in the rural countryside areas.

The Transit Concept for 2050 station areas (up to one mile radius depending on station area prototype) can serve about one-third of the total households, and nearly half of the total jobs projected to be in Hillsborough County by 2050 (Figure V.10). Moreover, the transit concept has the potential to capture and serve more than 60 percent of new households and 90 percent of all the new jobs anticipated between now and the year 2050 along the major transit corridors. (Figure V.11) This translates into about 86,000 households and 300,000 jobs located within walking distance or ¼ mile of a transit station. (Figure V.12).

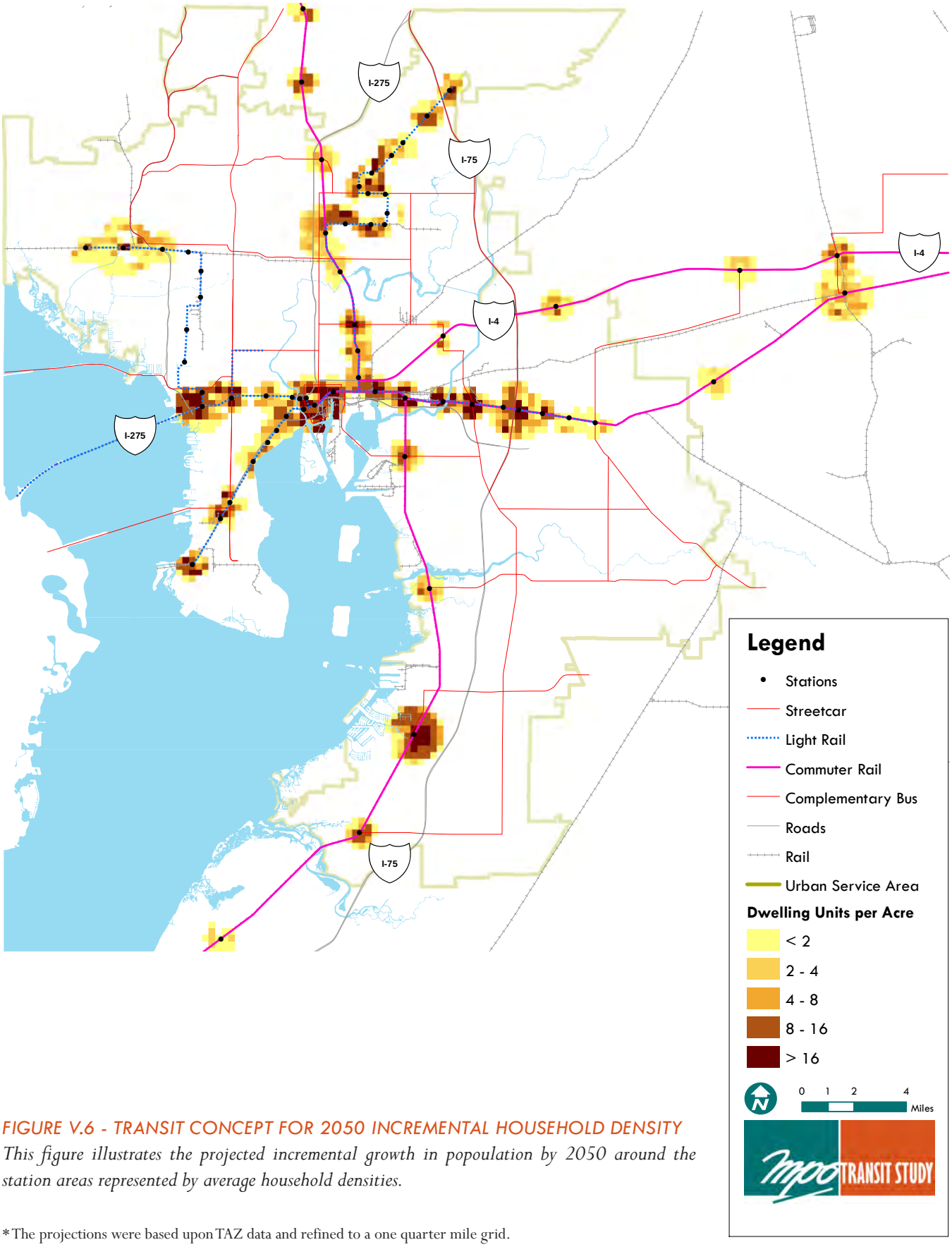


FIGURE V.6 - TRANSIT CONCEPT FOR 2050 INCREMENTAL HOUSEHOLD DENSITY

This figure illustrates the projected incremental growth in popoulation by 2050 around the station areas represented by average household densities.

*The projections were based upon TAZ data and refined to a one quarter mile grid.

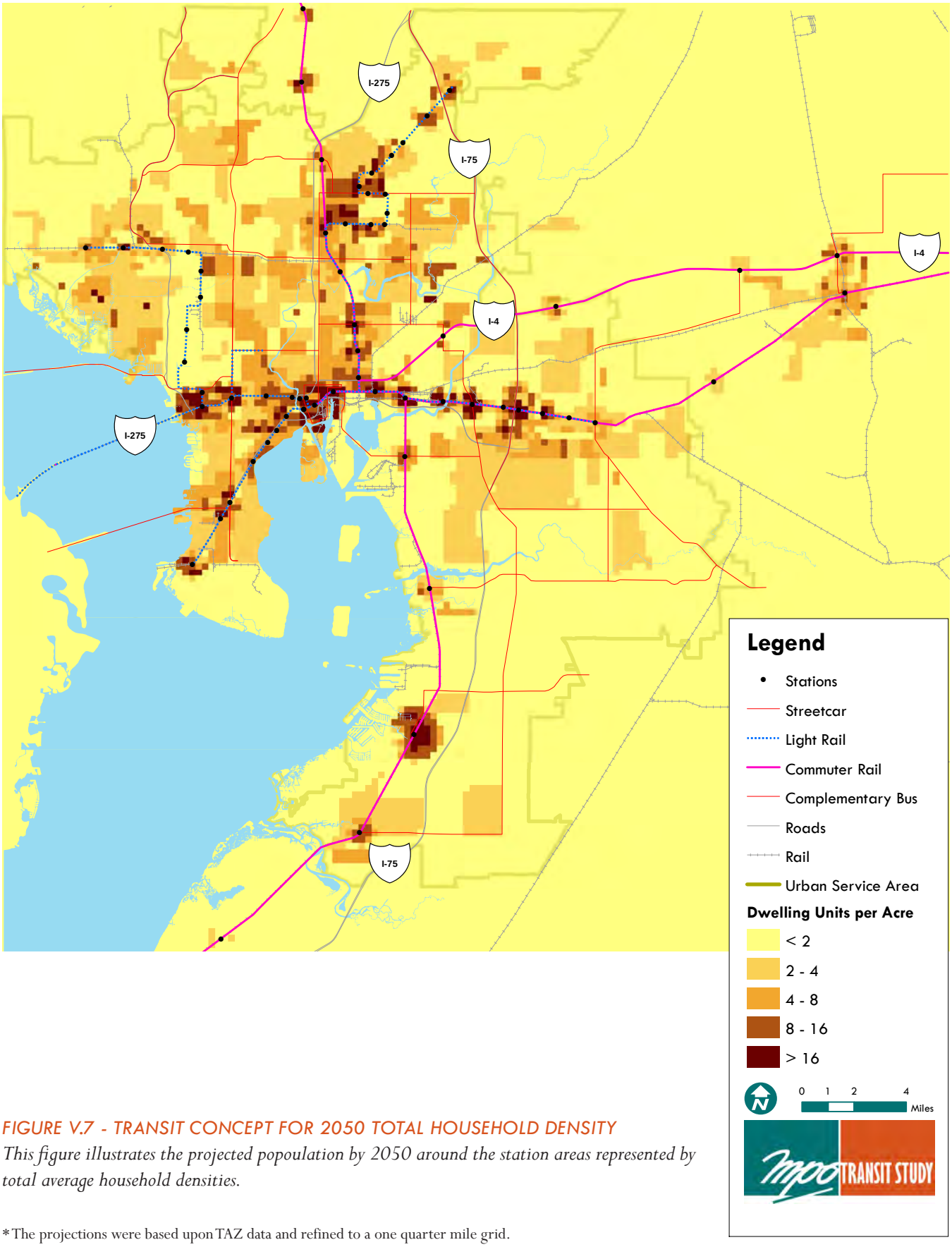


FIGURE V.7 - TRANSIT CONCEPT FOR 2050 TOTAL HOUSEHOLD DENSITY

This figure illustrates the projected popoulation by 2050 around the station areas represented by total average household densities.

*The projections were based upon TAZ data and refined to a one quarter mile grid.

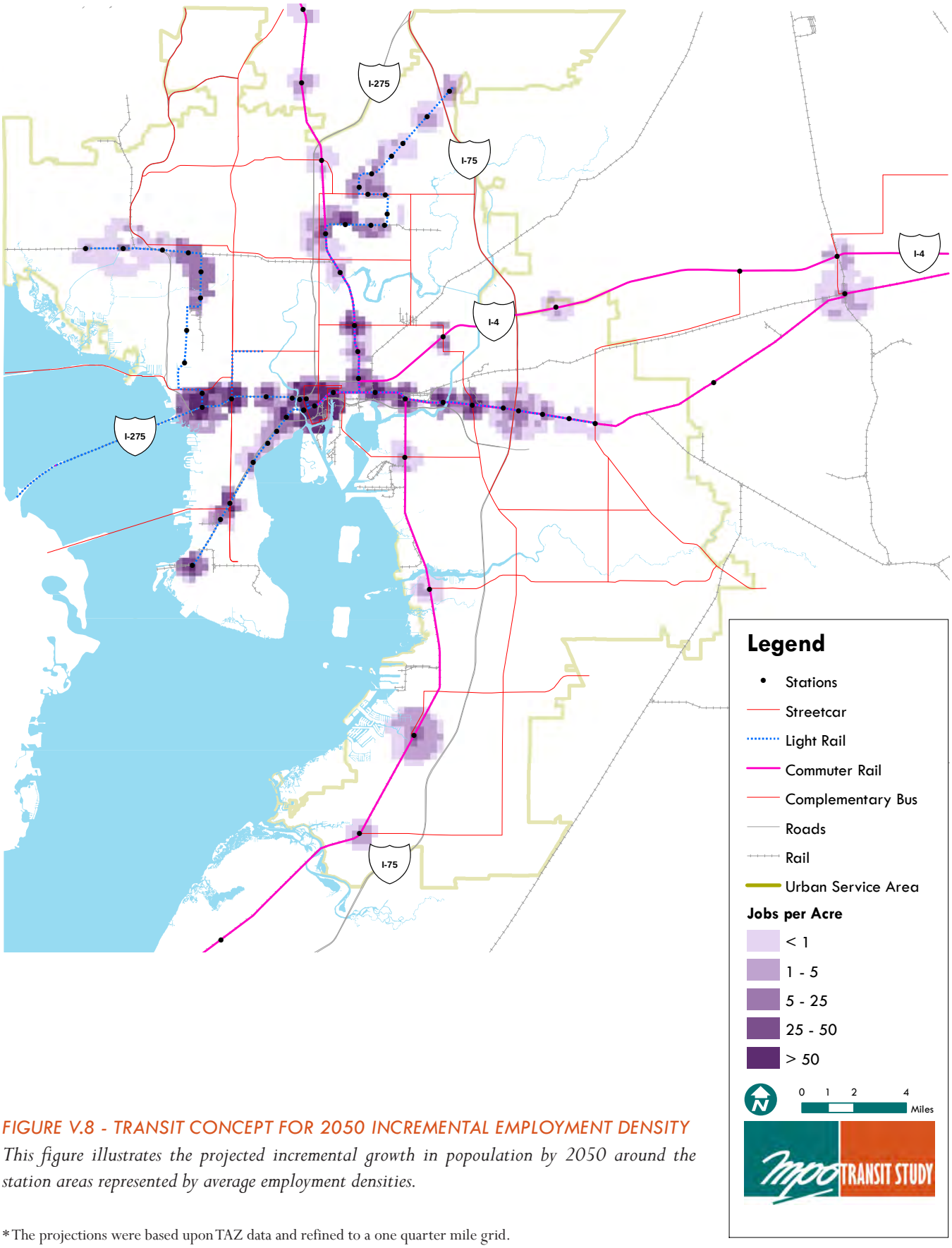


FIGURE V.8 - TRANSIT CONCEPT FOR 2050 INCREMENTAL EMPLOYMENT DENSITY

This figure illustrates the projected incremental growth in popoulation by 2050 around the station areas represented by average employment densities.

*The projections were based upon TAZ data and refined to a one quarter mile grid.

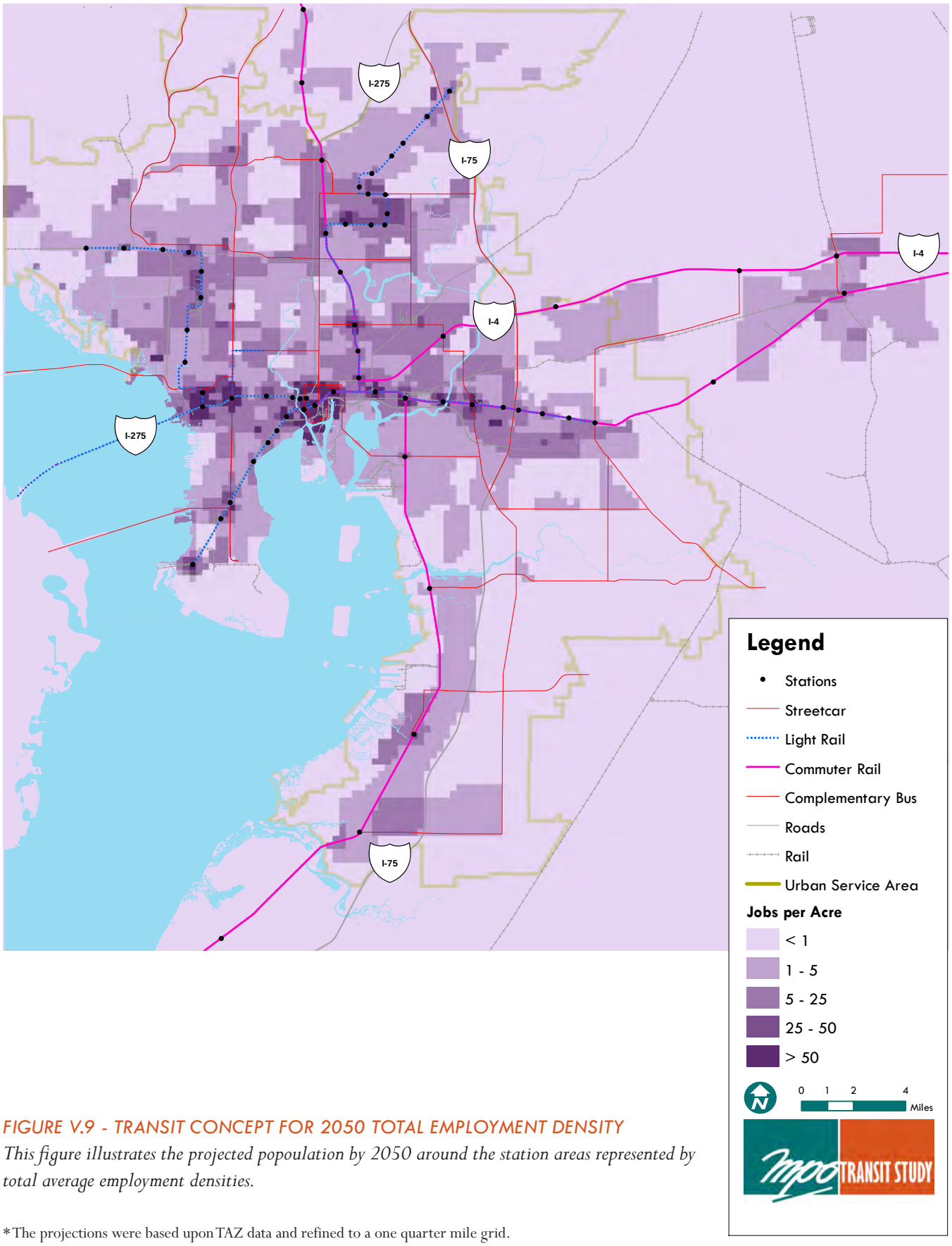
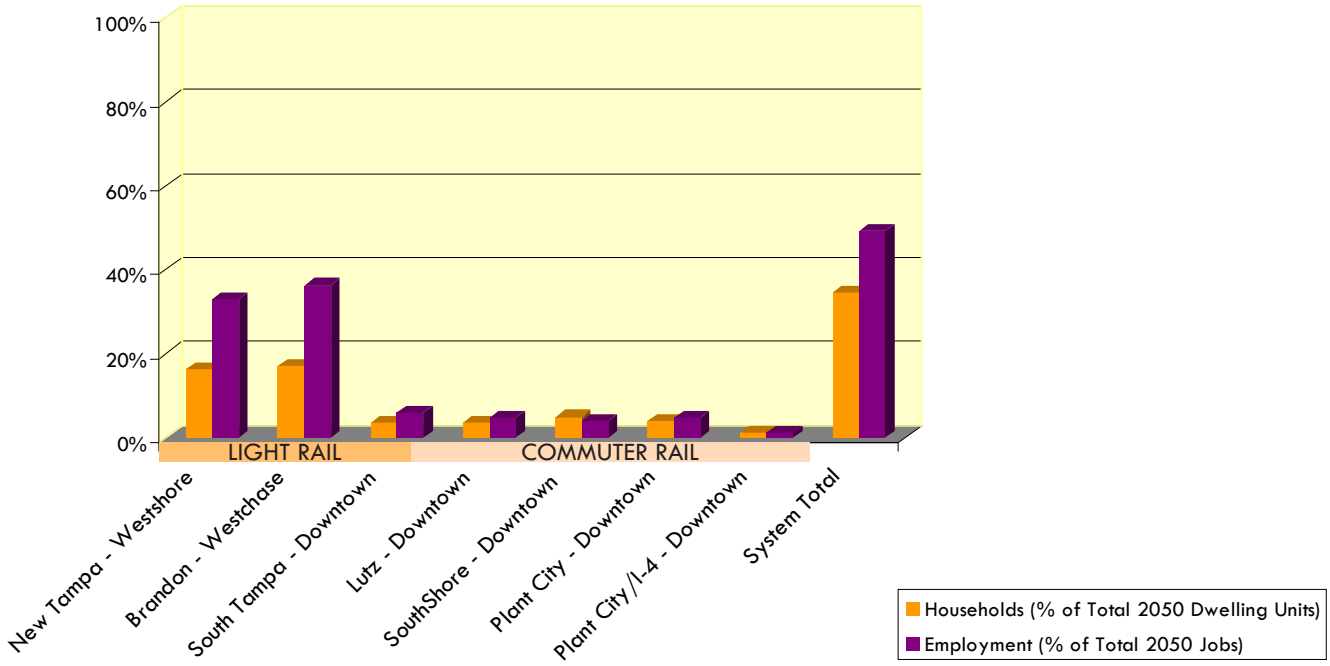


FIGURE V.9 - TRANSIT CONCEPT FOR 2050 TOTAL EMPLOYMENT DENSITY

This figure illustrates the projected popoulation by 2050 around the station areas represented by total average employment densities.

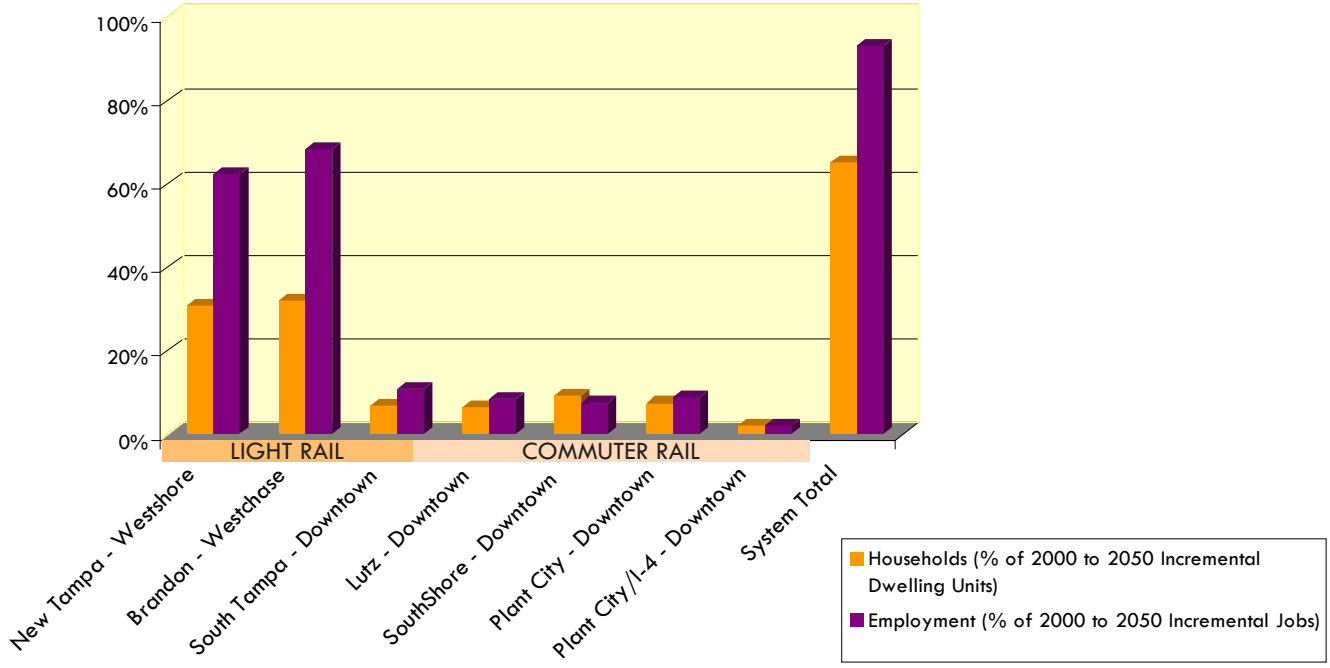
*The projections were based upon TAZ data and refined to a one quarter mile grid.

FIGURE V.10 - TRANSIT SERVED HOUSEHOLDS & EMPLOYMENT (% OF 2050 TOTAL)



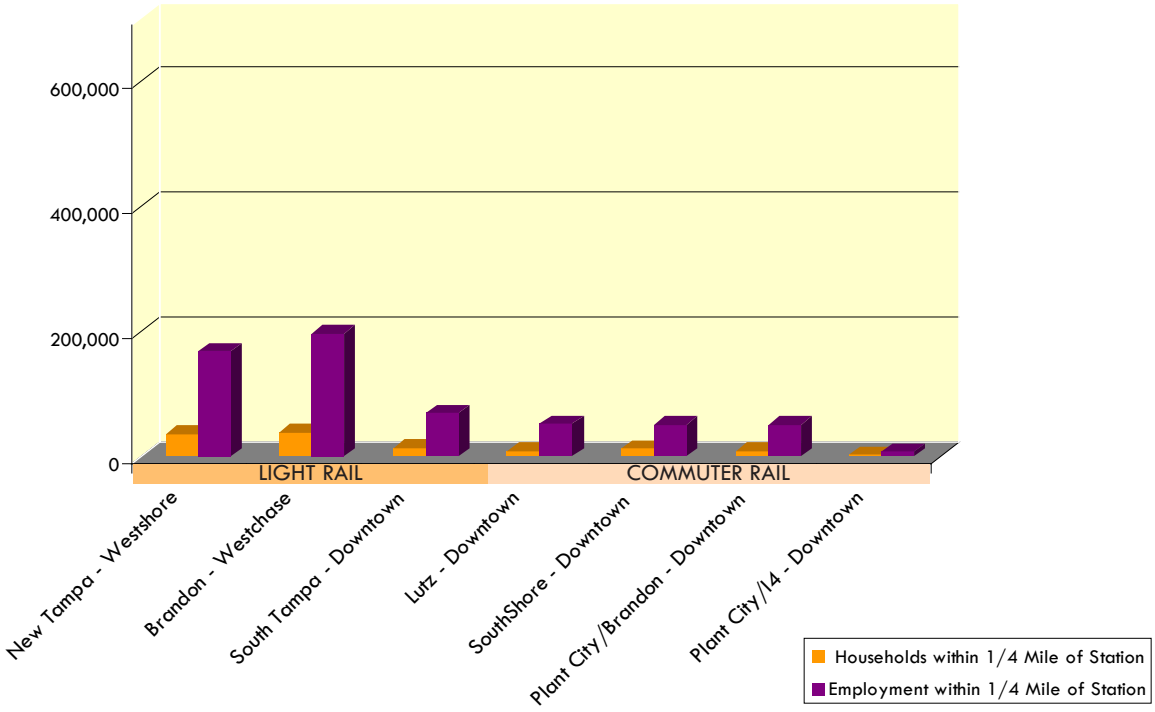
This figure illustrates the percentage of households and jobs projected for 2050 that are served by the Transit Concept for 2050 investment.

FIGURE V.11 - TRANSIT SERVED HOUSEHOLDS & EMPLOYMENT (% OF 2000 TO 2050 INCREMENT)



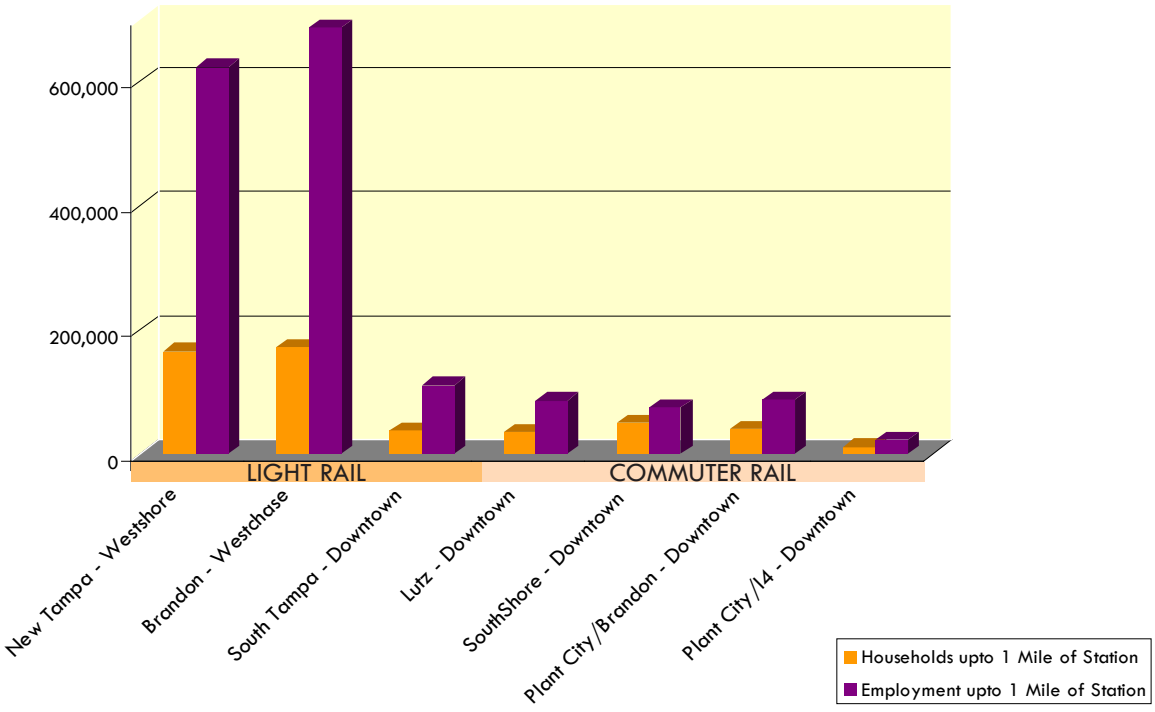
This figure illustrates the percentage of the total incremental growth in households and jobs projected between 2000 and 2050 that are served by the Transit Concept for 2050 investment.

FIGURE V.12 - TOTAL HOUSEHOLDS & EMPLOYMENT WITHIN 1/4 MILE STATION AREA (2050 TOTAL)



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.

FIGURE V.13 - TOTAL HOUSEHOLDS & EMPLOYMENT UP TO 1 MILE OF STATION (2050 TOTAL)



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.

Transit helps maximize investment in existing infrastructure and provides the ability to support infill and redevelopment as viable growth management strategies. Though the provision of transit does not preclude development in outlying greenfield areas, transit-served locations can attract a larger proportion of anticipated growth at a faster rate.

Under the *no build* 2050 Trend condition, these existing urbanized areas would not be able to accommodate significant amounts of new growth because of roadway capacity constraints. As such, new growth and development will be pushed to more suburban greenfields and rural areas. With the exception of the creation of new towns, this development pattern will likely result in growth that is predominantly residential and service oriented outside of the urban core. Therefore, new population in outlying areas will still need to commute to work on existing congested roads connecting to the major employment centers, further exacerbating the level of service in suburban locations.

The Transit Concept for 2050 Household and Jobs Density Increment maps (Figures V.6 and V.8) illustrate the amount of potential growth that can be accommodated within the station areas. Figures V.7 and V.9 illustrate the total household and populations projected in those areas by 2050. When compared to the 2050 Trend, the amount of land required to accommodate the growth can be clearly distinguished.

For the urbanized core of the City of Tampa, the Transit Concept for 2050 actually increases the long term growth and development potential of the city. By adding transportation capacity through transit and more walking trips associated with transit oriented development patterns, the city can sustain a desirable growth strategy and enhanced quality of life.

For the suburban areas of Hillsborough County, the Transit Concept for 2050 enables the emergence of regional centers, such as Brandon, and direct connections to major employment/civic centers (Downtown, Westshore, USF) as well as regional destinations (Tampa International Airport, St. Petersburg, etc). These new centers will further fuel economic development in these areas, but do so in a way that promotes more sustainable development patterns. For the areas outside the Urban Service Boundary and rural areas of the county, transit provides added capacity along major commuter corridors, providing a viable alternative travel path to major employment areas. By adding to growth capacity in the urbanized areas served by transit, growth pressures will also be reduced in the rural areas.

Land Development

Transit oriented development and transit supported development patterns can be achieved with more efficient land use patterns through higher density infill development and redevelopment within the station areas and transit corridors. The study results indicate that the transit concept allocates average development densities within the maximums allowed under current Future Land Use designations for station areas (Figure V.14). The comparison illustrates that the development capacity available under existing comprehensive future land use plans are currently untapped.

FIGURE V.14 - AVERAGE HOUSEHOLDS & EMPLOYMENT DENSITY WITHIN STATION AREAS

	Within 1/4 Mile of Stations		Within 1/2 Mile of Stations	
	Households	Employment	Households	Employment
	Dwelling Units/Acre	Jobs/Acre	Dwelling Units/Acre	Jobs/Acre
Existing Density	2	10	1	6
Projected Trend 2050 Density	3	16	3	11
Projected Transit Concept for 2050 Density	11	38	8	20
Future Land Use Capacity	11	54	9	31

Station area development densities for the Transit Concept for 2050 within the one-quarter mile walkable radius translate into an average of 11 dwelling units per acre and 38 jobs/acre, or equivalent to the scale of a regional station area (i.e. Brandon or Westshore). Within the one-half mile station area, densities averages 8 dwelling units per acre and 20 jobs/acre, or equivalent to the scale of a community station area (i.e. Hyde Park or Westlake Village).

These ranges in densities and intensities remain consistent with citizen preferences received during the public input phase, and current policies.

Mobility

The Transit Concept for 2050 will add more capacity to the existing transportation network. The provision of transit provides more transportation choices that turn equate to more time savings and flexibility for the traveling public. Further, transit oriented development patterns actually create shorter trip patterns whether by walking, biking or driving cars because destinations are located closer together. While the provision of transit is not a panacea for reducing congestion, it does create added capacity to the existing system which has an exponential efficiency factor. The more riders attracted to the system, the higher the return on the same level of investment. This added capacity will also allow for a higher percentage of new growth to be accommodated without making congestion worse.

FIGURE V.15 - POTENTIAL TRANSIT RIDERSHIP

Transit Corridor	Potential Ridership (Average Daily Trips)	Potential Ridership/Mile
LIGHT RAIL		
New Tampa - Westshore/Pinellas County	21,000*	650*
Brandon - Westchase	24,000	850
South Tampa - Downtown	8,000	1,100
COMMUTER RAIL		
Lutz - Downtown	8,000	450
SouthShore - Downtown	8,000	270
Plant City - Downtown	8,000	300
Plant City/I-4 - Downtown	3,000	90

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

*** Ridership for light rail and commuter rail are based upon ¼ mile and ½ mile radius potentials respectively.*

****The ridership estimates as noted above were derived by utilizing both quantitative and qualitative methodologies as detailed in the technical appendices. This included a combination of analysis from travel demand estimates in theWCFRPM as well as empirical evidence of ridership levels for transit in other U.S. Cities. The ridership numbers cited represent the highest potential based on optimum land use and urban design considerations in support of transit oriented development patterns.*

The reliability of transportation is of foremost importance for the rider. Transit provides more consistency and reliability of travel times from destination to destination when compared with automobile travel times which can vary greatly due to congestion travel time delays. The implementation of the Transit Concept for 2050 will allow travel times from Downtown Tampa to New Tampa to remain constant at the 30-45 minutes over the planning horizon, whereas the 2050 Trend is likely to see a significant increase in auto travel time along this same corridor due to increased congestion. (Figure V.16)

The Transit Concept provides additional mobility choice and roadway capacity for congested corridors. For the Transit Concept, light rail was projected to provide the equivalent of four additional arterial roadway lanes. Commuter rail provides an equivalent one lane of interstate roadway capacity, while premium bus provides the equivalent of an additional arterial lane of travel (one half lane in each direction).

TRANSPORTATION TIME & COST EXPENDITURES

"By Year 2030, the miles people are expected to travel in the West Central Florida region will increase by almost 100% – and will cause a 300% increase in travel delay."

Florida Department of Transportation, 2006.

"From 1990 to 2005, the population of the Tampa-St. Petersburg region has grown by 31% - in that same time, the total annual delay in travel time has increased by 119%."

Texas Transportation Institute, The 2007 Urban Mobility Report, Mobility Data for Tampa-St. Petersburg, FL, September 2007.

"In the West Central Florida area, working families spend an average of $10,600 per year, or 33% of their income on transportation – making it one of the most expensive transportation areas in the nation."

Center for Housing Policy, A Heavy Load, October 2006.

"In 2003, the combined share of household expenditures spent on transportation and housing for Tampa was 57.7%, the highest of 28 Metropolitan Statistical Areas."

Surface Transportation Policy Partnership, Driven to Spend, 2005.

Source: TBARTA.COM

FIGURE V.16 - TRANSPORTATION TIME & COST EXPENDITURE

Quality of Life

The Transit Concept for 2050 results in an overall improvement to quality of life. The mobility, land development, and housing options associated with transit area development provide an alternative for citizens to spend a proportionately smaller percent of their budgets on transportation. In recent national studies, the Tampa Bay region ranks among the highest in percent transportation expenditures factoring in all related costs. Transit oriented design supports the creation of more walkable, self-contained station area neighborhoods that serve as focal points of community life. In turn, a large portion of travel trips (short distance in-town trips) are reduced which helps minimize air and water pollution and energy consumption. Further, it will help to keep travel times constant which mean that less time will be wasted by residents and businesses traveling, which equates to more time available for other activities.

TRANSIT CONCEPT FOR 2050 ESTIMATED COST

A planning level cost estimate was developed for the Transit Concept for 2050. This cost estimate does not include the capital and operating costs associated with the Transit Concept's supporting bus system. The estimated capital cost of the rail transit concept (Figure V.17) include construction of guideways, stations, support facilities, site work and systems; acquisition of rights-of-way, purchase of vehicles; professional services and unallocated contingency.

Operations and maintenance (O&M) costs include a wide range of ongoing and re-occurring costs which are necessary to maintain daily operation of the transit system. The estimated O&M costs include labor, labor fringe benefits (overhead), power, fuel, train & non-train maintenance, special services, materials, supplies, casualty and liability insurance and general administration. The annual operating and maintenance costs of the rail transit concept are expected to be $91 million in 2007 (Figure V.18).

FIGURE V.17 - CAPITAL COST SUMMARY

Transit Corridor	Total Cost (Million Dollars)	Cost/Mile (Million Dollars)
LIGHT RAIL		
New Tampa - Westshore/Pinellas County	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

FIGURE V.18 - ANNUAL OPERATING & MAINTENANCE COST SUMMARY

Transit Corridor	Total Cost (Million Dollars)	Cost/Mile (Million Dollars)
LIGHT RAIL		
New Tampa - Westshore/Pinellas County	30	1
Brandon - Westchase	26	1
South Tampa - Downtown	8	1
Light Rail Total	64	1
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	1

These tables estimate the capital cost and operating/maintenance cost for the Transit Concept for 2050 based on 2007 dollars.

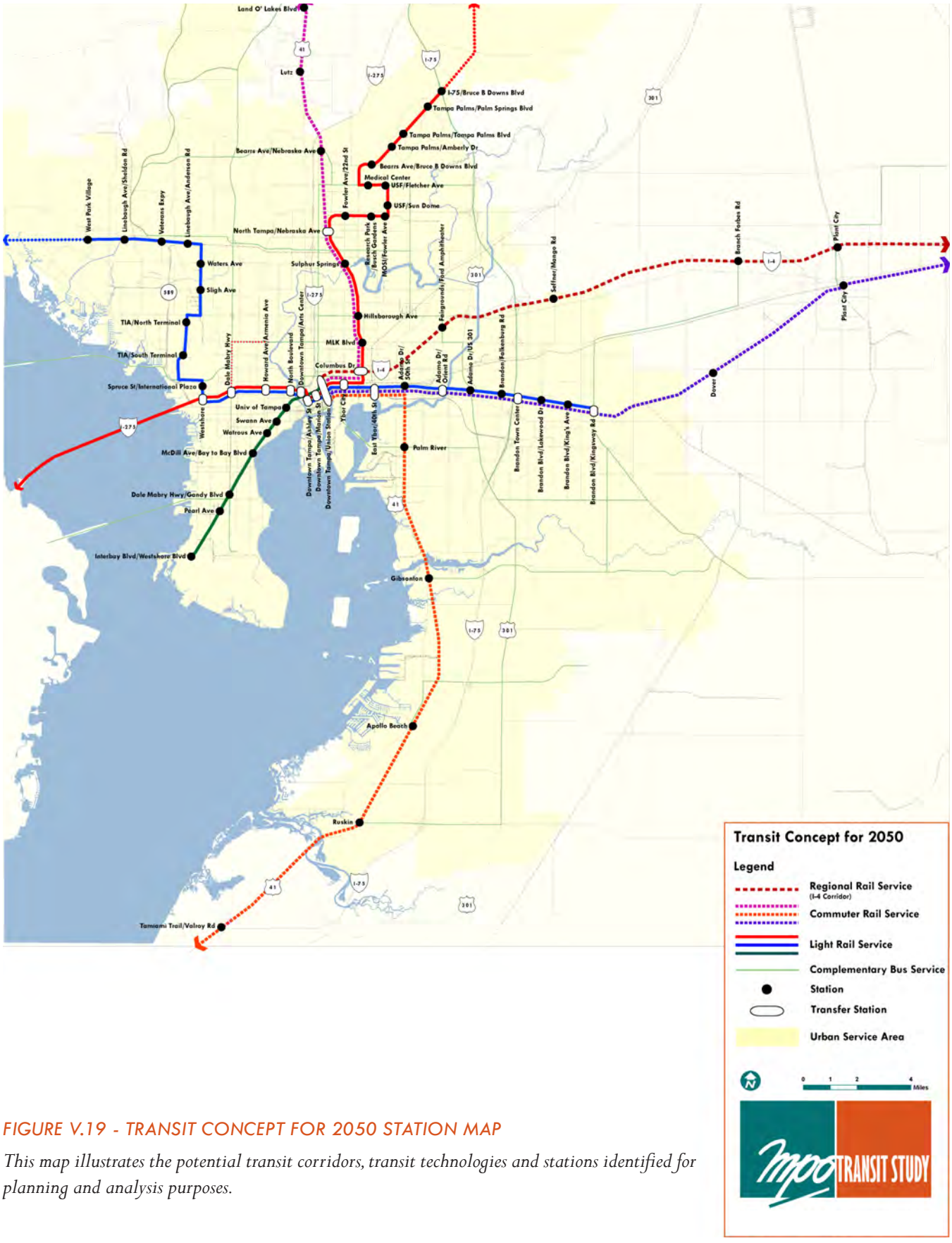


FIGURE V.19 - TRANSIT CONCEPT FOR 2050 STATION MAP

This map illustrates the potential transit corridors, transit technologies and stations identified for planning and analysis purposes.

Next Steps

The Transit Concept for 2050 presents a blueprint for moving forward in the creation of a premium transit system for Hillsborough County. While the study evaluated corridor level 'fatal flaws', the potential land use and growth considerations, and planning level cost considerations, this is still a concept framework only. It is anticipated that a more detailed alternatives analysis effort will be advanced following adoption of this concept and further study associated with development of the Hillsborough County MPO 2035 Long Range Transportation Plan. Additionally, the ultimate implementation of this Transit Concept will require concurrent efforts to further refine comprehensive plans and land development policies aimed at creating more transit oriented development patterns countywide, that include:

- Identifying priority transit corridors in the 2035 Cost Feasible Long Range Transportation Plan;
- Alternatives analysis on priority transit corridors;
- Coordination with TBARTA to identify and secure alternative funding sources;
- Refine Comprehensive Plan policies to achieve transit supportive development patterns; and
- Conduct station area analyses and refine land development policies to facilitate transit supportive development.