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Summary

The demand for transit within Fort Worth is based on a number of factors, the most important of which are:



Population and Population Density: Large numbers of people living and working close together are needed to enable the provision of convenient, productive, and cost-effective transit.



Socioeconomic Characteristics: Different groups are more or less likely to use transit.



Employment and Employment Density: Trips to and from work typically comprise the largest proportion of transit trips.



Development Patterns: Areas with denser development, mixed-use development, and good pedestrian environments make taking transit much more convenient, attractive, and well used.



Major Activity Centers: Large employers, universities, tourism destinations, and other high-activity areas attract large volumes of people and can generate a large number of transit trips.



Travel Flows: Transit needs to be able to get people to the places they are going.



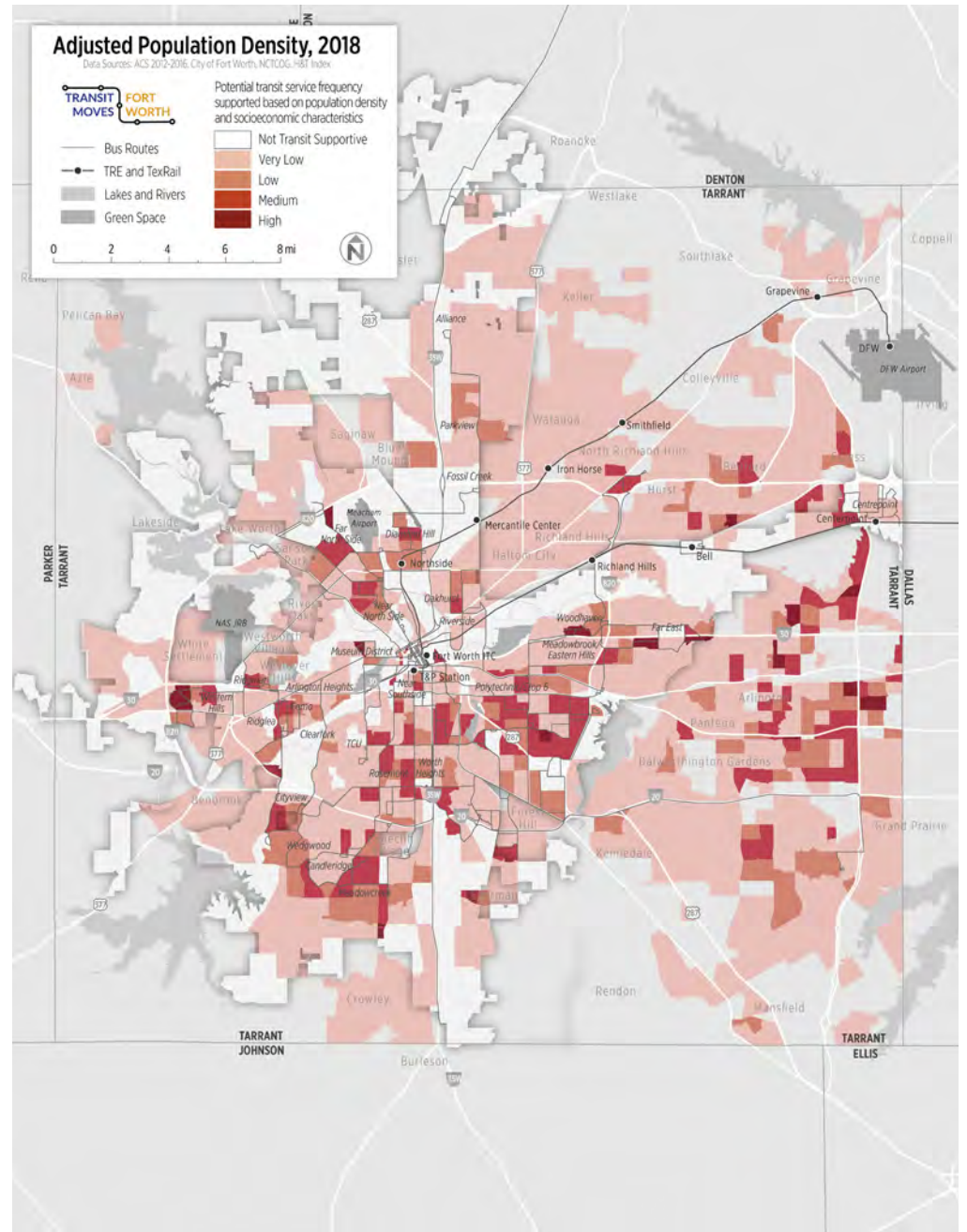
Existing (2018) Demand for Transit

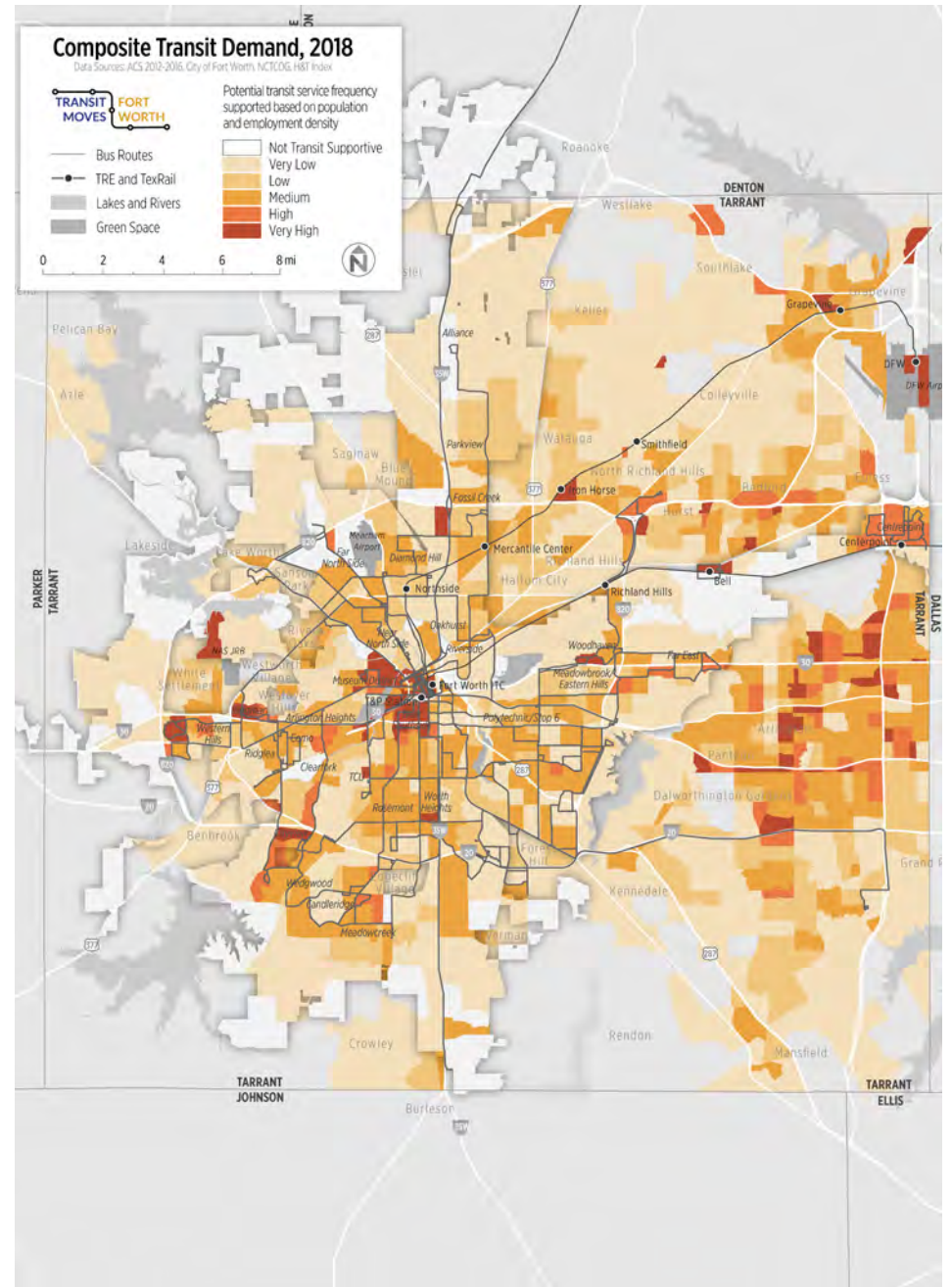
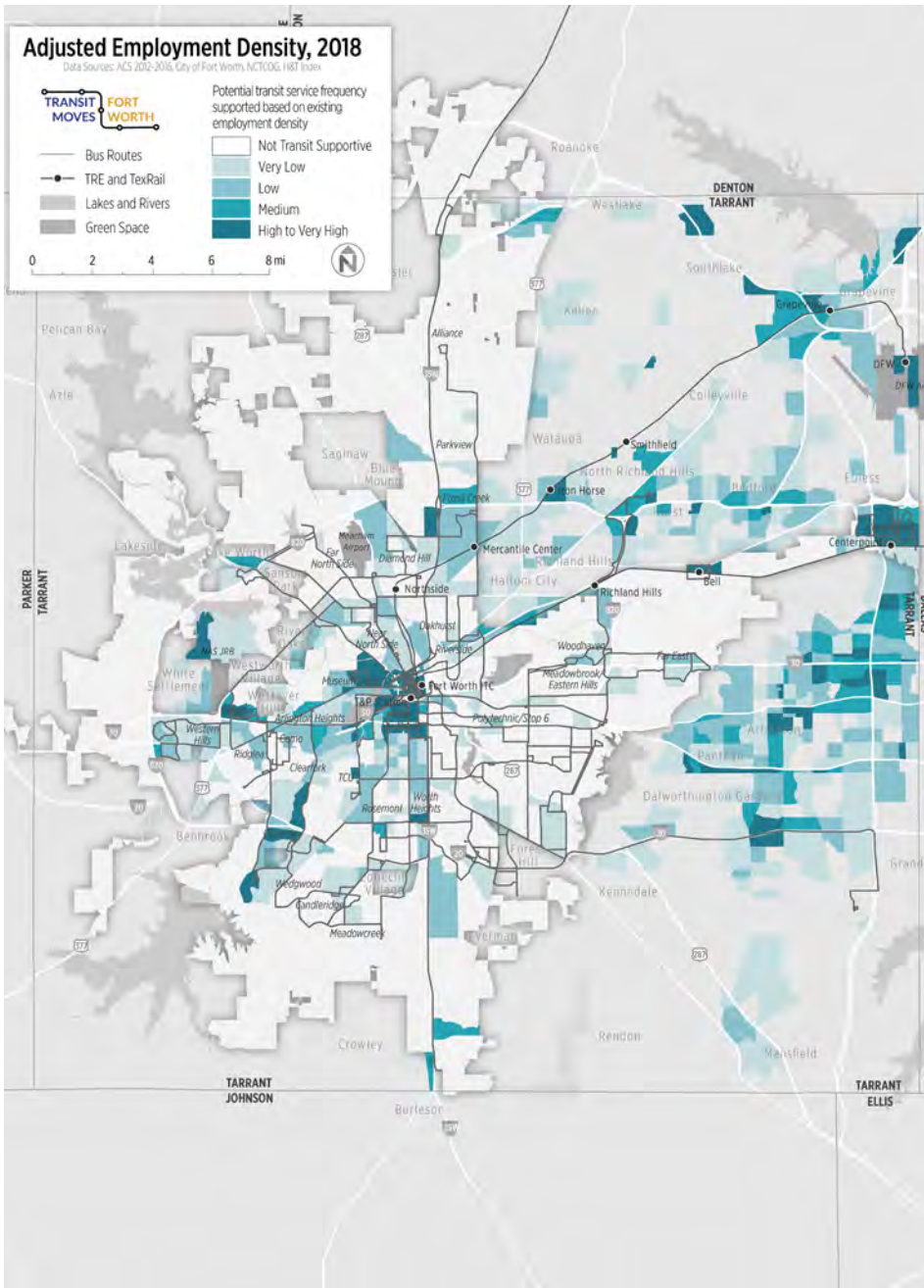
Today, transit demand within Fort Worth varies from very high to very low. It is generally highest in the Southside, TCU, Far Southwest, Northside, and Northeast areas and moderate to low elsewhere. In more detail, neighborhoods with the highest levels of transit demand include:

- Rosemont, Worth Heights, Hemphill Heights, and Paschal/Frisco Heights in the Southside
- Candleridge and adjacent areas along Hulen St, Sycamore School Rd and McCart Ave in Far Southwest
- Cityview and River Park in Wedgwood
- Las Vegas Trail, Rigmar, Ridglea Village, and Como in the Western Hills
- Near Northside, Far Northside, and Diamond Hill in the Northside
- Woodhaven, Eastchase, and CentrePort in the Eastside
- Morningside, Polytechnic Heights, and Stop Six in the Southeast

Job-related transit demand is more concentrated than residential-based demand with the highest levels of demand to and from:

- Downtown Fort Worth
- The Museum District west of downtown
- The Medical District south of downtown
- Cityview/Hulen Mall in Wedgwood
- Ridgmar in the Western Hills
- The Naval Air Station Joint Reserve Base, where Lockheed Martin Aeronautical is located
- CentrePort in the Eastside





Future (2045) Demand for Transit

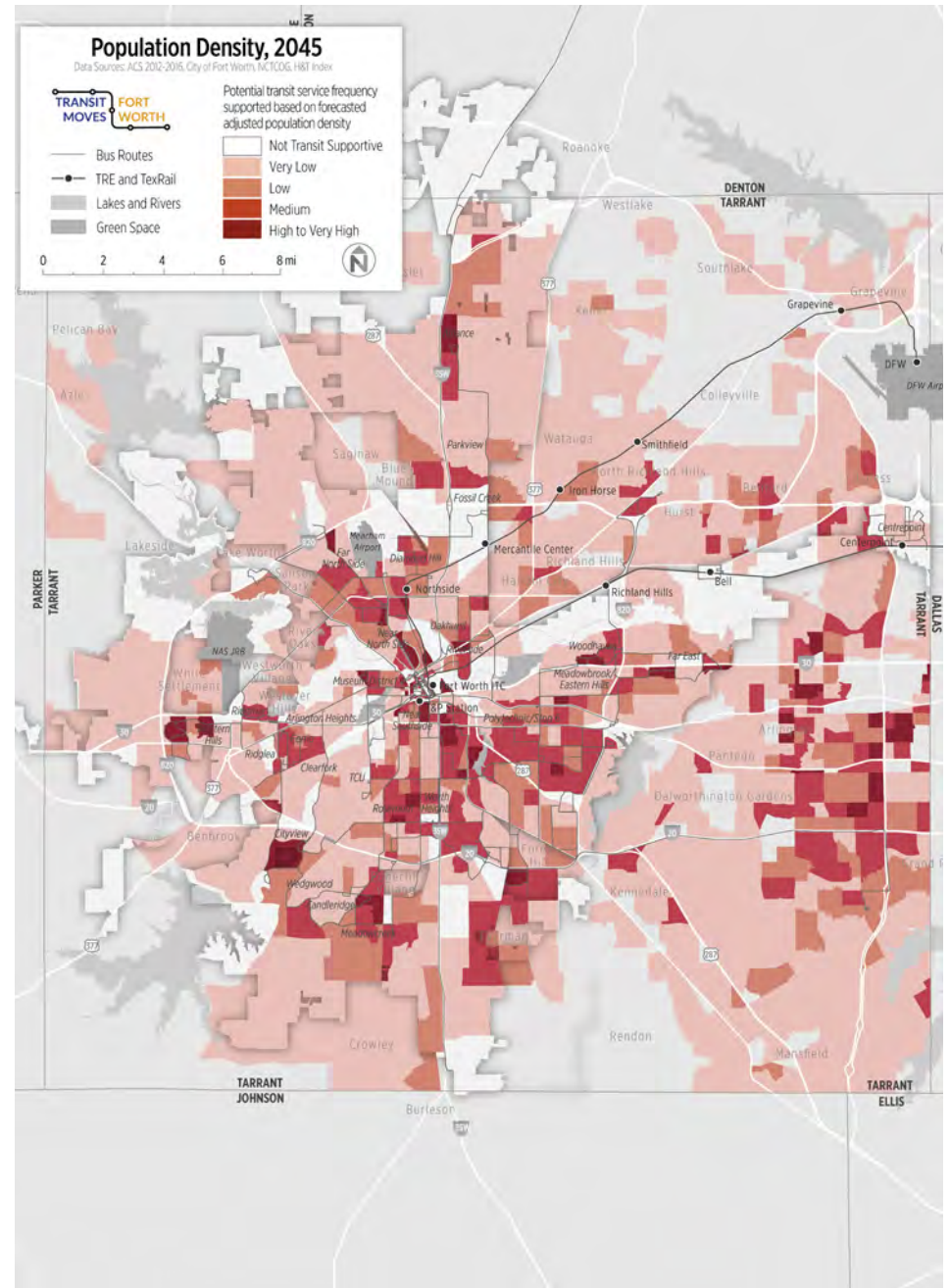
Looking forward to 2045, Fort Worth's population is projected to grow by 59% and employment by 46%. There will be more people and jobs in areas where demand is already high, and in new areas a demand for transit will emerge. Underlying demand for transit service will grow even faster than population and employment. This is because transit demand is more related to density than absolute numbers, and denser areas produce proportionately more demand for transit. In addition, societal changes, such as greater preferences among Millennials to use transit and the desire by Baby Boomers to remain independent, will also increase the market for transit.

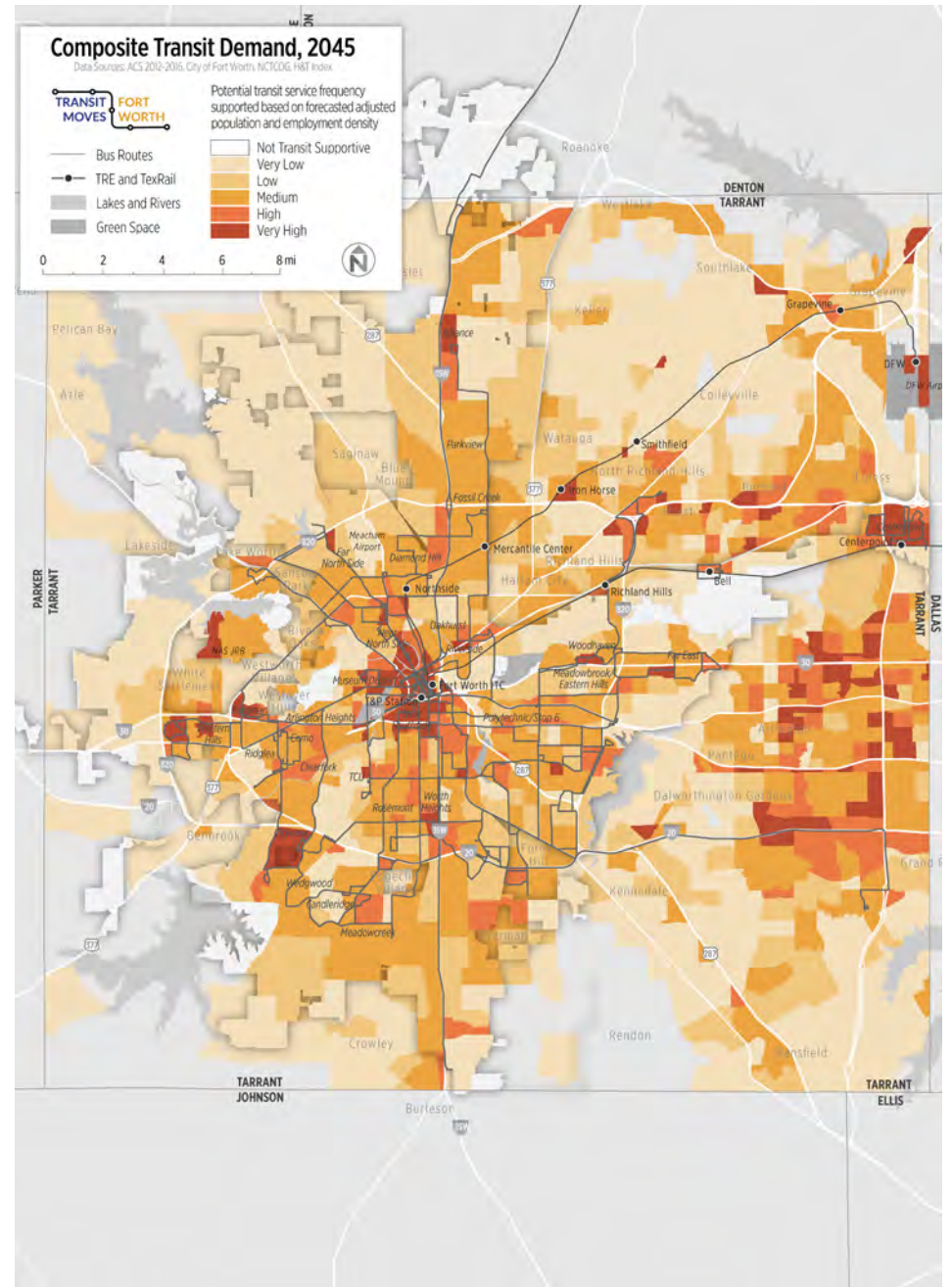
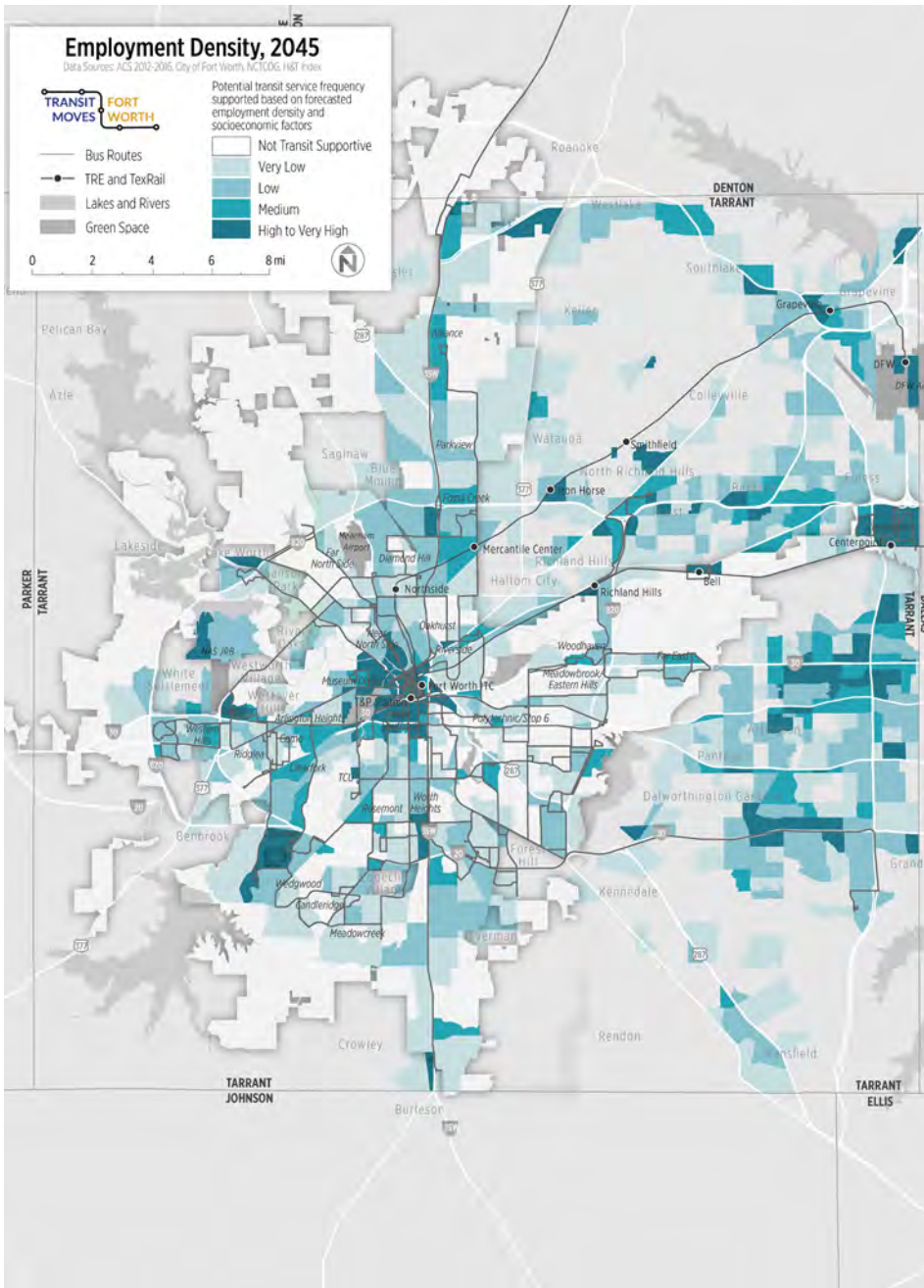
Through 2045, residential-based transit demand will grow to be high to very high in many areas throughout Fort Worth. This will include:

- In and around downtown, including the Near Southside, Panther Island, and the Museum District
- Most or much of the Eastside, and large portions of the Southeast, Southside, TCU, Sycamore, the Far Southwest, and the Northside
- Around Hulen Mall and much of Como, and the Western Hills, the Northeast and the Far North.

Employment will grow outward, and especially in the Far North along I-35W. Altogether, demand will be high to very high in:

- Downtown Fort Worth
- An expanding ring around downtown encompassing Panther Island and parts of the Northeast, the Northside, and Southside
- In the Northeast and Far North, mostly along the east side of I-35W, and particularly in the Alliance Town Center area
- In TCU, Arlington Heights, and the Western Hills along I-30
- In the Southside, Sycamore, and the Far South along I-35W

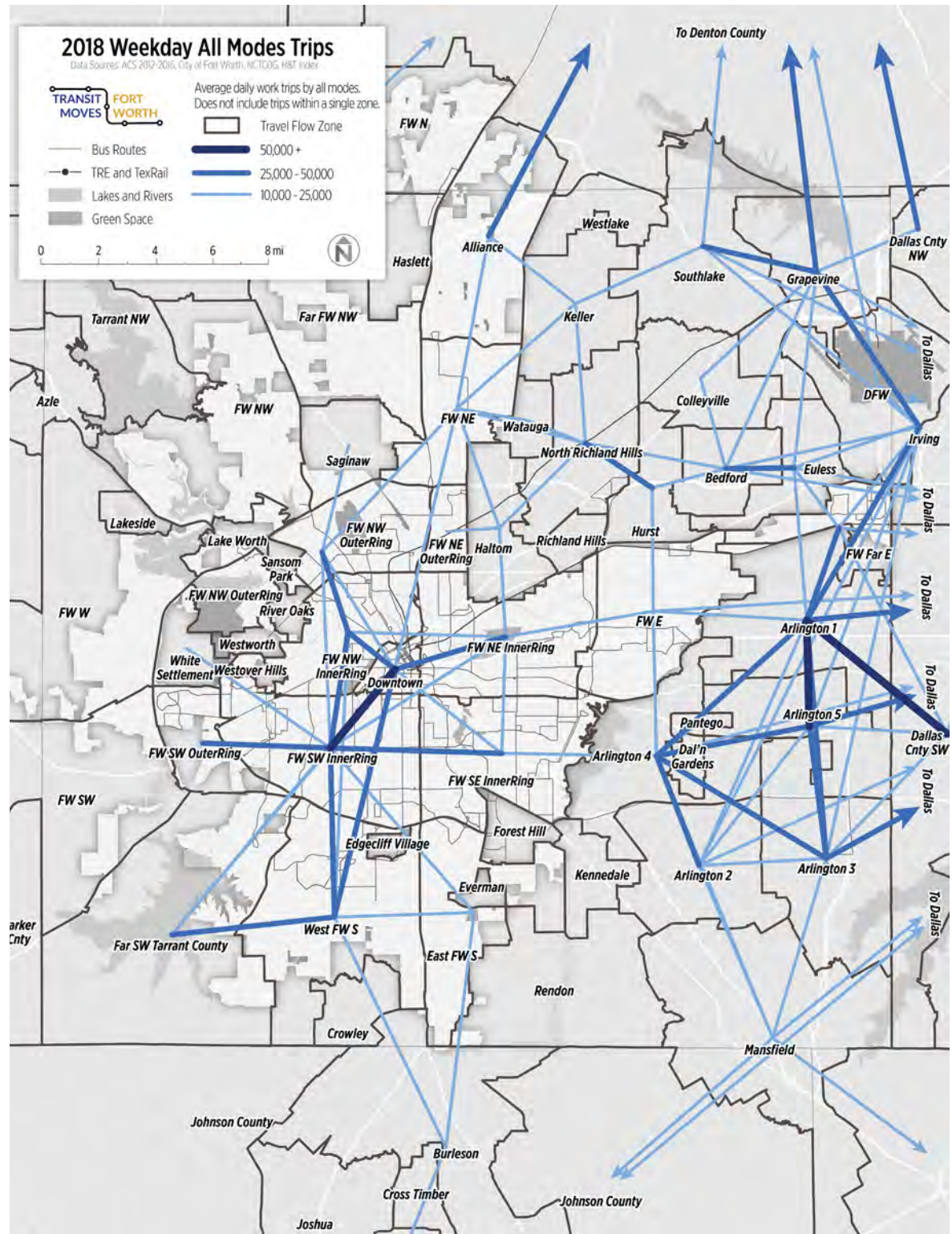


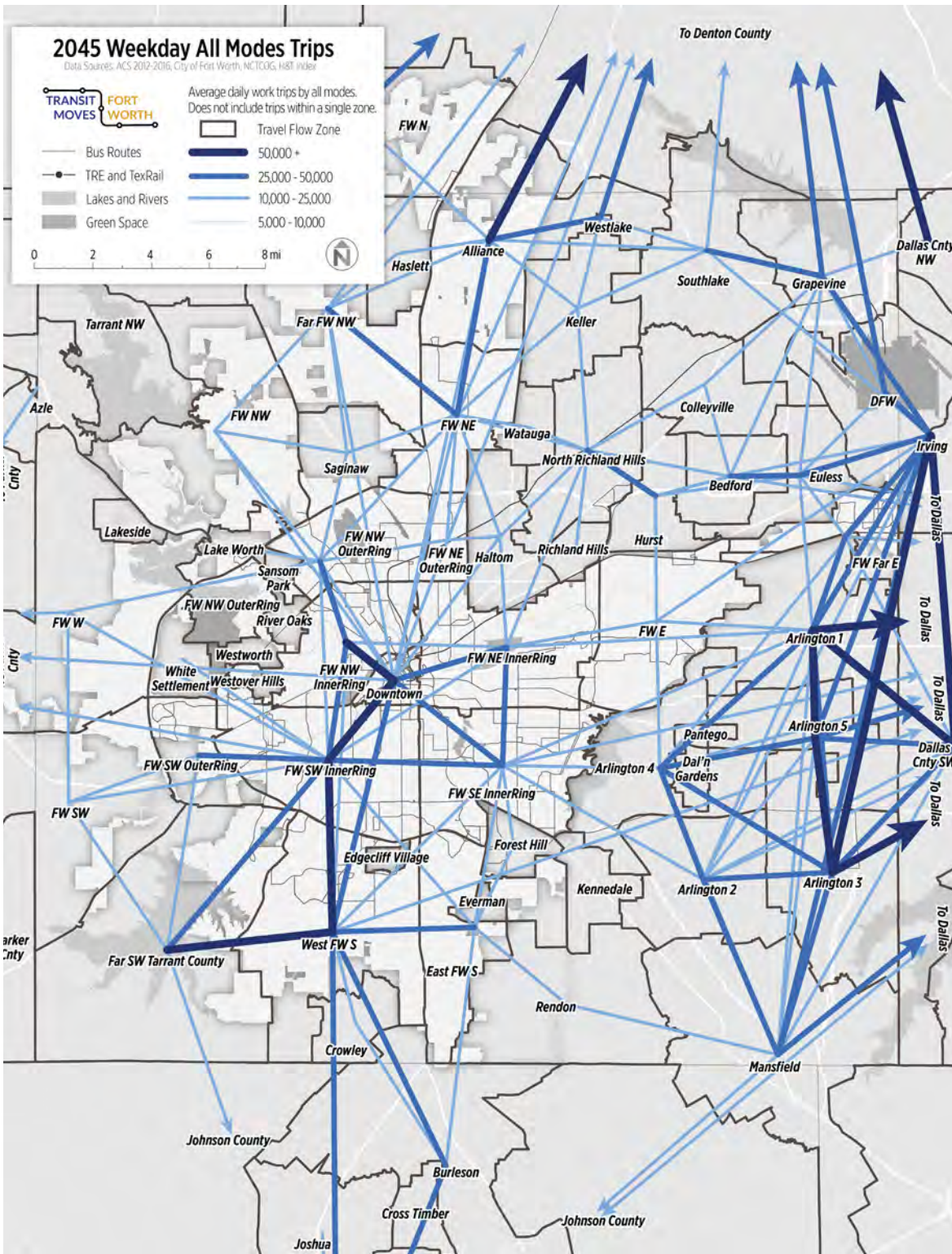


Future (2045) Demand for Transit

In addition to increasing demand within Fort Worth, demand will increase significantly in neighboring areas that residents and workers travel to and from, particularly:

- Arlington and immediately surrounding areas will increase dramatically, and there will be demand for frequent service in and around downtown and UTA.
- Areas to the northeast, including Richland Hills, North Richland Hills, Euless, Bedford, and Grapevine, including DFW.
- Many areas along I-820, including North Richland Hills, White Settlement, and Far Southwest Tarrant County.
- Several communities northeast of Fort Worth, including Hurst, North Richland Hills, and Bedford.





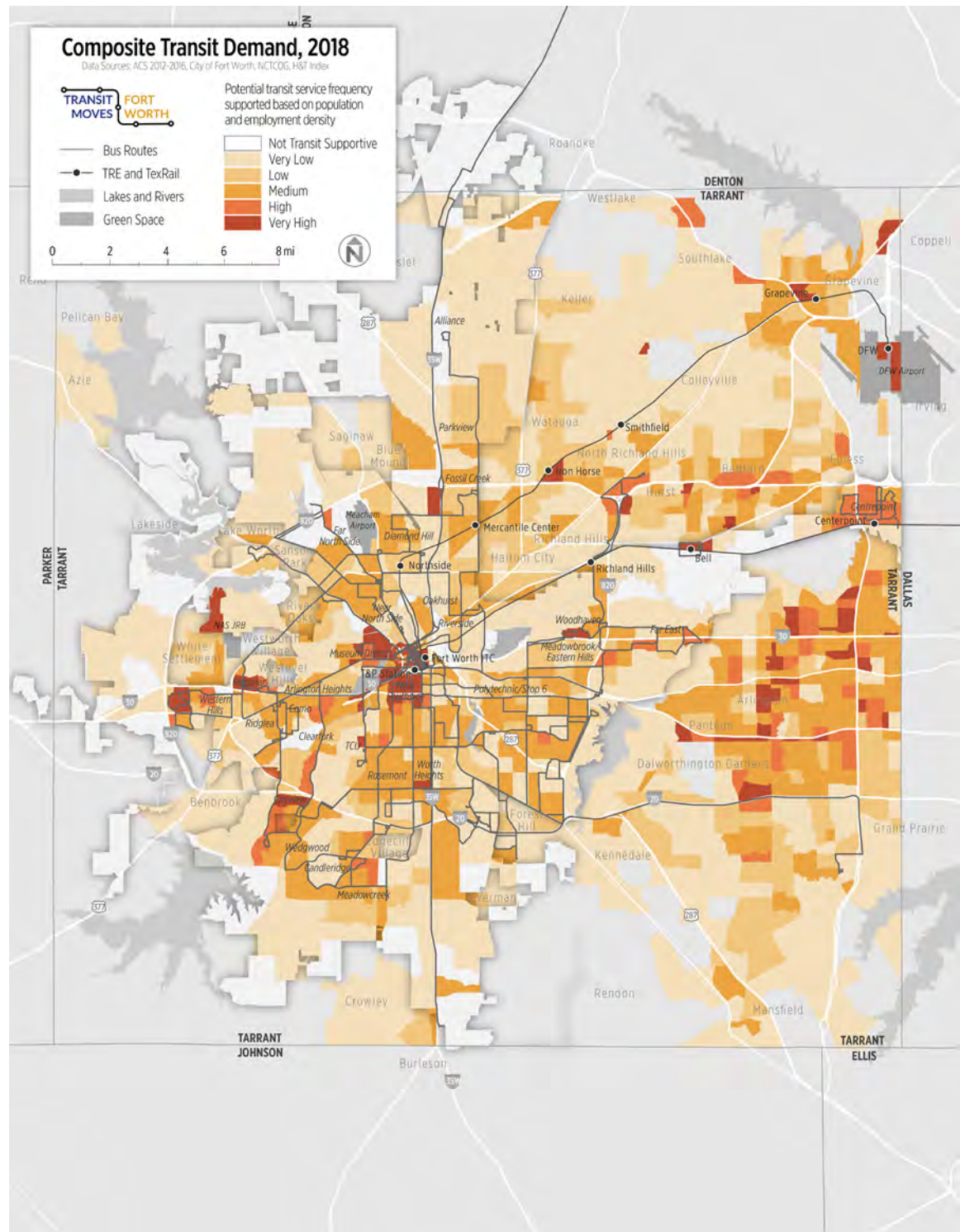
Overall, current transit demand in Fort Worth can be characterized as moderate to very high in some areas, but moderate to low in most. However, demand will increase rapidly as population and employment increase. The city's expected growth points to the need for a much more robust transit system.

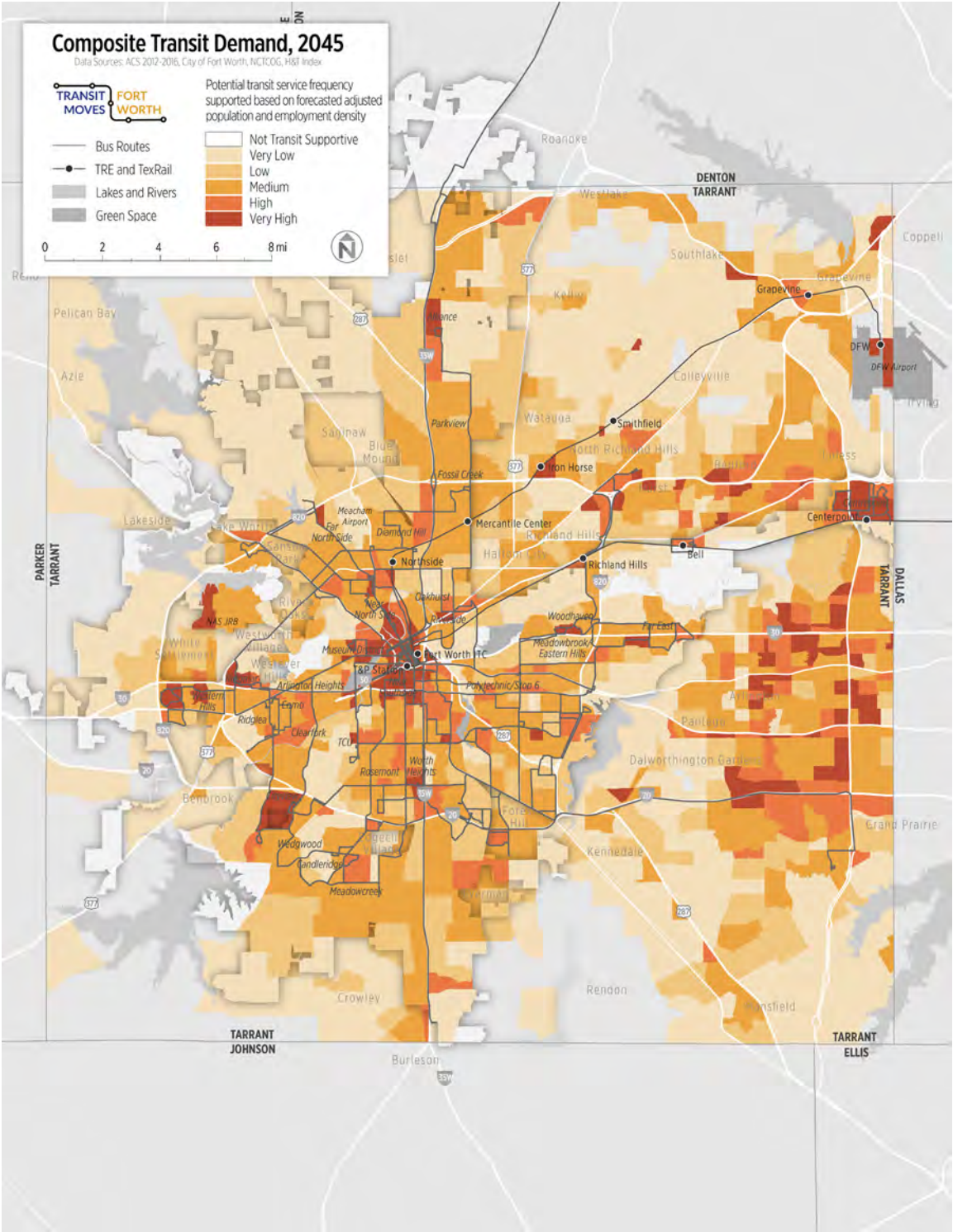
Existing Services Do Not Meet Market Demand

Trinity Metro current serves Fort Worth with 41 local bus routes, seven express routes, and two commuter rail lines (one of which is operated jointly with DART). Broadly speaking and although there are exceptions, most of Trinity Metro’s service is within the I-820 loop, and this is currently where transit demand is highest. However, much of this service operates relatively infrequently and for short service spans and there is market demand for much better service.

In addition, the overwhelming majority of service is provided with local bus routes. Exceptions are TRE and TEXRail, and the Spur, which provide Rapid Bus-like service. Elsewhere in the United States, including in Dallas, there has been an emphasis on developing faster, more convenient, and more comfortable services such as light rail, Bus Rapid Transit, Rapid Bus, and more. There is also market demand for these types of services in many parts of Fort Worth.

Looking forward, as Fort Worth continues to grow rapidly, the demand for transit will grow outward and beyond the geographical reach of current services. Demand will also grow to much higher in areas where it is already high. To meet both existing and future demand, improvements will need to be made to existing services, and new services will need to be developed.





Without an expansion of transit service, the gap between market demand and service will grow much wider.







Potential Transit System-Related Improvements

The next phase of this project will examine the specific improvements designed to better meet current needs as well as future needs. This work will consist of further examining differences between the market demands described in this briefing book and the services now being provided, adopting best practices from elsewhere in the United States, brainstorming, and input from stakeholders and the public. In no particular order, the types of improvements that will be examined include:

Potential City-Led Efforts

-  **Service Buy-Ups**
-  **Complete streets with an emphasis on transit service**
-  **Transit priority**
-  **Transit Emphasis Corridors**
-  **Better bus stop facilities**
-  **Neighborhood mobility hubs**
-  **Improved pedestrian access**
-  **First mile\last mile connections**

Potential Trinity Metro-Led Efforts

-  **More frequent service for longer hours**
-  **New and improved regional services**
-  **Rail**
-  **Streetcar**
-  **BRT**
-  **Rapid Bus**

Potential Joint City & Trinity Metro Efforts



Development of new services in city rights-of-way such as light rail, BRT, and Rapid Bus



Bus stop improvements

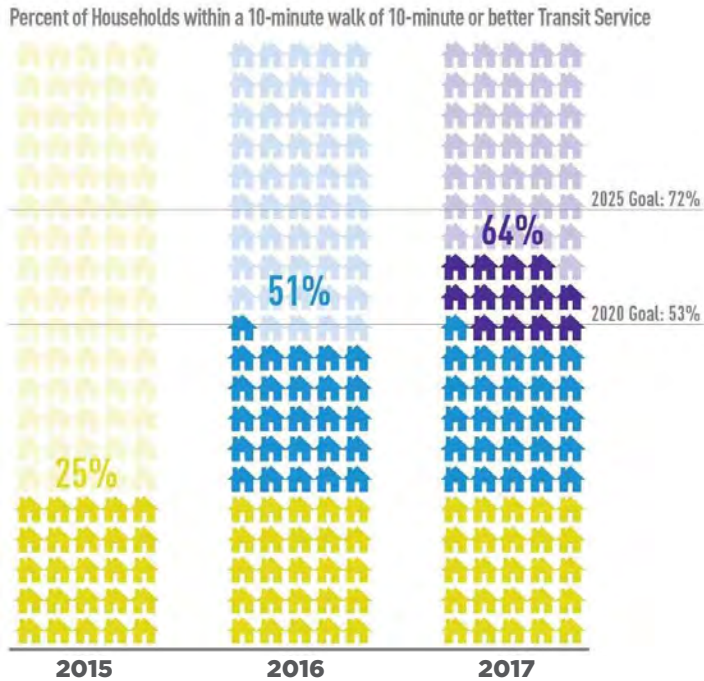


Bus stop optimization to provide a better balance between walk times and bus speeds



Service Buy-Ups

All transit systems have finite resources and cities often desire more service than they are able to provide. One approach to this issue is for individual cities to “buy-up” to better service. The City of Seattle has aggressively used this strategy to improve and expand service. It is currently providing \$50 million per year for additional service and \$4 million for speed and reliability improvements, and has provided \$300 million toward the development of Rapid Bus service. Transit ridership has increased by 60% since 2002, and more recently when ridership has been decreasing nationwide, it is still growing rapidly in Seattle.

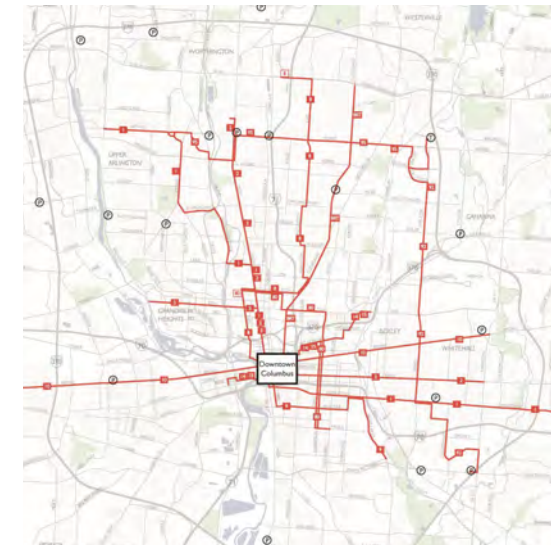
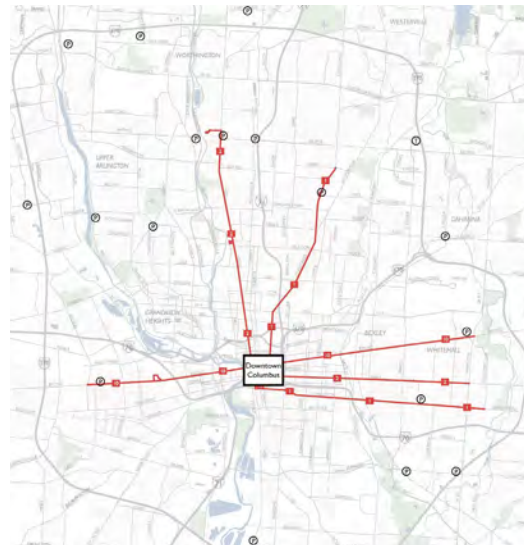


Infographic illustrating the increase in the proportion of Seattle residents with convenient access to frequent transit service as a result of service buy-ups.

Frequent Transit Network

Transit is most attractive to potential riders when it is frequent enough that people don't need to consult a timetable and can instead go to a stop and expect a train or bus to arrive shortly. Nearly all major transit systems operate networks of frequent services that stretch out in all directions from the central hub. Frequent transit networks are designed to provide convenient service between a region's most important destinations and therefore should consist of a number of inter-related qualities:

- **All Day Frequency:** Frequent service, typically every 10 to 15 minutes or less from the beginning of the morning peak to early evening or later.
- **Connected:** A sufficient number of routes to create a network that serves all high-demand locations
- **Direct:** A sufficient number of routes to create a network that serves all high-demand locations
- **Memorable:** A sufficient number of routes to create a network that serves all high-demand locations



Columbus, Ohio's existing and proposed future frequent transit network. All lines show in red operate with 15 minutes or better frequencies every day of the week.

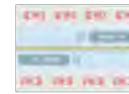
Complete Streets with an Emphasis on Transit

Complete streets are designed to provide a better balance between automobiles and other uses, and in particular, walking, biking, and transit. Following the vision recently set forth in its Master Thoroughfare Plan to develop more complete streets, as the city upgrades and improves its roadways, there will be significant opportunities to improve access to transit and provide transit priority to make it faster and reduce delays.



A rendering of a complete street with dedicated transit infrastructure.

Transit Priority/Faster Service



Full-Time Bus Lanes



Off-board Fare Payment



Part-Time Bus Lanes



Level Boarding



Queue Jump Lanes



Transit Signal Priority

In Fort Worth, one of the major reasons that more people don't use transit is that it is almost slower than driving. To the extent that the travel time differences can be decreased, more people will use transit. There are a number of ways in which transit can be made faster. These include:

- **Full-time bus lanes** that allow buses to avoid traffic congestion at all times.
- **Part-time bus lanes** that typically consist of the use of parking lanes during peak periods to provide priority to transit when delays are greatest and allow use for parking at other times.
- **Queue jump lanes** that are short sections of bus lanes – typically curbside lanes leading up to intersections that allow buses to bypass queued traffic at signalized intersections.
- **Off-board fare payment** that reduces the delays caused by people paying their fares on-board buses.
- **Level boarding**, which is faster than boarding via steps, and much faster for those with disabilities.
- **Transit signal priority**, which lengthens green cycles to allow buses to pass through signalized intersections with fewer delays.

Consolidate Bus Stops

Bus stops are one of the most significant reasons that transit service is slower than automobile travel. The spacing and placement of stops also greatly impact transit travel times and reliability, as well as the types of facilities and amenities that can be provided, and often accessibility. With more stops, it is easier for passengers to get to and from transit, but many stops also slow service and degrade reliability. With fewer stops, it takes some passengers longer to get to and from the stop, but service is faster and more reliable.

Many transit systems, including Trinity Metro, have too many stops. This is often due to an accumulation of stops over time, as transit agencies receive and grant requests for new stops on the basis that “one more stop” won’t significantly degrade service. However, over time, “one more stop” makes service slower and slower and unattractive for those with other choices. To make Trinity Metro service more attractive to more people, it will be essential to achieve a better balance between walk distances and travel times.



For more information on stop consolidation, see the TransitCenter’s Bus Stop Balancing video at: <https://vimeo.com/240382367>

Neighborhood Mobility Hubs

Neighborhood mobility hubs can provide a neighborhood-based focal point for transit and other alternative transportation choices, as well as for placemaking. They would be located in neighborhood centers where along major transit routes and provide:

- Connections between transit routes
- Connections to first mile/last mile connections such as carshare, bikeshare, scootershare, and ridesharing
- Trip planning information
- Ancillary services such as retail and package pick-up
- Community spaces



Mobility hub schematic. Source: San Diego Association of Governments.

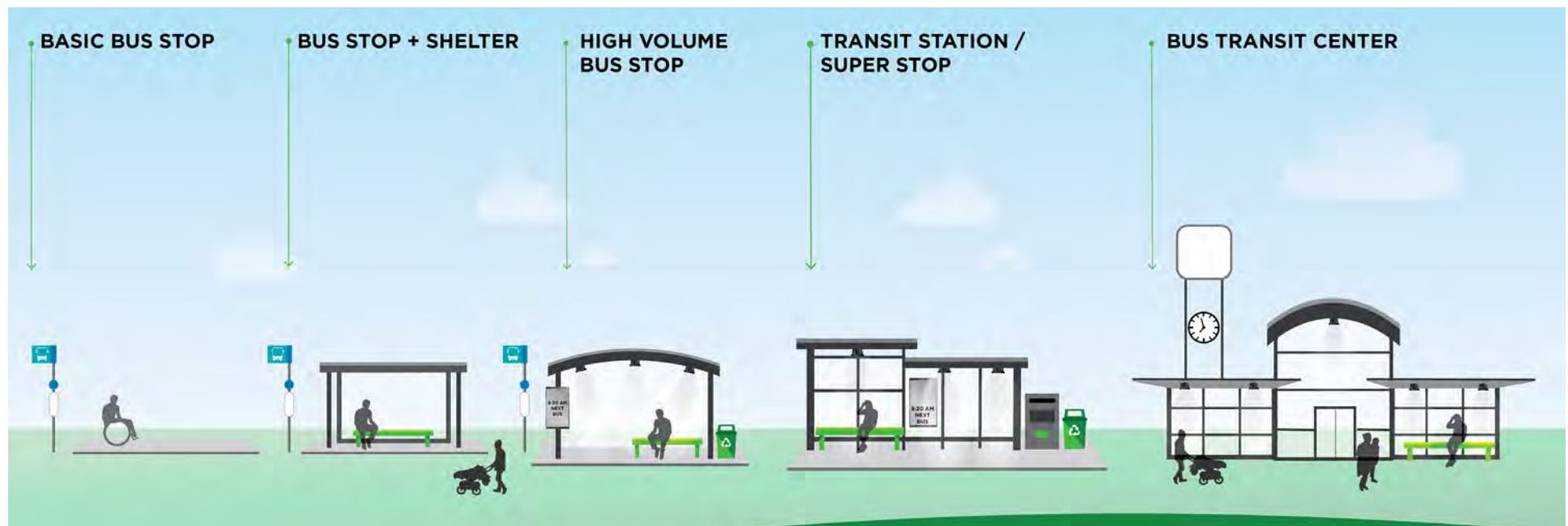
Better Bus Stop Facilities

Transit riders want stops to be comfortable places to wait, and riders' perceptions of transit is in part related to the quality of their local bus stop. Well-designed bus stops enhance the transit experience, decrease perceived wait times for transit services, and can contribute to increased ridership.

Conversely, poorly designed bus stops can decrease customer satisfaction, make transit less attractive to potential new customers, and potentially make waiting at stops unsafe for riders. Investing in high quality bus stops is often a low-cost, high-reward strategy for transit operators.

No matter how many riders use a bus stop on a given day, each stop requires certain design elements to be safe, accessible, reliable, and comfortable. As ridership at a given stop increases, agencies can install additional amenities that enhance the overall transit experience. Shelters provide a level of comfort and security to customers while giving the route a degree of permanence and providing a means of displaying service information. Typically, more facilities are provided at stops with higher volumes of boarding passengers and fewer at stops with lower volumes. A secondary benefit of stop consolidation, described above, is that more passengers are concentrated at fewer stops, which can both justify the provision of better amenities and reduce the number of stops that need to be improved.

Most transit systems, including Trinity Metro, struggle to provide attractive and comfortable bus stops everywhere. This is the case for many reasons, including a lack of ownership and control over the places where stops are located. A partnership between the City and Trinity Metro could eliminate many of the current impediments to better bus stops.



Best practice bus stop and transit center types. Source: Nelson\Nygaard.

New Service Types

As new transportation options emerge, the relative convenience of regular local bus service has declined. However, better types of service can be provided, and local bus services can be upgraded to provide higher quality service. The primary ways in which this can be done is to upgrade local bus service to:

- Light rail
- Streetcar
- BRT
- Rapid Bus

While light rail and streetcar may have potential, the greatest opportunities mostly likely are the development of BRT and Rapid Bus. The development of BRT and Rapid Bus services were also a major focus of the Trinity Metro Transit Master Plan.

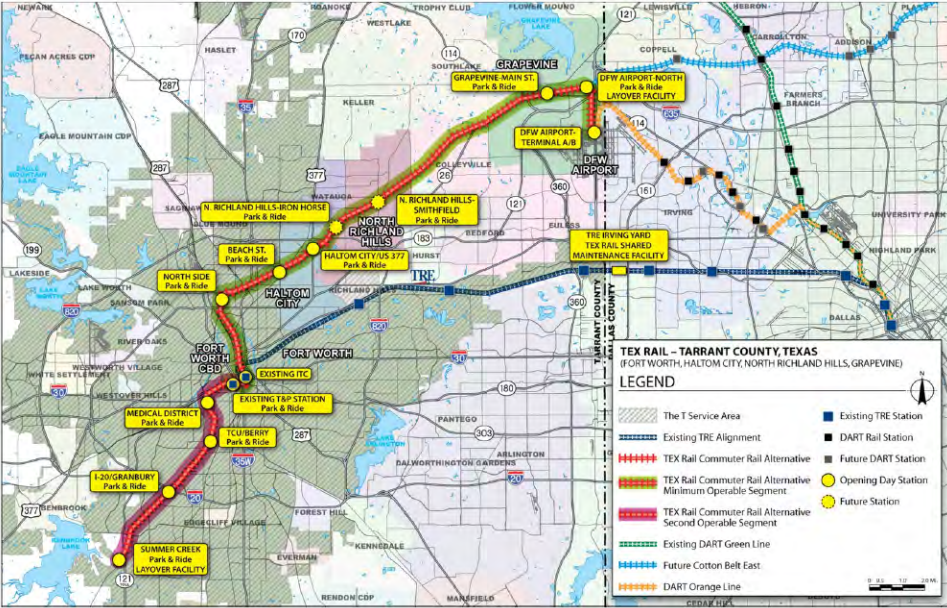
BRT and Rapid Bus projects include many infrastructure elements within City rights-of-way – for example, bus lanes, queue jump lanes, and stations. Other elements such as transit signal priority would be incorporated into the City’s traffic signals. As such, the development of BRT and Rapid Bus service provides many opportunities for the City to partner with Trinity Metro to develop better projects than Trinity Metro could develop on their own.

REGULAR BUS	RAPID BUS	BUS RAPID TRANSIT (BRT)
<p>TYPICAL FEATURES</p> <ul style="list-style-type: none"> • No special branding • Frequent stops • Wide range of stop facilities – from very basic to elaborate • Wide range of service frequencies – from very infrequent to very frequent • Wide range of service spans – from early morning to late night to only a few trips 	<p>TYPICAL FEATURES</p> <ul style="list-style-type: none"> • Special branding • Simple service design • Limited stops • Enhanced stops/ stations • Frequent service (at least every 15 minutes) • Service from early morning to late night • Real-time passenger information <p>OTHER COMMON FEATURES</p> <ul style="list-style-type: none"> • Unique vehicles, including high- capacity buses • Queue jump lanes • Transit signal priority • Off- board fare collection 	<p>TYPICAL FEATURES</p> <ul style="list-style-type: none"> • Special branding • Simple service design • Limited stops • High quality stations • High- capacity buses • Exclusive bus lanes • Transit signal priority • Very frequent service (at least every 10 minutes) • Service from early morning to late night • Real-time passenger information <p>OTHER COMMON FEATURES</p> <ul style="list-style-type: none"> • Unique vehicles • Level platform boarding • Off- board fare collection
 <p>Trinity Metro local bus service</p>	 <p>Los Angeles Metro Rapid service</p>	 <p>Cleveland Healthline BRT service</p>

Source: Nelson\Nygaard.

New Commuter Rail Services

There will also be new opportunities to expand commuter rail service. One option would be the southwest extension of TEXRail. While commuter rail extensions would be developed by Trinity Metro as regional services, the City will need to weigh the desirability of new commuter rail services against other service priorities.

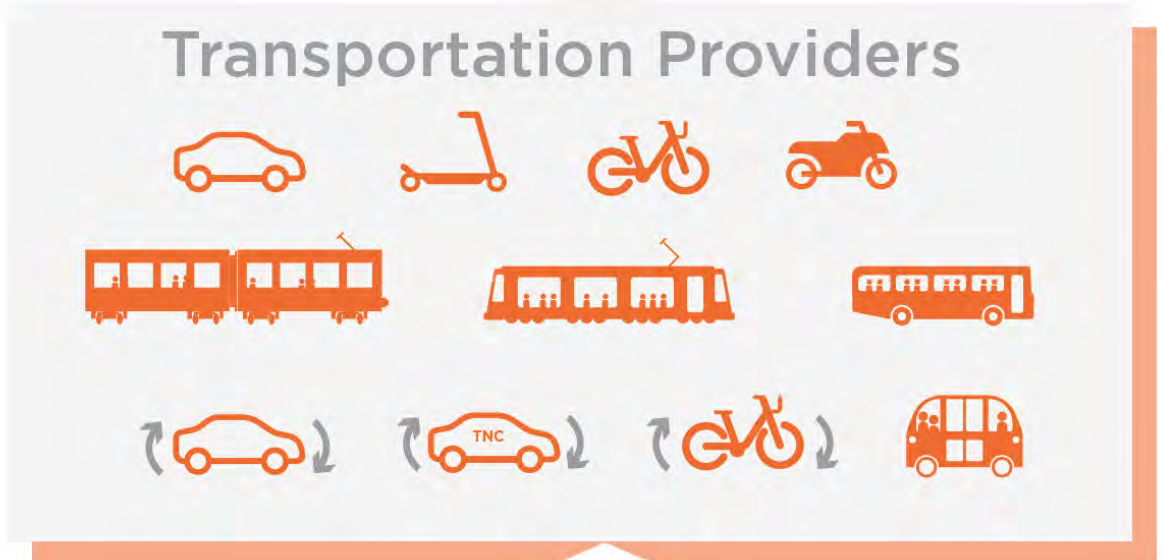
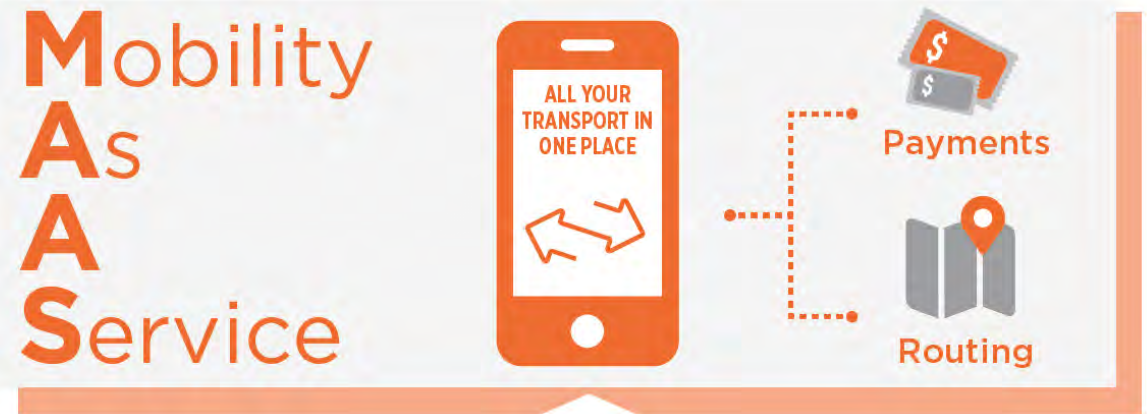


Proposed TEXRail Extension to SW Fort Worth.



Mobility as a Service (MaaS)

As transportation options have become more diverse, the transportation landscape has become more fragmented. For example, a commuter may take TRE to Fort Worth's ITC and then take a scooter to work. However, in the afternoon, if it is raining, he or she may decide to take Lyft back to the ITC. At present, this requires users to learn about each option in different ways, and to purchase different fares. Mobility as a Service, or MaaS, is an approach through which people can plan and purchase transportation on multiple providers in a single place, and also potentially purchase subscription in the same way that people can purchase monthly passes for transit. The major players in the development of these services in Fort Worth will be Trinity Metro and the private providers who are increasingly providing first mile/last mile connections and options for short trips (for example, taxi, rideshare, bikeshare and scootershare). However, private companies compete more than they cooperate and also desire partnerships that exclude their most direct competitors. The City, to the extent that it has or develops regulatory powers governing the private services that operate within the city, could require cooperative MaaS efforts.



Next Steps

The next phase of Transit Moves | Fort Worth will examine the strategies described above in more detail to determine who they could be employed in Fort Worth and which should be pursued. The next phase of this effort will also identify additional strategies. This work will include input from stakeholders and the public with the intent that strategies that would provide the greatest benefits and receive the highest levels of public support would be pursued.



