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For your safety,  
buses do not stop  
inside MCC once  
they leave their  
designated bus  
bays.



# TRANSIT IMPROVEMENT OPPORTUNITIES FOR MIDDLE TENNESSEE

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Nashville  
MTA





## Report Contents What's Included?

This report summarizes the state of transit in Middle Tennessee and identifies opportunities to improve transit service in the region. It includes:

- **An Introduction** to the importance of transit, community values, and guiding principles for transit improvements in Middle Tennessee.
- **The Market for Transit in Middle Tennessee**, providing an overview of where transit is needed today and where it is anticipated to be needed in the future.
- **Key Challenges**, highlighting the kinds of improvements that are needed to make transit work better in the region.
- **Transit Strategies**, focusing on the most promising approaches for improving transit in Middle Tennessee.
- **Next Steps**, a discussion of how this information will be used moving forward.

# INTRODUCTION



## What's This All About?

**Middle Tennessee is one of the fastest growing regions in the United States, and Nashville is one of the fastest growing cities.**

The 10-county region is expected to add nearly 1 million residents by 2035. This means that Nashville will become larger than either Portland or Denver is today, and nearly as large as Seattle is today. These are all cities that have developed very robust transit systems over the past few decades—transit systems that have made those cities much more livable and competitive.

As the Middle Tennessee region grows, transit will play an increasingly important role in providing an efficient and convenient travel option. Transit is particularly important for providing access to jobs and services in downtown Nashville, but it also moves people between neighborhoods and towns to attend school, shop, recreate, or simply explore.

Transit provides mobility for everyone and is part of a complete transportation network. It is often the best and most attractive travel option—it saves time and money, avoids the hassles of parking, and allows people to read, browse online, and relax while traveling. The most competitive cities have great transit systems or are developing them.

To develop a great transit system for Middle Tennessee, the nMotion team is building on the work of NashvilleNext and the Nashville Area Metropolitan Planning Organization's (MPO) 2040 Regional Transportation Plan. The Nashville MTA/RTA Strategic Plan is being developed based on the "preferred future" in Nashville Next and in close coordination with the MPO.



Middle Tennessee Population Growth, 1970-2040

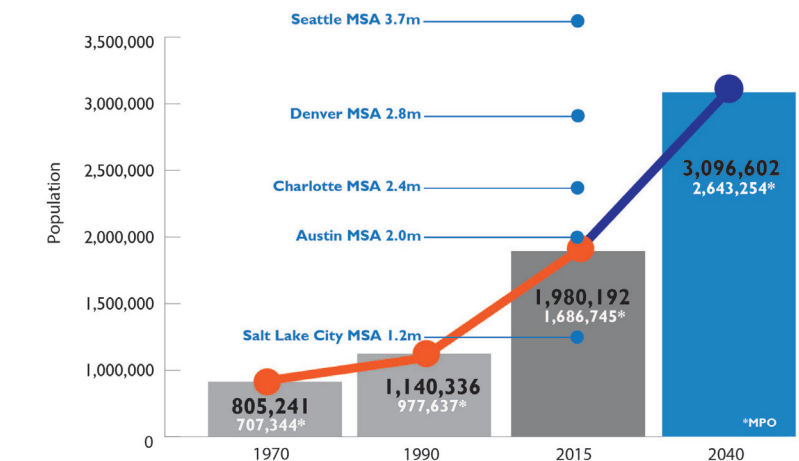


Image from Nashville Area MPO



# Benefits of Transit

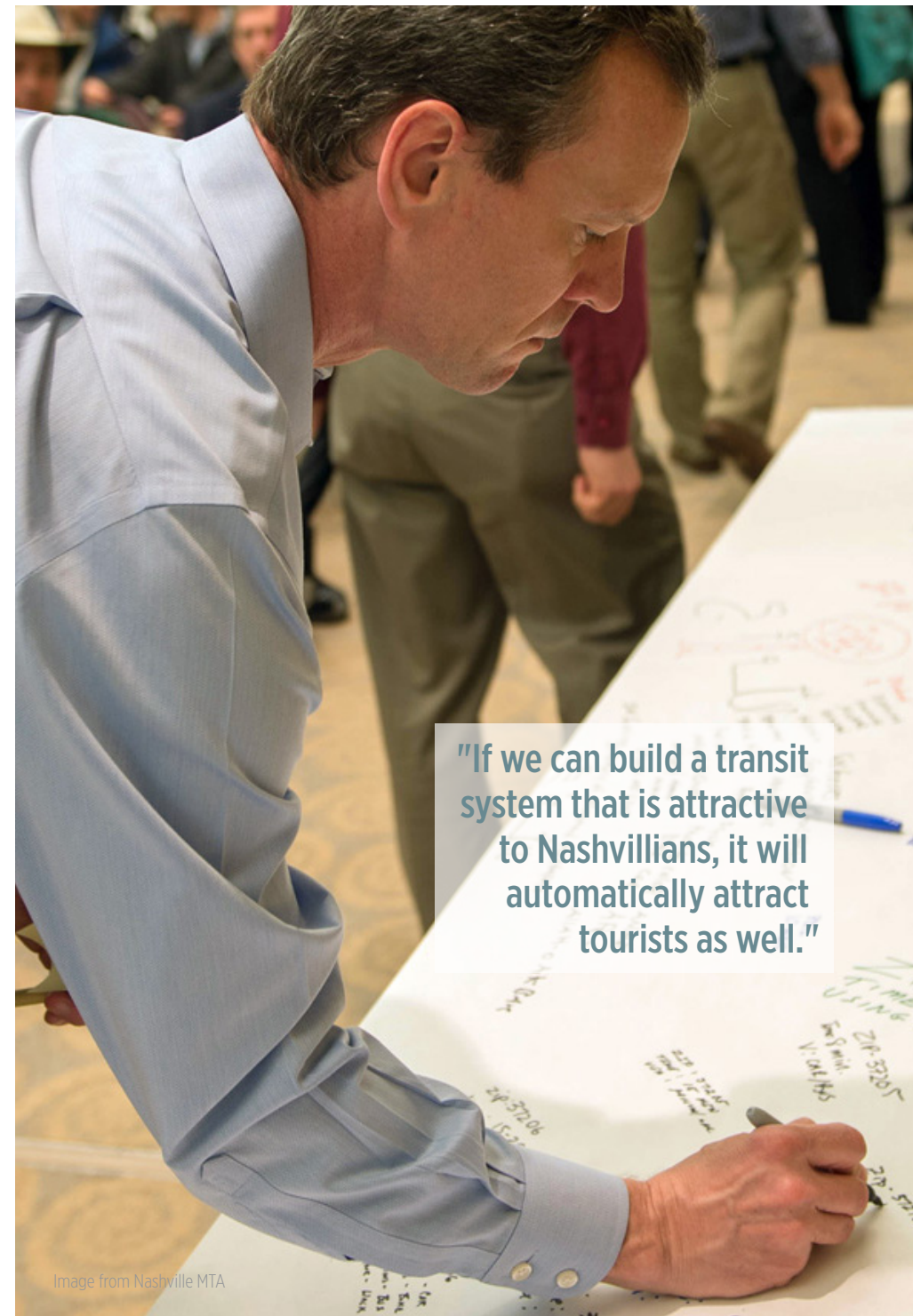
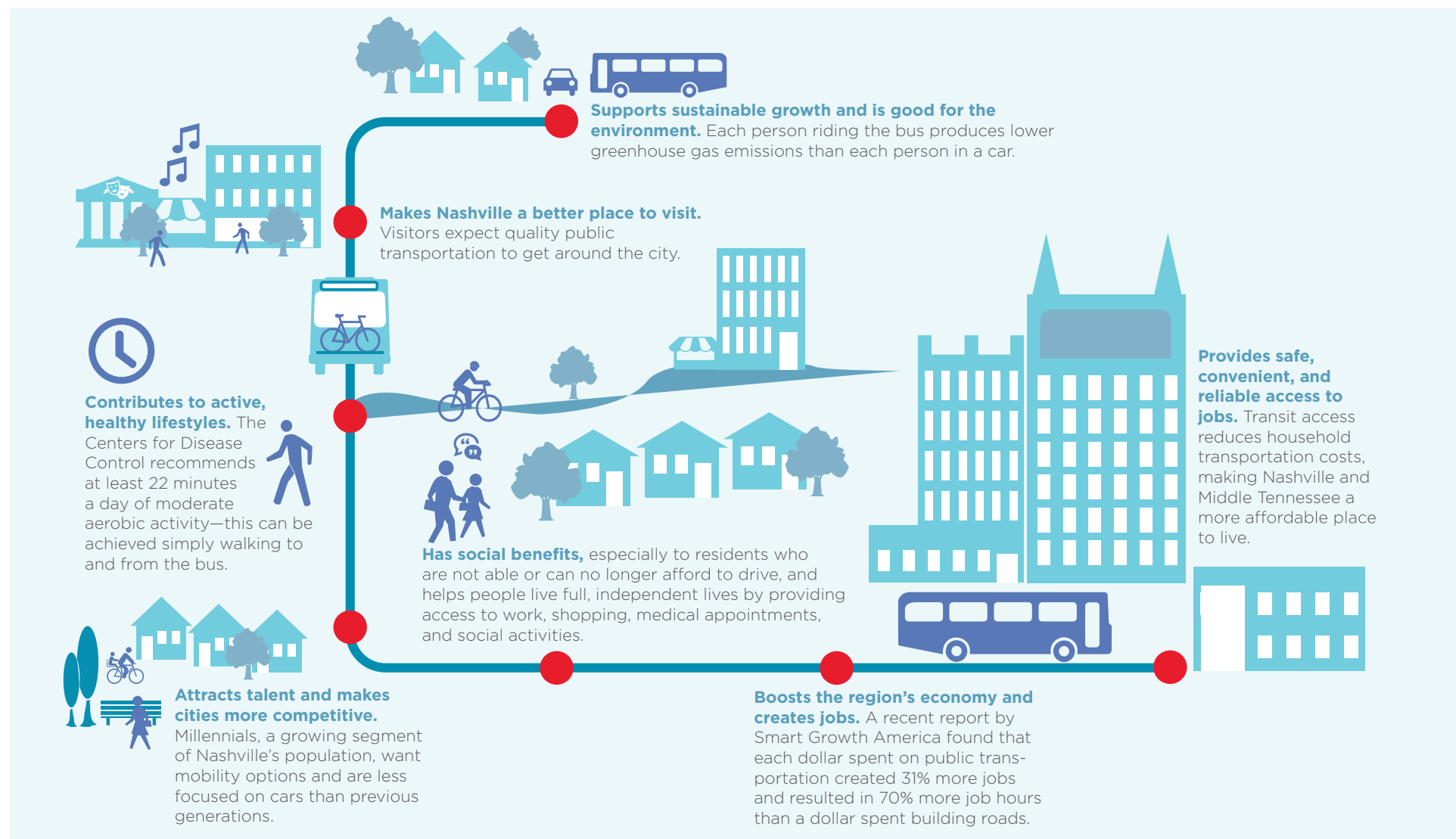


Image from Nashville MTA

“Build it first, then I’ll ride it!”

## Community Values What Have We Heard?

Community input is an important part of the nMotion planning process.

After asking residents of Middle Tennessee what they’d like to see in a transit system, we heard that people’s primary values for transit in Middle Tennessee are convenience, dependability, frequency, and safety.

- Middle Tennessee’s transit system will be most successful if it provides **convenient** service to as many people as possible.
- **Dependable**, on-time service is one of the most important values, especially from those who regularly ride transit.
- Most people said that service needs to be more **frequent**, and people hope for transit service every 15 minutes.
- Many residents’ biggest **safety** concern about transit is being able to get to the bus stop, not the experience on the bus. People want to be able to walk to and from bus stops and need sidewalks, crosswalks, and signals to make it easier to access stops.

After reviewing comments from thousands of people, we have incorporated these key community values into four guiding principles that will shape the development of future services.

We’ve listened closely to what you’ve said about improving transit. Look for quotes from your fellow Middle Tennesseans throughout this report. Agree or disagree? Weigh in at [nMotion2015.org](http://nMotion2015.org).



# Guiding Principles

## What are We Trying to Achieve?

These guiding principles were adopted by the Nashville MTA and RTA boards and will direct the development of future services, products, and projects. Beneath the core principles will be a set of strategies, milestones, and measures that will become our benchmarks for success. The four guiding principles and their objectives are presented below.

### Connect



#### Connect people to life in Middle Tennessee.

- Provide desirable, reliable, and affordable transit choices for Middle Tennesseans.
- Focus additional resources on improving service quality in the highest demand transit markets.
- Develop new partnerships and improved service models to better serve markets where fixed-route service is impractical.

### Enhance



#### Make transit a competitive travel choice for more Middle Tennesseans.

- Make transit travel times in key corridors competitive with the private automobile.
- Improve service frequencies and spans in strong transit markets to a level attractive to consumers.
- Work with outside partners to improve the reliability of transit trips.

### Simplify



#### Make transit easy to use.

- Provide service designs that are easy for potential users to understand.
- Adopt technologies that make travel easier.
- Improve access to, and the quality of, transit stops and stations.

### Sustain



#### Develop a transit system that complements and advances broader regional goals and is financially sustainable over the long term.

- Improve accessibility of fixed-route services for senior citizens and persons with disabilities.
- Develop and monitor performance measures with respect to service and adjust as necessary.
- Create a seamless menu of options among transit services, operators, and other modes for travelers.
- Develop reliable and predictable revenue streams that grow with the economy of the region.



Image from Nashville MTA

# TRANSIT MARKETS

## Where is Transit Service Needed?

**A number of factors influence the demand for transit and can help to determine where transit is needed in the region today and where it will be needed in 2040.**

Population and employment densities, socioeconomic characteristics, and future growth in employment and population are the primary factors that influence transit ridership. Population and employment densities determine how many people will be able to access transit. Changing demographics are also driving demand for more and better transit, in particular by baby boomers, Millennials, and minorities. Considering population, employment, and socioeconomic factors together points to the future demand for transit in Middle Tennessee.

Other factors, such as walking conditions, development patterns, travel flows, service design, and travel times and costs can also influence transit demand. Because nearly all transit riders are also pedestrians, walking environments strongly impact ridership. In areas with mixed-use and denser development and a good pedestrian environment, transit can become very convenient, attractive, and well used. When travel times and costs are low relative to other options, like driving, transit ridership will be higher.



Image from Nelson\Nygaard



# Population & Employment Density

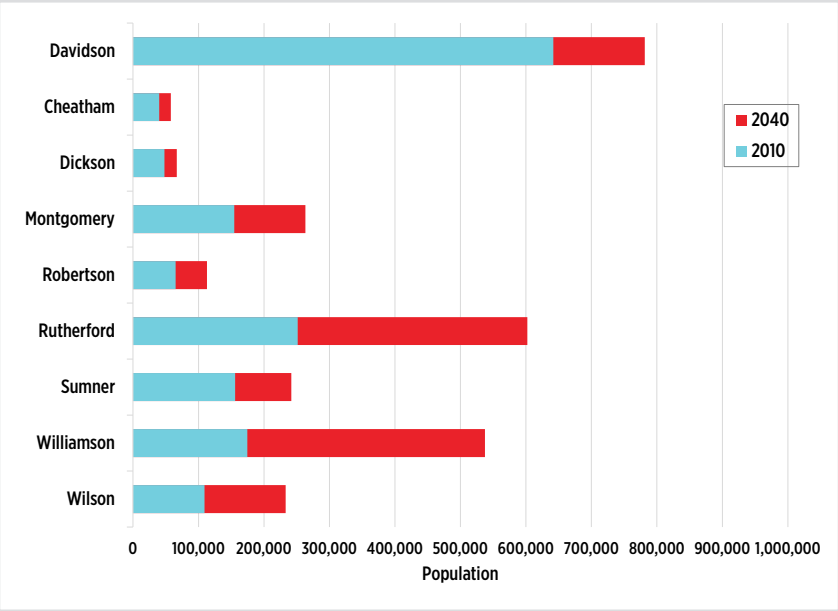
## What Makes Transit Work?

Put simply, where larger numbers of people live and work in close proximity, transit demand is higher.

For transit to be successful, it must be frequent, fast, and easy to access. More than any other factor, population and employment density will determine whether this will be possible. The largest numbers of the region’s residents live and work in Davidson County. Population and employment densities are highest in downtown Nashville and become less dense moving out from the urban core. Employment densities also tend to be high along major highways.

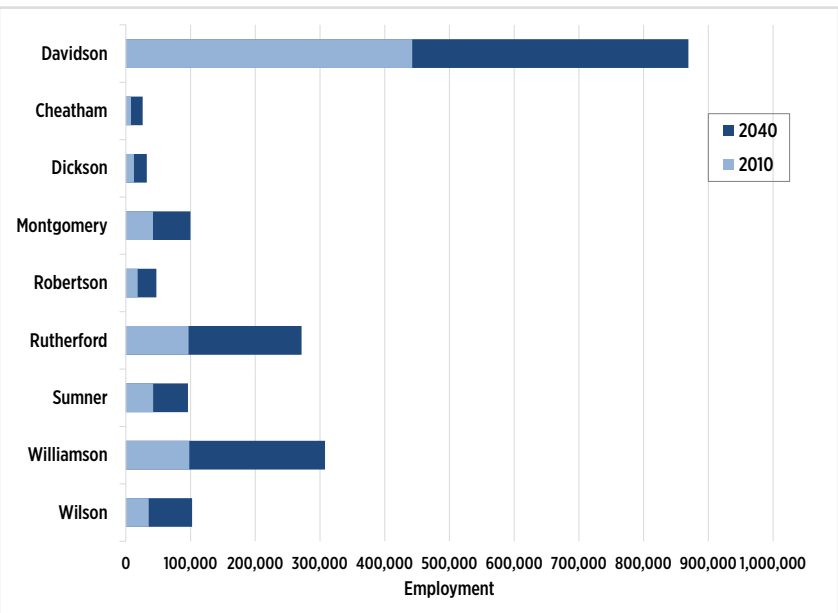
Looking forward, Davidson County’s population and employment growth will be shaped by the new patterns envisioned in NashvilleNext; in the rest of the Middle Tennessee region, population and employment growth, and therefore demand for transit services, will be concentrated in existing cities in the nine counties surrounding Davidson County. However, Nashville and Davidson County will remain the region’s employment center, with nearly half of the region’s jobs.

Population Growth, by County | 2010-2040



Data from Nashville Area MPO

Employment Growth, by County | 2010-2040



Data from Nashville Area MPO



Image from Nelson\Nygaard

# Demographics

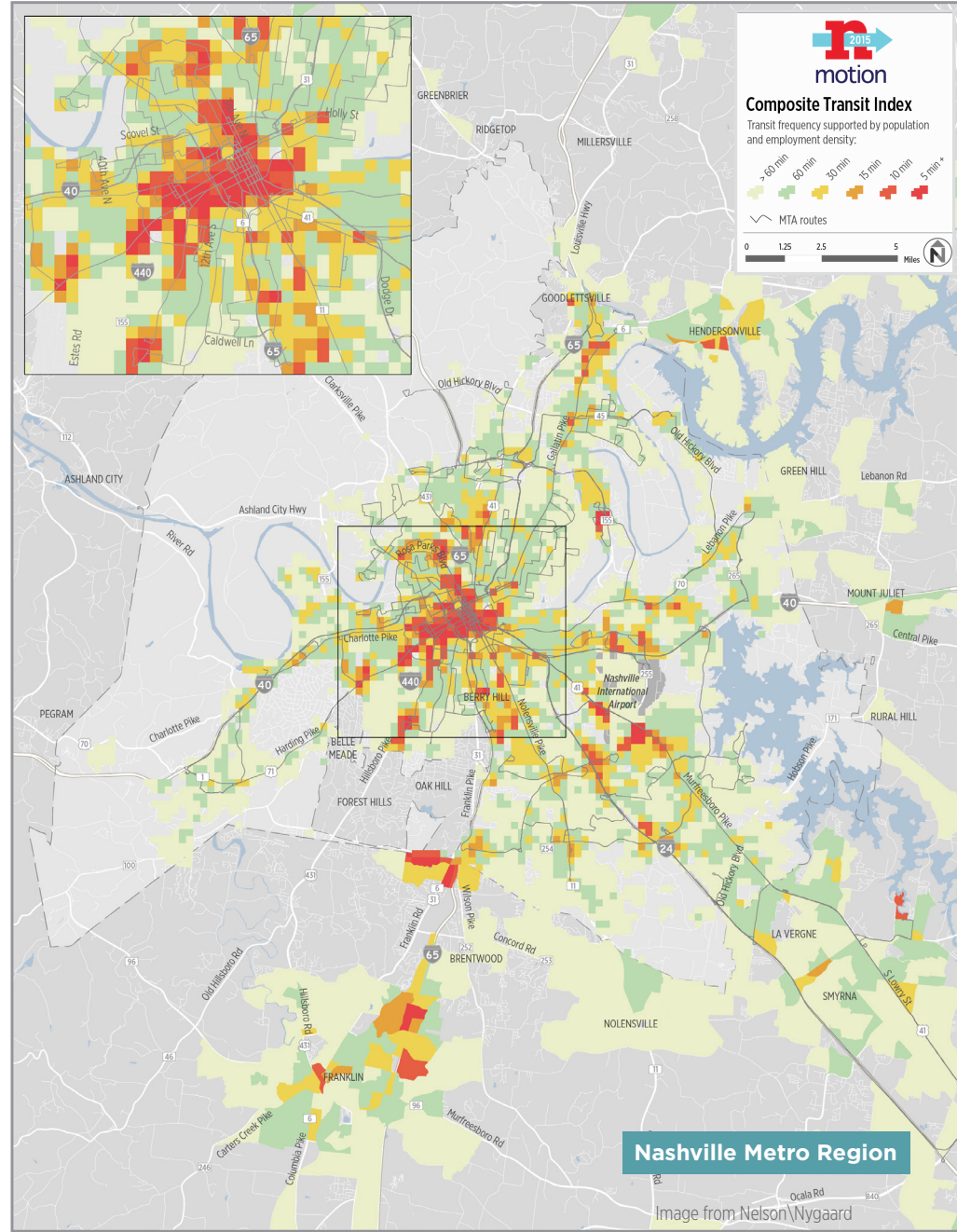
## Who’s Most Likely to Ride Transit?

While people of every age, race, ethnicity, ability, and income level can and do ride transit, there are some groups that are more likely than others to use transit.

Although there is a large amount of overlap between these groups, each one plays a role in shaping the demand for public transit:

- **Millennials**, who have a significantly higher interest in using many transportation options such as transit, walking, and biking and a lower interest in driving. In many cases, the availability of good transit is an important factor in where they choose to live.
- **Older Adults**, who as they age often become less comfortable or less able to operate a vehicle. Transit offers older adults the freedom to stay in their homes as they transition away from their vehicles and “age in place.”
- **People with Disabilities**, many of whom cannot drive or have difficulty driving.
- **Low-Income Residents**, who often use transit because it is much less expensive than owning and operating a car.
- **Minorities**, who often have lower incomes and use transit because they can’t afford to own a car.



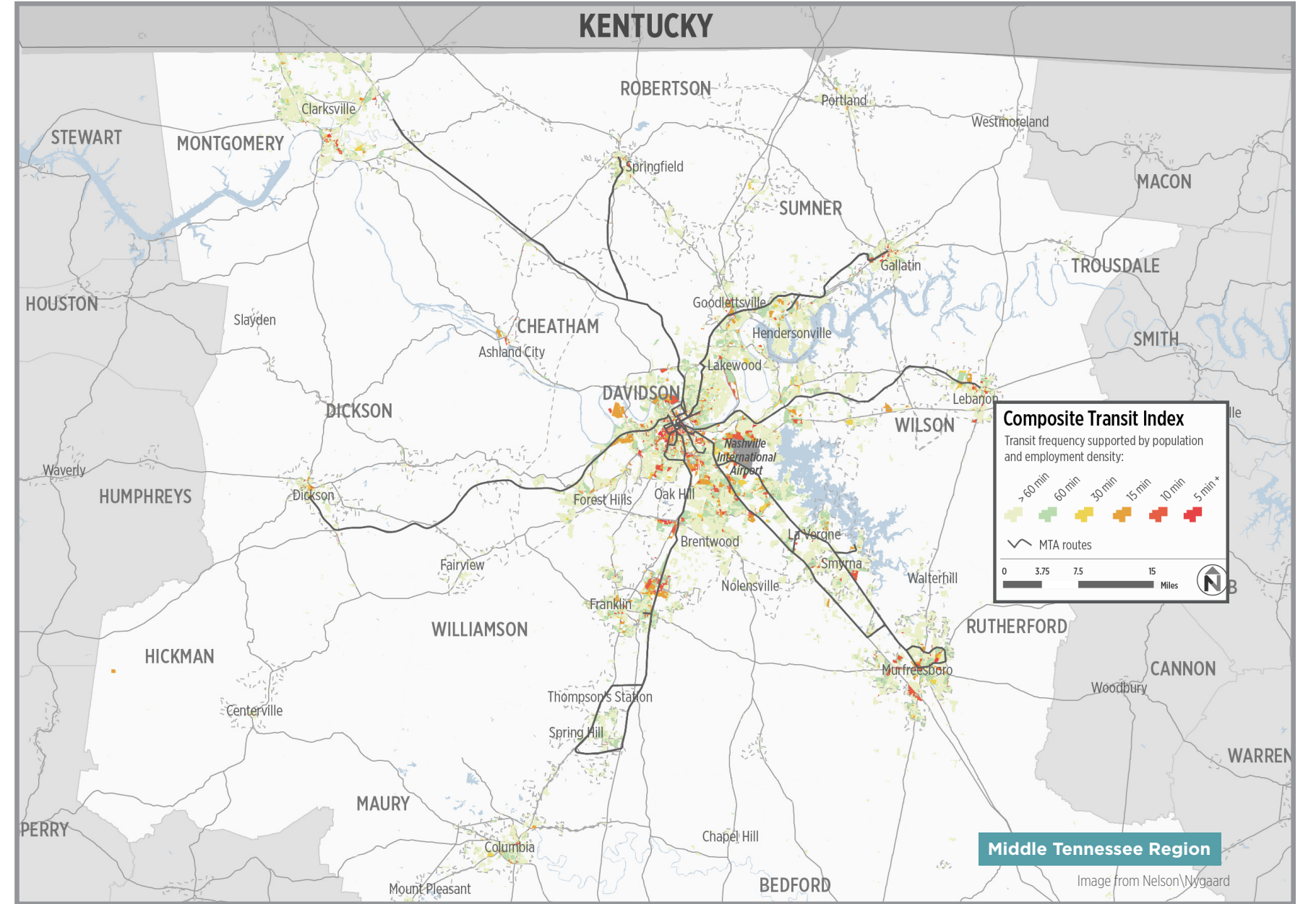


## Future Transit Demand Where Will There be Demand for Transit in 2040?

Considering projections for population, employment, and demographic factors together is one way to estimate future transit demand.

Looking forward to 2040, most new growth in Davidson County will occur within Nashville MTA's existing service area. This means that higher service levels will be needed on existing routes, and that there will be demand for different types of High Capacity Transit in many corridors. While much of this demand will be located in or adjacent to downtown, some of this demand will emerge in outlying areas that currently have limited service.

In Middle Tennessee, as future growth occurs in and around established cities and towns, particularly along major regional corridors radiating out from Nashville, there will be potential demand for new or increased regional services to and from Nashville, especially all-day and reverse commute services to the southeast, south, and northeast.





# CHALLENGES

## What are the Key Challenges?

Seven key challenges face Nashville MTA and RTA.

Each challenge was identified based on the current performance of the Nashville MTA and RTA systems, as well as transit demand and feedback from stakeholders and members of the community. These key needs can be addressed through specific strategies based on local context and national best practices.

Key challenges facing Nashville MTA and RTA of Middle Tennessee include:

- **Level of Service** – current level of service is lower than peer cities
- **Service Appeal** – existing service is not always appealing for residents with other options
- **Transit Demand** – meeting current and future demand for transit
- **New Service** – changing travel patterns require new services
- **Access** – providing safe, convenient access to transit stops and stations
- **Congestion** – roadways are increasingly congested
- **Local Funding** – finding resources to invest in new and existing services

Want to know more about the state of the MTA and RTA Systems?

Read the full reports and provide comments at [nMotion2015.org](http://nMotion2015.org).

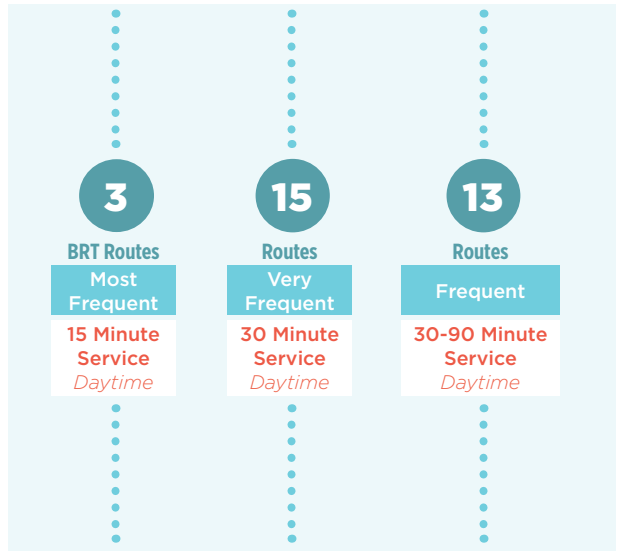


Image from Nelson\Nygaard



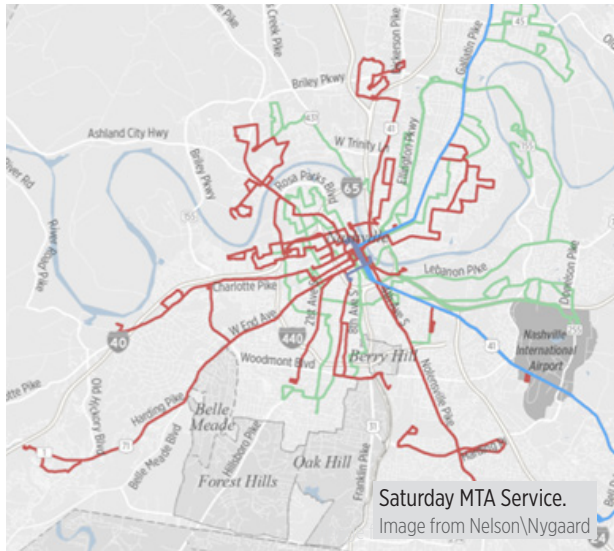
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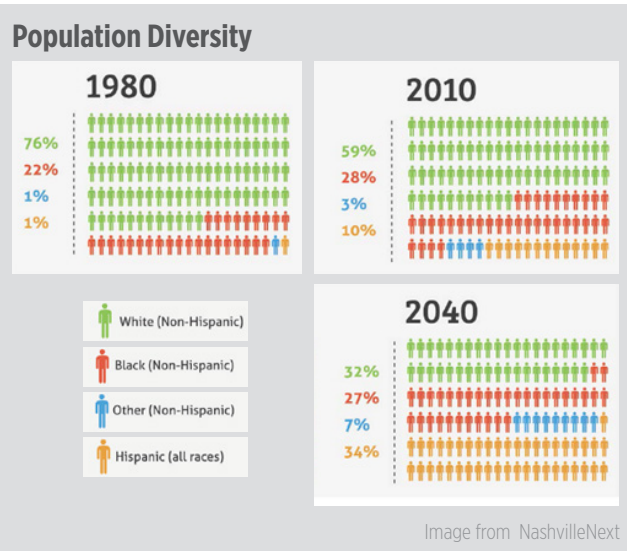
## Level of Service

**Nashville MTA and RTA provide small city service for an area and region that is no longer small.** Nashville has grown from a small city to a medium-sized city, and the Middle Tennessee region is one of the fastest growing in the country. Today, the Nashville area is approximately the same size as the Austin and Charlotte areas. However, Nashville MTA offers only 34% to 46% of the service provided by its counterparts in those two cities.



## Service Appeal

**Service is not attractive to most residents.** Because service coverage, service frequencies, and the hours and days of service are limited, transit service is generally not convenient for Nashville and Middle Tennessee residents and employees who have other travel options. For those who rely on transit as their sole means of mobility, these limited travel options restrict their access to economic opportunity.



## Transit Demand

**Nashville MTA and RTA need to catch up with the growth that has already occurred,** as well as continue to expand at a faster pace to keep up with projected growth. Nashville and the region will continue to grow rapidly—much more rapidly than Nashville MTA and RTA will be able to expand service based on current funding. In addition to population and employment growth in the region, the area's demographics are also changing in ways that will lead to transit demand increasing faster than population growth.



## New Service

**New types of services and connections are needed to meet demand and serve reverse commutes.** The growth that is occurring in Davidson County and the surrounding counties will create demand for all-day regional services as well as local services. As employment continues to grow in outer areas such as Brentwood, Cool Springs, and Murfreesboro, more Davidson County residents will begin to commute outward, creating demand for reverse commute service. New types of high-quality services along with connections to other modes will be needed.



## Access

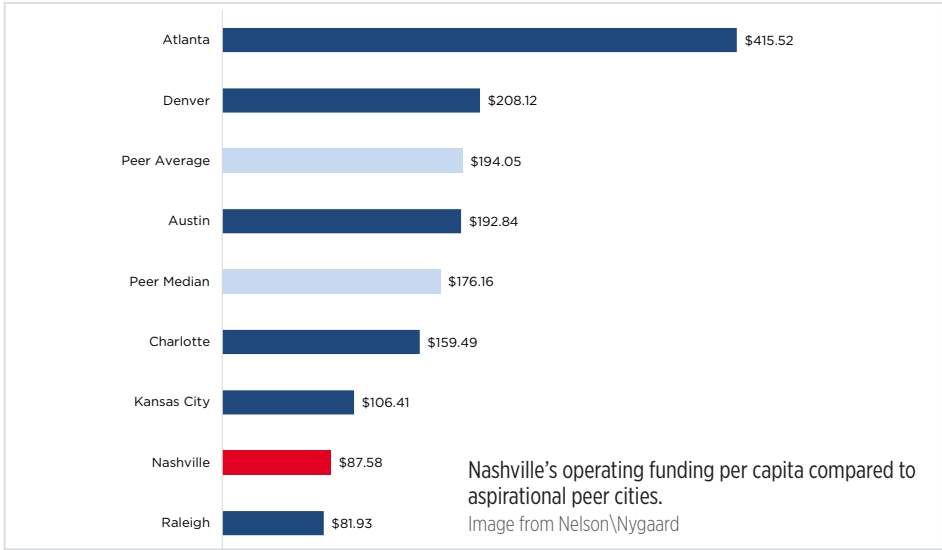
**Access to transit is a particular challenge in Nashville and throughout Middle Tennessee.** Very wide arterial roadways and missing sidewalks make pedestrian connections difficult, and bicycling infrastructure is also limited. Park-and-ride lots are inconveniently located and difficult to find. Low density and sprawling development outside of Nashville forces people to travel long distances to reach transit and makes many areas difficult to serve.



## Congestion

**A growing region means growing congestion.** The growth in both population and employment will produce much higher volumes of travel overall, including to and from Nashville and within the Middle Tennessee region. The region's freeways, and in particular I-24 and I-65 to the south, are already badly congested. Express buses along these freeways make limited stops in outer areas and then run express to Nashville, but they get stuck in the same traffic as automobiles. Additionally, downtown Nashville's frequent street closures impact transit service, forcing buses to reroute and causing delays.





## Local Funding

**More local funding is needed for Nashville MTA and RTA.** While Metro Nashville has significantly increased its general fund spending on public transportation, most cities with robust transit systems have identified dedicated funding sources. Transit investment in the Nashville area is lower than in most of Nashville's peer cities. Currently, Nashville MTA receives 50% of its funding from local sources, primarily from the Metro Nashville Government. Likewise, RTA's resources have not grown as fast as the region nor as fast as the demand for better transit. To build a great transit system, additional funding will be needed for both capital projects and ongoing operations.



Image from Wikimedia user Kaldari

# TRANSIT STRATEGIES

## How Can Transit Service Improve?

To significantly improve transit in Middle Tennessee and address the seven challenges identified in the previous section, Nashville MTA and RTA will need to use a variety of strategies that match different services with the demands of individual markets. This section introduces potential strategies and the ways they could be applied in Middle Tennessee.

More details about each strategy are available in “white papers” posted at [www.nMotion2015.org](http://www.nMotion2015.org).

### SERVICE IMPROVEMENT STRATEGIES

These strategies are the “building blocks” for improved transit in Middle Tennessee. They build from strategies that can be implemented quickly while efforts begin to pursue more difficult and longer-term improvements:



**Strategy 1**  
**Make Service Easier to Use**



**Strategy 2**  
**Improve Existing Services**



**Strategy 3**  
**Improve Access to Transit**



**Strategy 4**  
**Make Service More Comfortable**



**Strategy 5**  
**Develop a Frequent Transit Network**



**Strategy 6**  
**Expand Services to New Areas**



**Strategy 7**  
**Develop High Capacity Transit and Premium Services**





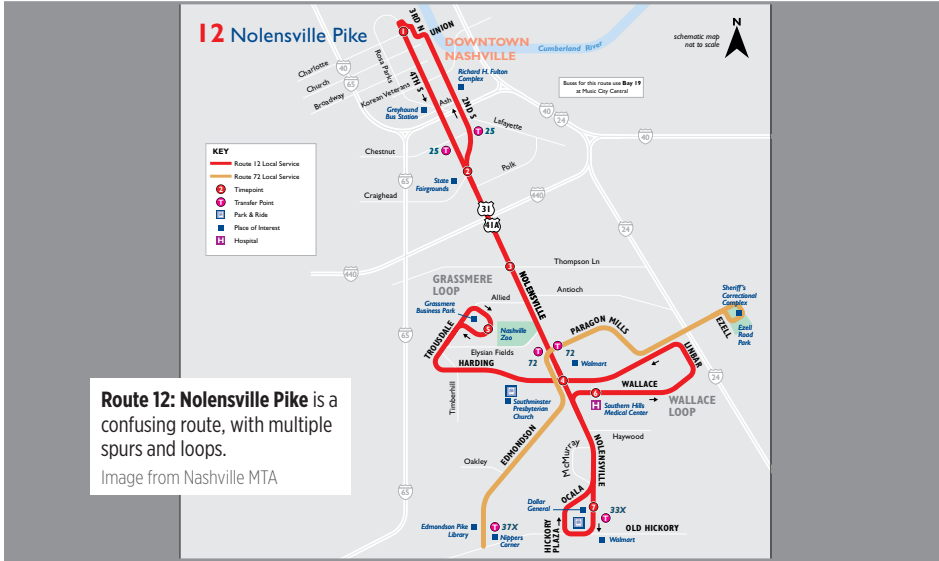
# Strategy 1

## Make Service Easier to Use

For people to be able to use transit, they must first know that it is there and be able to understand how to use it. This means that it is extremely important for transit systems to design services simply and provide clear and concise information on their available services.

Focus areas of this strategy include:

- Simplify routing
- Improve branding and marketing
- Create a smarter system



## Simplify Routing

For people to use transit, they must be able to understand it, and simple route structures are easier to understand than complex route structures. Potential new riders will be more willing to try the system, and once they do, the simpler route structure will help to ensure that they get to where they want to go when they want to go there. Some Nashville MTA routes attempt to do too many things, resulting in complicated services with many route variants and indirect service. The best approach to simplifying service is to conduct a Comprehensive Operations Analysis (COA), which is much like the process of analysis currently underway as part of nMotion.

“The best way to attract users is to give mass transit priority traffic consideration.”

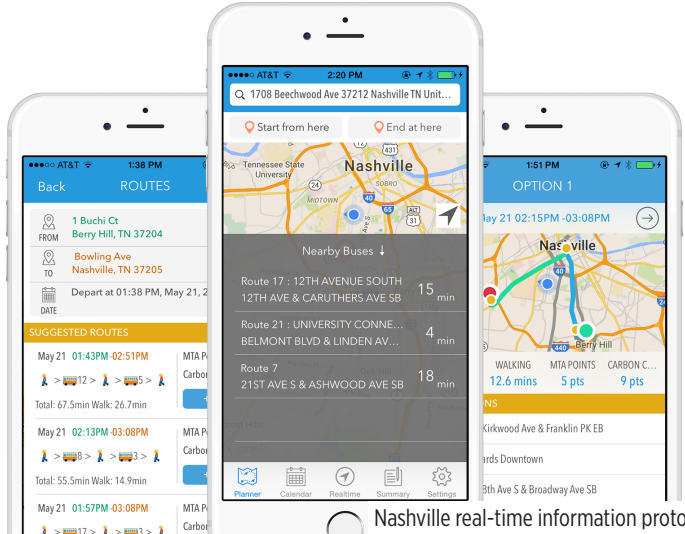
## Strategy 1 | Make Service Easier to Use



## Improve Branding and Marketing

Successful branding and marketing creates a dynamic, captivating public image that helps agencies retain and attract riders while cultivating support within the larger community. There are three key branding opportunities for Nashville MTA and RTA:

- *Present Nashville MTA and RTA services as part of a unified brand.* Some areas with multiple transit providers present all services as part of a single, cohesive system. Developing a unified brand would communicate to riders that transit service in Middle Tennessee is seamless, regardless of how services are funded or operated.
- *Rebrand specific services to increase awareness.* Special services in particular, such as BRT, should have branding that indicates they're special. The “BRT lite” moniker undersells the special service that is provided. As Nashville MTA upgrades additional routes, a comprehensive rebranding of services will heighten awareness of the service and its benefits.
- *Nashville MTA and RTA should explore new opportunities to market transit services throughout Middle Tennessee.* The agencies have promoted their services in the past, but with a renewed focus on the need for new mobility options in the region, the time is right to encourage people to try transit.



Nashville real-time information prototype  
Image from Nashville MTA

## Create a Smarter System

Technology is making it easier than ever to enhance transit services and provide customers with more and better information. Nashville MTA and RTA can create a smarter and more connected system by providing wifi on buses, connecting transit information with other open data such as parking availability, simplifying fare payment and eliminating transfers, and connecting to shared mobility resources.

Most large transit agencies provide a wide array of public information, telephone support, printed materials, full-featured websites, and real-time information. Nashville MTA and RTA can provide information that is more attractive, easier to obtain, and easier to understand by providing:

- A new and improved single website, with information about both Nashville MTA and RTA services; a mobile version should also be provided.
- A combined single system map, which could also include information on Clarksville Transit System, Franklin Transit Authority, and Murfreesboro Rover service.
- Real-time passenger information via a website and smartphones and at stations and stops. Nashville MTA has just launched real-time information throughout the system. This should be expanded to RTA services moving forward.





## Strategy 2 Improve Existing Services

Given the level of funding available, Nashville MTA and RTA currently provide service to many areas in need of transit. However, there are clear opportunities for improving existing transit service in the city and region to make transit more attractive and draw new riders while providing better options for current riders.

Focus areas of this strategy include:

- More frequent service for longer hours
- Prioritize transit
- Streamline downtown circulation
- Improve crosstown connections

**“We need to offer more late night and even overnight service. Restaurant workers, hotel personnel, and people working the tourist areas—not to mention all the people who have been drinking at bars—all need a ride home well after the last buses run.”**



Image from Nashville MTA

### More Frequent Service for Longer Hours

**Transit is most attractive when it is frequent enough that people don't need to consult a timetable** and can instead just go to a stop and know that the train or bus will arrive shortly. Transit that operates frequently and for most of the day and night provides a high level of service to a broad cross-section of the population. To make service more convenient and more attractive, Nashville MTA and RTA will need to significantly increase the amount of service provided. In many cases, more service will be needed on existing routes; new routes will also need frequent service. Nashville MTA and RTA also must provide later service and serve a wider range of work schedules. Today, Nashville MTA's services operate for more limited hours than in most major metropolitan areas, while most RTA services operate only during peak periods, with schedules designed to serve the work schedules of state employees.

## Strategy 2 | Improve Existing Services



Image from Wikimedia user Hudconja

### Prioritize Transit

**Transit service is most attractive when the time it takes to make a trip on transit is comparable to the time it takes in a car.** To make transit faster, it can be given priority over regular traffic. This can be done through the use of grade-separated busways, exclusive bus lanes, peak period-only bus lanes, queue jump lanes, and transit signal priority. Although these strategies are critical components of premium services such as Rapid Bus or Bus Rapid Transit (BRT), they can also be implemented to enhance regular bus service by improving speed and reliability along specific corridors.

Transit priority has been identified as a key strategy to strengthen transit service along major corridors in Nashville and in Middle Tennessee. Nashville MTA is currently implementing transit signal priority along Murfreesboro Pike. The implementation of transit priority measures will be crucial to the success of High Capacity Transit options in the region. Measures may be implemented along new BRT and Rapid Bus lines, along Transit Emphasis Corridors, and in areas served by a Frequent Transit Network.

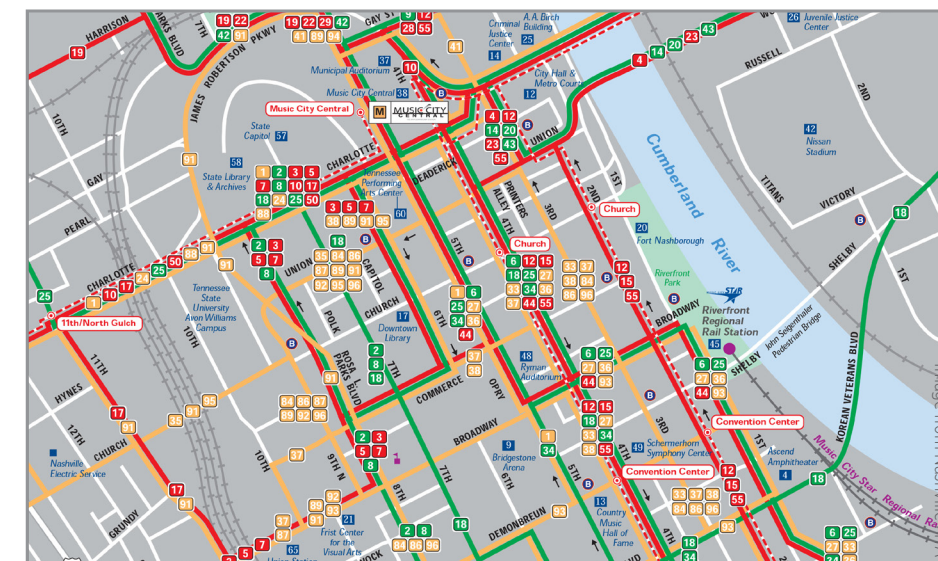


Image from Nashville MTA

### Streamline Downtown Circulation

**In most cities, downtown services have evolved over time, with individual routes added, eliminated, and revised, often with too little consideration of how individual changes fit within the overall system.** The result is complex service that is difficult for passengers to understand and use. Reconfiguring downtown transit is one important way to improve transit service—to increase individual transit options, to improve connections, and to focus service in ways that can make service faster and support better passenger facilities.

At present, nearly all Nashville MTA and RTA service operates to Music City Central, which is a modern facility with a full range of passenger amenities. However, the number of different alignments makes downtown service confusing. Many downtown streets are narrow and congested, which makes service very slow. Changing downtown circulation could make service both easier to understand and faster. Changes to downtown service could also mean much better connections to the parts of downtown that are not directly served by individual routes. Any new routings that concentrate more buses on fewer streets will likely require transit priority treatments on those streets.





## Improve Crosstown Connections

**Middle Tennessee's transit services are heavily focused on transporting people to and from downtown.** As the region has grown, travel to locations outside of downtown has increased significantly, but due to Nashville MTA's radial system design, transit trips to non-downtown locations require extra travel via downtown. Not surprisingly, the stakeholder outreach conducted to date for nMotion has indicated a large demand for new services that connect outer areas more directly. New services will be needed to develop a more robust transit system that better serves these types of trips, especially in Nashville's urban core. One approach could be to increase the frequency of crosstown services in areas with the highest demand, which could be designed to improve service to and from downtown Nashville as well as outer area connections.

“It is **IMPERATIVE** that a viable option for getting around downtown complements whatever regional services we develop! Why would someone take a BRT into town if they cannot get around once they have arrived?”

## Strategy 2 | Improve Existing Services

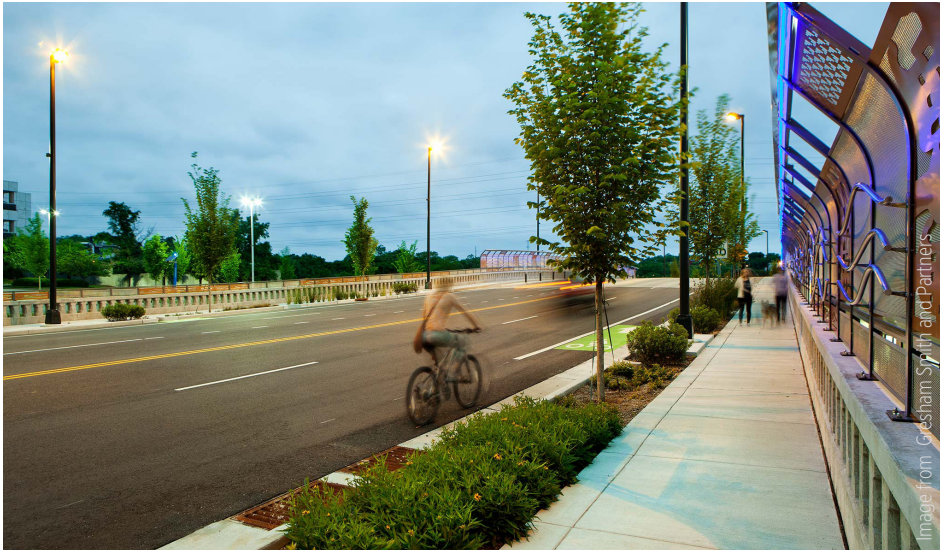


## Strategy 3 Improve Access to Transit

Every transit trip starts and ends with a trip by another mode, and for this reason, providing safe, convenient, and comfortable access to transit stops and stations is fundamental to serving existing transit customers and attracting new riders. Seamless and integrated pedestrian, bicycle, drop-off, and parking infrastructure supports all forms of multimodal transportation. Once a person has reached a stop, they should be able to wait comfortably, with different amenities available depending on the type of stop. There are many different ways to enhance access to transit for people of all ages and abilities, traveling by a variety of modes.

Focus areas of this strategy include:

- Pedestrian and bicycle access
- Park-and-ride lots
- First and last mile connections



## Pedestrian and Bicycle Access

**For people who ride transit, their journey rarely starts when they board the bus or ends when they alight.** Rather, their trip begins when they ride their bike from home to the train station or walk from the bus stop to the office. One of the largest barriers to transit service outside of Nashville's urban core is the limited pedestrian facilities that force transit passengers to walk along major arterials lacking sidewalks and to cross streets without pedestrian signals or crossings. The City of Nashville and other local communities will need to take action to make it easier to walk and bike to and from transit. Improvements are needed along many of Nashville MTA's most important routes, especially along corridors that provide the greatest potential for High Capacity Transit. Concurrently, Nashville MTA and RTA can improve bicycle facilities at stations and stops and on board transit vehicles, especially as the agencies develop new services.





## Park-and-Ride Lots

**Especially in outer areas, park-and-ride and kiss-and-ride will remain among the most important ways to connect with RTA services.** Most park-and-ride lots are located at places where a local business, church, or other organization has agreed to share use of its lot, rather than at locations that would be most convenient for transit. Ideally, park-and-rides should be located along a line between where people live and where they are traveling to avoid out-of-direction travel that increases total travel times. To make service more attractive, Nashville MTA and RTA will need to develop more park-and-ride lots in more convenient locations.

Additionally, many park-and-ride lots provide no indication that they are park-and-ride lots, nor do they provide any information on available services. This makes it difficult for people to learn that services are available, and for first-time riders to find the lot. Better signage and information needs to be provided to make park-and-ride lots more visible and service easier to use.



## First and Last Mile Connections

**When it comes to a traveler's experience, "the last mile can be the longest mile."** The connecting journeys before and after the transit ride can be influential enough to encourage or discourage a person to ride transit again. For this reason, transit agencies and cities across the nation are developing and implementing strategies to improve first and last mile connections to transit services, stops, and stations in order to facilitate a seamless and convenient travel experience and attract more riders. Opportunities include:

- Private rideshare, such as UberPool and LyftLine, can be used to provide the first and last mile connection. These services help expand transit services to lower demand areas through partnerships rather than by providing direct service, and could be especially helpful in supporting reverse commute services in Middle Tennessee. While the development of these types of partnerships is still in its very early stages, they offer the potential to launch quickly, provide service at lower costs, and better tie expenditures to actual use.
- Developing transportation management agencies (TMAs), such as the TMA Group, can address specialized local transportation needs and greatly enhance first mile/last mile connections.
- Shuttle services could provide connections between Nashville MTA and RTA services, local job sites, and local attractions. These shuttles could be provided by local organizations, TMAs, and/or Nashville MTA and RTA.



## Strategy 4 Make Service More Comfortable

**Waiting for the bus is a significant part of nearly every transit trip. Well-designed bus stops enhance the transit experience, decrease perceived wait times for transit services, and can contribute to increased ridership.** Investing in high quality bus stops is often a low-cost, high-reward strategy for transit agencies. Important bus stop elements include: system information, paved waiting areas, shelters, seating, lighting, trash receptacles, and bicycle racks or storage. Other bus stop amenities might include real-time information, public art, bikeshare, and, at major locations, carshare. Regular maintenance is critical to ensure that facilities remain safe and in a state of good repair.

A common approach is to develop a hierarchy of stops, from transit centers to low volume stops, and to define the types of amenities that should be provided based on that hierarchy. At present, Nashville MTA provides high quality stop facilities on its BRT lite routes, and is currently installing shelters at an additional 100 stops. Outside of Davidson County, RTA stops are at park-and-ride lots that are often completely unmarked and provide no facilities other than parking spaces.

Improving vehicle comfort is another important piece of this strategy. Using over-the-road coaches on all express routes will provide a far more comfortable ride. High quality vehicles on premium routes like BRT and Rapid Bus will improve the passenger experience and further signify the special nature of the service.







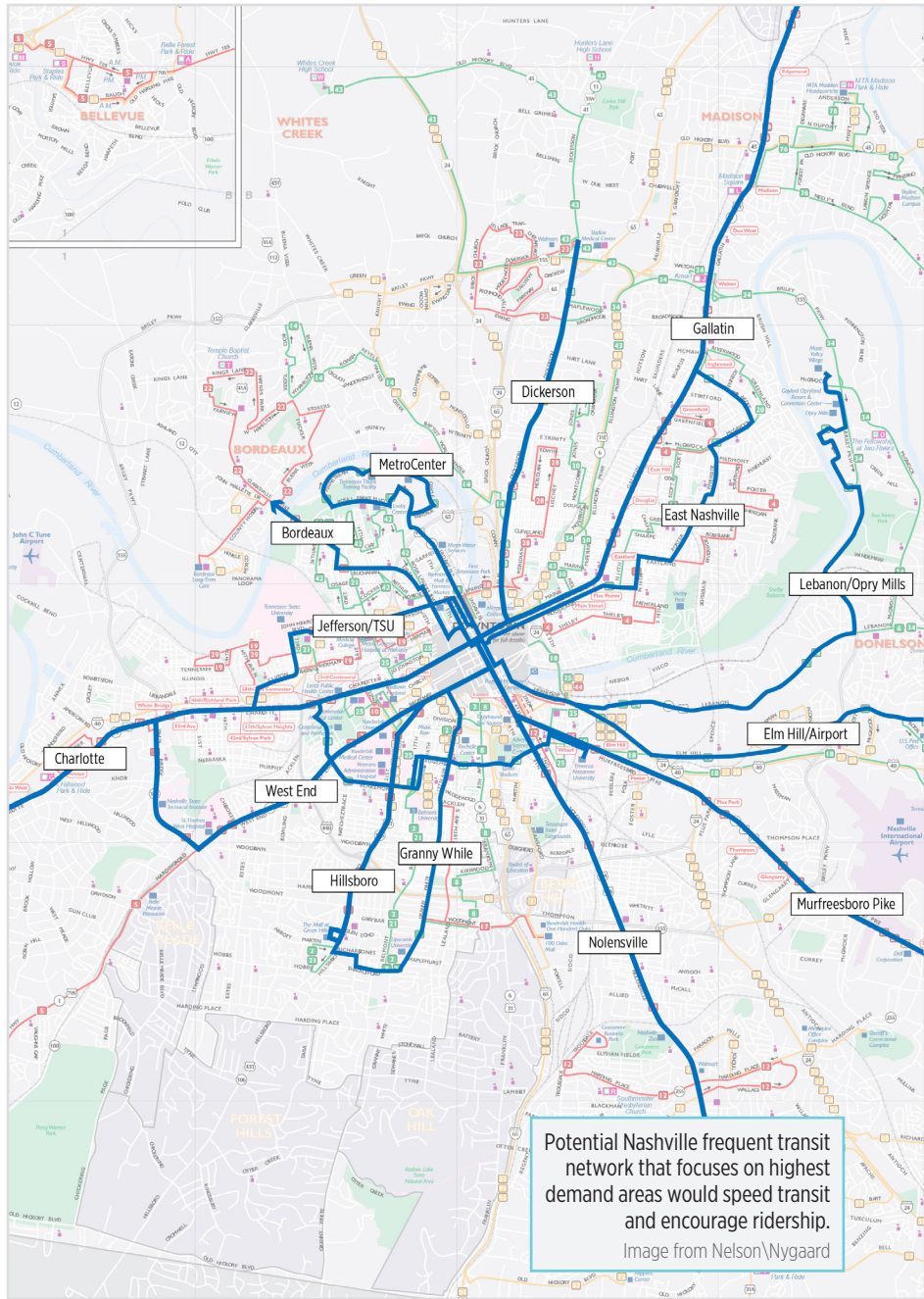
# Strategy 5

## Develop a Frequent Transit Network (FTN)

Nearly all major transit systems operate networks of frequent services. At very large transit systems, these are often comprised of rapid transit and light rail lines that are supplemented with frequent bus services (that are often BRT and/or Rapid Bus lines). For transit systems that have either a limited number of rail lines or that are bus only, Frequent Transit Networks are comprised largely or exclusively of bus services.

Frequent Transit Networks are designed to provide convenient service between an area's most important destinations and consist of a number of elements: frequent service (typically every 10 to 15 minutes or less), enough routes to create a network that serves all high demand locations, direct routes along major roads, and special branding to make them more memorable. With only nine of Nashville MTA's routes running at a frequency of 15 minutes or better, creating a network of frequent routes would dramatically increase the convenience of the system.

“Frequent service to me would mean not having to carry around a bus schedule OR trying to time my day around a schedule. The service should be expected on a regular interval, with never-ever more than 15 minutes to wait.”



# Strategy 6

## Expand Service to New Areas

As Middle Tennessee continues to grow, the demand for service is growing outward to new areas, especially along the freeways that radiate out of Nashville. Expanding services within Davidson County as well as expanding service between surrounding counties and Nashville will help to address the growing demand for transit services in the region.

Focus areas of this strategy include:

- Expand local services
- Expand regional services
- Develop outlying transit centers

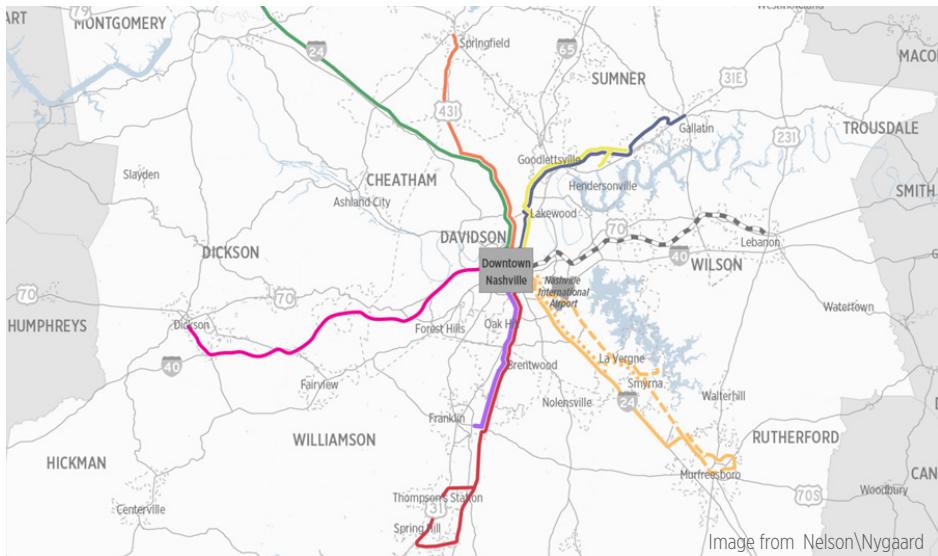


## Expand Local Services

**Increasing population and employment levels will create demand for new and expanded local services.** At present, local transit service is provided in Clarksville, Franklin, and Murfreesboro. As these communities grow, the demand for more local service will grow. In addition, demand for local service will emerge in many communities that are not served currently.

To expand local services, existing Nashville MTA, Clarksville, Franklin, and Murfreesboro services could expand, RTA could begin providing local services in emerging areas, and/or local communities could develop their own systems.



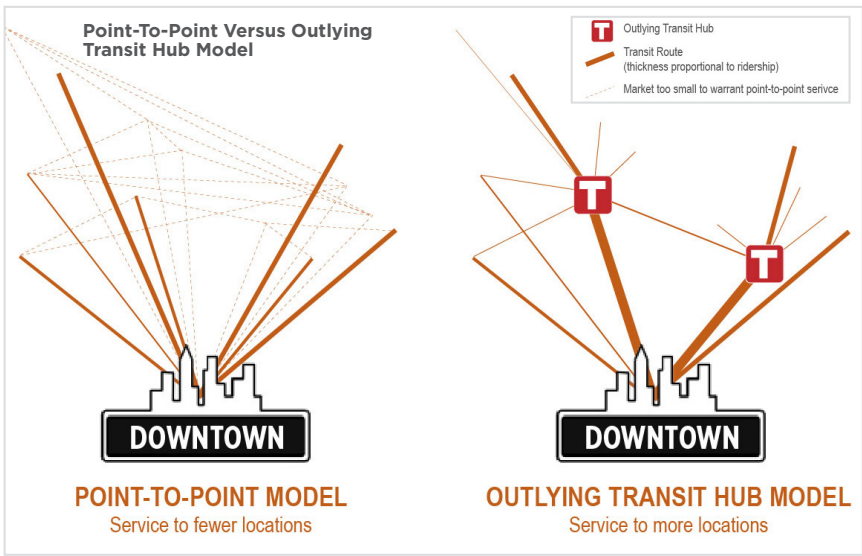


## Expand Regional Services

**Growth in the region will have profound impacts on travel within the region, including the demand for transit.** This demand is being driven by a number of factors, including rapidly increasing population and employment, changing demographics, and increasing levels of travel to and from Nashville and within the nine counties surrounding Davidson County. Looking forward, the number of commuters to Nashville will increase significantly, creating new demands for all-day commuter services to and from Nashville's core.

Expanded service between surrounding counties and Nashville could include light rail transit, dedicated lane BRT, freeway BRT, and additional BRT lite/ Rapid Bus services. The Music City Star service could also be increased to provide all-day and more frequent service. Potential options for reverse commuter services include bi-directional service on the Music City Star and existing express routes and new reverse commute routes. The development of all-day regional services could also serve these reverse commute trips.

## Strategy 6 | Expand Service to New Areas



## Develop Outlying Transit Centers

**In small and medium-size cities, most transit services operate to and from downtown.** Today, nearly all Nashville MTA and RTA services are radial services that operate to and from downtown Nashville. However, as the city and region grow outward, more and more trips are made between areas outside of downtown. In addition, many Nashville MTA routes are long and operate very circuitously. In large part, this is because outlying service is not designed around outlying transit hubs.

In the nine counties surrounding Davidson County, there are two outlying transit centers, in Clarksville and in Murfreesboro. As services develop in outer counties, connections between Nashville MTA, RTA, and those services will become more important. Within Davidson County—especially with the development of a Frequent Transit Network—there will be many opportunities to develop outlying transit hubs.



## Strategy 7 Develop High Capacity Transit and Premium Services

Today, RTA operates Music City Star commuter rail services and Nashville MTA operates three BRT lite routes. Other services consist primarily of “regular” local bus service. To develop more compelling transit services, Nashville MTA and RTA will need to develop more High Capacity Transit and premium services.

Opportunities for developing High Capacity Transit and premium services include the following:

- Commuter Rail
- Light Rail
- Bus Rapid Transit
- Rapid Bus
- Streetcar
- Freeway Bus Service
- Express Bus
- Airport Service

Development of High Capacity Transit would require complementary changes in land use policy, better pedestrian access, and other transit-supportive improvements.



## Commuter Rail

**Commuter rail is passenger rail service that is designed to transport large volumes of passengers over long distances in a fast and comfortable manner.** The primary market for commuter rail service is usually commuters to and from city centers. Many commuter rail lines also provide regional and all-day service. RTA currently operates the Music City Star commuter rail, which provides service between Lebanon and downtown Nashville during peak hours. There is an opportunity to expand the service offered on the Music City Star to provide midday and weekend service, making this premium service available for more types of trips. RTA is currently examining transit improvements for the northwest corridor between Clarksville and Nashville, with one alternative being commuter rail.



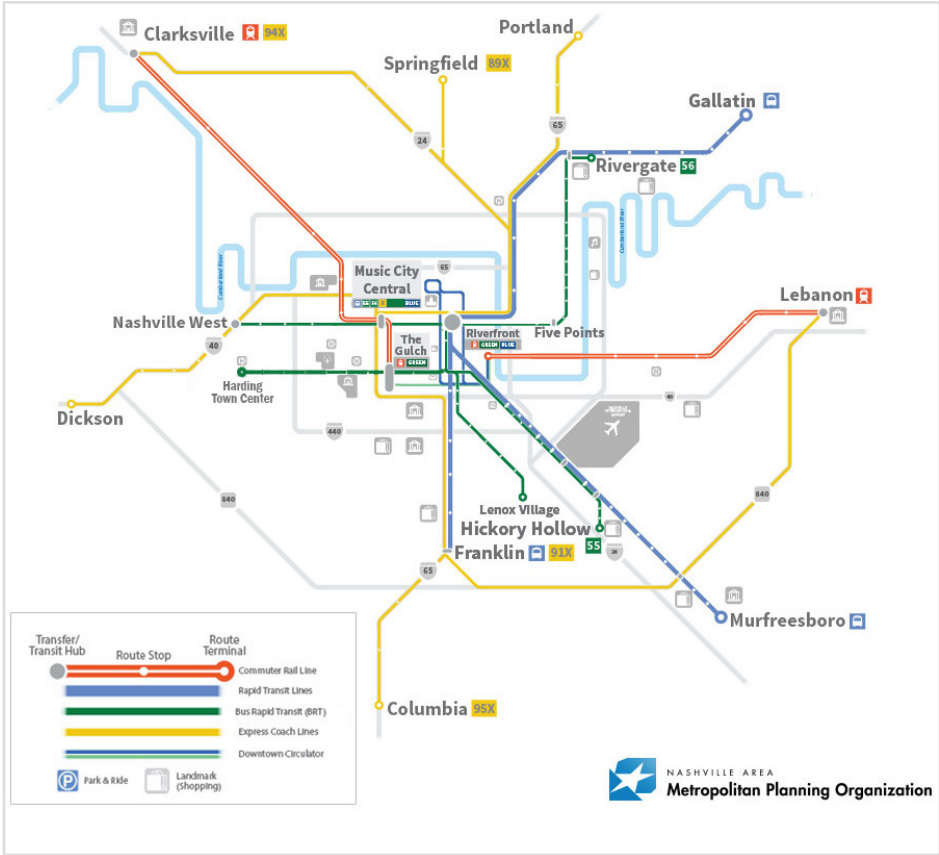




Charlotte's LYNX Light Rail  
Image from On The Move, Charlotte

## Light Rail

**Light rail transit provides urban rail service that typically operates in exclusive rights-of-way.** Light rail is popular for a number of reasons, primarily because service is fast, frequent, direct, and operates from early morning to late night. The Nashville Area MPO's 2035 Regional Transportation Plan (RTP) presents the northeast, southeast, and south corridors as rapid transit corridors that could be potential light rail corridors. Each of these would be long light rail lines that would serve RTA counties as well as trips within Davidson County. There would also be the potential for shorter lines within Davidson County, such as along Gallatin Pike.



Potential light rail corridors shown in blue.  
Image from Nashville Area MPO

## Strategy 7 | Develop High Capacity Transit and Premium Services

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EmX BRT in Eugene, OR  
Image from Nelson\Nygaard

## Bus Rapid Transit

**Bus Rapid Transit (BRT) is frequent, fast bus service that features special vehicles, transit signal priority, exclusive travel lanes, level boarding, pre-paid fare collection, and unique branding to provide a premium bus service.** BRT provides light rail-like service without the high costs associated with rail infrastructure. BRT is faster, more reliable, and more easily identifiable than regular buses.

The development of new BRT services, including upgrades to existing Nashville MTA BRT lite services, provides an important opportunity to significantly improve transit in the short to medium term. Corridors that could be considered for BRT are the same as those identified for the Frequent Transit Network and include Gallatin Pike, Charlotte Pike, Nolensville Pike, and Murfreesboro Pike, among others. Implementation of BRT would require a great deal of community involvement and context-sensitive designs.



Nashville's BRT lite  
Image from Nashville MTA via Showbus.com

## Rapid Bus

**Rapid Bus service includes the elements of BRT without exclusive bus lanes.** Rapid Bus service can be implemented on existing roadways at a lower cost and in a much shorter timeframe, and can also be a first step toward full BRT. Nashville MTA has already developed three Rapid Bus services, called BRT lite, in the Gallatin, Murfreesboro, and Charlotte Pike corridors, and a fourth is planned for the Nolensville Pike corridor. These services feature premium shelters, real-time information at stations, and transit signal priority. Additional upgrades such as re-branding and slightly closer station spacing could further improve Nashville MTA's BRT Lite services and provide the ability to convert more or all local service to Rapid Bus service.



## REGULAR BUS vs. RAPID BUS vs. BUS RAPID TRANSIT

### REGULAR BUS

#### TYPICAL FEATURES

- 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



Nashville MTA regular bus service

### RAPID BUS

#### TYPICAL FEATURES

- 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

#### OTHER COMMON FEATURES

- Unique vehicles, including high-capacity buses
- Queue jump lanes
- Transit signal priority
- Off-board fare collection



Nashville MTA BRT lite service

### BUS RAPID TRANSIT (BRT)

#### TYPICAL FEATURES

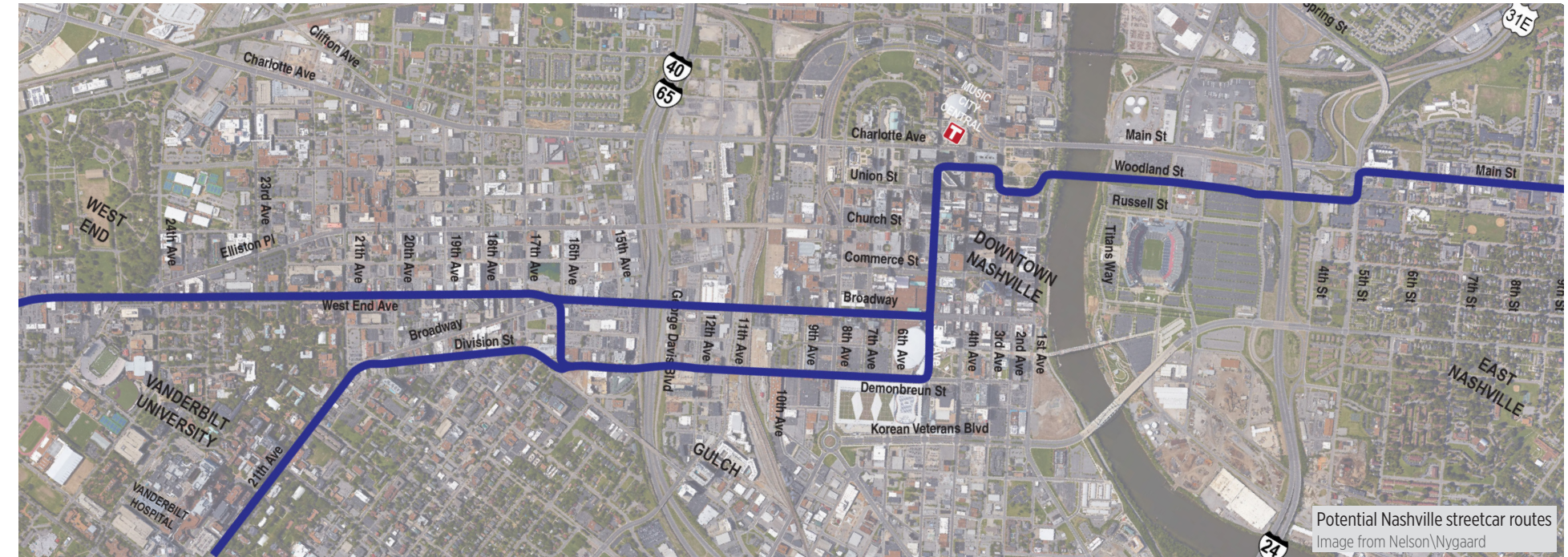
- Special branding
- Simple service design
- Limited stops
- High quality stations
- High-capacity buses
- Exclusive bus lanes
- Transit signal priority
- Very frequent service (at least every 10 minutes)
- Service from early morning to late night
- Real-time passenger information

#### OTHER COMMON FEATURES

- Unique vehicles
- Level platform boarding
- Off-board fare collection



Cleveland Healthline BRT service



Potential Nashville streetcar routes  
Image from Nelson\Nygaard

## Streetcar

**Streetcars have become increasingly popular as a way to drive both urban connectivity and economic development.** This is in large part because streetcars can carry a certain status that makes them more appealing than bus service. Streetcar networks generally can be built much more quickly and cheaply than light rail, and streetcars provide a significantly smoother ride with more capacity than buses.

In Portland, OR, which was the first city to implement modern streetcar service, over \$3.5 billion of investment has occurred within two blocks of streetcar service, and the system is widely credited with helping revitalize the Pearl District neighborhood.

In Nashville, there are two corridors with clear potential for streetcar service: 1) East Nashville to Downtown Nashville, and 2) West End/Vanderbilt to Downtown Nashville. There are a number of options for potential routing and alignments, such as a line through downtown, a north-south line from North Nashville linked with new development, and potentially along Charlotte Avenue.



Tucson's Sun Link operates in mixed traffic  
Image from Flickr, David Wilson

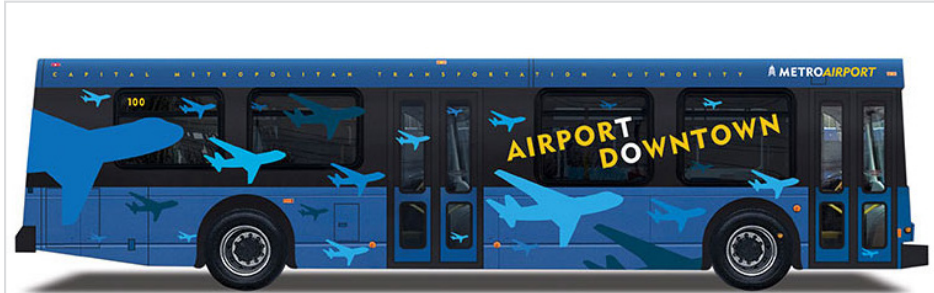




Bus-on-shoulder operations in Twin Cities  
Image from Metro Transit



RTA express bus.  
Image from WGSN Radio



Austin's Airport Express  
Image from Sherry Matthews Advocacy and Marketing



Image from Nelson Nygaard

## Freeway Bus Service

**Freeway bus services and freeway BRT operate along freeways**, either in regular traffic lanes, in high-occupancy vehicle (HOV) lanes, or along the freeway shoulder, and often have stops and stations located directly along freeways. Freeway transit and BRT are designed to encourage transit use by making transit as fast as possible.

Nashville MTA and RTA currently operate a large number of express bus routes along most of the region's radial freeways, but in particular I-24 and I-65 from the south and I-24/I-65 from the north. Bus-on-shoulder operations could make these services faster and more reliable, and more competitive with automobile travel.

In addition, most of the express routes provide limited service to a very limited number of places. The development of stations along freeways could provide the ability to serve more locations with fewer routes. This approach could also allow consolidation of some Nashville MTA and RTA express routes.

## Express Bus

**Express bus services provide fast service over long distances** and are typically designed to transport suburban workers to downtown jobs. In Middle Tennessee, both Nashville MTA and RTA provide express bus service. There are a large number of potential ways to improve express bus service in Middle Tennessee, including:

- Make service faster, more flexible, and more direct
- Implement bus-on-shoulder operations and/or other freeway BRT measures
- Streamline operations in downtown Nashville
- Develop more conveniently located and well-marked park-and-ride lots
- Use over-the-road coaches on all routes

## Airport Service

**Airport transit services that use innovative service design and marketing practices are better able to meet the unique needs of air travelers.** Air travelers want reliable, predictable, and direct service to the airport, and tend to travel outside of peak hours. The most effective airport services provide fast and frequent service seven days a week from early until late. Additionally, when air travelers arrive in a new city, they are unfamiliar with the local transit system. Special branding of airport services makes it more visible and easier for first-time visitors. Improvements to Nashville MTA's Route 18 Airport/Downtown route to make the service more successful could include:

- Provide all express and more frequent service, and a more consistent schedule
- Brand service
- Accommodate luggage
- Serve the entire downtown loop on all trips
- Improve wayfinding and signage





# NEXT STEPS



## What Happens Now?

To improve transit service in Middle Tennessee, Nashville MTA and RTA must work in partnership toward a new vision for mobility in the region.

nMotion—the Nashville MTA/RTA Strategic Plan—is the first step in developing a new vision for regional mobility. Transit improvement strategies from this report will be integrated into future transit system scenarios, tailored by levels of investment. Based on public feedback, those scenarios will become a preferred plan with short- and long-term recommendations.

The final Strategic Plan, to be completed in spring 2016, will outline the actions and funding needed to provide great transit service for a great region.

### nMotion Timeline

