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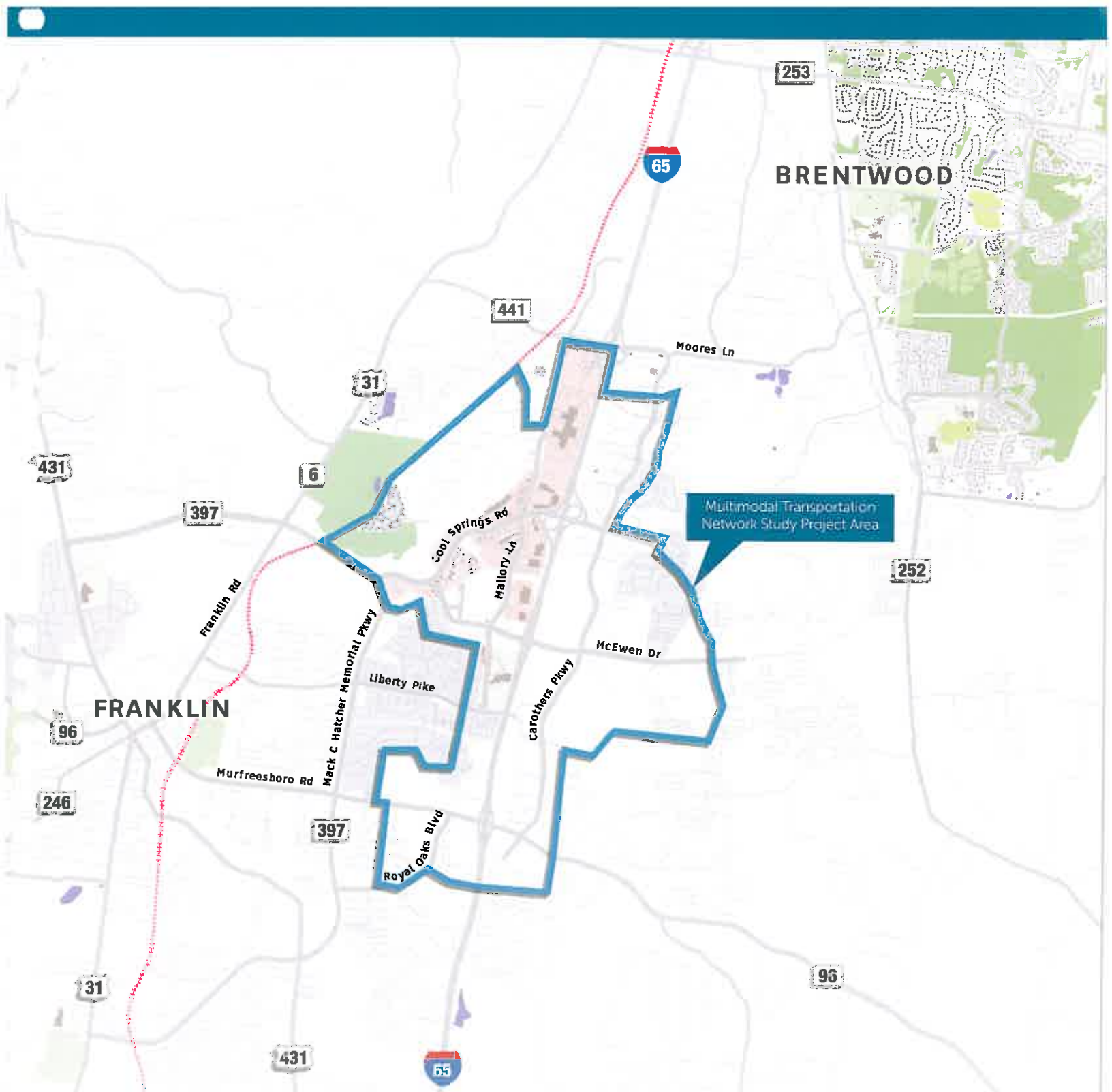


Cool Springs Study Area Map

Cool Springs is a major employment and retail center for the City of Franklin located in Williamson County, Tennessee. It is considered a regional center, drawing shoppers and clients from all around the Middle Tennessee, Southern Kentucky, and North Alabama areas. The upscale development grew around the Cool Springs Galleria shopping mall, which first opened to the public in August 1991. The area has since expanded to encompass land on both sides of Interstate 65 and includes several luxury hotels, strip malls, business parks, office buildings, big box retailers, low-rise apartments, condominiums, and restaurants. The Cool Springs area is home to many major companies including Healthways, Nissan North America, MedSolutions, Community Health Systems and Tasti D-Lite.

Cool Springs Multimodal Transportation Network Study

1. Executive Summary

The Cool Springs Multimodal Transportation Network Study began August 2014 with the objective of improving the mobility options in the Cool Springs area of Franklin, Tennessee. The study area roughly parallels I-65 between Moores Lane and Murfreesboro Road. The principal north-south roads in the area are Carothers Parkway and Mallory Lane. Cool Springs Boulevard, McEwen Drive, and Liberty Pike are other major arterials in the area. See study area map. As background information, an Existing Conditions Report (11-4-14) was prepared at the beginning of the study and is located in the Appendix.

A Brief Overview

The Cool Springs area has seen rapid employment and residential growth in the past two decades, and multiple corporations have located in the area. In addition, several large scale mixed use developments are either proposed or under construction along Carothers Parkway. The existing transportation infrastructure already experiences high levels of congestion even though the area has yet to be fully built out. The TMA Group, the local public transportation provider and administrator of the vanpool and rideshare program throughout Middle Tennessee, recognizes attempting to build a way out of traffic congestion will negatively impact the very "quality of life" that has attracted so many residents and companies to the Cool Springs area in the first place. Instead, it is crucial to address the problem through a multimodal approach incorporating transit riders, bicyclists, pedestrians, and transportation demand management strategies in the solution. The TMA Group contracted with TranSystems to conduct the study. The following document is the result of that collaboration. In addition, as part of the study there was extensive public input. Stakeholder interviews were conducted and almost 100 attendees participated in a full day of public involvement meetings on April 28, 2015. A survey was also distributed and made available online. Over 200 people responded. The results of the public input process are located in Chapter 9 of this report.

In the Short Term

Short-term recommendations for the Cool Springs Multimodal Transportation Network Study focus on increasing local mobility. Three options are presented for extending and reconfiguring local Franklin Transit routes to better serve the Cool Springs area. All the options also add additional express service from Nashville, and a free lunchtime shuttle. The first option adds additional arterial routes along Seaboard Lane, and Carothers Parkway, as well as rerouting the EastBound and SouthBound routes. The second option creates a flex route along Carothers Parkway to directly serve residents and employees east of I-65 with more demand responsive serve. The third option creates a large dual direction loop that would circulate riders throughout the entire study area. Other recommendations relate to infrastructure and rolling stock improvements and include enhancing area bus stops with shelters and concrete pads, establishing a new park and ride lot, and increasing transit capacity by using 30-foot buses instead of cutaway vehicles. Addressing multimodal alternatives, the report also recommends that in the short term, additional bike lanes and off-street trails be added to better connect existing bike routes, and pedestrian infrastructure improvements be added, such as, pedestrian refuges, curb bumpouts and better signalization at intersections to enhance safety. The report also recommends working closely with area employers, property managers, and developers to establish a transportation demand management program.

Medium Term Recommendations

The medium-term recommendations build on the short term recommendations and focus on regional connectivity. With a robust local multimodal system now in place, an express bus network is envisioned to better connect Cool Springs with surrounding areas. Peak hour routes from Nashville, Spring Hill/ Columbia, Murfreesboro, and Antioch would connect to whichever local transit option was chosen at a new Transit Center to be located east of I-65 in a location to be defined. The Transit Center would serve multimodal connections, allowing express and local bus riders to connect with vanpools, airport shuttles, carsharing and bikesharing stations, and intercity bus lines. Other infrastructure improvements include adding Transit Signal Priority (TSP) to intersections within the Cool Springs study area, and equipping buses with Automatic Vehicle Locator (AVL) technology with the ability to be accessed by the public. Bike and pedestrian enhancements would focus on connecting Cool Springs with the rest of Franklin, especially Downtown, and with the rest of the region.

Long Term Recommendations

Long-term, the Cool Springs Multimodal Transportation Network Study recommends converting the express route buses to run all day and on weekends instead of just in the peak times, and for a light rail or bus rapid transit (BRT) line to be established to connect Franklin with Nashville. In addition, for better access, the report proposes pedestrian bridges across I-65 to bridge both sides of the Interstate.

Evaluation Criteria

An evaluation matrix for the three local transit options, along with detailed cost breakdowns of the pedestrian, bicycle, and transit improvements proposed in each stage is included in this report. The cost breakdowns include both capital and operating costs, and make a distinction between ongoing and startup costs of the system. The report concludes with a compendium of current and innovative funding options that could be used to fund the recommendations included in the report.

2. Purpose and Need

What is the Purpose for the Proposed Action?

Rapid development is taking place in the Cool Springs area of Franklin, TN where currently very few transportation alternatives exist. The development of a multimodal transportation network will provide transportation options for employers, employees, residents, students, and visitors to get to and from work, shopping, recreation, and other activities. The Cool Springs Multimodal Transportation Network Study identifies short-term, medium-term, and long-term activities related to developing a sustainable set of transportation options for this high growth area. This includes bus alternatives such as fixed route, express bus, demand response, flexible routes, and circulators; rail transit; park and ride, pedestrian and bicycle infrastructure; ridesharing alternatives including vanpools, carpools, taxis, and transportation network companies such as Uber and Lyft; and physical infrastructure modifications to accommodate the safe movement of transit riders, pedestrians, bicyclists.

Projects Proposed and/or Under Construction in Cool Springs Area
Image Sources: http://www.http://franklinparkcs.com/; http://www.ovationcoolsprings.com/

What is the Need for the Proposed Action?

Cool Springs has been experiencing significant population and employment growth over the last 20 years and is now a major employment and retail center for the Middle Tennessee Region. The Cool Springs area includes several luxury hotels, shopping centers including the Cool Springs Galleria, business parks, office buildings, big box retailers, and single and multi-family housing. Major corporations including Community Health Systems (4,300 employees), Williamson Medical Center (1,440), Healthways (1,160 employees), Nissan (1,600 employees) and Verizon Wireless (1,300 employees) have their North American or state headquarters within the Cool Springs study area. Employment is projected to grow between 2012 and 2040 by 69%.

Currently, there are very few alternatives to single occupant vehicle travel in the Cool Springs area. To accommodate future growth in the area, a robust, sustainable set of mobility options needs to be considered to address the increasing congestion in the corridor and to further enhance the economic development and land use opportunities. The following contains a description of the transportation problems that will be addressed as a result of the proposed action:

- Need to Reduce Roadway Congestion in the Cool Springs Area: Congestion on the roadways continues to increase as new office, retail, hotel and residential developments continue to be built. In order to maintain an acceptable level of service (LOS) given future (2025) traffic projections, several intersection and roadway improvements are needed, including widening Carothers Parkway from four to six lanes. The introduction of a range of multimodal options is expected to delay or prevent the need for roadway widening.
- Need to Provide Increased Mobility Options for Employers and Employees: Today there are very limited transportation options to access Cool Springs destinations. Employees travel from several locations both within and outside the City of Franklin. Multimodal solutions are needed to address the growing need of employees to get to their place of employment. These solutions need to address not only the work commute but also provide alternatives for travel during the day, including the lunchtime hour.
- Need to Support Economic Development Opportunities in the Corridor: Cool Springs has developed into a regional and national employment and retail center. The transportation infrastructure is already stressed in its capacity to support future growth. Without solutions, there is a potential negative impact on future economic development.
- Need to Protect the City of Franklin's Quality of Life: Environmentally friendly solutions are important to protect the City of Franklin's quality of life and the residents and employees living and working in Cool Springs. "Green" transportation solutions that support active and healthy lifestyles are important to the region.

Goals and Objectives

In order to achieve the Purpose and Need for the Multimodal Transportation Network the following Goals and Objectives have been identified:

GOAL 1:
Provide Alternative Transit Solutions to Serve and Attract More Riders

Objectives:

- Introduce a range of transit options to allow for more choices of travel
- Establish transit connections to areas outside the study area
- Increase transit access for lower wage and lower income workers
- Attract choice riders by offering creative transit solutions
- Reduce transit on demand (TODD) trips to and from the Cool Springs area by increasing ridership on other services
- Support ITS solutions such as transit signal priority, queue jumping, and real time bus arrival information to make transit a more reliable mode choice
- Investigate longer term transit solutions included dedicated transit lanes and commuter rail options

GOAL 2:
Encourage Multimodal Transportation Options

Objectives:

- Support a full bike route network that connects people to popular origins and destinations within Cool Springs and the Franklin area
- Encourage bikeshare programs and bicycle amenities including bike racks and shower facilities
- Install infrastructure to support pedestrian and bicycle access including a full network of sidewalks on both sides of every street and pedestrian intersection improvements
- Allow for easier access for travelers outside the City by providing park and ride lots in key locations
- Create new opportunities for ridesharing including carpooling
- Promote other transportation demand management (TDM) alternatives
- Work with the City of Franklin to create an ordinance to designate that parking spots in "prime" locations at large retail and office developments be reserved for carpools and vanpools

GOAL 3:
Identify Transit Funding Strategies

Objectives:

- Work with city, county, and state officials to identify dedicated funding solutions for local and regional transportation alternatives
- Create public-private partnerships to fund transportation alternatives and infrastructure

GOAL 4:
Partner with Employers to Promote Multimodal Options to Get to Work

Objectives:

- Use The TMA Group's transportation demand management programs as a platform to encourage workplaces to institute flexible work times and telecommuting options
- Create a well-publicized awards system for employers who encourage employees to use shared or non-motorized transportation options to get to work
- Promote employer use of commuter tax benefits for their employees (Section 132(f) of the IRS tax code)

GOAL 5:
Encourage Best Practices in the City of Franklin

Objectives:

- Partner with city and county staff to identify best practices to regulate traffic and reduce traffic congestion through ordinances such as a commute trip reduction ordinance or similar regulations
- Support traffic calming measures that are intended to reduce speed and enhance the street environment for non-motorists

Current Franklin Transit Center

3. Short-Term Alternatives

The need for transportation alternatives in Cool Springs is critical. By managing transportation demand, the area will continue to grow in a way that allows people of all ages and income levels to have the ability to travel within and outside the area without relying only on single occupant vehicles. By implementing the short-term service alternatives proposed here, a network of services can begin to be built allowing for the longer term vision of Cool Springs as being a vibrant, forward-thinking model of a new edge city to continue.

These short-term recommendations are designed to be implemented within five years of the plan's adoption.

Transit Options

Below are three options for transit in the area, with each option showing a combination of new services, service revisions, and improved headways and service spans. One thing that should be considered is that all of these options expand the current route network to a point where the previously naming convention for routes should be changed. Routes can be either numbered or color-coded as shown below for new services. The service spans and headways along with the cost in additional hours and vehicles will be shown on a chart at the end of each subsection.

Arterial Route Options

East Bound Route

The Route would be extended south to the Franklin Transit Center. This would enable riders to use the well-appointed waiting room at the Transit Center, and not have to use their arriving bus as a "shelter" while waiting for their connection at the Factory. This would create a one-seat ride connecting the two major Franklin retail centers: Historic Downtown Franklin and the Cool Springs Galleria.

The layover location would be at the cutout in front of the Transit Center, with the bus proceeding back northward via South Margin, Cummins, and Church Streets.

The Route would be further streamlined by eliminating the two one-way loops in the Cool Springs area and replacing them with two new dual-direction arterial routes. This will decrease the time bus riders will need to reach their destinations, as well as make the route more understandable for new riders. The route will continue to serve the retail establishments along Mallory Lane north of Liberty Pike.

Transfers would be available between the South Bound and West Bound routes, as well as the new Blue Route, at the Franklin Transit Center; the Purple Route at all stops on Mallory Lane between Liberty Pike and West McEwen Drive; and both the Blue and Purple Routes at the Galleria.

South Bound Route

The Route would no longer end at The Factory as it would terminate at the Franklin Transit Center instead. In addition, this route would no longer serve the Cool Springs area, proceeding west after reaching Murfreesboro Road. The layover location would be at a cutout on 9th Avenue just west of Columbia. Timed transfers would be available between the East Bound and West Bound routes, as well as the new Blue Route, at the Franklin Transit Center.

In this scenario, this route, which has the lowest ridership in the system, should be looked at for possible restructuring in the future.

Blue Route

This new Route would be a direct route between the east side of the Cool Springs study area and Downtown Franklin. Given this direct route, there may be significant demand for lunchtime riders. To encourage this ridership, frequent midday service will be provided, with sponsored free fares between 11:00 AM and 1:00 PM. The route would start at the Franklin Transit Center, with its first stop being on the east side of Columbia Avenue at Church Street. The route would proceed via Church Street to Murfreesboro Road, where it would run to the Williamson Medical Center, entering and exiting the facility in the same manner as the East Bound Route currently does. The route would continue up Carothers Parkway to Bakers Bridge Avenue, and then enter the Galleria property from the north. When Columbia State Community College opens its campus on Liberty Pike in 2016, the route will serve that location as well. While the route's final east bound stop would be at mall entrance next to the Belk Home Store, no layover would be taken there, as the bus would proceed back Downtown via the same routing.

Timed transfers would be available between the East Bound, South Bound and West Bound routes, at the Franklin Transit Center; Route 91X, the Nashville Reverse Express Route; the Purple Route at Southwinds Boulevard and Murfreesboro Road; and both the East Bound and Purple Routes at the Cool Springs Galleria.

Purple Route

This new Route would exist entirely within the Cool Springs study area, primarily serving the light industrial area along Seaboard Lane, and also dense housing clusters along Mallory Lane, West McEwen Drive, and Aspen Grove Drive. Taking its layover in the Williamson Square parking lot, its first northbound stop would be at Southwinds Boulevard and Murfreesboro Road. The route would then proceed via Murfreesboro Road, North Royal Oaks Blvd, Mallory Lane, West McEwen Drive, Cool Springs Boulevard, Aspen Grove Drive, Seaboard Lane, Duke Drive, Mary Lindsay Polk Drive, Seaboard Lane, and Crossroads Boulevard, entering the Galleria to the west. While the route's final north bound stop would be at mall entrance next to the Belk Home Store, no layover would be taken there, as the bus would proceed back to Williamson Square via the same routing, where it would take its layover.

Reverse Express Route

For service to and from outside the area, a new express route would be established between the current Park & Ride facility and downtown Nashville. The service would recycle two buses from the current 91X service (which will not change), with three morning and three evening rush hour only trips. Arrival and departure times from Nashville buses will be timed to allow riders to transfer to the Purple Route for those riders wishing to access businesses along Seaboard Lane. The route would run express from Music City Central, the main downtown transfer hub for the MTA. Exiting I-65 at Moore's Lane, the route would make limited local stops along Carothers Parkway at major employment centers, including at Bakers Bridge Avenue, Mayfield Drive, Meridian Boulevard, Cool Springs Boulevard, Crescent Centre, Nissan Way, and East McEwen Drive, where it will reenter I-65, exiting again at Murfreesboro Road to continue its journey to the Park & Ride.

Night Route

For late night riders, a new route would operate between 8:00 PM and 10:00 PM. This route would primarily serve second shift retail and restaurant workers who do not currently have a ride home if they take transit to work. The route would operate fixed route service on Mallory Lane to Liberty Pike, after which it would be authorized to drop passengers off at any stop within the Franklin Transit system, via flexible routing. There is a possibility that the demand for this route becomes consistent and concentrated enough so that a fixed route could be developed to serve popular stops.

Table 1: Arterial Route Options Service Statistics

Weekday

Route	Proposed Span	Current Span	Proposed Headway			Current Headway	Additional Service Hours	Additional Vehicles
			Peak (7-9PM, 3-6PM)	Midday (11AM-1PM)	All Other Times			
East Bound	6AM-8PM	7AM-6PM	30	30	60	60	11	1
South Bound	8AM-4PM	same	60	60	60	60	0	0
Purple	6AM-8PM	New route	60	60	60	New route	14	1
Blue	6AM-8PM	New route	30	15	60	New route	26	4
91X	3 morning and 3 evening trips	Same	Varies	No service	No service	Varies	0	0
Nashville Reverse Express	3 morning and 3 evening trips	New route	60	No service	No service	New route	4	1
Night Route	8PM-10PM	New route	No service	No service	60	New route	2	0
Total Additional Service Hours							**57**	**7**

Saturday

Route	Proposed Span	Current Span	Proposed Headway	Current Headway	Additional Service Hours	Additional Vehicles
East Bound	6AM-8PM	9AM-6PM	60	60	5	0
South Bound	No service	No service	No service	No service	None	0
Purple	9AM-6PM	New route	60	New route	9	1
Blue	9AM-6PM		30	New route	9	1
91X	No service	No service	No service	No service	None	0
Nashville Reverse Express	No service	No service	No service	No service	None	0
Night Route	8PM-10PM	New route	60	New route	2	0
Total Additional Service Hours					**25**	**2**

Arterial Route Options - Additional Annual Costs

Route	Additional Weekday Hours	Additional Saturday Hours	Additional Operating Cost	Additional Vehicles Needed	Total Year One Capital Costs	Total Year One Capital Costs [1]
East Bound	11	14	$310,500	2	$680,000	$990,500
Purple	14	9	$400,800	1	$340,000	$740,800
Blue	26	9	$740,700	4	$1,360,000	$2,100,700
Nashville Reverse Express	4	0	$96,900	0	0	$96,900
Night Route	2	2	$60,800	0	0	$60,800
Total			**$1,609,700**		**$2,380,000**	**$3,989,700**

[1] Costs are rounded up to the nearest $100

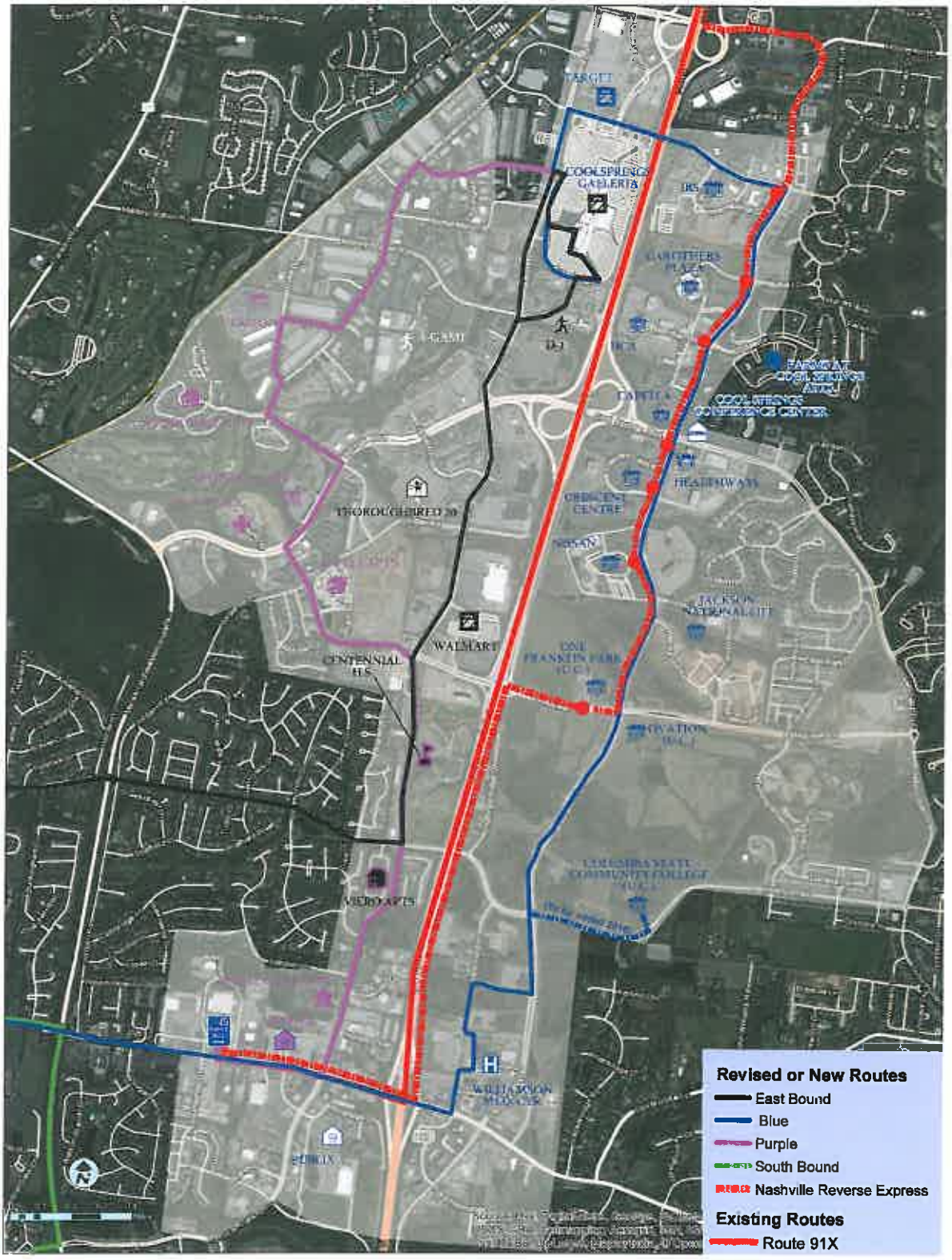


Figure 1: **Arterial Route Options Map**

Arterial Route Cost Summary

The total startup cost for transit would be around **$4 million** for the first year, with subsequent years being around **$1.6 million.**

Below are the bare minimum costs for the Arterial Option if:

- Service begins using the current equipment type - Cutaway vehicles
- The frequency of service is reduced - 30-minute service during morning and afternoon peak hours only
- No night route

Startup Costs Year One: $2.8 million
Operating Costs Subsequent Years: $1.4 million

Below are the bare minimum costs for the Arterial Option if:

- Service begins using the current equipment type - Cutaway vehicles
- The frequency of service is reduced - 60-minute service all day and
- No night route

Startup Costs Year One: $1.6 million
Operating Costs Subsequent Years: $1.1 million

Flex Route Options

East Bound Route

The Route would be extended south to the Franklin Transit Center. This would enable riders to use the well-appointed waiting room at the Center, and not have to use their arriving bus as a "shelter" while waiting for their connection at The Factory. This would create a one-seat ride connecting the two major Franklin retail centers: Historic Downtown Franklin and the Cool Springs Galleria.

The layover location would be at the cutout in front of the Transit Center, with the bus proceeding back northward via South Margin, Cummins, and Church Streets.

The Route would be further streamlined by eliminating the one way Liberty Pike–Carothers Parkway–Murfreesboro Road–North Royal Oaks Blvd as well as the Mallory Lane portion of the route north of Walmart. These areas would be covered by a new flex route. Instead of using Mallory Lane to reach the Galleria, the route would then proceed via Murfreesboro Road, North Royal Oaks Blvd, Mallory Lane, West McEwen Drive, Cool Springs Boulevard, Aspen Grove Drive, Seaboard Lane, Duke Drive, Mary Lindsay Polk Drive, Seaboard Lane, and Crossroads Boulevard, entering the Galleria to the west. While the route's final north bound stop would be at mall entrance next to the Belk Home Store no layover would be taken there, as the bus would proceed back to central Franklin via same routing. Timed transfers would be available between the South Bound and West Bound routes at the Franklin Transit Center and the flex route at the Galleria.

South Bound Route

The route would no longer end at The Factory, as it would terminate at the Franklin Transit Center. In addition, this route would no longer end at the former K-Mart but would terminate at the Williamson Medical Center. The layover location would be at a cutout on 9th Avenue just west of Columbia Avenue. Timed transfers would be available between the East Bound and West Bound routes at the Franklin Transit Center. The Williamson Medical Center would see transfer possibilities to Route 91X and the flex route.

New Flex Route

This new route would operate fixed route service via Carothers Parkway to Bakers Bridge Avenue, and then enter the Galleria property from the north. Given the connection to the Galleria, there may be significant demand for lunchtime riders. To encourage this ridership, frequent midday service will be provided, with sponsored free fares between 11:00 AM and 1:00 PM. The route would be able to "flex" within a predetermined area in response to rider requests, either on board or by telephone. Much like the TODD service, off-route requests for pickups would need to be made in advance, but only at an hour minimum. Subscription service would be available for those riders as well.

Timed transfers would be available between the East Bound and West Bound routes at the Franklin Transit Center. The Williamson Medical Center would see transfer possibilities between Route 91X and the South Bound Route.

Route 91X

The Route 91X would now end at a new park and ride near Williamson Medical Center, at a location to be determined. The service would add six reverse direction express trips, recycling two buses in both the morning and afternoon peaks. The route would run express from Music City Central, the main downtown transfer hub for the MTA.

Arrival and departure times from Nashville buses will be timed to allow riders to transfer to the flex route for those riders wishing to access businesses along Carothers Parkway.

Night Route

This route would operate the same way as in the Arterial Route option.

Table 2: Flex Route Options Service Statistics

Weekday

Route	Proposed Span	Current Span	Proposed Headway			Current Headway	Additional Service Hours	Additional Vehicles
			Peak (7-9PM; 3-6PM)	Midday (11AM-1PM)	All Other Times			
East Bound	6AM-8PM	7AM-6PM	30	30	60	60	11	1
South Bound	8AM-6PM	8AM-4PM	30	60	60	60	7	1
Flex Route	6AM-8PM	New route	30	15	60	New route	26	4
91X	6 morning and 6 evening trips	3 morning and 3 evening trips	Varies	No service	No service	Varies	4	1
Night Route	8PM-10PM	New route	No service	No service	60	New route	2	0
Total Additional Service Hours							**50**	**7**

Saturday

Route	Proposed Span	Current Span	Proposed Headway	Current Headway	Additional Service Hours	Additional Vehicles
East Bound	6AM-8PM	9AM-6PM	60	60	5	0
South Bound	9AM-6PM	New route	60	No service	9	1
Flex Route	9AM-6PM	No service	60	New route	9	1
91X	No service	No service	No service	No service	None	0
Night Route	8PM-10PM	New route	60	New route	2	0
Total Additional Service Hours					**25**	**2**

Flex Route Options - Additional Annual Costs

Route	Additional Weekday Hours	Additional Saturday Hours	Additional Operating Cost	Additional Vehicles Needed	Total Year One Capital Costs	Total Year One Capital Costs[1]
East Bound	11	14	$310,500	2	$680,000	$990,500
South Bound	12	9	$349,300	2	$680,000	$1,029,300
Flex Route	26	9	$740,700	4	$1,360,000	$2,100,700
91X	4	0	$96,900	0	0	$96,900
Night Route	2	2	$60,800	0	0	$60,800
Total			**$1,558,200**		**$2,720,000**	**$4,278,200**

[1] Costs are rounded up to the nearest $100

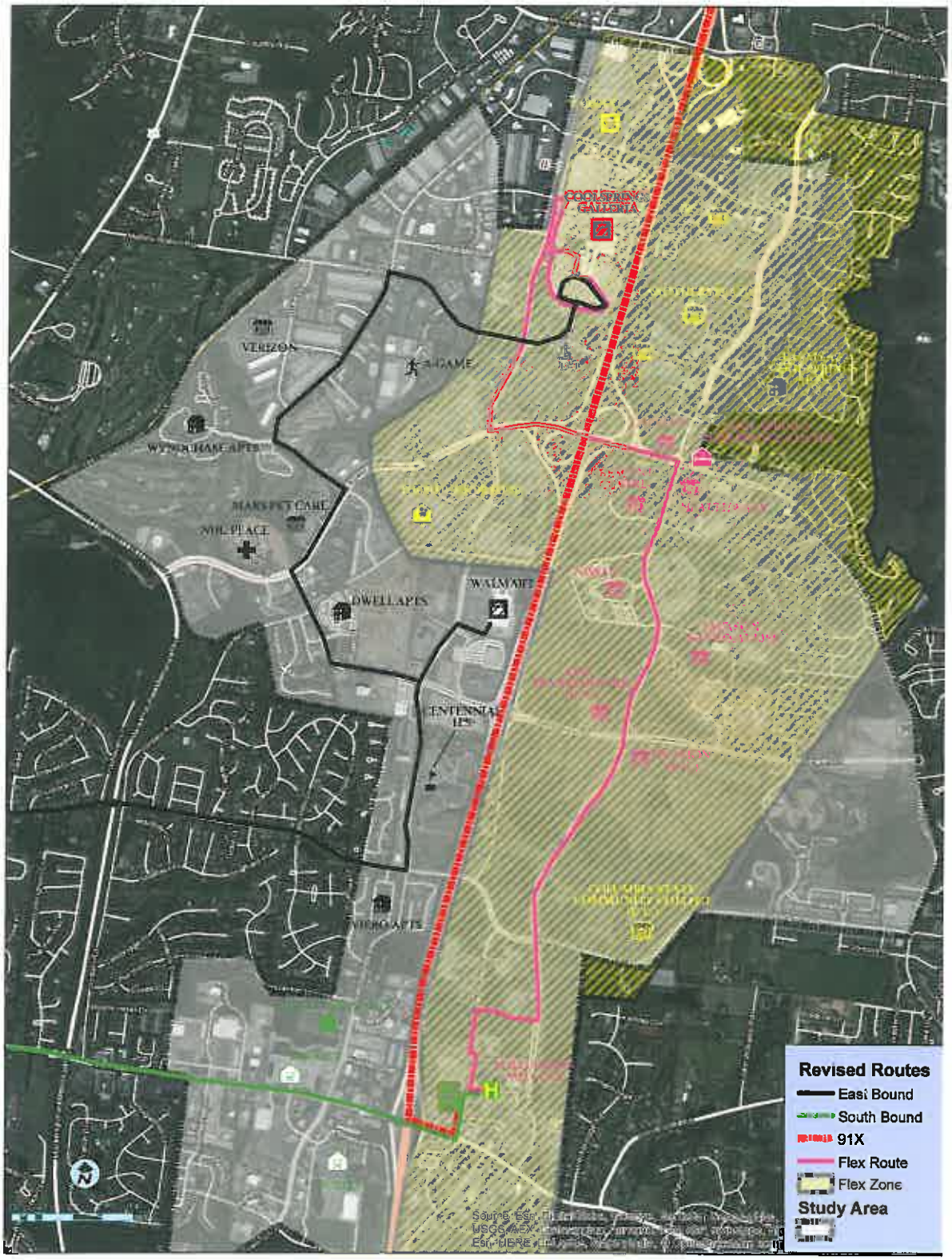


Figure 2: **Flex Route Options Map**

Flex Route Cost Summary

The total startup cost for transit would be around **$4.3 million** for the first year, with subsequent years being around **$1.6 million.**

Below are the bare minimum costs for the Flex Option if:

- Service begins using the current equipment type - Cutaway vehicles
- The frequency of service is reduced - 30-minute service during morning and afternoon peak hours only
- No night route

Startup Costs Year One: $2.3 million
Operating Costs Subsequent Years: $1.2 million subsequent years

Below are the bare minimum costs for the Flex Option if:

- Service begins using the current equipment type - Cutaway vehicles
- The frequency of service is reduced - 60-minute service all day
- No night route

Startup Costs Year One: $1.9 million
Operating Costs Subsequent Years: $875,000.

Circulator Route Options

East Bound Route

The route would be extended south to the Franklin Transit Center, where riders could transfer to other local routes. This would enable riders to use the well-appointed waiting room at the center, and not have to use their arriving bus as a "shelter" while waiting for their connection The Factory. The layover location would be at the cutout in front of the Transit Center, with the bus proceeding back northward via South Margin, Cummins, and Church Streets. Instead of ending at the Galleria, the route would end at the Williamson Medical Center. The entire route north of Liberty Pike would be replaced by the new Brown Route. The bus would layover at the Franklin Transit Center.

South Bound Route

This route would operate the same way as in the Flex Route option.

Brown Route

The new route would operate as a dual direction loop covering the entire Cool Springs study area. The route would start at the Williamson Medical Center and would travel via Edward Curd Lane–Carothers Parkway–Liberty Pike–Mallory Lane–West McEwen Drive–Cool Springs Boulevard–Mallory Lane, entering the Galleria property via South Springs Drive. Beyond the Galleria, the route would use Bakers Bridge Avenue and Carothers Parkway to return to the Williamson Medical Center. When Columbia State Community College opens its campus on Liberty Pike in 2016, the route will serve that location as well. Some trips in the peak periods only (when headways are more frequent than hourly) would operate via Aspen Grove Drive–Seaboard Lane–Duke Drive–Mary Lindsay Polk Drive–Seaboard Lane–Mallory Station Road, rejoining the main route at Mallory Lane. The bus would layover at the Williamson Medical Center. The Williamson Medical Center would see transfer possibilities to Route 91X, the East Bound Route, and the South Bound Route.

Route 91X

This route would operate the same way as in the Flex option.

Night Route

This route would operate the same way as in the Arterial and Flex options.

Table 3: Circulator Route Options Statistics

Weekday

Route	Proposed Span	Current Span	Proposed Headway			Current Headway	Additional Service Hours	Additional Vehicles
			Peak (7-9PM, 3-6PM)	Midday (11AM-1PM)	All Other Times			
East Bound	6AM-8PM	7AM-6PM	30	30	60	60	10	1
South Bound	8AM-4PM	same	60	60	60	60	0	0
Brown	6AM-8PM	New route	30	15	60	New route	50	8
91X	5 morning and 5 evening trips	3 morning and 3 evening trips	Varies	No service	No service	Varies	4	1
Night Route	8PM-10PM	New route	No service	No service	60	New route	2	0
Total Additional Service Hours							**66**	**10**

Saturday

Route	Proposed Span	Current Span	Proposed Headway	Current Headway	Additional Service Hours	Additional Vehicles
East Bound	6AM-8PM	9AM-6PM	60	60	5	0
South Bound	9AM-6PM	New route	60	No service	none	0
Brown	9AM-6PM	No service	60	New route	28	2
91X	No service	No service	No service	No service	none	0
Night Route	8PM-10PM	New route	60	New route	2	0
Total Additional Service Hours					**35**	**2**

Sunday

No Sunday Service

Circulator Route Options - Additional Annual Costs

Route	Additional Weekday Hours	Additional Saturday Hours	Additional Operating Cost	Additional Vehicles Needed	Total Year One Capital Costs	Total Year One Capital Costs [1]
East Bound	3	5	$126,720	0	0	$126,720
Brown	52	28	$1,480,000	8	$2,720,000	$4,200,000
91X	4	0	$96,900	0	0	$96,900
Night Route	2	2	$60,800	0	0	$60,800
Total			**$1,764,420**		**$2,720.000**	**$4,484,420**

[1] Costs are rounded up to the nearest $100

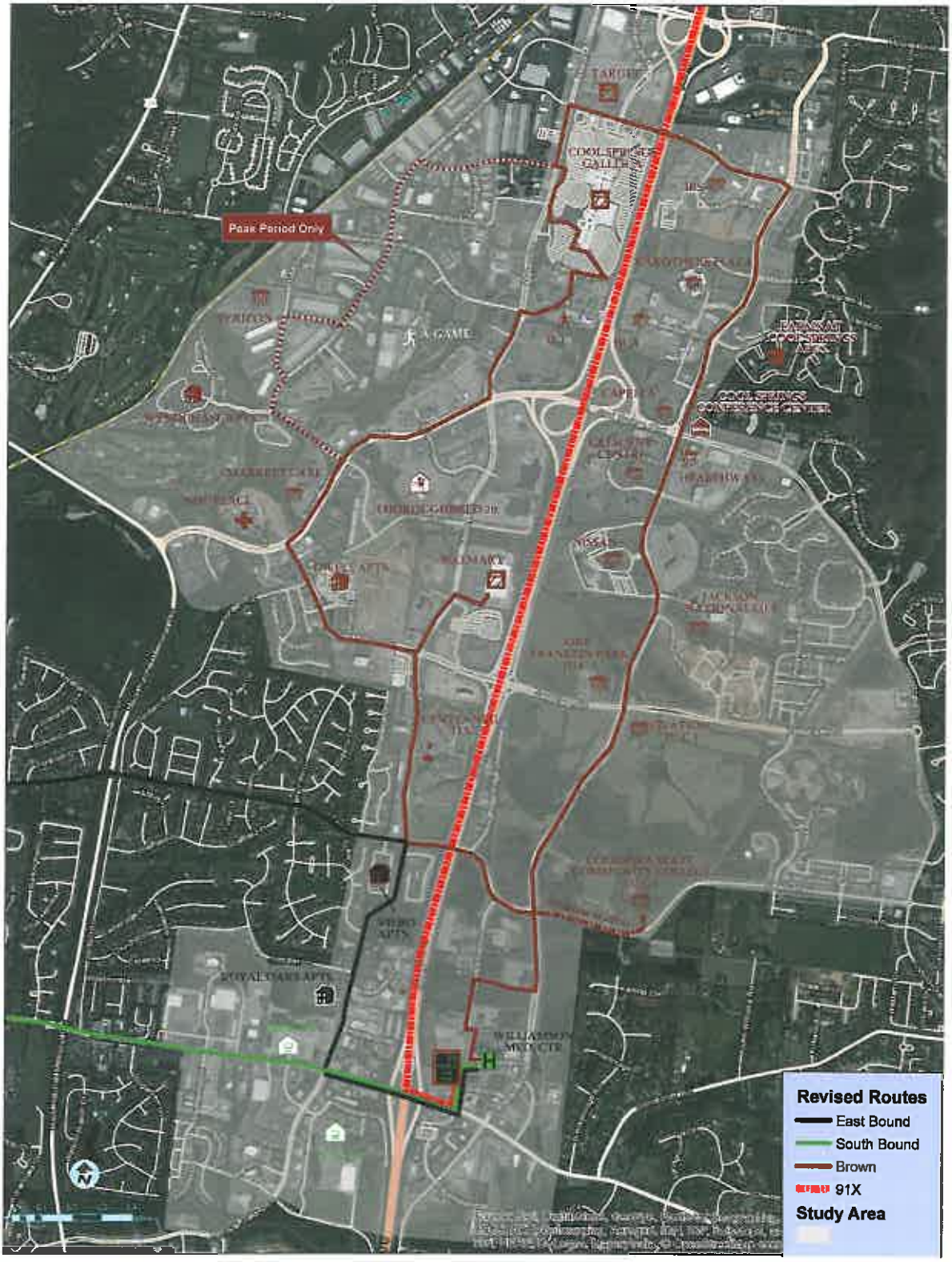


Figure 3: **Circulator Route Options Map**

Circulator Route Cost Summary

The total startup cost for transit would be around **$4.5 million** for the first year, with subsequent years being around **$1.8 million.**

Below are the bare minimum costs for the Circulator Option if:

- Service begins using the current equipment type - Cutaway vehicles
- The Circulator runs in just one direction
- The frequency of service is reduced - 30-minute service during peak only hours only
- No night route

Startup Costs Year One: $2.3 million
Operating Costs Subsequent Years: $860,000

Below are the bare minimum costs for the Circulator Option if:

- Service begins using the current equipment type - Cutaway vehicles
- The Circulator runs in just one direction
- The frequency of service is reduced - 60-minute service all day
- No night route

Startup Costs Year One: $1.4 million
Operating Costs Subsequent Years: $735,000

Vehicle Choice

To differentiate the service from TODD service and create a new "brand" for Franklin Transit, thirty- foot buses should be used on all local service serving the Cool Springs area, with express service continuing to use the current over-the-road coaches. These buses should be equipped with AVL/next-bus capability, and steps should be made to make that information available to the public.

It is anticipated that express service will also continue to be contracted out, while local service will remain operated by The TMA Group for Franklin Transit. Four types of propulsion systems are common to bus fleets in North America: Compressed natural gas, electric, hybrid, and diesel. Table 4 shows the cost comparison of the different types of vehicles, using the Arterial Option as an example.

Table 4: Bus Type Costs Comparison

Propulsion Type	Capital Cost	Annual Fuel Cost [1]	Annual Maintenance Cost [2]	Total Initial Cost	Total Subsequent Annual Cost
CNG	$3.2 M	$ 86,000	$84,000	$3.1 M	$170,000
Hybrid	$4.0 M	$103,000	$47,000	$3.8 M	$150,000
Electric	$7.0 M	$ 9,000	$67,000	$7.1 M	$ 76,000
Diesel	$2.7 M	$136,000	$67,000	$2.8 M	$203,000

[1] 7 buses are needed for operations in the Cool Springs area for the arterial option

[2] Includes gasoline gallon equivalent costs

If the total capital cost is funded by Franklin Transit, within 10 years the CNG option would equal the diesel option; 17 years for the hybrid option; and the electric option would likely not pay for itself within the lifespan of the bus. However, in most cases grants are available to at least partially pay for alternative fuel transit vehicles, making these options much more cost competitive.

Switching over to thirty-foot buses, even if they are not alternatively fueled, may necessitate the building of a local maintenance facility, especially if the increase in equipment makes it cost prohibitive to continue to send out vehicles to the Nashville Metropolitan Transit Authority (MTA) for maintenance. This possible cost increase is not reflected in the capital costs.

Bus Running on Natural Gas

Other Transit Infrastructure Proposals

All new and existing bus stops in the study area should be ADA accessible—they need at least a landing pad, a bench, and sign. The pad should extend from the existing sidewalk to the edge of the roadway.

Additional bus stops spaced no less than ¼ mile apart need to be added in the study area. In addition, the numbering system currently in place for the stops should be abandoned. It creates too many time points, making it difficult for drivers to adhere to a schedule. Replacing the numbered signs should be signs indicating the route serving the location containing a small route diagram, and times for the first bus and last bus at that location. Stops with high ridership potential should have bus shelters and bike racks and they should be built at a minimum at the following locations:

Transit Shelter Built Into a Shopping Center Development

- Walmart
- Mallory Lane and Liberty Pike
- Williamson Medical Center

If the Arterial Option is chosen, all northbound stops on Carothers Parkway served by the Nashville Reverse Express should be given shelters as well.

If the other two options are chosen, there will be a need to purchase or lease land for a temporary Park & Ride lot near Williamson Medical Center (2 acres for a 200 space lot). There is an available lot nearby that is selling for $850,000; however, there is possibility that spaces could be leased in the Medical Center lot for a nominal fee. There should be signage directing commuters to the new or existing Park & Ride location, both on local streets, and on I-65 (likely directing drivers to exit at Murfreesboro Road).

Possible Park and Ride Locations near Williamson County Medical Center

Bike and Pedestrian Improvements

Creating a robust local transit system is difficult unless riders have easy access to stops and routes. Fortunately, Franklin was far-sighted enough to include sidewalks in its planning for every arterial road in the area. Bike and multi-use paths also exist in the area, albeit in a fragmented state. A near-term goal should be to connect paths and lanes in the area together to create a rudimentary bike network, as well as add specific pedestrian and bike improvements where needed.

Bike Proposals

Any new bike trails and lanes should connect existing network. The proposed improvements are listed below:

- Extend bike /multi-use trails parallel to Carothers Parkway and Cool Springs Boulevard
- Extend the existing Spencer Creek Greenway Trail to link Mallory Station Road with Mack Hatcher Parkway
- Construct new off-street bike trails using I-65 right-of-way between Liberty Pike and West McEwen Drive and Cool Springs Boulevard and the Galleria.
- Extend the existing bike lanes along McEwen Drive and Liberty Pike
- Stripe a new bike lane along Jordan Road from Liberty Pike to where it dead-ends at I-65

Downtown and Cool Springs Bikeshare

Franklin was recently awarded a grant to establish a bikeshare system in the Downtown and Cool Springs areas. It is recommended that bike stations be established at the following high traffic locations in the Cool Springs area:

1. Aspen Grove Park
2. Cool Springs Galleria
3. Whole Foods/Dwell Apartments
4. Meridian Business Park
5. Healthways
6. Nissan North American Headquarters
7. One Franklin Park (Under Construction)
8. Columbia State Community College
9. Williamson Medical Center
10. Ovation (Under Construction)
11. Marriot Cool Springs Conference Center

Potential Location of Jordan Road Bike Lane

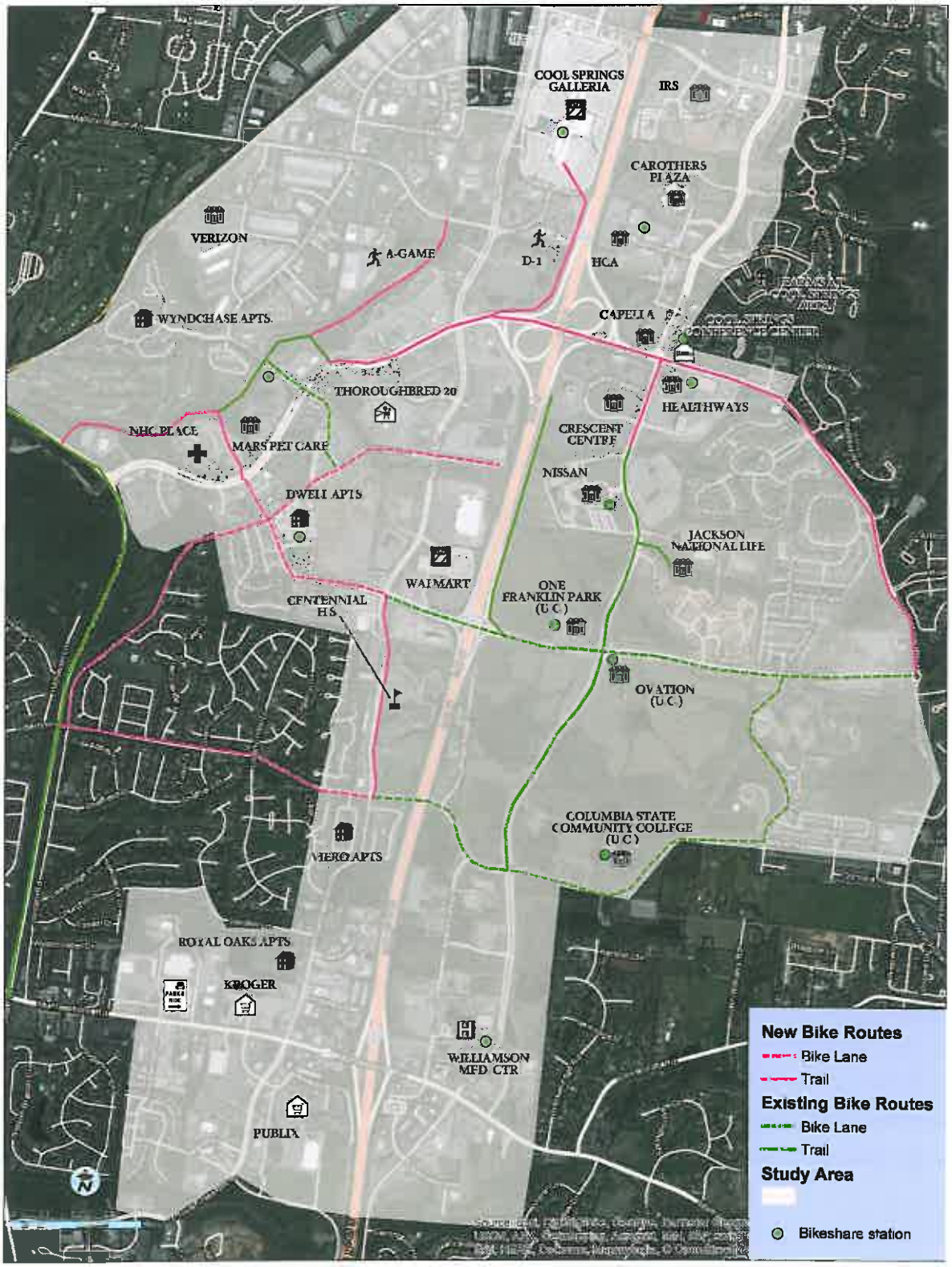


Figure 4: **Bike Improvement Plan**

Pedestrian Proposals

In order to accommodate and improve conditions for pedestrians, the City of Franklin should require any new development in Cool Springs with more than 25 parking spaces to establish a sidewalk connection that would intersect sidewalks parallel to roadways. At intersections with pedestrian accommodations, it is also recommended that walk signals are extended by 30 seconds when the pedestrian push button is activated or LPI (leading pedestrian interval) signals are introduced. To make these intersections even safer, red turn arrows could be activated when the push button is pressed. To alleviate congestion on Mallory Lane when Centennial High School is open, a "HAWK" (**H**igh-Intensity **A**ctivated cross**W**al**K** beacon (i.e. a pedestrian activated signal used to stop road traffic and allow pedestrians to cross safely) should be installed at the school entrance. To increase the use and utility of the current system of sidewalks and multi-use paths, especially for visitors and non-residents in the area, wayfinding signs showing distances (in time and miles) to popular destinations should be added to sidewalks and paths on arterial roads.

Additionally, while most arterials in the Cool Springs area have sidewalks, there are some gaps within the network. Most notably, the light industrial district along Seaboard Lane lacks sidewalks on both sides of most of its streets. In addition, North Royal Oaks Boulevard does not have sidewalks between Liberty Pike and Lakeview Drive. Sidewalks should be installed on North Royal Oaks Boulevard (Liberty to Lakeview), Seaboard Lane (from Aspen Grove Drive to Crossroads Boulevard) and on Mallory Station Road (from Duke Drive to Mallory Lane) in the short-term in order to close the gaps in the sidewalk network in the area.

Traffic Backup on Mallory Lane near Centennial High School

Seaboard Lane Streetscape Showing Lack of Sidewalks

Transportation Demand Strategies

Promoting and Facilitating Ridesharing beyond Vanpool

Carpooling is a commuter option that can be utilized by commuters regardless of commute distance, number of potential commuters to a group or the complexity of the work schedule. Currently, the VanStar ridematching online platform, powered by the software Trapeze, is framed entirely around the process of forming groups for the purpose of vanpooling. The TMA Group could, at a minimum, design the messaging of The TMA Group website to encourage commuters to utilize the software for forming carpools or vanpools. A November 2014 breakdown of the 190 pools available on the VanStar portal showed that only 57 were running (30%) which leaves a large number of commuters listed as "starting up." The inclusion of carpooling as a promoted mode would give The TMA Group the opportunity to begin the mode-shift among these groups, (even if a van is not yet feasible), collect VMT (vehicles mile traveled) data as well as potentially identify both commuter and employer champions.

In 2011[1], 43% of the 29,535 primary jobs in the Cool Springs study area had the commute originate in one of ten zip code locations. With the role of health care as a major employment sector and over 10,000 retail sector jobs, the realities of flexible and fluid work schedules provide an opportunity for carpooling. Carpooling addresses the commuting needs of employees who may only be able to share the ride a limited number of days per month or who could become a member of multiple carpool groups depending on work schedule coordination.

Vanstar Vanpool Vehicles

[1] Source: 2011 Longitudinal Employer-Household Dynamics Origin-Destination Statistics (LODES)

Expanded Emergency Ride Home Program

Currently the Emergency Ride Home (ERH) program, offered through The TMA Group, is only available to full-time VanStar vanpool riders. Expanding this benefit beyond vanpooling to include modes such as carpooling, Franklin Transit Authority transit and even bicycling can encourage drivers of single-occupant vehicles to consider shifting to another mode without the risk of not being able to get home due to illness, family emergency, or an unscheduled work schedule change. Additionally, there would be opportunities to capture data from the existing commuters using these modes as well as to cross-promote TDM services to an engaged audience.

Broadening the user base of the ERH program may raise concerns regarding fraud or accountability. Steps can be taken to mitigate against this including, but not limited to, offering taxi/rental car reimbursement instead of vouchers, requiring employer participation or sign-off and/or requiring frequent re-enrollment into the program. It is worth noting that the Regional Transportation Authority of Middle Tennessee (RTA) offers an Emergency Ride Home program to carpool, vanpool or transit users with otherwise similar parameters as The TMA Group's ERH Program and may be a model.

Employer Services

Clean Air Partnership

Currently The TMA Group in partnership with Williamson County offers the Clean Air Partnership of Williamson County, Rutherford County, and Middle Tennessee. The Partnership serves as a conduit through information sessions and newsletter subscriptions for employer outreach at no-cost to area businesses and organizations.

Over 100 businesses and organizations are currently involved in the Clean Air Partnership. The program should be expanded to include more employers in the Cool Springs area. A strong focus of the program must be to encourage and recognize Partners who lead the way in implementing TDM strategies to relieve congestion in the study area. The Partnership could devise a rating system (i.e., Gold Level, Silver Level, and Bronze Level) for those Partners who establish worksite TDM programs. This would provide the opportunity for local recognition and build examples of employer leadership for the Partnership

2014 Outstanding Clean Air Partner Honorees

Best Workplaces for Commuters

The TMA Group is recognized as a Best Workplace for Commuters. TMA can promote this innovative membership program that provides qualified employers with national recognition and an elite designation for offering outstanding commuter benefits, such as free- or low-cost bus passes and vanpool fares and strong telework programs. Employers that meet the National Standard of Excellence in commuter benefits join the esteemed Best Workplaces for Commuters List and receive high level programs and services. BWC assists participating employers by offering public recognition and promotion, technical assistance, training, Web-based tools, and forums for information exchange.

LEED Designation

LEED, or Leadership in Energy & Environmental Design, is a green building certification program that recognizes best-in class environmental building strategies and practices that have a positive impact on the health of the occupants. To receive LEED certification from the U.S. Green Building Council (USGBC), building projects satisfy prerequisites and earn points to achieve different levels of certification (Certified, Silver, Gold and Platinum). There are five rating systems that address multiple project types and include building design and construction, interior design and construction, building operations and maintenance, neighborhood development and homes. Transportation demand management is a significant part of the LEED certification and contribute to the different levels of certification. Employers are encouraged to implement transportation alternatives in order to reduce the number of commuting round trips made by regular building occupants using single occupant, conventionally powered and fueled vehicles.

Flexible Scheduling Options and Telecommuting

According to the Nashville Area Metropolitan Planning Organization (MPO), by 2040, the Retail sector employment is forecasted to increase by 44% (just under 6,000 jobs). Meanwhile, the office sector is forecasted to grow by 71% (roughly 24,000 jobs). Office work may be conducive to the implementation of telecommuting or scheduling practices that create significant commute reduction. The TMA Group has the opportunity to position itself as a local resource for best practices pulling from both local success stories to national TDM resources.

Commuter Tax Benefits

Ensuring that employers are familiar with Section 132(f) of the IRS tax code for qualifying commuter benefits would leverage The TMA Group's investments in vanpooling and transit (both qualifying expenses under the tax code) while building Program ownership amongst employers. Large employers may already be set up to add these benefits internally or through a third-party administrator. For instance, Nissan, one of the large employers in Cool Springs, utilizes HealthHub as their benefits provider. HealthHub is already set up to offer commuter tax benefits for their clients. Smaller and/or local companies may require closer attention by the TDM provider.

Technology and Trends

For-hire transportation network companies such as Uber and Lyft use newer smartphone app-based technology to connect customers with their services. While these services are generally outside of traditional TDM offerings, they should be considered when writing or re-writing Emergency Ride Home Program guidelines, terms and conditions. TDM programs may also wish to monitor the dialogue at the local and state level to ensure any regulations or ordinances for these types of services are created in a way that does not impact the traditional ridesharing that TDM programs offer.

Photo credit Wallstreet OTC

4. Medium Term Recommendations

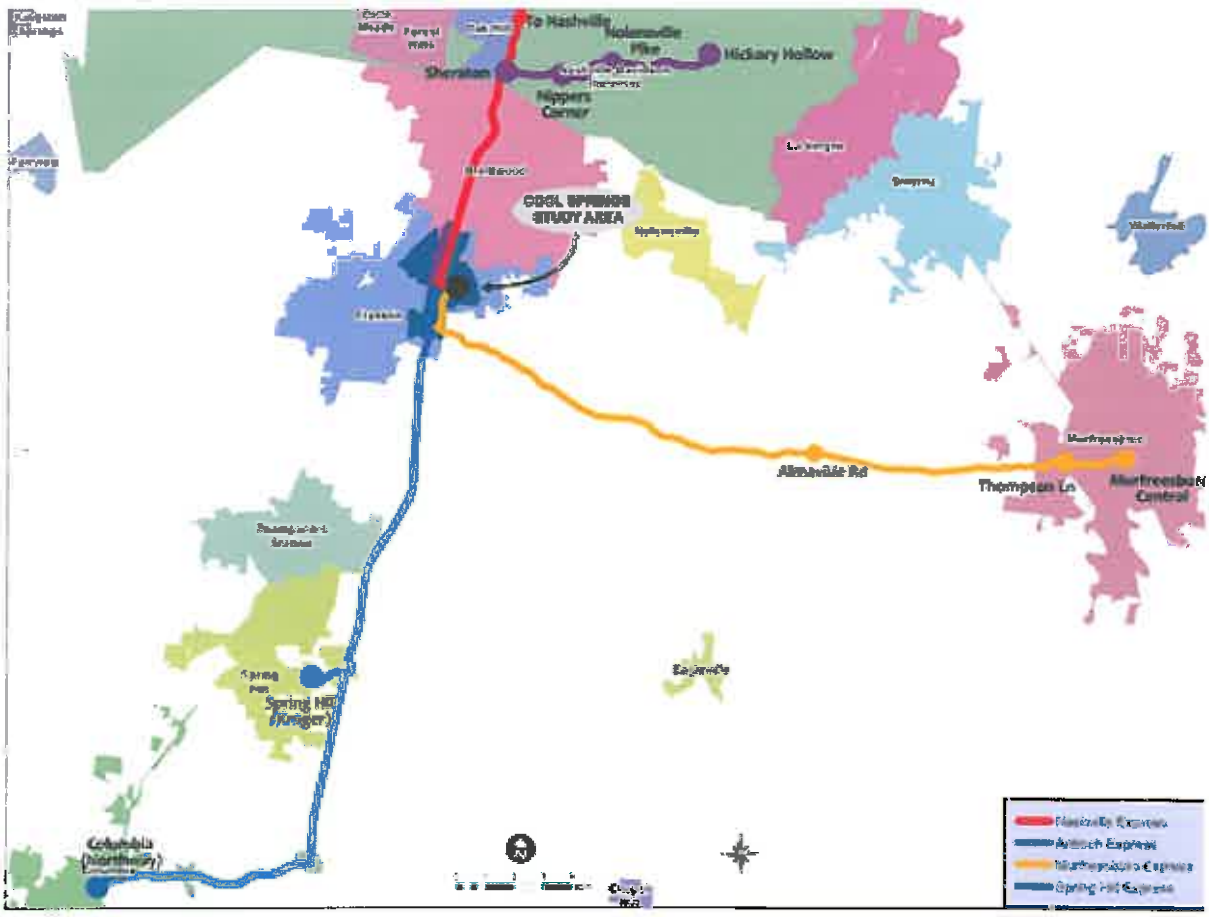
These recommendations focus on further building out the bike, pedestrian, and transit network to establish a robust multimodal framework that can be further enhanced in future phases by expanding headways and spans. Most of the recommendations require a larger amount of expenditure, especially in capital and infrastructure spending and inter-jurisdictional negotiation. These projects should be rolled out between five and ten years.

Express Bus Network

Once a robust local circulation system has been established for the Cool Springs area allowing people to move about the area without the use a car, the utility of a more robust express bus system becomes more apparent. Without such a network, express buses would be forced to serve too many locations, thus taking away the attraction of "express" service to choice riders. The idea of the express bus network is that all of the express buses will start and end at a central Cool Springs location, where riders can continue their journey by transferring to a local bus, riding a bike picked up at a bikeshare station, or walking. The initial express route destinations are locations identified by LODES data as having the highest concentrations of Cool Springs workers.

RTAs "Relax-n-Ride" Vehicle

Establishing these routes would require Franklin Transit to enter into funding agreements with surrounding counties, communities, and transit systems (both public and private). Funding will be explored in Section 8.0. The service spans and headways along with the cost in additional hours and vehicles will be shown on a chart at the end of each subsection. All express routes should have a unified brand, and stops should following the branding theme, with well-appointed shelters of identical design that include a transit map, schedule, benches, a bike rack, and trash receptacles. Part of this branding concept would be to give the stops "station names," as if the routes were similar to a capacity fixed-guideway transit line. This would also give the stops an additional sense of "place," absent from traditional local bus stops. The service spans and headways along with the cost in additional hours and vehicles will be shown on a chart at the end of this subsection.



Regional Express Bus Network

Murfreesboro Express

This express bus would run from Murfreesboro to a new Franklin-Cool Springs Transit Center via Tennessee Route 96. In Murfreesboro, the route would have the advantage of connecting with the local ROVER transit service at Walnut and Burton. Stops would be established in Murfreesboro at Walnut and Burton (Murfreesboro Central) and Thompson Lane and Hwy 96 (Thompson Lane); Almaville Road and Hwy 96 (Almaville Road); and two limited stops on Carothers Parkway at Williamson Medical Center and Liberty Pike. Park & Ride locations would be at Thompson Lane (shared lot at Walmart), at Almaville Road (newly constructed lot). The Almaville Road lot would serve the large amount of Smyrna workers journeying to the Cool Springs area, and should have enough initial spaces for 100 cars, with room to double the lot. if necessary.

Spring Hill Express

This express bus would run from Columbia to a new Franklin-Cool Springs Transit Center via US Route 412 and I-65. The route would have an intermediate stop at the current 95X Park & Ride at the Spring Hill Kroger on Port Royal. Northway Shopping Center, a shopping plaza with an excess of parking, is envisioned as a shared lot for commuters on this route. This route would serve Maury County, which provides about 3,000 workers to the Cool Springs area. This route would be a good candidate for exploring shoulder riding (see Section 4.3) between Tennessee Route 396, since the High Occupancy Vehicle lanes end at Murfreesboro Road on I-65.

Transfer Possibilities at the "Hickory Hollow" Stop

Antioch Express

This express bus run would primarily serve Cool Springs area retail workers residing in the Antioch area of Nashville. Beginning at Global Mall at the Crossings, the route would have limited stops along Bell Road and Old Hickory Lane at Nolensville Pike, Nippers Corner, and the Four Points by Sheraton that would coincide with stops on the Nashville MTA's Route 37X. Connections could also be made with other MTA Routes at these locations. After operating on I-65 for about a mile, the route would exit at Moore's Lane, beginning limited stop service within the Cool Spring retail area. Stops at Bakers Bridge Avenue and Galleria Boulevard (Bakers Bridge Avenue); along Mallory Lane at Crossroads Boulevard (Galleria), Mallory Station Road, Cool Springs Boulevard, and Walmart; the route would end at the new Franklin-Cool Springs Transit Center.

Route 91X or Nashville Reverse Express

These routes would operate the same way as in the short-term recommendations, but be expanded to provide service all day and in both directions with regular headways.

Table 5: Circulator Route Options Statistics

Weekday

Route	Proposed Span	Current Span	Proposed Headway			Proposed Headway (Short Term Improvements)	Additional Service Hours	Additional Vehicles
			Peak (7-9PM; 3-6PM)	Midday (11AM-1PM)	All Other Times			
Murfreesboro	2 morning and 3 evening trips	-	60	No service	No service	New route	13.5	2
Spring Hill	3 morning and 3 evening trips	-	45	No service	No service	New route	16.0	2
Antioch	4 morning and 7 evening trips	-	45	No service	No service	New route	18.5	2
91X	6AM-8PM	6 morning and 6 evening trips	30	60	60	Varies	35.0	2
Total Additional Service Hours (to Short-term Improvements)							**83**	**8**

Weekend

No Saturday or Sunday Express Service

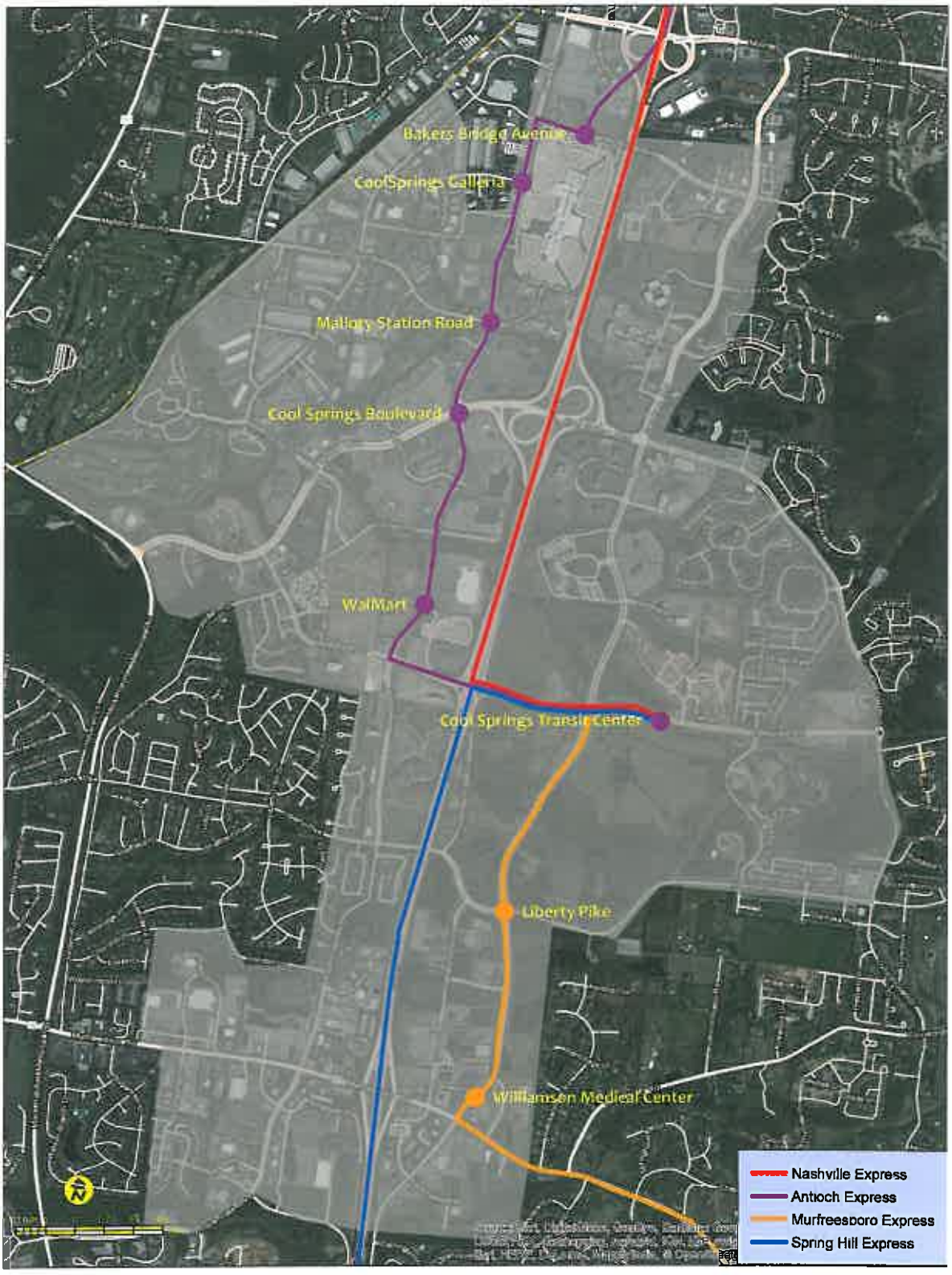


Figure 5: **Regional Express Bus Network Stops and Routing in Cool Springs**

Franklin-Cool Springs Transit Center

To support such a large express bus network, and to better facilitate transfers in the area, a Transit Center will need to be built somewhere in the Cool Springs area. The location selected should be centrally located on the east side of I-65, where vacant land is still available. The best location, due to the possible synergies with new walkable developments being constructed there, would be near the intersection of East McEwen Drive and Carothers Parkway. Below is an example of a possible design for the facility. It would be incumbent for the City of Franklin or Williamson County to acquire land in this area as soon as possible, as available land is becoming scarce in this area.

Transit Center Example from Vancouver, WA

Layout

The facility should consist of ten boarding berths large enough for a 40-foot long bus for transit service, and two boarding berths large enough for a 53-foot bus to be used for future private intercity bus services, or airport shuttle buses. The use of "sawtooth" berths will make possible for buses to enter and leave any berth, regardless of the sequence of arrival or departure.

Building

An approximately 2,400 square feet building is proposed to be located on the boarding island. The building would be of brick construction and environmentally controlled. A sample layout would include an 800 square foot waiting area equipped with benches; an additional 60 square feet set aside for a vending area; and 660 square feet for restrooms, with separate restrooms for the public and employees, was assumed. Provision would be made for a staffed customer service booth (300 square feet total). There will also be a 140 square foot drivers' lounge, and 100 square foot security office. The building's size would allow for future construction of an optional community meeting room where board meetings, public hearings and employee training could take place.

Platform

Platforms would be 10 inch high platforms, with tactile edges. This height, higher than a normal sidewalk, is intended to provide almost step-free boarding onto low floor transit buses, while remaining low enough to not conflict with bus operations, including the outward opening of doors on smaller, or coach buses. A canopy, providing protection from rain, snow, and sun along both sides of the length of the platform edge should be included in any final Transit Center design. The final design will have to provide adequate space for wheelchair maneuverability, in the areas surrounding bus lift/ ramp deployment areas.

Parking

An on-site parking lot for at least 200 cars, with certain spaces reserved for vanpool/carpool pickups and drop offs, should be established. This area could be decked if future ridership warrants this. If a light rail line is established to Franklin, this could become a remote lot for shuttle service to the station.

Other Amenities

Other amenities that could be included onsite include a café, bike lockers and a bikeshare station, a taxi stand, an intercity bus ticket counter, or even a daycare and retail services, would add to the attractiveness of the site and encourage ridership on the local and express routes serving the Center.

Local Service

Depending on the short-term option selected, any service either serving Carothers Parkway or the Williamson Medical Center should have a stop established at the new Franklin-Cool Springs Transit Center. If the Arterial Option is chosen, the Purple Route would be no longer service the (vacated) Park & Ride on Murfreesboro Road, but instead travel via East McEwen Drive to the new Transit Center, and the Blue Route would deviate off of Carothers to stop there as well. If the Flex Option were chosen, the fixed portion of the route would serve it, and for the Circulator Option the East Bound and Brown Route would serve it (the East Bound Route would be rerouted via Liberty Pike and Carothers Parkway to the Transit Center).

The local service will have timed connections with express service with weekday service frequencies of 20 minute headways 7-9 AM, and 3-6 PM; 12 minute headways from 11AM-1 PM; and 30 minute headways all other times. On Saturday, the same headways/spans as proposed in the near term recommendations. On Sunday, there would be new service for all Saturday operating routes (except the Night Route), with a service span of 11 AM to 7 PM, with 60 minute headways.

HOV Lanes on I-65

Other Proposed Transit Improvements

Part of the drawback of operating buses in mixed traffic, rather than in a fixed guideway, is that there are no time savings, just cost savings, for this mode of travel. With a potential customer base more affluent than average, reducing this travel time differential will be key to attracting riders. One idea is to better manage the existing travel lanes in the Cool Springs study area.

As the name implies, a Transit Signal Priority (TSP) system gives buses priority at signalized intersections. In most projects which have been installed, buses transmit requests directly to the intersection. Parameters are established by the agency that manages the traffic signals, typically, limiting requests to buses beyond a specified lateness threshold and limiting the amount of early or extended green time to a given number of seconds. This technology should be installed on Mallory Lane and Carothers Parkway to allow buses the pre-empt traffic signals along those roads between Murfreesboro Road and Moores Lane. This installation could correspond to the ongoing implementation of an Intelligent Transportation System (ITS) in Franklin, which includes the installation of Adaptive Transit Signal Control at 40 intersections in the Cool Springs study area.

I-65 currently has high occupancy vehicle (HOV) lanes, but they only run in one direction during peak hours, despite the fact that traffic between Cool Springs and Nashville is about equal in both directions. Activating this lane (and enforcing it with cameras) in both directions would allow Nashville to Cool Springs buses significant time savings. On roads without HOV lanes, bus-on-shoulder could be tried. This would allow buses to use the shoulder (generally the left shoulder) to avoid traffic when it falls below a certain speed, generally 35 miles per hour. The outside shoulder on I-65 south of Franklin was built to travel lane width, so this could be a candidate for this type of operation.

All locations with an annual ridership above 1,000 riders should have a shelter installed. For all shelters in the study area, a display of real-time bus arrival and departure information should be installed. Work should also be done with local businesses and corporate offices to display transit materials, including bike and bus maps and real-time bus arrival and departure displays.

Proposed Bike and Pedestrian Improvements

These improvements should build upon those outlined in Section 3.0, with an emphasis on expanding the emerging bike and pedestrian network to cover the entire Cool Springs study area, with a goal to have every resident or large business within a quarter mile of a route.

Bike Improvements

Multi-use trails should be extended to parallel the entire length of Carothers Parkway and Murfreesboro Road. This would provide a bike connection from Cool Springs to central Franklin. Another trail to create a short cut between East McEwen Drive and Cool Springs Boulevard could be constructed using the power company right-of way. Bike lanes should be striped on the following "three-lane" roads: Mallory Station Road, Aspen Grove Drive, and Seaboard Lane. South Spring Drive. Room for the bike lanes on these roads could be made by eliminating the continuous turn lane on these roads, keeping them only at intersections. Bakers Bridge Avenue and South Spring Drive could accommodate bike lanes by use of a road diet.

Enhanced Shelter Example, Murfreesboro Pike in Nashville

Without somewhere to park your bike once your destination is reached, the utility of using bikes for errands or work is limited. Adding one bike rack at every bus stop within the study area would help, along with encouraging private businesses, through a grant program, to add bike racks on their property. The new bike sharing program should move beyond the pilot stage by working with employers, multi-unit housing complexes, and businesses to install additional bike-sharing stations on-site.

Bakers Bridge Avenue Road Diet

Pedestrian Improvements

While arterial roads are well-served by sidewalks in the study area, residential roads are not. Without this "last-mile" connection, the sidewalks will not be seen as a part of, but rather as an ornament to, local transportation networks. There should be a concerted effort to retrofit residential roads in the Cool Springs study area to include sidewalks. Priority should be given to roads within two miles of a school. In addition, an ordinance should be passed to require any new commercial or industrial development to have sidewalks.

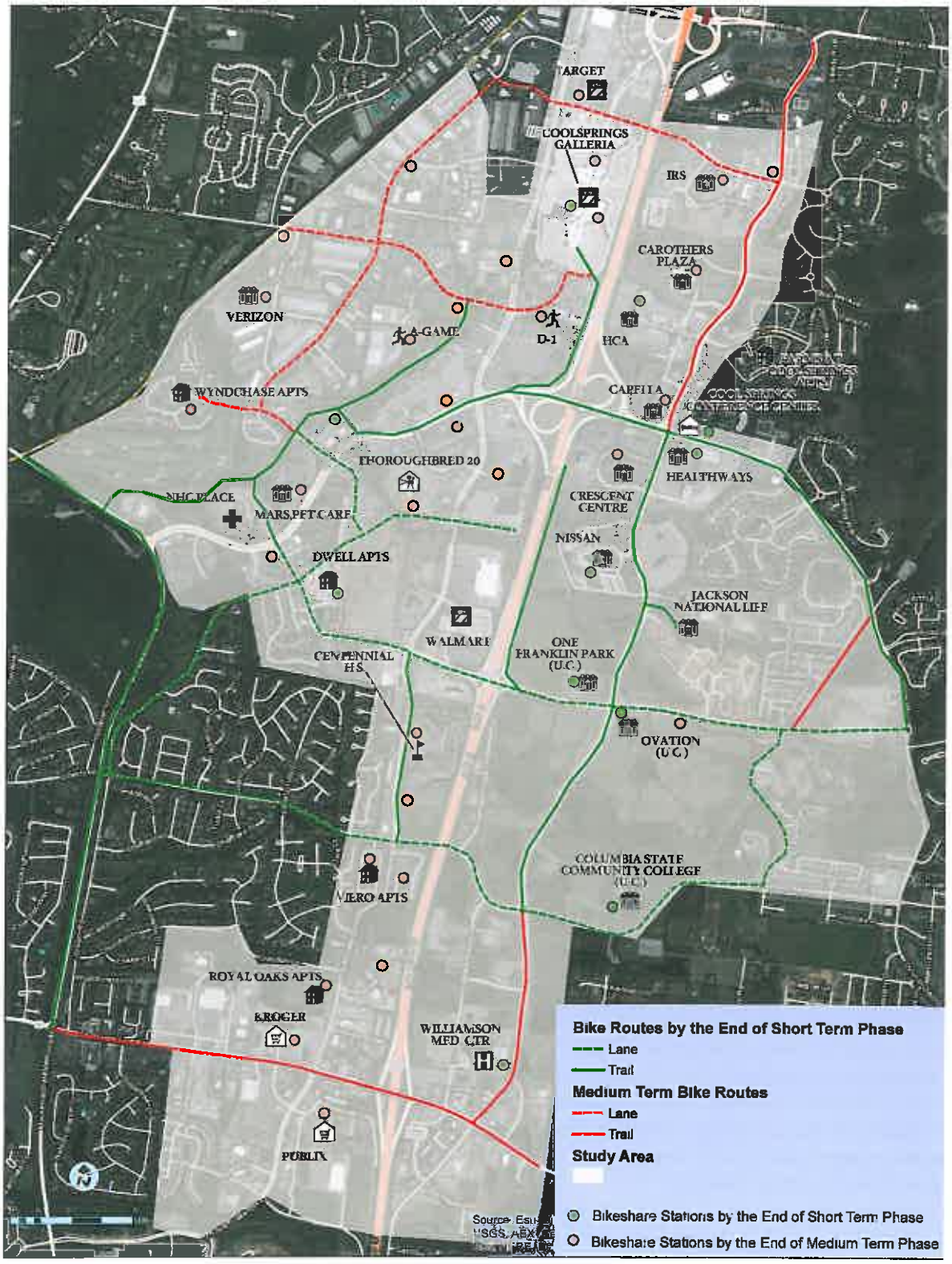


Figure 6: **Medium Term Bike and Pedestrian Improvements**

5. Long-Term Recommendations

Once the express bus network has been established, it will be time to take stock of the transit improvements. Is ridership going up? Is congestion getting better? Are more developments becoming transit-oriented? If the farebox recovery ratio on the local routes is approaching Nashville's (more than 20%), or the RTAs for express routes (at least 30%), it may be time to move on to the next step, which is adding a high capacity transit line between Nashville and Franklin. The goal in this stage is to provide Franklin residents and workers, especially those in the Cool Springs area, such a robust multimodal system that taking transit, walking, or biking is their first choice in travel. These projects should be rolled out after ten years.

Transit Options

High Capacity Transit

The ridership on the Spring Hill Express and 91X would be good indicators of the success of establishing a route like this. If ridership is robust, and demand for additional service is high, this would allow Williamson County to make a strong case to the Nashville Area MPO to get to the front of the line for funding opportunities. The type of service is to be determined but it could be an elevated maglev (magnetic levitation) line, a bus rapid transit route operating in its own dedicated right of way, heavy commuter rail similar to the Music City Star, or light rail powered by overhead wires. Two right-of-ways are best positioned to provide service to the Cool Springs area.

The first right-of-way would be the existing CSX tracks through Franklin. These tracks form the western border of the study area, and only a few trains a day use the track from Columbia to the train yard in Nashville. Stops could be made in Columbia, Spring Hill, Franklin, and Brentwood, with a terminal station near the Gulch in Nashville. A stop at Mallory Station Road (Mallory) is proposed to serve the Cool Springs area. Commuters could walk from the station to the large industrial area along Seaboard Lane. To access the rest of Cool Springs, a local shuttle would be provided. Service would be every 15 minutes during peak periods, with hourly service off peak and on the weekends. If this service was introduced, the Spring Hill Express and Route 91X would be made redundant and disappear.

Figure 5.1 Mallory Station Location

The second right-of-way would be the existing HOV lanes in the center of I-65. These could be converted into a BRT route, or a light rail line, with stations in the middle of the highway. The advantage of this routing would be more direct access to the existing Cool Springs employment and retail base. However, this line would not be as likely to encourage transit oriented development. Stations would be located at Bakers Bridge Avenue, Cool Springs Boulevard, the Franklin-Cool Springs Transit Center (if BRT is the mode chosen), Liberty Pike, and Murfreesboro Road. Pedestrian bridges would link these stations to developments on either side of I-65, and a shuttle would operate from the Cool Springs Boulevard station to link riders with locations farther away from the light rail alignment.

For both of these alignment options, service would be every 15 minutes during peak periods, with hourly service off peak. Initially, there should be no weekend service with the exception of special events in Nashville or Franklin. If this service was instituted, the Spring Hill Express route and Route 91X would be made redundant and eliminated.

Local Transit Route Options

Mallory Station Shuttle

A new shuttle service would be instituted serving the Mallory station (on the CSX alignment) or the Cool Springs Boulevard station (on the I-65 alignment). This route would run between Mallory Station Road and the Franklin-Cool Springs Transit Center using Mallory Station Road, Mallory Lane, Cool Springs Boulevard, and Carothers Parkway.

The shuttle would meet all trains during the morning and afternoon peak periods. At other times, high capacity transit riders could connect to other local services to cover the last mile of their journey.

Mallory Station Location

Maryland Farms Route

This route would serve the burgeoning employment center along Maryland Way in Brentwood as well as the new urbanist community of Gateway Village. This route would run from the Franklin-Cool Springs Transit Center via Carothers Parkway, Moores Lane, Perrone Way, Franklin Road, and Maryland Way, ending at Granny White Pike. Service span would be from 6AM-9AM and 3PM-7PM, with 30 minute headways. There would be no weekend service.

Express Bus Route Options

Berry Farm Express

This new express route would operate only if high capacity transit is not built. The route would have local stops in the Berry Farm mixed use development on the Goose Creek Bypass. It would then run up I-65 to the Franklin-Cool Springs Transit Center. The route would operate from 6AM-8PM on weekdays only, with 20-minute service during the morning and afternoon peaks and 40-minute service at all other times.

Antioch Express

This express route would have expanded service, with the route operating from 6AM-10PM every day of the week. 30-minute service would occur during peak periods, with hourly service the rest of the time.

Murfreesboro Express

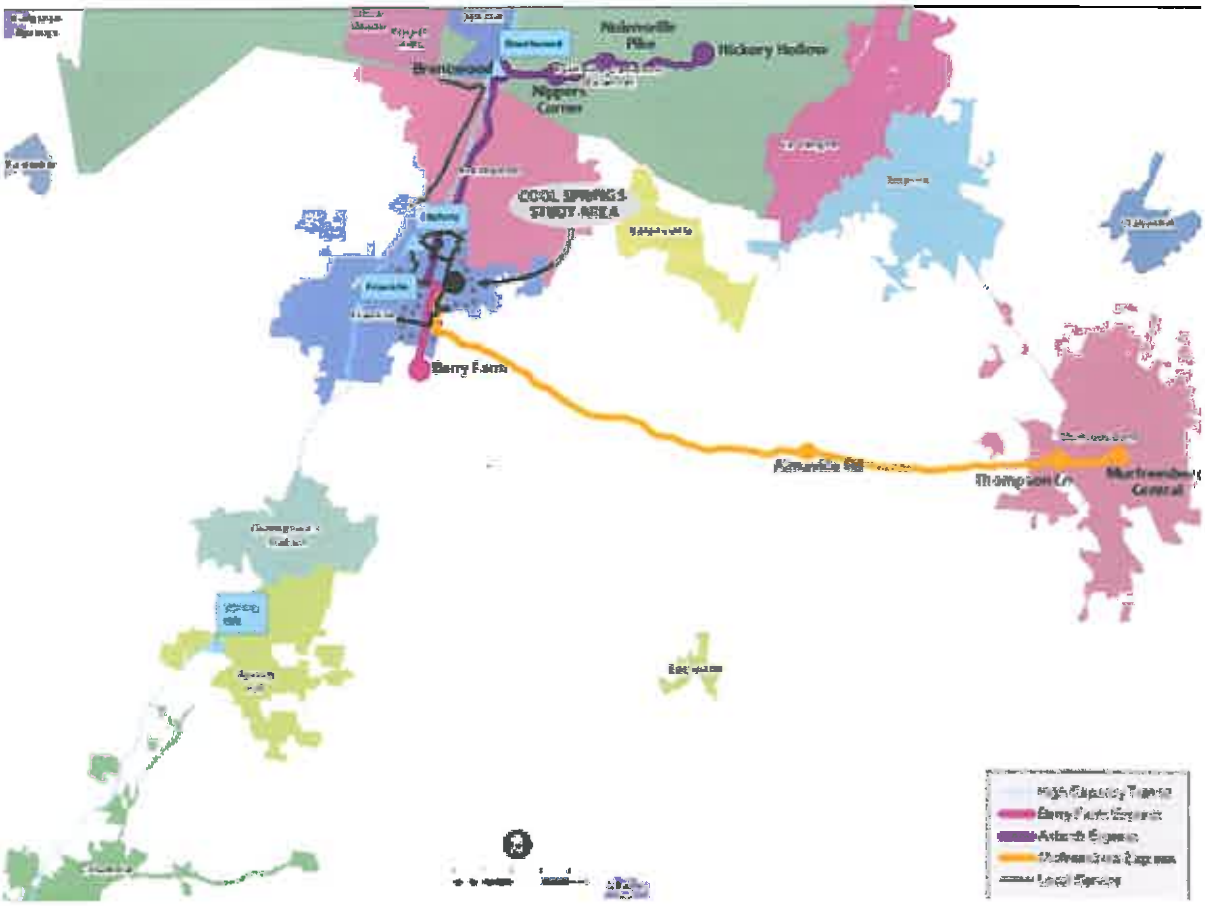
This express route would also have expanded service, with the route operating from 6AM-8PM on weekdays. 30-minute service would occur during peak periods, with hourly service the rest of the time.

Spring Hill Express

This express route would be eliminated in favor of high capacity transit service.

Route 91X

This express route would be eliminated in favor of high capacity transit service.



Regional Fully Built Out Transit System (Arterial Option Shown)

Other Multimodal Improvements

Other multimodal improvements that could be implemented as part of long-term recommendations include:

- Construct pedestrian/bike bridges across I-65 between the Nissan corporate headquarters the end of Jordan Road and between the Cool Springs Galleria and Carothers Plaza office park.
- Convert one lane on Carothers Parkway and Mallory Lane to be a peak-hour bus only lane
- Designate by ordinance a certain number of priority spots in large scale retail and office developments be reserved for carpools and vanpools

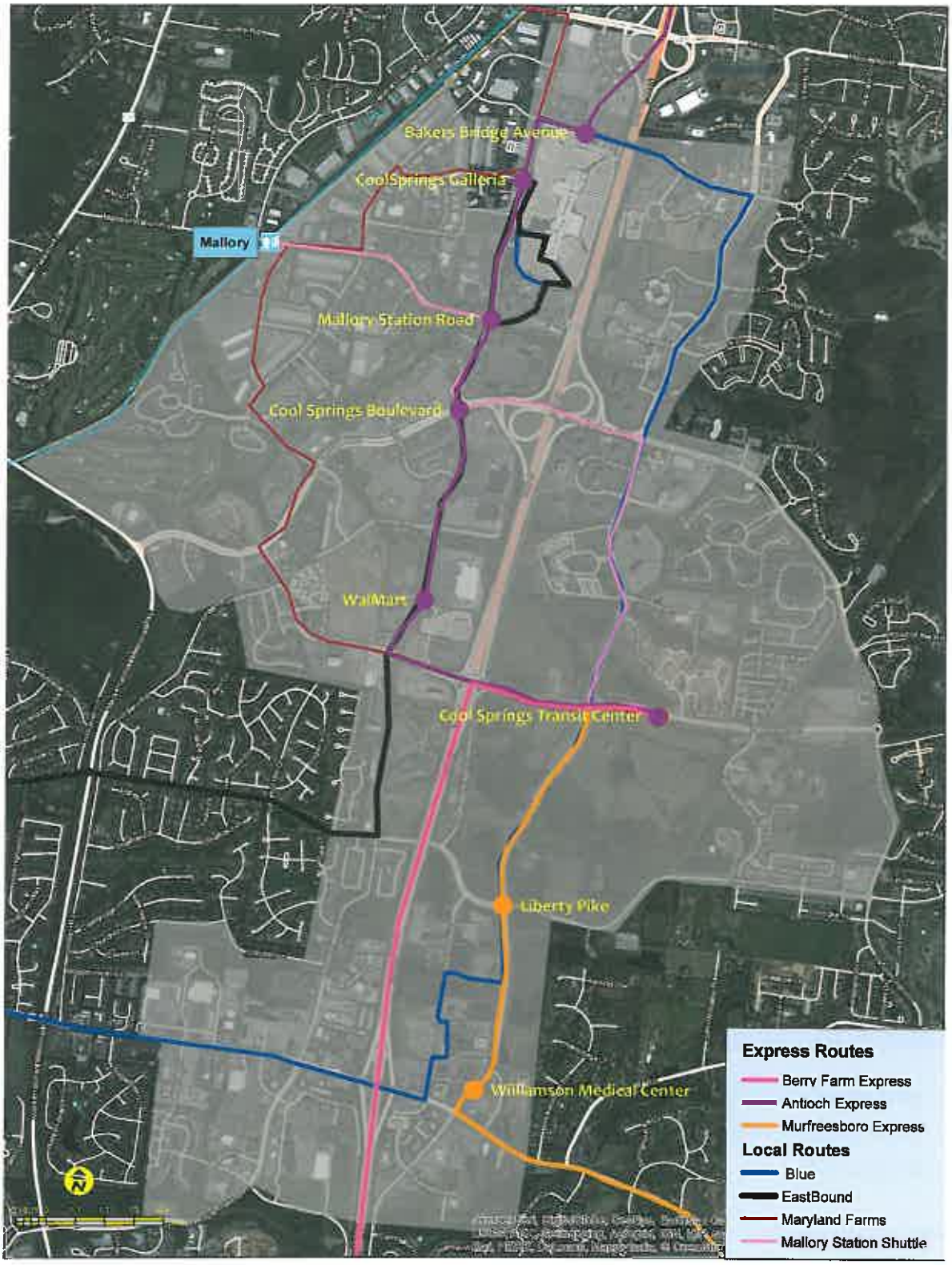


Figure 7: **Local Fully Built Out Transit System (Arterial Option Shown)**

6. Costs

Although the costs contained in this section may seem high, managing congestion through transit, pedestrian, and bike improvements is more cost effective than adding intersection and roadway capacity. Adding a lane on a local (arterial) road generally runs about $750,000 per mile. The Williamson County Major Thoroughfare Plan has estimated $102 million to add one lane in each direction on Murfreesboro Road from Arno Road to the Rutherford County line, an improvement that may not be necessary if the robust express bus network proposed for the medium term is developed.

Arterial Route Options - Additional Annual Costs

Table 6: Arterial Route Options - Additional Annual Costs

Route	Additional Weekday Hours	Additional Saturday Hours	Additional Operating Cost	Additional Vehicles Needed	Total Year One Capital Costs	Total Arterial Option Startup Costs [1]
East Bound	11	14	$310,500	2	$680,000	$990,500
Purple	14	9	$400,800	1	$340,000	$740,800
Blue	26	9	$740,700	4	$1,360,000	$2,100,700
Nashville Reverse Express	4	0	$96,900	0	0	$96,900
Night Route	2	2	$60,800	0	0	$60,800
TOTAL			**$1,609,700**		**$2,380,000**	**$3,989,700**

[1] Costs are rounded up to the nearest $100

The total startup cost for transit would be around **$4 million** for the first year, with subsequent years being around **$1.6 million.**

Below are the bare minimum costs for the Arterial Option if:

- Service begins using the current equipment type - Cutaway vehicles
- The frequency of service is reduced - *30-minute service during morning and afternoon peak hours only*
- No night route

Startup Costs Year One: $2.8 million
Operating Costs Subsequent Years: $1.4 million

Below are the bare minimum costs for the Arterial Option if:

- Service begins using the current equipment type - Cutaway vehicles
- The frequency of service is reduced - 60-minute service all day and
- No night route

Startup Costs Year One: $1.6 million
Operating Costs Subsequent Years: $1.1 million

Flex Route Options - Additional Annual Costs

Table 7: Flex Route Options - Additional Annual Costs

Route	Additional Weekday Hours	Additional Saturday Hours	Additional Operating Cost	Additional Vehicles Needed	Total Year One Capital Costs	Total Flex Option Startup Costs [1]
East Bound	11	14	$310,500	2	$680,000	$990,500
South Bound	12	9	$349,300	2	$680,000	$1,029,300
Flex Route	26	9	$740,700	4	$1,360,000	$2,100,700
91X	4	0	$96,900	0	0	$96,900
Night Route	2	2	$60,800	0	0	$60,800
TOTAL			**$1,558,200**		**$2,720,000**	**$4,278,200**

[1] Costs are rounded up to the nearest $100

The total startup cost for transit would be around **$4.3 million** for the first year, with subsequent years being around **$1.6 million.**

Below are the bare minimum costs for the Flex Option if:

- Service begins using the current equipment type - Cutaway vehicles
- The frequency of service is reduced - 30-minute service during morning and afternoon peak hours only
- No night route

Startup Costs Year One: $2.3 million
Operating Costs Subsequent Years: $1.2 million subsequent years

Below are the bare minimum costs for the Flex Option if:

- Service begins using the current equipment type - Cutaway vehicles
- The frequency of service is reduced - 60-minute service all day
- No night route

Startup Costs Year One: $1.9 million
Operating Costs Subsequent Years: $875,000.

Circulator Route Options - Additional Annual Costs

Table 8: Circulator Route Options - Additional Annual Costs

Route	Additional Weekday Hours	Additional Saturday Hours	Additional Operating Cost	Additional Vehicles Needed	Total Year One Capital Costs	Total Flex Option Startup Costs[1]
East Bound	3	5	$126,720	0	0	$126,720
Brown Route	52	28	$1,480,000	8	$2,720,000	$4,200,000
91X	4	0	$96,900	0	0	$96,900
Night Route	2	2	$60,800	0	0	$60,800
TOTAL			**$1,764,420**		**$2,720.000**	**$4,484,420**

[1] Costs are rounded up to the nearest $100

The total startup cost for transit would be around **$4.5 million** for the first year, with subsequent years being around **$1.8 million.**

Below are the bare minimum costs for the Circulator Option if:

- Service begins using the current equipment type - Cutaway vehicles
- The Circulator runs in just one direction
- The frequency of service is reduced - 30-minute service during peak only hours only
- No night route

Startup Costs Year One: $2.3 million
Operating Costs Subsequent Years: $860,000

Below are the bare minimum costs for the Circulator Option if:

- Service begins using the current equipment type - Cutaway vehicles
- The Circulator runs in just one direction
- The frequency of service is reduced - 60-minute service all day
- No night route

Startup Costs Year One: $1.4 million
Operating Costs Subsequent Years: $735,000

Short-term Pedestrian and Bike Improvement Costs

Table 9: Short-Term Improvement Costs

Improvement	Cost	Units	Total
Signal at Centennial High School	$375,000 [1]	1	$375,000
Sidewalks	$27 per foot [2]	24,490	$661,230
Bike Racks	$540 per unit	8	$4,320
Bike Trail	$261,000 per mile	5.09	$1,328,490
Bike Lane	$89,570 per mile	3.39	$303,642
Bike and Pedestrian Wayfinding Signs	$27,240 per mile	22.14	$603,094

[1] Median cost of signal installation from SRTS Guide (http://guide.saferoutesinfo.org/engineering/traffic_signals.cfm)

[2] Bike and pedestrian costs are median costs and come from the University of North Carolina at Chapel Hill's Highway Safety Research Center (2013)

The total costs for these improvements would be around **$3.2 million**, and could be phased in over a five-year period. Added to the transit improvements, the total cost for all of the multimodal improvements in the short-term would be in the range of **$4.6** to **$5.1 million** for the first year of the five year span, and **$2.1** to **$2.4 million** in subsequent years.

Total Cost for Medium-Term Improvements

Table 10: Medium-Term Improvement Cost

Improvement	Cost
Transit Center	$7.0 million [1]
Murfreesboro Express (bus route)	$830,000 [2]
Antioch Express (bus route)	$984,000
Spring Hill Express (bus route)	$1.1 million
Route 91X service improvements	$848,000
Local bus service improvements	$1.5–2.5 million
Pedestrian and bike improvements	$2.2 million

[1] Rough estimate includes: Site preparation, structure construction costs, Park & Ride construction costs, and design and architectural costs. Costs may vary depending on final design and site selection. Assumes this will be a greenfield site.

[2] Annual cost; assumes $241.25 in-service hourly cost for Express Bus service (higher than the evaluation figure due to deadhead times included)

The total costs for all medium-term improvements would be around **$15.5 million** for the first year (5 years from implementation of the short-term improvements), with the cost being around **$4.4 million** for years 6-10 (operating cost of the improved transit service). Combined with the short-term improvements, the cost would be around **$20 million** above the current conditions, and at around **$6.5 million** for the subsequent years.

Total Cost for Long-Term Improvements

Table 11: Medium-Term Improvement Cost

Improvement	Cost
High Capacity Transit	$150 million–$230 million [1]
Murfreesboro Express expansion	$523,000
Antioch Express expansion	$492,000
Berry Farm Express (new route)	$2.1 million
New local bus routes	$1.5 million
Pedestrian Bridges over I-65	$8 million

[1] Dependent on mode and right-of-way chosen; operating costs estimated to be $5 million annually.

The total cost of these improvements would be between $160 and $240 million.[2] The total cost over the next 20 years, then, for all of these multimodal improvements would be between $180 and $260 million.

[2] Includes savings from elimination of Spring Hill express and 91X routes; the highest percentage of this cost comes from building high capacity transit, most of which would be borne by entities other than Franklin.

7. Evaluation of Short-Term Options

Criteria were developed in order to evaluate the proposed service options recommended in the short-term. The evaluation criteria are based on industry standards and can be used to assess the potential for successful transit services in any community. The criteria are listed below:

Table 12: Service Option Criteria

Goal	Metric
Connectivity	Number of transfer opportunities within study area
Productivity	Potential ridership
Mobility	Minutes it would take to journey from Williamson Medical Center to East McEwen Drive and Carothers Parkway then to Walmart and on to the Cool Springs Galleria (round trip)
Job Accessibility	Number of major employers served
Rider Accessibility	Area in square miles within ¼ mile of a fixed or flexible transit service
Civic Accessibility	Accessibility to community institutions and public space
Limiting Capital Costs	Purchase cost of 30-foot buses and a temporary Park & Ride lot
Limiting Operating Costs	Includes both contracted services and Franklin Transit run services

The data tables for each alternative are listed in Table 13 and Table 14. Table 13 lists the evaluation criteria and provides a quantitative or qualitative assessment for each alternative. In Table 14, the quantitative assessment was converted to a qualitative assessment by using Harvey balls as a means to make an overall assessment of how the alternative best meets the evaluation criteria. A full ball means that that alternative best meets the criteria as compared to the other alternatives, a half ball indicates that it partially meets that criteria as compared to the other alternatives, an empty ball means that it least meets the criteria compared to the other alternatives. A narrative description of how each alternative meets the evaluation criteria is below. For the purpose of evaluating the options, a full ball will equal 3 points, a half ball 2 points, and an empty ball 1 point.

Option 1 Arterial Route Options

Option 1 ranks comparatively high on connectivity and accessibility issues, and limiting capital costs and does not rank particularly poorly in any of the other categories. It does rank last in potential ridership. However, the spread between the best ridership option and the worst is only 5%, so the difference is negligible. The capital costs are lower than the other two, due to the fact that this option uses the existing Park & Ride, rather than constructing another. This option would most resemble what the Franklin Transit system will eventually become once the system is fully built out.

Option 2 Flex Route Options

Option 2 has the slowest speed of travel of three options, due to the flexible nature of the route. However, this option would cover the greatest portion of the study area. This coverage is negated somewhat by the comparative difficulty of using service, as riders would need an advance reservation to ride, and would not have the same confidence of arriving at their destination on time, if the bus needed to flex off the fixed route repeatedly—especially during peak periods. On the other hand, this option would be attractive to current TODD riders in the area used to reserving rides, as well as corporate headquarters along Carothers Parkway whose front doors are some distance from the main arterial, and whose employees may demand a door-to-door type of service to convince them to abandon their cars. This option would be best for attracting choice riders who work along Carothers Parkway.

Option 3: Circulator Route Options

Option 3 is both the fastest, and has the best ridership potential of any of the three options. Due to the dual direction loop operating configuration, it would allow the greatest access to Carothers Parkway workers to the rest of the Cool Springs area for lunchtime errands and restaurant visits. However, this option costs about $200,000 more a year to operate than the others do, and it doesn't provide particularly good connectivity to the rest of Franklin or the region as compared to Option 1. This also serves the least number of employers. This is the most Cool Springs focused of all the options.

If all factors are weighted equally, Option 1 is best option with a score of 20 points, with the other options at 17 and 15 points. However, the scores are not so divergent that picking a lower scored option would preclude expanding the options in Phase 2 and 3. The option that Franklin Transit Authority / The TMA Group finally chooses for the transit service in the near term will likely be based on which of the evaluation criteria they rate as most important to get this plan off to a good start.

Table 13: Evaluation Factors for Short-Term Service Alternatives

Proposed Route	Transfer Opportunities	Potential Ridership	Speed of Travel within Corridor (Round trip in minutes)	Major Employers Served	Coverage Area (in mi²)	Public Resource Access	Additional Capital Costs [1]	Additional Operating Cost [2]
Option 1 Arterial	6	43,139	83	30	4.57	Excellent	$2,380,000	$1,563,585
Option 2 Flex	3	44,793	104	26	6.38	Excellent	$2,720,000	$1,513,095
Option 3 Circulator	3	45,822	41	25	4.78	Fair	$2,720,000	$1,741,290

[1] Uses cost of standard diesel 30-foot bus as $340,000 (From Iowa State study comparing cost of standard bus to CNG bus); Assumes Park & Ride will cost $860,000 (price of an available lot at Murfreesboro and Carothers)

[2] Assumes $95/hr for RTA service (does not include deadhead time) and $99/hr Franklin Transit service; Annual cost

Table 14: Qualitative Ranking of Short-Term Service Alternative Goals

Proposed Route	Connectivity	Productivity	Mobility	Job Accessibility	Rider Accessibility	Civic Accessibility	Limiting Capital Costs	Limiting Operating Costs
Option 1 Arterial	●	◒	◒	●	◒	●	●	◒
Option 2 Flex	○	●	○	◒	●	●	○	●
Option 3 Circulator	○	●	●	◒	◒	◒	○	○

● = 3 points ◒ = 2 points ○ = 1 point

8. Funding

The current federal transportation funding bill, MAP-21, was set to expire at the end of 2014, but has been extended through May 2015 with the passage of the H.R. 83, commonly known as the Consolidated and Further Continuing Appropriations Act, 2015. Compared to SAFETEA-LU, there are less discretionary funds, and more formula-based grants to be passed through to and programmed by the states. In general, programs that existed under SAFETEA-LU were consolidated into a smaller number of broader core programs. Many smaller programs are eliminated, including most discretionary programs, with the eligibilities generally continuing under core programs. Franklin Transit currently receives 15% of its operating and 71% of its capital funding through federal sources.

Bus and Bus Facilities Program (Section 5339)

These funds may be used to purchase, replace, or rehabilitate transit buses and vans as well as to modernize or construct bus facilities (such as maintenance depots and intermodal facilities) in urban, suburban, and rural communities. This would be a good place to start looking for funds for new equipment, as well as a new maintenance or storage facility if that is needed for the new vehicles. These funds could also be applied to building new shelters throughout the Cool Springs area. Grant money is distributed directly to states ($1.25 M per state) and to urbanized areas. 80% of the capital funding for this grant is federal and 20% is a local match.

Formula Grants for the Enhanced Mobility of Seniors and Individuals with Disabilities (Section 5310)

At least 55% of program funds must be used on capital public transportation projects that are planned, designed, and carried out to meet the special needs of seniors and individuals with disabilities where public transportation is insufficient, inappropriate, or unavailable. The remaining 45% may be used for public transportation projects that exceed the requirements of the ADA; public transportation projects that improve access to fixed-route service and decrease reliance by individuals with disabilities on complementary paratransit; or alternatives to public transportation that assist seniors and individuals with disabilities.

As a project designed to increase the ability to transfer and enhance pedestrian access within the Cool Springs area, the Franklin-Cool Springs Transit Center would be eligible as a public transportation project that would improve access to fixed route service and decrease reliance by individuals with disabilities on complementary paratransit services. Money from this grant could also be used to construct sidewalks along transit routes. Like the first grant, this would provide 80% of the costs, to be paired with a 20% local match.

Fixed Guideway Capital Investment Grants (Section 5309)

Colloquially known as "Small Starts/New Starts," this program administered by the Federal Transit Administration provides grants for new and expanded rail, bus rapid transit, and ferry systems that reflect local priorities to improve transportation options in key corridors. Eligible projects include new fixed guideways or extensions to fixed guideways; bus rapid transit projects operating in mixed traffic that represent a substantial investment in the corridor; and projects that improve capacity on an existing fixed-guideway system. The local match is 20%.

This funding program could be used for any high capacity transit project through the Cool Springs area.

Surface Transportation Program (STP)

The Surface Transportation Program provides flexible funding that may be used by States and localities for projects to preserve or improve conditions and performance on any Federal-aid highway, bridge projects on any public road, facilities for non-motorized transportation, transit capital projects and public bus terminals and facilities. 50% of the funding is allocated by a formula based on population, with the other 50% being discretionary. The local match is 20%.

Eligible routes are those which promote regional and/or sub-regional travel. Categories of projects eligible for funding include rehabilitation, capacity and safety (new construction), economic development, and traffic control measures. Bike, pedestrian, and transit improvements are specifically cited as being eligible.

Purchase of express buses for intercity bus service; converting the fleet to electric and natural gas vehicles; bicycle facilities and pedestrian projects having a nexus to public transportation; and transit safety infrastructure improvements in the Cool Springs area would all be eligible for this grant.
8.5 Transportation Alternatives Program (TAP)
This program provides for a variety of alternative transportation projects that were previously eligible activities under separately funded programs. Eligible activities include:

- Transportation enhancements
- Recreational trails program
- Safe routes to schools program
- Planning, designing, or constructing roadways within the right-of way of former Interstate routes or other divided highways

50% of the funding is allocated by a formula based on population, with the other 50% being discretionary. The local match is 20%. Some of the proposed sidewalk, signal, and trail improvements would be eligible for this type of funding.

Urbanized Area Formula Grant (Section 5307)

The Federal Transit Administration provides the majority of its transit capital investment through this program, authorized under MAP-21. As a regional authority, the Nashville MPO would be the recipient for this grant. 80% of the capital funding for this grant is federal and 20% is a local match. 1% of all grant monies must be spent on associated transit security improvements. For operating assistance, there is a 50-50 split.

Other Federal Capital Funding Programs

TIGER Discretionary Grants have gone through six rounds of funding since being first authorized in 2009. Funding is allocated on a competitive basis, and projects must demonstrate they will deliver the following long-term outcomes: safety, economic competitiveness, state of good repair, livability, and environmental sustainability. Projects are also evaluated on their expected contributions to the economic recovery, as well as their ability to facilitate innovation and new partnerships. Projects that are awarded funding are generally multi-modal, multi-jurisdictional, and difficult to fund with other grants. Many of the multi-use trails needed in the Cool Springs area could be funded through this program.

State and Local Funding

Franklin Transit currently receives 19% of its operating and 7% of its capital funding through state sources, primarily through the state's Operating Assistance Program and Capital Investment Grants, and 61% of its operating and 22% of its capital funding through local sources, primarily through the local Transit Fund.

Sources for New Transit Funds

Value Capture and Impact Fees

The City of Franklin currently charges a transportation impact fee to any large new development. This study recommends that the City should either dedicate a portion of this fee to transit improvements in the area, or add an additional fee on top of this one for such improvements.

Much in the same vein, the City could dedicate a certain portion of property taxes within a newly created Cool Springs Special Service Area to go into a transit fund. This could be done through a "value capture" mechanism, whereby a certain portion of tax increase related to an increase in property value goes into the fund. The same mechanism could be used for retail sales taxes in the area.

Increasing the Realty and Mortgage transfer tax would be a good way in capturing the value unlocked by the addition of a robust transit system to the Cool Springs area. With the boom in housing construction and sales going on in Williamson County, and especially the Cool Springs area, this tax increase would have great potential in funding transit.

User Fees

Franklin currently does not require residents to buy a vehicle sticker (nor does Williamson County). With 92% of all households owning at least one car, adding this requirement would garner at least $3.1 million (assuming a $50 fee) if personal vehicles needed to registered in the County, or $1.1 million if the sticker requirement was just within the city of Franklin.

Taxes

Franklin currently assesses a 2.25% sales tax. This can be locally increased by an additional .50 % to 2.75%. Increasing the tax would bring in an extra $6.3 million, a portion of which could be dedicated to fund multimodal improvements. The increase would have to be approved by voters in a referendum.

Franklin also collects a 4% rate on occupied hotel rooms. Nearby Nashville collects a 6% tax on its rooms, plus a $2.50 fee per person. Increasing the tax to the Nashville rate would garner additional transit funding and have the added benefit of taxing visitors who use the infrastructure of the Cool Springs area, without contributing taxes for it (i.e., the "free-rider" problem)

Another local tax that could be instituted would be a utility levy. The tax could be applied as a flat rate on a per meter or per household basis. Although this tax would not likely change travel behavior, connecting energy consumption with transit, however tenuous, it may psychologically link the two in consumers' heads. With over 20,000 households in Franklin, a levy of this kind would generate about a $500,000 per year, assuming a $20 per household annual levy. This tax would need enabling legislation from the Tennessee Legislature.

Attaching a tax to each new commercial parking space built above a statutory minimum threshold would curtail excess parking space construction, and reduce the inherent subsidy of free parking spaces. Applying this tax to existing lots would both bring in revenue, and encourage denser development where excess parking occurs. Along with this tax should be a revision of land use codes to change the amount of spaces required to a maximum, rather than minimum, for each land use.

Adding an additional local tax on gasoline would be another way to fund these improvements. The current state gas tax rate is .20 per gallon (Note: it was set to be raised in 2015 but this did not happen) and could have an additional rate added on by Williamson County (and Maury and Rutherford Counties, for their portion of the express routes). Fuel tax increases would help encourage more compact, multi-modal land development in the Cool Spring area, although the effect may be only a signaling mechanism, rather than an actual goad for this type of development. The likely revenue raised for every penny increase on gallon of gas would be about $1 million, assuming each Williamson County resident consumes 500 gallons of gas per year ($5 generated per capita). This tax would need enabling legislation from the Tennessee Legislature.

Fares

The farebox recovery ratio of 6% for Franklin Transit is lower than its peer agencies. The current fare of $1.00 (.50 cents for seniors) is below that of Memphis ($1.75), Nashville ($1.70), and Clarksville and Chattanooga ($1.50). Farebox recovery ratios for other small systems in Tennessee include Clarksville (13%); Murfreesboro (9%); Bristol (4%), Knoxville (8%), and Jackson (18%). Big city systems like Memphis and Nashville currently recover about 20% of their costs from the farebox. An increase of 50 cents, in two increments of 25 cents, would help fund future transit improvements. For express routes, a distance-based fare should be instituted, rather than the current flat rate charged by the RTA. Charging .20 per mile (roughly one third of the IRS cost per mile write-off for using your vehicle for business for 2015) would cost a commuter $3.25 for Spring Hill to Franklin trips; $7.50 from Murfreesboro; $3.50 from Antioch; and $4.30 from Nashville.

Public-Private Partnerships

With the decline in transit funding on the federal, state, and local level (especially for capital projects), some transit agencies have turned to the private sector to fund operations and capital expenses.

One type of Public-Private Partnership (PPP) is a design-build contract for a Transfer Center, where the design and construction of the facility is done by a single contractor and would occur in near simultaneity. This would save money by offsetting some of the design risk onto the private contractor. Cost savings would also come by reducing the construction time of the project, and create synergies between the design and construction phase of the contract. However, The TMA Group would still need to serve as a project coordinator, and it may be difficult to find a local contractor that would have the experience to do this type of work.

This type of PPP could be extended even further by having the contractor assume the operating and maintenance costs for the facility once it is built. While this can save the transit agency money by creating a fixed, rather than a variable, cost of operation of a facility, there is a risk that the private operator could default on the contract, leaving the transit agency on the hook for operating and maintenance costs. The contract itself can be very complex and costly to prepare. There is a possibility that this type of partnership could be entered into with a possible private intercity bus company (such as Megabus or Greyhound), who would be a possible major tenant of the facility. Other possibilities are including a major retail or non-profit tenant that would then operate the facility in return for rent-free or rent-reduced accommodations.

PPPs can also be used for operation of service. Cool Springs area companies, especially those in the underserved area along Carothers Parkway, could partially subsidize any new route in that area. A more direct subsidy could be made with the Flex Option, whereby companies that helped subsidize the route could get direct service off the fixed route at specific times without their employees needing to reserve a ride.

Corporate Sponsorships

With the plethora of corporations in the Cool Springs area, especially health care companies, there may be opportunities to leverage corporate dollars in the construction and maintenance of multiuse trails and bike lanes in the area, as well as the planning and erection of a wayfinding sign network in the area. Trails could be named the "Nissan Trail" or a connected series of bike lanes could be labeled the "CHS Route," for instance.

Funding Agreements

Especially for regional routes running beyond the city limits of Franklin, funding agreements should be worked out with Murfreesboro, the city of Nashville, Spring Hill, Columbia, and Brentwood for express and local service to those communities. Williamson County, Rutherford County, and Maury County could also be approached for funding, as any express routes would benefit their residents as much, if not more, than Cool Springs area employers.

9. Public Input and Support

Public input was very critical to the study recommendations. Public input involved a presentation to public officials and stakeholders, two interactive public open houses and a survey distributed both online and at the public open houses.

Public Survey Results

The purpose of the public survey was to identify if the respondent currently uses an alternative means of transportation to get to work, whether they have used transit within the last twelve months, whether they bike or walk during their lunch break, and if and under what conditions they would ride transit within Cool Springs. A copy of the survey is provided in this section.

Summary of Key Results

Over 200 surveys were returned. The following provides a brief synopsis of the survey results:

Question: If you live in Franklin, is your address east or west of I-65?

Answer: Sixty-three percent of respondents live west of I-65

Question: If you work in Franklin, is your address east or west of I-65?

Answer: Seventy-nine percent of respondents work east of I-65

Question: What is your primary means of travel to or from Cool Springs?

Answer: Ninety percent of respondents commute via a single occupancy car; 5% carpool, 2% bike, 2% walk and 1% use Franklin Transit

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Question: Where have you used transit over the last twelve months?

Answer: Forty-one percent of respondents report they have not used transit in the last 12 months; 36% have used transit elsewhere in the United States; 9% have used transit outside the United States, 8% have used transit in Nashville, and 6% have used transit in Franklin

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Question: If you work in Cool Springs, do you walk or bike during your lunch break? If so, why do you walk or bike at lunch?

Answer: Fifty-seven percent or respondents report no with 43% saying yes they do walk or bike. Of those who do, the majority (88%) do so for recreation and/or exercise with the balance doing so to reach a destination.

Question: Would you use transit at lunch to move about the Cool Springs area if.....?:

Answer:

- You could depend on reliable service every 15 minutes (51%)
- The service was free (37%)
- Not at all (12%)

Question: Would you be willing to use a park and ride location to access an express bus route or vanpool?

Answer: Forty-three percent of respondents stated they would do so to go to an event in Nashville, 33% said to go to work in Cool Springs, 18% said to go to work in Nashville, and 6% to go to downtown Franklin.

Question: What factor(s) would most likely encourage you to use transit for your journey to work?

Answer: The following four answers were almost evenly split between the respondents, capturing approximately 24% of the responses for each of the following answers: frequency of service, speed of service hours of service and cost of service. An additional 4% of respondents said they would ride transit when the per gallon cost of fuel rises to $4.00 per gallon or greater

Additional Public Comments

The survey also requested open ended comments. There were many divergent comments, some of which supported transit and others that did not. The comments can briefly be categorized as follows:

- Cool Springs needs a mass transit system
- Express buses or commuter rail and light rail services to /from outlying areas would be helpful
- Transit will only work if it is frequent enough, provides service almost door to door, and costs less than driving
- It is important to get ahead of the growth
- The roadway infrastructure is underbuilt; roads and ramps need to be widened and traffic signals need to be adjusted
- No one will ride transit when it is nicer and easier to drive one's car
- Buses won't make a difference in commuting; buses will get stuck in traffic similar to cars
- Sidewalks and bike lanes are important and would encourage people to walk or bike

Stakeholder Survey Results

In addition to a public survey, a Stakeholder Survey was also sent out to Cool Springs employers. A copy of this survey is provided in this section. Eleven surveys were returned. The purpose of the survey was to identify whether any of the companies currently offer incentive programs to their employees to use alternative means of travel to get to work and if not, would they be willing to sponsor or encourage an alternative means of transportation program. The following is a summary of the results of the survey.

Question: Do you know if any of (employees) use carpools/vanpools/transit to get to work?

Answer: Two companies reported that their employees use vanpools to get to work.

Question: Does your company provide any type of incentives to encourage employees to use an alternative means of transportation such as carpool/vanpools/transit?

Answer: One company reported they hand out free bus passes for work related trips.

Question: Does your company currently offer options such as telecommuting, condensed work schedules, or flexible working hours?

Answer: Eight of the companies report that they offer options for their employees. One company reported that their employees can work from home based on personal need but not as a regular occurrence. Five other companies offer flexible working hours, and telecommuting and 1 company stated they will consider this. Two other companies (one hospitality and the other healthcare) offer staggered work/shift hours.

Question: Would your company be interested in sponsoring or encouraging transit or other transportation options such as (note: more than one option can be checked):

Answer:

- Corporate-sponsored carpool and vanpool programs (1 respondent)
- Well-publicized award systems rewarding employee mode shift (3 respondents)
- Commuter Tax Benefit promotion (3 respondents)
- Enrollment in "Best Work Places for Commuters" Program (2 respondents)
- Location of bikeshare station on your company/agency property (3)

Additional Key Stakeholder Comments

The survey also requested open ended comments. The comments can briefly be categorized as follows:

- Development patterns need to change to allow more pedestrian focus
- If people are going to use transit, need to drop people off close to their destinations
- Supports transit technology which will allow you to know when bus will arrive
- Proper and robust connectivity to downtown Franklin and other outlying areas is essential
- Frequent (15 minute) service is important
- School traffic should not impede commuter traffic; school hours should be revised
- Traffic signals need to be synchronized

Public Open House

Public open houses were held on Tuesday, April 28, 2015 at One Franklin Park, 6100 Tower Circle, in Cool Springs. The meeting flyer is provided in this section.

A breakfast meeting was held from 7:30 to 8:30 a.m. and was well attended by stakeholders and government officials. Two other public open houses were held for the general public; one was held from 11:00 a.m. to 2:00 p.m. and the other from 4:30 p.m. to 7:30 p.m. A power point presentation which presented the study background and results was presented at each meeting. The public was then encouraged to review the boards displayed in the room and to participate in interactive exercises including identifying where they lived and work and which local transit alternative they supported. They were also encouraged to fill out the public survey in order to express their opinions.

Over 100 people attended the three open houses. Many of the attendees reported that they worked in Cool Springs; a few also lived within the study area. Support for the local transit service options presented was evenly split between the three options. Comments received were positive and in support of adding multimodal options within, to, and from the Cool Springs area. Comments included:

- It is critical to identify funding sources, including public-private partnerships
- Land use densities that support transit are necessary
- It is important to develop workforce housing within Cool Springs
- The "psychological" part to transit is critical to identify; i.e. what would it take to attract people to transit

COOL SPRINGS MULTIMODAL TRANSPORTATION STUDY

Thank you for taking the time to provide your feedback on the Study. Your ideas are important to us.

Name and contact information (optional) _____

Zip Code where you live _____ If you live in Franklin, is your address East or West of I-65 _____

Zip Code where you work _____ If you work in Franklin, is your address East or West of I-65 _____

What is your commute travel time between home and work?

Morning _____hours _____ minutes ***Evening***_____ hours _____minutes

What is your primary means of travel to or from Cool Springs? (circle all that apply)

a) Franklin Transit Fixed Route
b) Franklin TransitOnDemanD (TODD) service
c) Express Bus
d) VanStar Vanpool
e) Carpool
f) Bicycle
g) Walking
h) Car or other single occupancy vehicle
i) Other _____

Where have you used transit over the last twelve months? (circle all that apply)

a) Franklin
b) Nashville
c) Elsewhere in the United States
d) Elsewhere outside the United States
e) I have not used transit in the last 12 months

If you work in Cool Springs, do you walk or bike during your lunch break?

a) Yes
b) No

If so, why do you walk or bike at lunch?

a) To reach a destination
b) Recreation/Exercise
c) Both
d) Other _____

Public Survey

Would you use transit at lunch to move about the Cool Springs area if ? (circle all that apply)

a) You could depend on reliable service every 15 minutes
b) The service was free
c) Not at all

Would you be willing to use a park and ride location to access an express bus route or vanpool? (circle all that apply)

a) Go to an event in Nashville
b) Go to work in Nashville
c) Go to work in Cool Springs
d) Go to work in another area _____ *(location)*

What factor(s) would most likely encourage you to use transit for your journey to work? (circle all that apply)

a) Frequency of service
b) Speed of service
c) Hours of service (service span)
d) Cost of service
e) Per gallon cost of fuel rises to _____

What other comments do you have regarding transit in Cool Springs?

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Please turn this Survey in to the Sign-In Desk at the Public Meeting or as follows:
Email: publicmeetings@tmagroup.org or gmtrimarco@transystems.com
Mailing Address: Ms. Gina Trimarco, Project Manager, TranSystems, 222 S. Riverside Plaza, Chicago IL 60606
Fax: 312-276-4805

Funding for the Study provided by: Federal Transit Administration, State of Tennessee, and City of Franklin

Public Survey (continued)

COOL SPRINGS MULTIMODAL TRANSPORTATION STUDY

Employer Survey

Thank you for taking the time to provide your feedback on the Study. Your ideas are important to us.

Name and contact information _____

Name of company/agency _____

How many people does your company/agency employ in the Cool Springs region?_____

Do you know if any of them use carpools/vanpools/transit to get to work? Yes_____ No_____

If so, do you know how many or what percentage use carpools/vanpools/transit?_____

Does your company provide any type of incentives to employees to get them to use an alternative means of transoportation such as carpools/vanpools/transit? Yes_____No_____

If yes, please describe the type of incentive here_____

Does your company currently offer options such as telecommuting, condensed work schedules, or flexible working hours? Yes_____No_____

If yes, please describe type of work option here_____

Would your company be interested in sponsoring or encouraging transit or multimodal transportation options such as: (circle all that apply):

1. ***Corporate sponsored carpool and vanpool programs***
2. ***Well publicized award systems rewarding employee mode shift to ridesharing, transit and biking***
3. ***Commuter Tax Benefit promotion***
4. ***Enrollment in the "Best Work Places for Commuters" program***
5. ***Location ofa bike share station on your company/agency property***

Other ideas you would be willing to do to encourage employees to use transit and other multimodal options to commute to work_____

What other comments do you have regarding transit in Cool Springs?

_____

_____

_____

Please turn this Survey in to the Sign-In Desk at the Public Meeting or as follows:

Email: publicmeetings@tmagroup.org or gmtrimarco@transystems.com

Mailing Address: Ms. Gina Trimarco, Project Manager, TranSystems, 222 S. Riverside Plaza, Chicago IL 60606

Fax: 312-276-4805

Employer Survey

Community Meeting for Cool Springs Multimodal Transportation Transit Network Study

Tuesday, April 28, 2015 11:00 AM–2:00 PM (light lunch will be available) & 4:30 PM–7:30 PM

The TMA Group and the Franklin Transit Authority have conducted a transportation study through Transystems, a distinguished transportation consulting firm, for the Cool Springs area of Franklin. The TMA Group will be holding a community meeting for highlighting the recommendations of the study and to receive input from the community on the transportation opportunities in Cool Springs.

Two Community Comment meetings will be held on Tuesday April 28, 2015 from 11:00 AM– 2:00 PM (light lunch will be available) and 4:30 PM–7:30 PM. The meetings will be held at Cool Springs newest multi-use development:

One Franklin Park 6100 Tower Circle, Cool Springs

These meetings are intended to generate public comments from as many businesses, employees, residents, shoppers, and corporate partners in the Cool Spring area as possible. So please plan to attend and share your ideas about the future of transit and transportation in Franklin.

Directions from Franklin: I-65 North, Exit W. McEwen Drive (Exit 67). Turn right onto W. McEwen. Turn left onto Tower Circle.

Transit on Demand service is available through Franklin Transit within the City of Franklin service area. (615) 628-0260 (48 hr notice)

Persons with a disability or special needs, who require aides to participate at the meeting, may contact Mike Johnston directly at (615) 628-0260 (48 hours notice)

All comments received at the meeting or within the specified comment period will be included in the official meeting transcript. In addition, comment cards are available for those who prefer to make written statements. Written statements and other exhibits may be submitted by May 9, 2015, by email to publicmeetings@tmagroup.org, or by mail to The TMA Group, 708 Columbia Ave, Franklin, TN 37064

Public Comment Meeting Flyer

COOL SPRINGS

Multimodal Transportation Network Study

APPENDIX

APPENDIX: A
Existing Conditions Report

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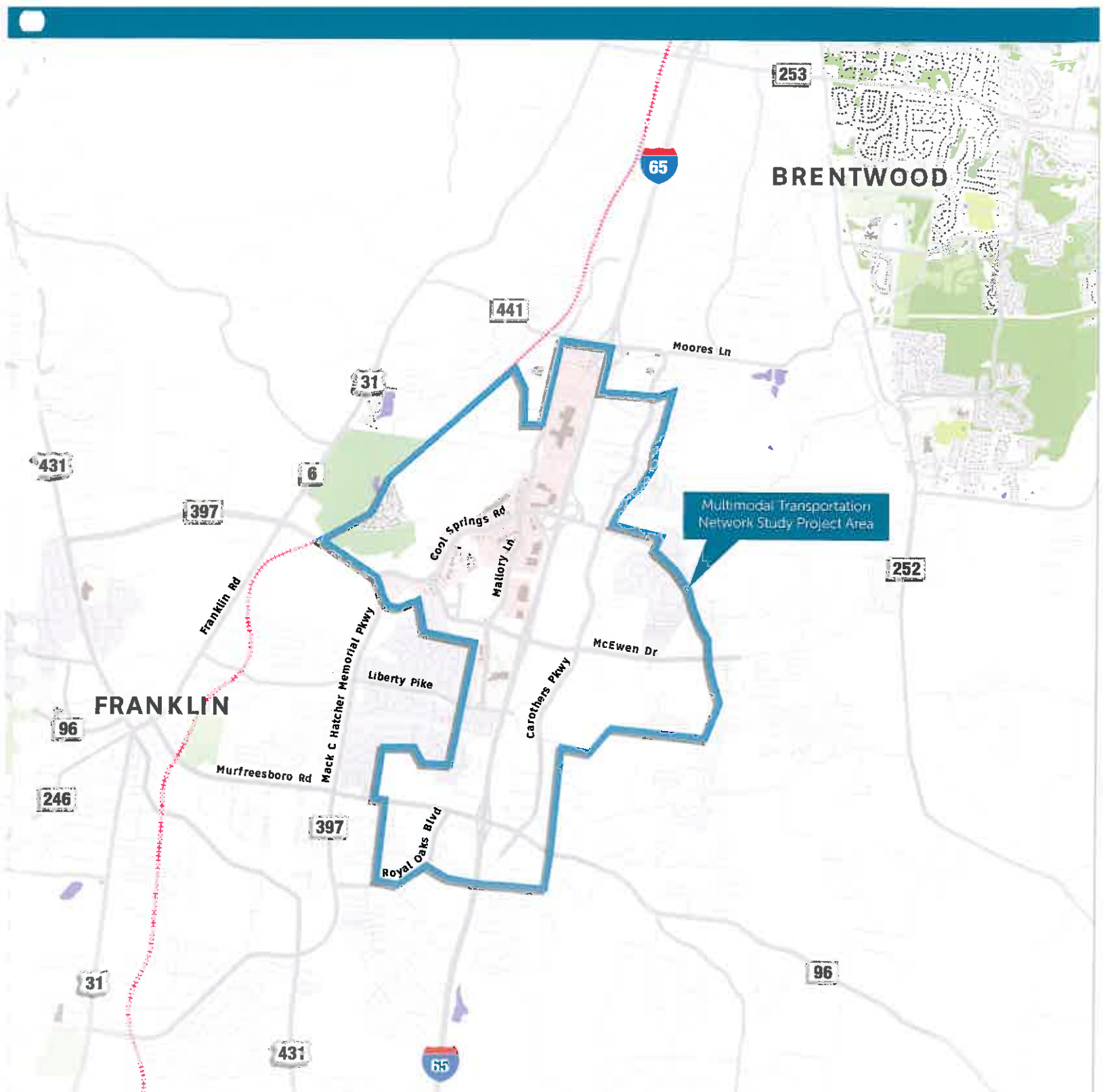


Cool Springs Study Area Map

Cool Springs is a major employment and retail center for the City of Franklin located in Williamson County, Tennessee. It is considered a regional center, drawing shoppers and clients from all around the Middle Tennessee, Southern Kentucky, and North Alabama areas. The upscale development grew around the Cool Springs Galleria shopping mall, which first opened to the public in August 1991. The area has since expanded to encompass land on both sides of Interstate 65 and includes several luxury hotels, strip malls, business parks, office buildings, big box retailers, low-rise apartments, condominiums, and restaurants. The Cool Springs area is home to many major companies including Healthways, Nissan North America, MedSolutions, Community Health Systems and Tasti D-Lite.

EXISTING CONDITIONS

1. Introduction

The goal of the Cool Springs Multimodal Transportation Network Study is to determine the extent of a purpose and need for an integrated multimodal transportation network in the Cool Springs area of Franklin, TN including but not limited to a transit circulator system, ridesharing, fixed route and express bus service connectivity, park and ride facilities, and pedestrian/bicycle system as integrated components.

The Existing Conditions Report will begin the groundwork for Plan recommendations. The report contains the following sections:

- ***Prior Studies***
- ***Demographics and Land Use***
- ***Travel Patterns***
- ***Existing Transit Services***
- ***Pedestrian and Bike Connections***
- ***Roadway and Parking Conditions***
- ***Appendix***

2. Prior Studies

Although there have not been any studies directly related to transit, bike, or pedestrian access to Cool Springs, several past studies - mostly dealing with the roadway network - have incorporated these elements.

Carothers Parkway and East McEwen Drive Integrated Growth Plan (2013):

This local study recommends a roadway growth plan on McEwen Drive between Mallory Lane and Cool Springs Boulevard and from Liberty Pike and Cool Springs Boulevard on Carothers Parkway. As part of the report, they advise Franklin Transit Authority to consider offering more transit east of I-65. It also recommends the establishment of express route stops for Route 91X and Route 95X in the vicinity of McEwen Drive and Carothers Parkway.

2035 Regional Transportation Plan (2010):

This plan, put out by the Nashville Area Transportation Planning Organization (MPO), makes several transit recommendations for the Cool Springs study area. One recommendation, adding an additional trip on Route 91X, has been implemented. The MPO identifies the corridor roughly along I-65 (called "the South Corridor") as a future corridor for high capacity transit in some form, either bus rapid transit (BRT), light rail (LRT), or commuter rail.

Franklin Major Thoroughfare Plan (2010):

The Major Thoroughfare Plan (MTP), issued in coordination with the Williamson County MTP, recommends a series of roadway projects in the Cool Springs study area, mostly involving road widening. A table in the Future Roadway Improvements section at the end of this documents delineates the specific projects included in this plan, including the horizon year. This Plan is currently being updated for 2014.

Greenway and Open Space Plan (2010):

Intended as expansion of the 2008 Land Use Plan's sustainability guiding principles, this document lays out three major principles in order to reach the City of Franklin's goal in becoming one of the top 25 sustainable cities in the country. Open-space preservation, connections between these preserves and surrounding land uses, and the linking of disparate open spaces together into greenways are the key elements of this goal. The plan recommended a series of bike lane and pedestrian improvements in the Cool Springs study area. The following roads in the study area were recommended to have bike lanes: Carothers Parkway, Murfreesboro Road (Tennessee Route 96) and Mallory Lane. Multi-use paths are proposed on the entire length of Carothers Parkway, McEwen Drive, Murfreesboro Road (Tennessee Route 96), Mallory Lane, and Cool Springs Boulevard.

Sustainable Community Action Plan (2009):

This plan, put out by the City of Franklin, recommended as an action item the establishment of an express route between Spring Hill and Nashville by 2013, with the Franklin to Nashville service beginning in 2009. The implementation of Route 91X that year satisfied the latter benchmark. The report also recommends a Southern Corridor Study needs assessment by the MPO, which has yet to be initiated.

Franklin Land Use Plan (2008, amended 2011):

The Franklin Land Use Plan recommended that well-lit park-rides be established at retail centers. It also encouraged the Nashville MPO to make an LRT or BRT route between Franklin and Nashville a top priority, although no alignment was specifically favored. Further explication of this Plan as it relates to the Cool Springs study area will be in the Land Use section.

Roadway Enhancement Plan (2001):

The City of Franklin adopted this master plan in order to create a uniform design standard for several types of roads in the City. Of the five priority roadways chosen as the basis for these design standards, three are in the Cool Springs study area: Mallory Lane from Liberty Pike to Jordan Road; the Murfreesboro Road (Tennessee Route 96) and I-65 interchange; and the Cool Springs Boulevard interchange with I-65. Mallory Lane is classified as a Suburban Civic/ Commercial roadway. In the design guidelines for this type of roadway, the inclusion of a parkway strip between pedestrians and the road is recommended. Also, general recommendations include the inclusion of bike infrastructure, such as bike racks and off-street bike trails along the rights-of-way of major streets. Transit stops in areas like the Cool Springs study area are to be designed with decorative elements matching the rest of the roadway and include way finding signs including a transit map, a sign for the stop name, and a covered waiting area with seating. The general guidelines for the Cool Springs roadways were adopted, and the pedestrian guidelines were adopted for new and reconstructed arterials. But most of the bike and transit recommendations were never adopted.

3. Demographics and Land Use

Socio-Economic Conditions Today

The Cool Springs study area is located in Franklin, TN in Williamson County. Between 1990 and 2010, the City of Franklin's population has grown from 20,098 to 62,487, tripling the size of the City. It is estimated that the City has added another 6,000 people since then. This explosive growth coincides with the emergence of Cool Springs study area as a major commercial draw for the region.

Existing Population

The U. S. Census (2010) indicates that there are approximately 17,000 people currently living in the Cool Springs study area. As shown on the map in *Figure 1*, most of the denser population centers are grouped on the perimeter of the study area. There is an 18% minority population in the study area, with the predominant minority being Asian, which makes up about 12% of the population in the study area *(see Figure 2)*. The minority population is similar to Franklin as a whole, with the difference being that there are a higher percentage of Asians in the study area and a lower number of African Americans and Hispanics.

Household Income

There is little poverty within the study area. 42% of households in the Cool Springs study area have a household income of $100,000 or greater per year. 11% of the households are considered low income (income less than $25,000/year). The census tract with the highest poverty rate draws most of its poor residents from farther west in the neighborhoods abutting Liberty Pike. Cool Springs draws workers from the entire region, however. The income statistics of some of these contributing areas are shown in *Table 1*.

Table 1: Comparison of Income in Cool Springs and Surrounding Areas

	Total Households	< $25,000	$25,000-34,999	$35,000-49,999	$50,000-74,999	$75,000-99,999	$100,000-199,999	< $200,000	% Low Income	% High Income
Cool Springs	12,185*	1,379	972	1,279	1,719	1,794	4,049	965	11.3%	7.9%
Rest of Franklin	13,946	2,569	863	1,192	1,342	2,279	3,273	2,456	18.4%	17.6%
Murfreesboro	41,261	9,261	4,560	6,692	7,411	5,116	6,260	1,261	22.4%	3.1%
Spring Hill	9,743	516	750	1,203	2,157	2,001	2,880	236	5.3%	2.4%
Antioch (area)	11,978	3,209	1,972	2,743	2,362	807	855	39	26.8%	0.3%

*Source: Census tract level data. Some households are outside the study area.

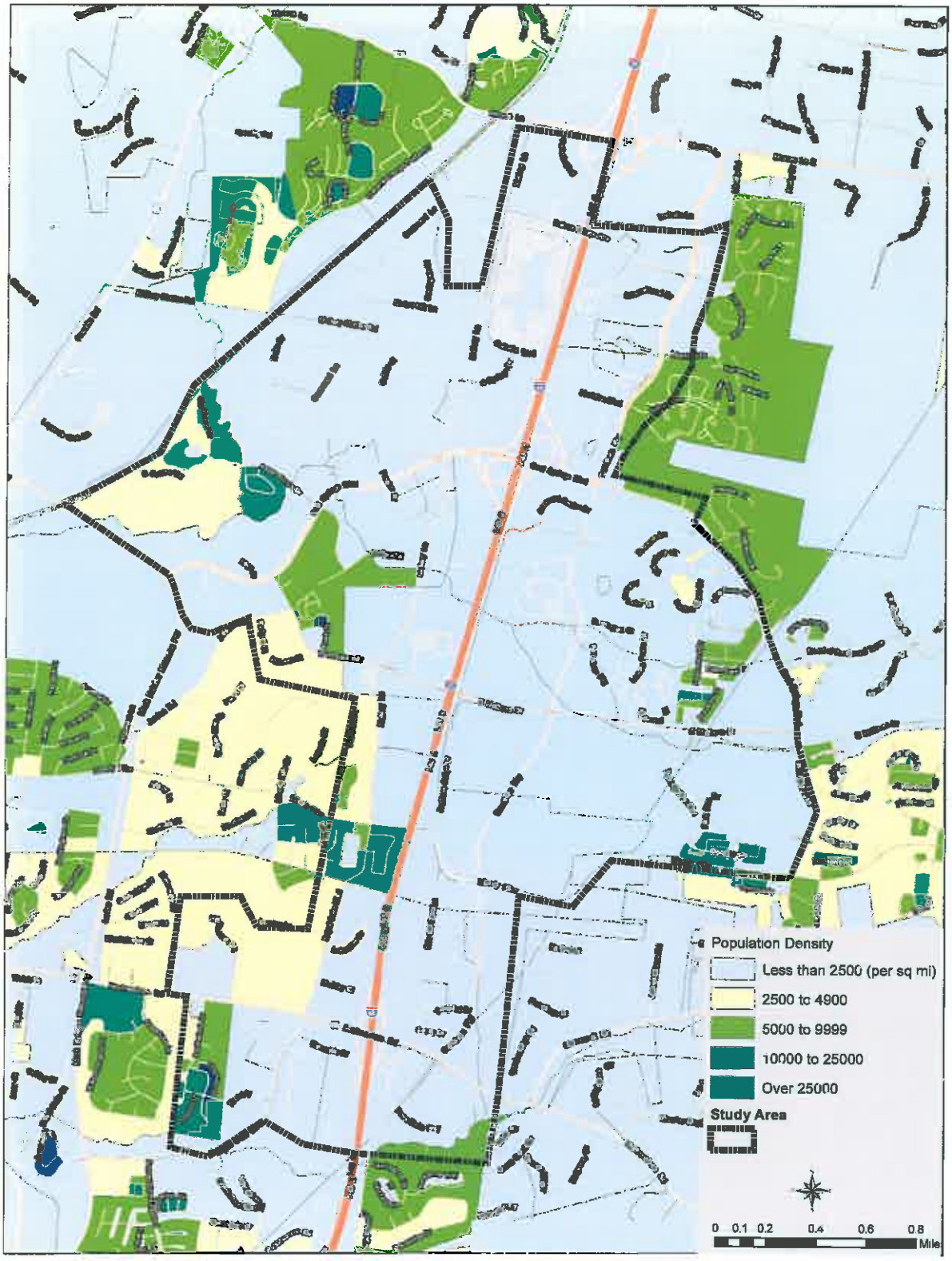


Figure 1: **Population Density in the Cool Springs Study Area**
source: Nashville Area MPO Employment and Population Forecasts

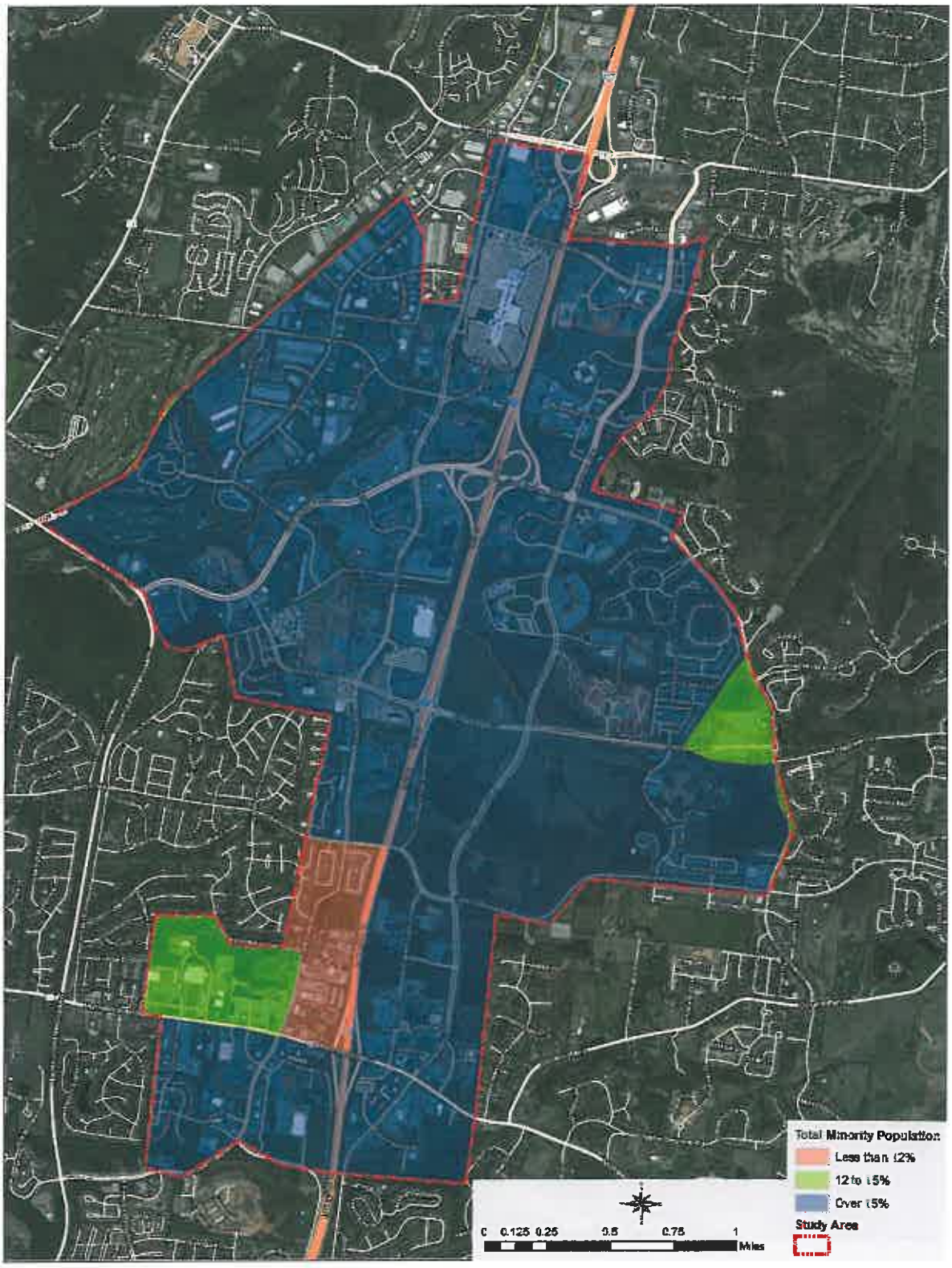


Figure 2: **Minority Population of the Cool Springs Study Area**
source: 2010 Census

Existing Employment

The Cool Springs study area is a major employment center. Due to the campus like atmosphere, jobs are spread out throughout the area. Denser pockets of employment, both retail and office centers are shown in *Figure 3*.

The health care industry is the major employment sector in the Cool Springs study area with 15 companies that employ 200 or more workers calling the area home. Those employing over 1,000 workers include the largest employer in the corridor, Community Health Systems (4,300 employees), Williamson Medical Center (1,440), and Healthways (1,160). Nissan (1,600 employees) and Verizon Wireless (1,300) have their North American and state headquarters respectively within the Cool Springs study area. Technology, entertainment, and manufacturing are the other major industries located within the Cool Springs study area that employ at least 200 people in at least one firm in the sector.

Household and Employment Forecasts

The Cool Springs study area shows no sign of slackening its explosive growth rate. Employment is projected to grow 36% by 2040 and households will almost double by the same year. Forecasts were projected using Census tract data.

Table 2 shows selected employment sectors in the Cool Springs area, showing forecasted growth over the next 25 years. The study area will remain largely a place for commercial activity.

Table 2: Household and Employment Forecasts*

	2012	2040	Approximate % change
Employment			
Manufacturing	1,593	1,587	negligible
Retail	13,389	19,241	44%
Office	33,930	57,923	71%
Households	6,342	12,550	98%

*Source: Nashville Area MPO Employment and Population Forecasts

Land Use

Current Land Use

The Cool Springs study area incorporates multiple land uses. The current built environment contains many types of residential housing (single family detached, multi-story apartment complexes, townhomes, and condominiums), retail (mixed-use, traditional suburban, big box, regional mall, strip centers), office (some within planned unit developments, some as single uses), and industrial (light, heavy, and warehousing). Within the undeveloped areas of the study area, everything is permitted except industrial. There is a transportation impact fee based on square footage and type of use that is charged to any development in the study area[1]. However, none of that is dedicated to transit.

Most new housing that is being built is priced at over $500,000. The lack of housing affordability for the working and middle class in the study area continues to be an issue, especially in the retail sector, when employers are attempting to fill jobs.

[1] Section 16-418 of the Franklin Municipal Code

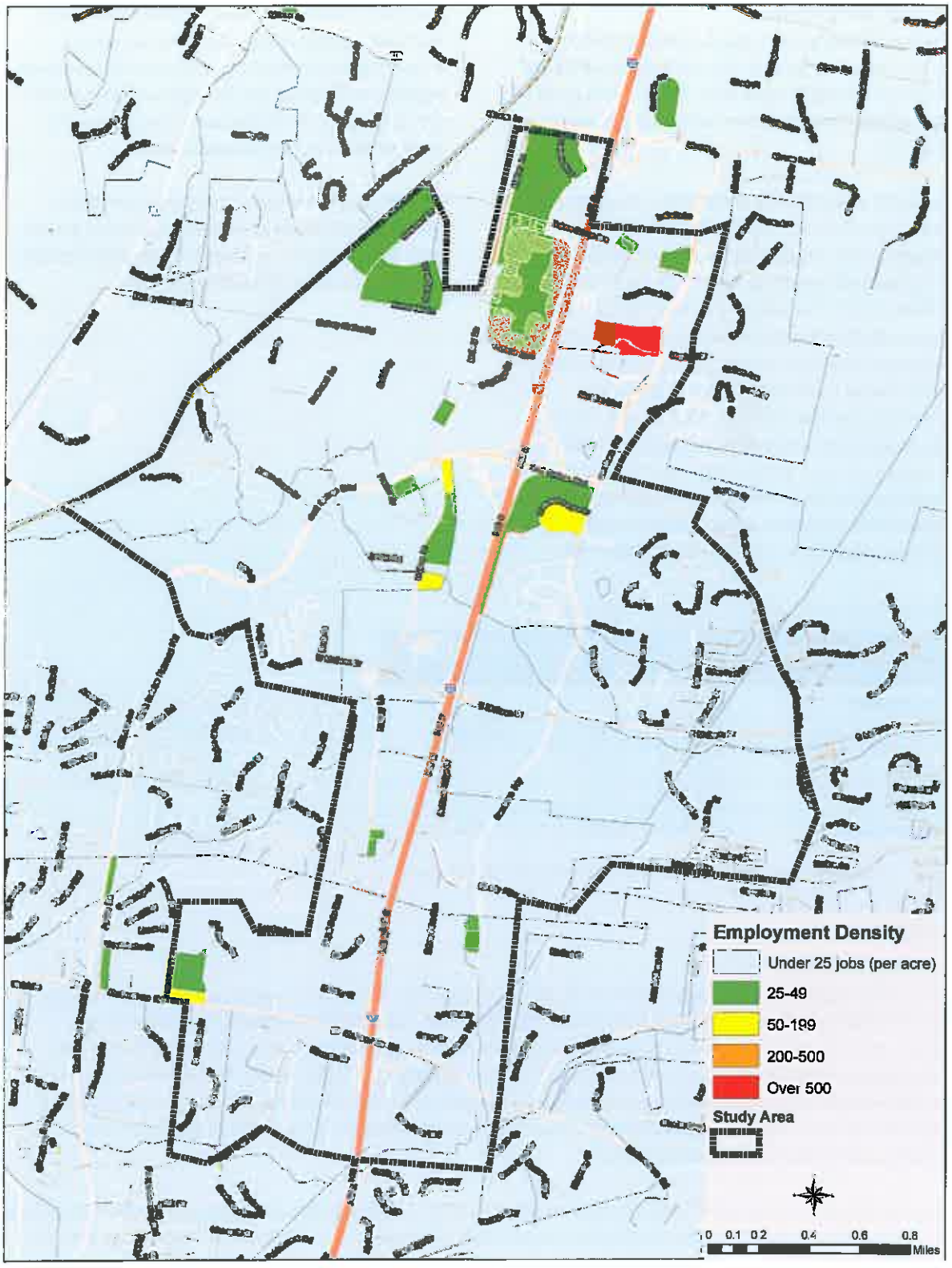


Figure 3: **Employment Density in the Cool Springs Study Area**
source: Nashville Area MPO Employment and Population Forecasts

Projects Proposed and Under Construction

With an office vacancy rate of just 3%, there is continued high demand for office space in the Cool Springs area. Some limitations on development on the east side of I-65 is the 10-story limit on high-rise construction, and a large slope roughly half way between Liberty Pike and McEwen Drive that cannot be built on due to Article VII, Division 7114 to the Williamson County land use code, which only permits 5% of the slope at that gradation to be developed. The retail focused (west) side of I-65 is almost fully built out, but there are a few infill developments underway.

Projects on the east side of the Cool Springs study area either in development, or under construction, are particularly focused on the intersection of McEwen Drive and Carothers Parkway.

- Ovation *(http://www.ovationcoolsprings.com)* is a 147-acre mixed use development slated for the southeast corner of McEwen and Carothers. Designed to attract millennials, it will contain 350,000 square feet of retail, 1.4 million square feet of office, and a 300 room hotel. A mix of housing types, including row houses, high rises, and detached housing will be present on-site. The project adheres to "smart growth" principals, and will include an internal trail and path system connecting the active land uses with 57 acres of preserved open space. The estimated date of completion is unknown, although ground has already been broken on the project.

Ovation, master-planned mixed-use lifestyle project.
(Source: Rendering from http://www.ovationcoolsprings.com/)

- Franklin Park *(http://franklinparkcs.com/)* is currently under construction at the northwest corner of Carothers and McEwen. When fully built out, it will feature 1.25 million square feet of office space, a 600 person capacity amphitheater (in the near term, this will be for tenant use only), and a 10-story apartment tower. The office building is scheduled to be completed by the end of 2014.

Franklin Park Master Plan - 71-acre office campus
(Source: http://www.http://franklinparkcs.com/)

- New apartment homes and condos are being built at the northeast corner of the intersection. Although primarily as residential development, it will include 300,000 square feet of office space.

- On the southwest corner of Carothers and McEwen, Vanderbilt University has owned the land since 2008, with plans to build a 500,000 square feet medical campus. It is unclear when construction of the facility will begin.

- Elsewhere in the vicinity of this intersection, Columbia State Community College is building a new campus on 36 acres off Liberty Pike, approximately a half mile east of Carothers Parkway. This campus will be open in the spring of 2016.

- Some smaller scale office developments (under 500,000 square feet) are being developed at the corner of Liberty Pike and Carothers Parkway. These are the more traditional, suburban-style office developments.
- On the west side of the corridor near the Cool Springs Galleria, development is occurring as follows:
  - Near Mallory and McEwen Drive, a 40 acre mixed use site, whose commercial component will be retail, rather than office uses, is under development.
  - Smaller scale development activity (both retail and dense residential) is occurring along Cool Springs Boulevard between Windmere (where a new traffic light is being installed) and McEwen Drive.
  - The Galleria is being revitalized. With the closing of Sears, a 9,000 square foot Cheesecake Factory is being built, along with an American Girl Place. The first phase is scheduled to be completed in 2015, with final construction to be finished in 2016.
- New single-family residential construction will continue to be built at the far eastern edge of the Cool Springs study area, with a mixture of attached townhomes and condos with detached houses. Price points for these homes are currently around $300,000 for attached homes, and above $500,000 for detached homes.

Future Land Use

The Franklin Land Use Plan, adopted in 2008 (and amended in 2011), divided the City into several "Character Areas". The area that encompasses the Cool Springs study area is called McEwen. The character area is further divided into 10 special areas, each of which have design concepts attached to them that will guide future development. Six of these special areas are in Cool Springs as shown in *Figure 4* and described below:

- ***Special Area 1*** is intended to remain the way it is now, a light industrial district.
- ***Special Area 3*** is built out with apartments, and no change is expected here.
- ***Special Area 4***, which encompasses most of the study area, should be developed with a mixture of attached and detached residential, with neighborhood or local retail uses built nearby, or within the same building. Higher intensity commercial uses should straddle I-65, with developments farther away from the interstate having less density. Local retail (both sides of I-65) and attached residential (east of I-65) can also be used as a transition between Regional Retail (big box stores, malls) and detached residential neighborhoods. All big box retail is to be concentrated west of I-65.
- ***Special Area 5*** is seen as a flawed gateway to the City. An integrated design and a long-term revitalization plan for the area are needed, the plan says, if the gateway is to become an appropriate introduction for regional travelers to the City.
- ***Special Area 9*** is an extension of this gateway concept, with high quality design standards (promoting a "small town feel") to be applied along Murfreesboro Road.
- ***Special Area 10*** has a fully established character as a semi-gated planned unit development that should be matched when any new development occurs.

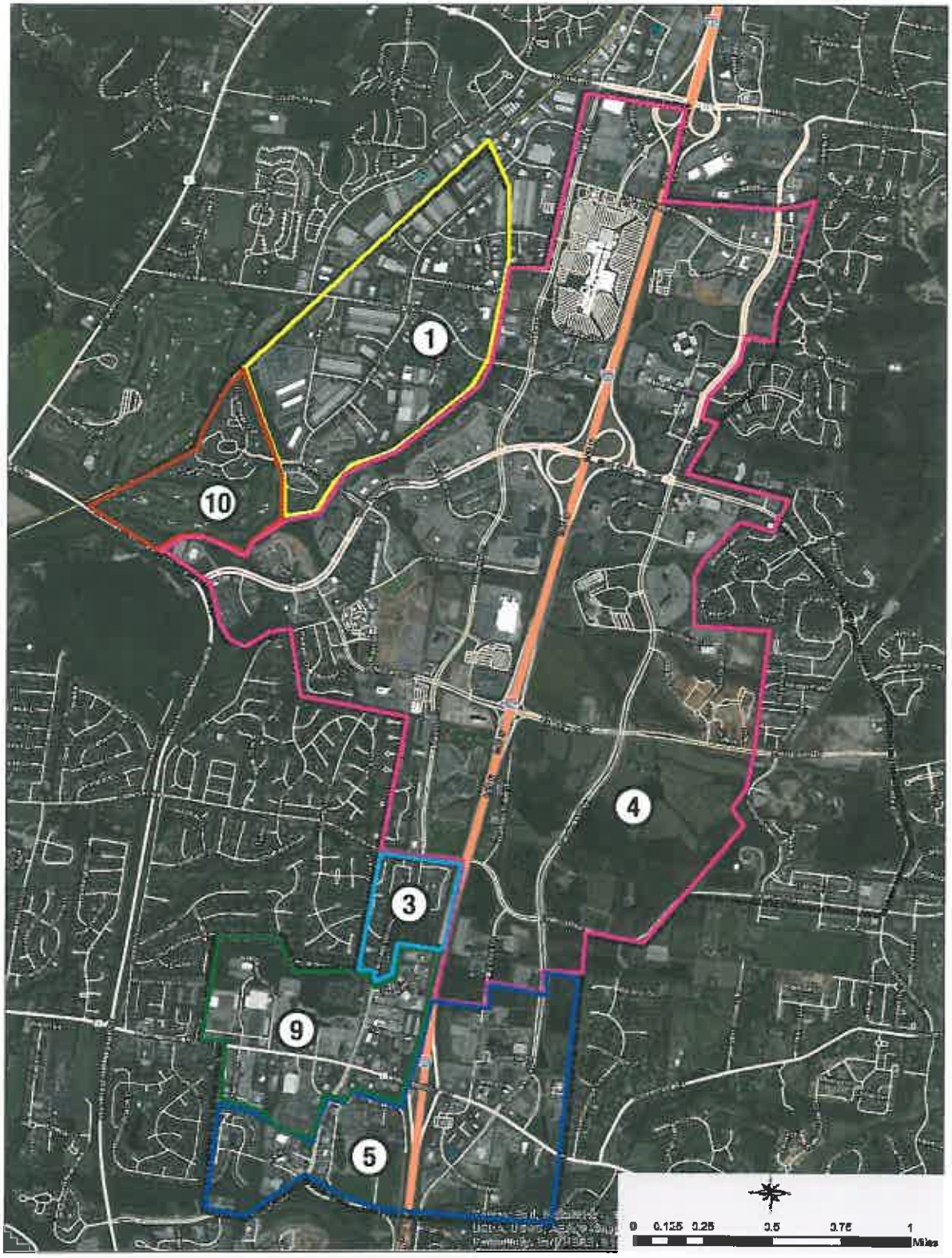


Figure 4: **Special Areas in the Cool Springs Study Area**

4. Travel Patterns

Residence Locations of Workers in the Corridor

As shown in *Figure 5 and Table 3*, most workers in Cool Springs come from the City of Franklin outside the Cool Springs area. In addition, sizeable pockets come from Spring Hill/Columbia and the Antioch community of Nashville. Somewhat surprisingly, there are no concentrations of workers from the West End or East Nashville neighborhoods of Nashville. The majority of retail workers come from Franklin—due to the low pay of these jobs and high cost of living locally, these are most likely not the primary earners in their households. Jobs paying between $15,000 and $40,000 a year have highest percentage of workers (who commute to Cool Springs) coming from the southeastern neighborhoods of Nashville and Columbia. Higher wage jobs are generally filled by workers from Spring Hill.

Table 3: Top 10 Home Locations for Workers in the Cool Springs Study Area*

		Count	Share
Total Primary Jobs		**29,535**	**100.0%**
Top Home Locations	**Zip Code**		
Franklin	37064	2,443	8.3%
Brentwood	37027	1,613	5.5%
Franklin-Cool Springs	37067	1,608	5.4%
Spring Hill	37174	1,398	4.7%
Nashville Antioch community	37013	1,322	4.5%
Nashville Southern Hills community	37211	1,289	4.4%
Columbia	38401	1,025	3.5%
Smyrna	37167	698	2.4%
Franklin-North	37069	683	2.3%
Murfreesboro-West of I24	37128	641	2.2%

*Source: 2011 Longitudinal Employer-Household Dynamics Origin-Destination Statistics (LODES)

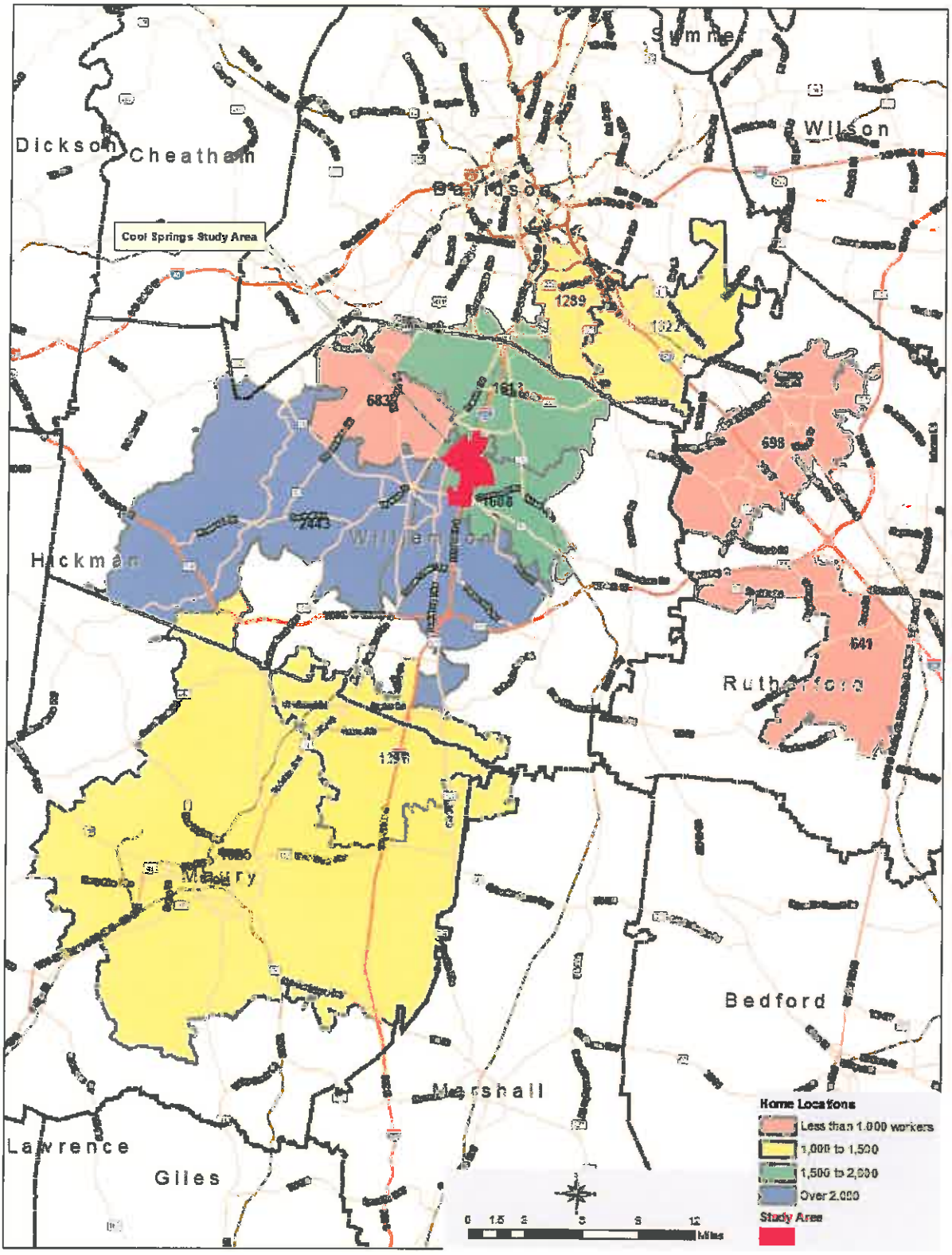


Figure 5: **Home Location of Workers in the Cool Springs Study Area (by Zip Code)**
Source: 2011 LODES

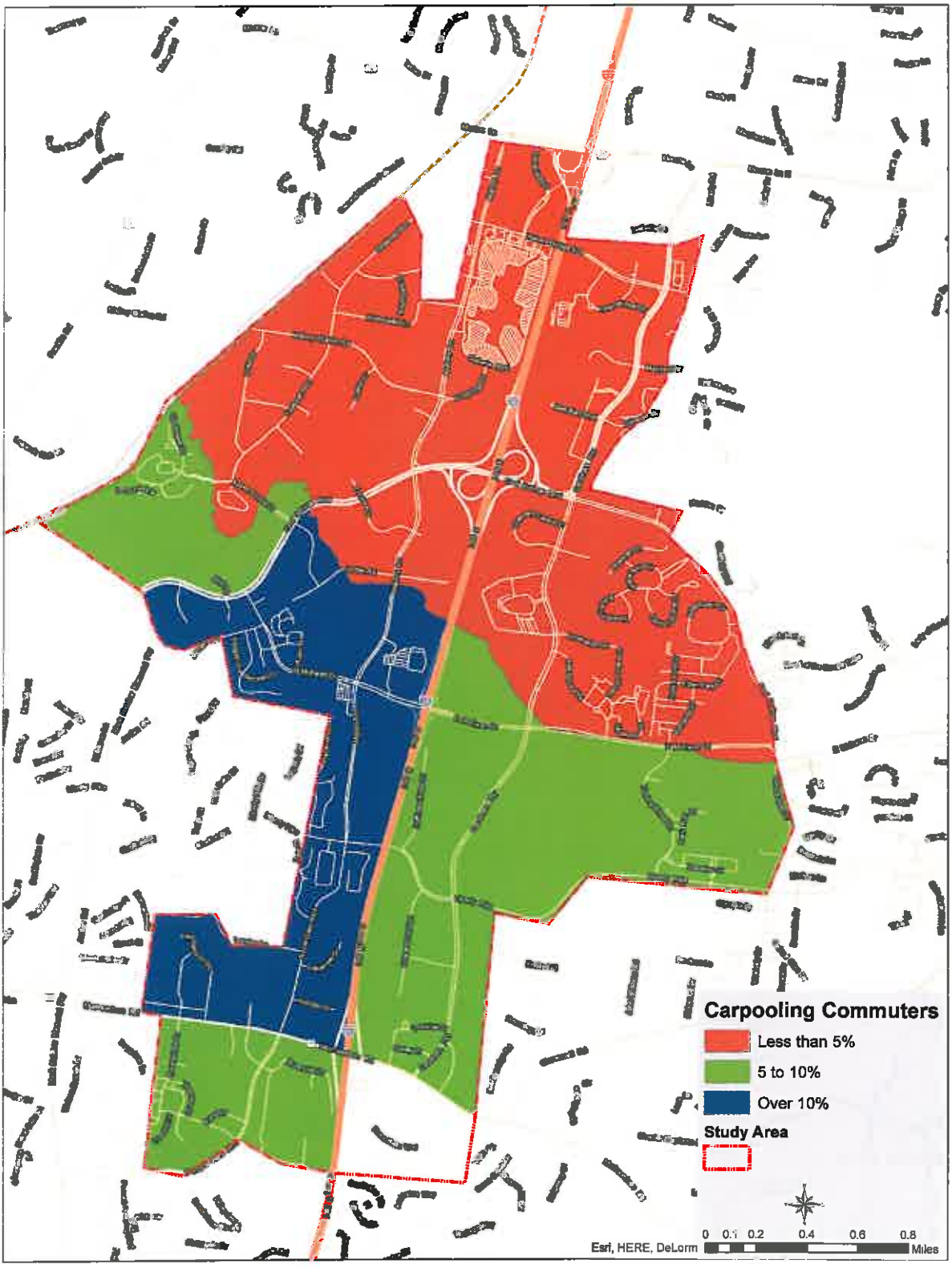


Figure 7: **Commuting by Carpool**
Source: American Community Survey 2007-2012

5. Existing Transit Services

Franklin Transit Fixed Route

The TMA Group operates three fixed routes in Franklin for the Franklin Transit Authority (FTA) - the East Bound Route, West Bound Route, and South Bound Route. Two of the routes operate at least partially within the Cool Springs study area (i.e. the East Bound Route and the South Bound Route). The East Bound Route and West Bound Route have been operating in their present alignment in Franklin since 2007, with the South Bound Route added November 17, 2011. All of the routes run hourly. They are described as follows *(see Figure 8 and Figure 9 for more routing information)*.

South Bound Route - *The Factory at Franklin to former Kmart*

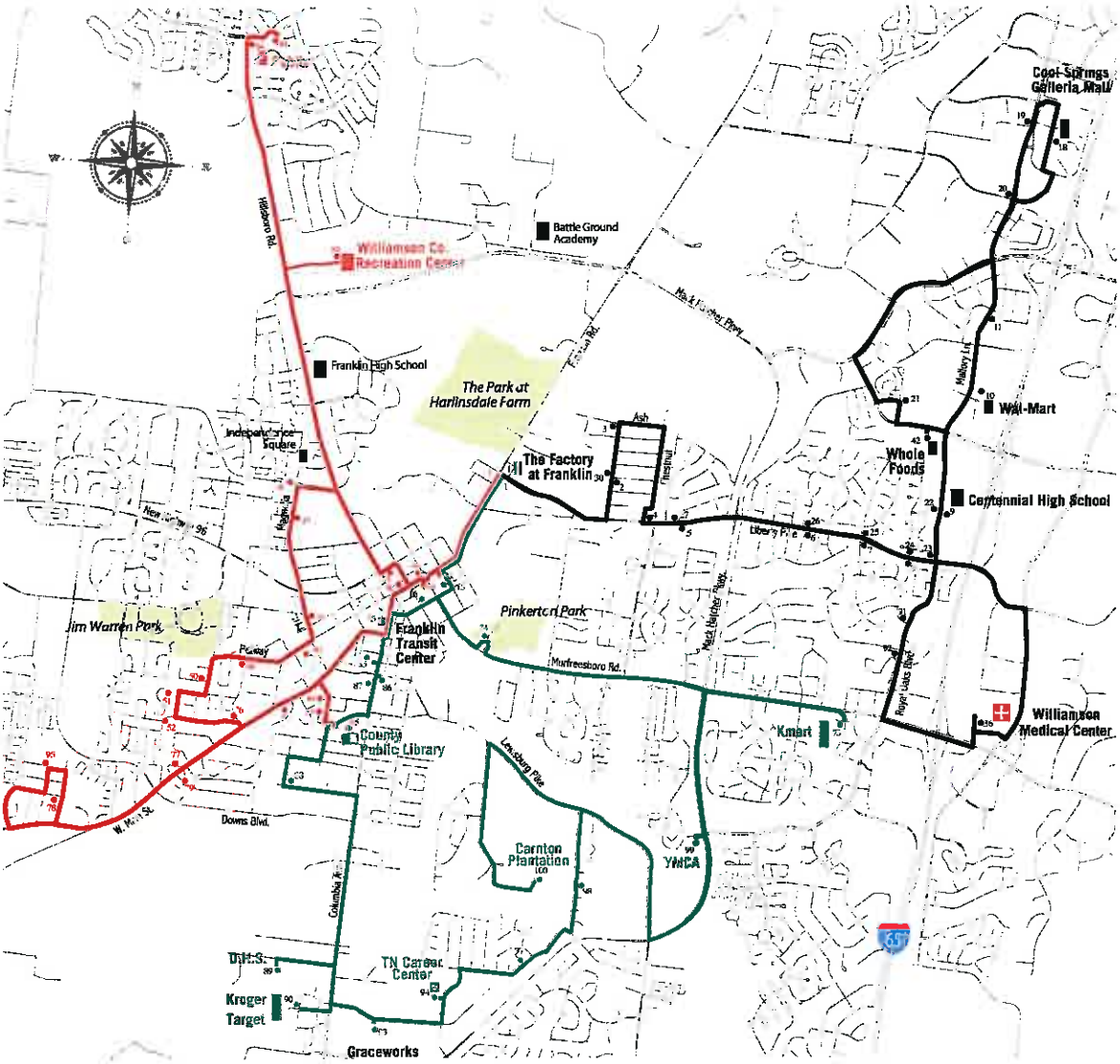
This route provides Weekday and Saturday service to the southeast quadrant of Franklin. Service is provided to The Factory at Franklin, Franklin Transit Center, County Public Library, Department of Human Services, the Tennessee Career Center, and the YMCA. Within the Cool Springs study area, the route serves Aldi and Hobby Lobby. Service is provided between 8:00AM to 4:00PM Monday through Friday.

East Bound Route - *The Factory at Franklin to Cool Springs Galleria Mall*

This route provides Weekday and Saturday service to the northeast quadrant of Franklin and the Cool Springs area. Service is provided to Williamson Medical Center, Centennial High School, Whole Foods, Walmart and the Cool Springs Galleria Mall. Service is provided between 7:00AM to 6:00PM Monday through Friday, and 9:00AM to 6:00PM on Saturday.

West Bound Route -*The Factory at Franklin to Publix and the intersection of Hardison and Cothern*

This route does not provide service to the Cool Springs study area. However, it does meet both routes serving the Cool Springs study area at the Factory at Franklin. The route provides Weekday and Saturday service to the west side of Franklin. Service is provided to The Factory at Franklin, the Franklin Transit Center, Williamson County Recreation Center, Publix, Franklin High School, and Independence Square. Service is provided between 6:00AM to 5:00PM Monday through Friday, and 8:00AM to 5:00PM on Saturday.



Franklin Transit connects people in the Franklin and Cool Springs Area by providing public transportation services. The service is managed and operated by The TMA Group for the Franklin Transit Authority. This service is provided throughout City of Franklin, including the Cool Springs area.

Figure 8: **Franklin Transit Fixed Route System**

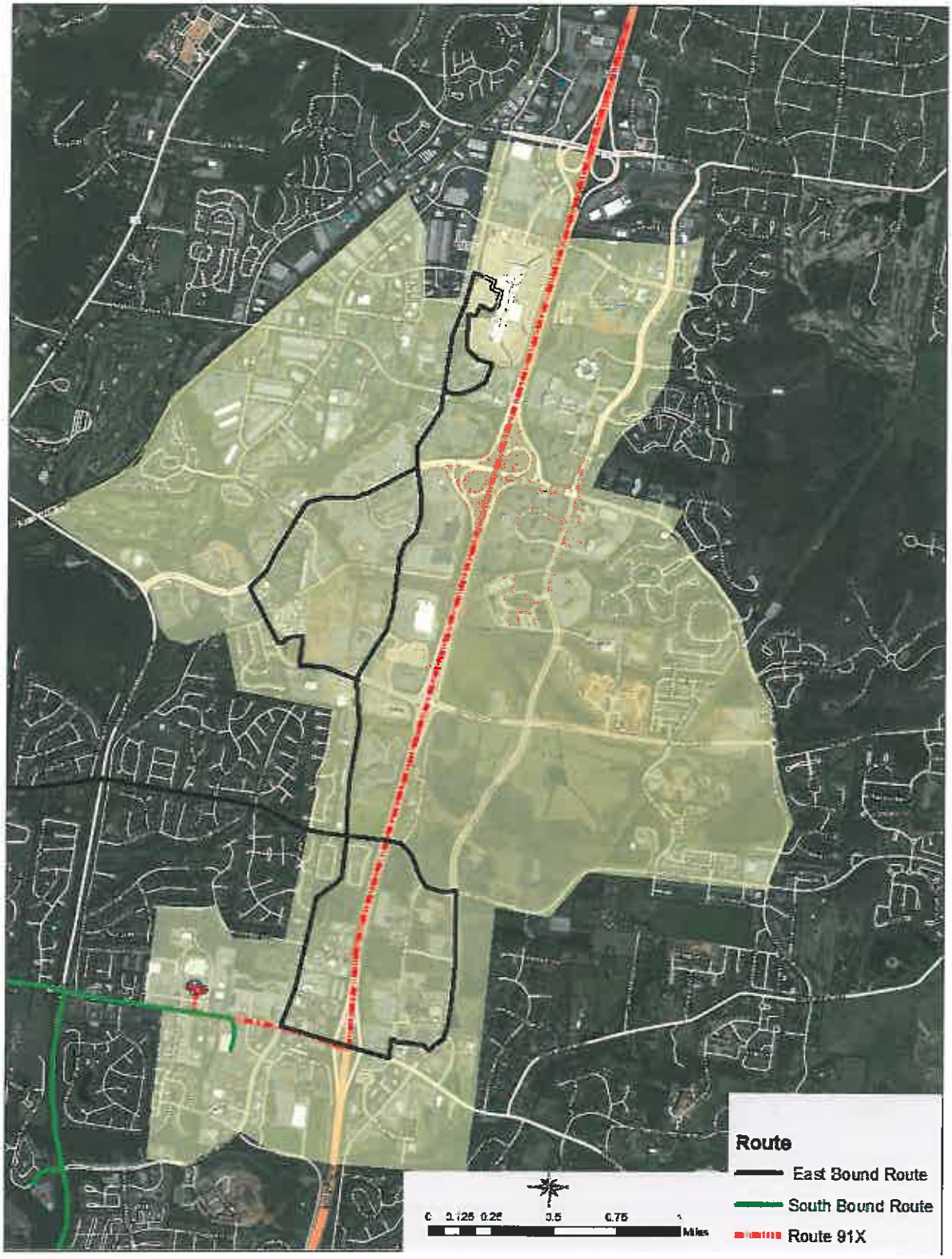


Figure 9: **Fixed Routes in the Cool Springs Study Area**

Annual Ridership for Fixed Transit

Annual ridership from July 2013 to July 2014 on the two Franklin Transit fixed routes is shown in *Table 4*. Ridership is lower on the South Bound Route than the East Bound Route. Between 20-30% of riders transfer to other routes at the Factory at Franklin..

Table 4: Total Annual Ridership July 2013 to July 2014 on Franklin Transit Fixed Routes

East Bound		West Bound		South Bound	
Stop	Boardings	Stop	Boardings	Stop	Boardings
Centennial	369	11th/Mt Hope	685	2nd/Church	88
Dwell Apts	352	11th/ Boyd Mill	343	4th/Church	354
Galleria	520	4th Ave.	171	Cannon/Fairgrounds	707
Liberty/Chestnut	1,527	Booker Mobile	343	Career Center	177
Liberty/Eagles Glen	688	Bridge/Clay Ctr	1,542	Carnton	177
Liberty/Flintock	352	Carter/Reddick	1,714	Carriage Park Dr.	88
Liberty/Liberty Hills	185	Carter/Strahl	685	Carter House	309
Liberty/Stanwick	185	Dabney/Davidson	1,199	Dept Human Service	707
Mallory/Frazier	688	Franklin Estates	1,199	Grace Works	221
Mallory/Liberty	1,191	Independence Square	685	Kmart	530
Mallory/Mallory Sta	17	Hardison Dr.	171	Parkway Commons	354
Mallory/Nichol Mill	185	Holland Park	171	Pinkerton Park	177
Mallory/Sonic	201	JL Clay	0	Plaza Street	840
Royal Oaks Apts	218	Magnolia Sussex	0	Polk Place/Julian Circle	44
Sycamore/Ash	235	Main/2nd	171	Public Library	796
Sycamore/Cedar	1,191	Main/4th	514	Factory	**1,857**
Factory	**4,697**	Main/3rd	171	Lotz	1
Viero Cool Springs	688	Natchez/Spring	171	Transit Center	**884**
Walmart	1,191	Petway /Brookwood	514	YMCA	530
Whole Foods	185	Public Library	1,199		
Williamson MED	1,912	Public/Fieldstone	171		
		Rec Center	171		
		Robin Hill/Edgewood	171		
		Shawnee/Cherokee	857		
		Factory	**2,570**		
		Transit Center	**1,028**		
		West Meade/ Brookwood	343		
		West Meade/ Robin Hill	171		
Total	**16,775**		**17,135**		**8,841**

(Note: numbers in bold are transfer locations; shaded stops are within the study area)

It should be noted that there are no bus shelters or bus-only lanes in the study area. Franklin Transit will stop "on demand" along the route to pick up or drop off passengers where it is safe to do so. However, Franklin Transit is moving away from flag stops and will only stop at signed locations in the future.

Demand Response Services

Demand response is the general term for a service in which a passenger must reserve a ride in advance. Unlike fixed-route service, in which buses travel the same route in a regular pattern and pick up any waiting passengers, demand response vehicles make only pre-arranged trips for riders who are eligible for the particular service. Franklin Transit's demand response service , Transit on DemanD (TODD) provides prearranged curb-to-curb pick up and drop off service for the general public. Two zones are eligible for TODD service, with Zone 2 meeting the FTA guidelines that American with Disabilities Act (ADA)service needs to be provided within ¾ mile of any fixed route. Zone 3 is anything beyond that distance within the Franklin city limits. Riders must call 24 hours in advance to reserve a ride. Riders are required to pay an extra fare when travelling between two zones.

As would be expected with the TODD service, the most popular destinations for non-subscription riders in the Cool Springs study area are medical facilities and offices. Popular retail destinations include the Walmart at 3600 Mallory and the Kroger at 1113 Murfreesboro Road. Centennial High School is the only other non-retail destination popular with TODD *(see Table 5)*. Most of these destinations are within Zone 2, and almost all are directly served by existing fixed route service in the area *(see Figure 10)*.

Rather than reserving a ride 24 hours in advance, riders do have an option to subscribe to the service for one month at time provided the trip is at the same time, origin and destination. Subscription riders tend to come from Zone 3 and do not have access to fixed route service. These riders tend to be higher income and are using the service to go to work in the Cool Springs study area. *Figure 10* shows the desire lines of workers in Franklin, based on daily Monday through Friday ridership. Most subscribed riders live in multi-family housing, and are journeying in a northeasterly direction. Only a few of the TODD subscribers live in the Cool Springs study area.

Table 5: Popular TODD Destinations in the Cool Springs Study Area

Location	Address
Goodwill/Kroger	1113 Murfreesboro Road
WMC Towers	4323 Carothers Pkwy
Physicians Plaza	100 Cover Drive
Vanderbilt Medical	210 Edward Curd Lane
Williams Med Imaging	4601 Carothers Pkwy
Heritage Medical	1909 Mallory Lane
Vanderbilt Walk In Clinic	919 Murfreesboro Road
Mercy Childrens	1113 Murfreesboro Road
DeVita Dialysis	1120 Lakeview Drive
Centennial High School	5050 Mallory Lane
Walmart	3600 Mallory Lane
Franklin Ortho	3310 Aspen Grove
Bone/ Joint Clinic	206 Bedford Way

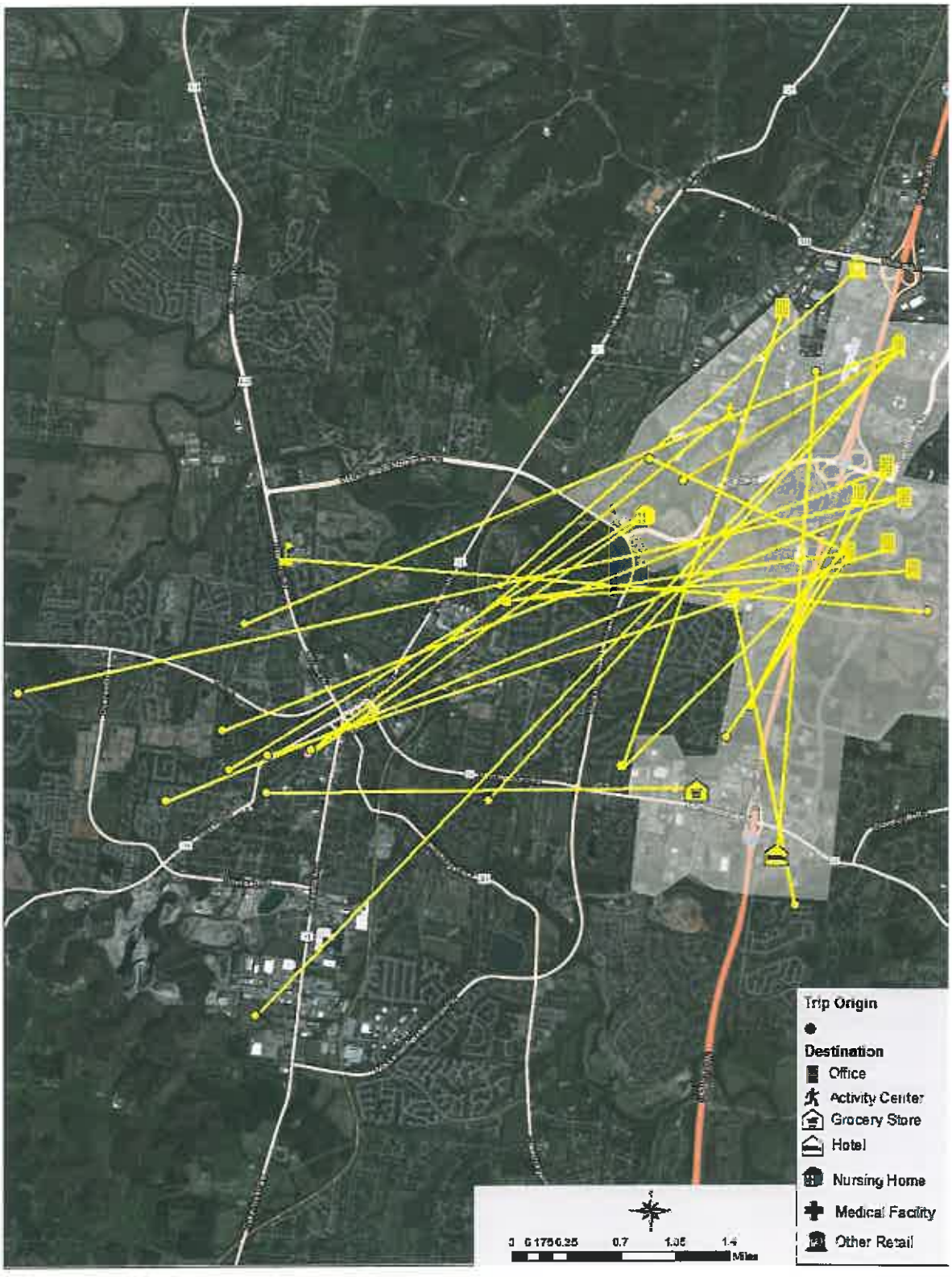


Figure 10: **TODD Subscribed Trips To and From the Cool Springs Study Area**

Regional Bus Service

The Regional Transportation Authority of Middle Tennessee (RTA) operates the Relax-n-Ride express bus service (Route 91X) between outlying cities and downtown Nashville *(see Figure 11)*. The RTA instituted Route 91X Franklin/Brentwood Express in December 2009 serving Franklin and nearby Brentwood with three inbound express trips in the morning and three outbound trips in the evening. There are different routing configurations depending on the trip, with some trips serving Vanderbilt University in Nashville first, and some serving downtown Nashville first. Morning service leaves the Franklin Park-n-Ride between 6:15 and 7:15 AM arriving in Nashville between 7:15 and 8:15 AM. In the evening, trips leave Nashville between 3:45 and 5:00 PM and arrive in Franklin between 5:00 and 6:15 PM. The Relax-n-Ride service only operates on weekdays

During a field visit, 42 vehicles were observed to be parked in the park-n-ride lot, with about 5 riders per trip being picked up by other people. In addition, one bike rider was observed. The majority of riders lived within the County (32) with the remaining riders from Maury County (1), Davidson County (1) [2], Shelby County (1) and Washington County (1) . No official park-n-ride lot has been constructed in Franklin for this service. The park-n-ride was formerly located at Williamson Square shopping center. RTA is now using a temporary site for the next several months which reflects an ever-changing park-n-ride lot location, an issue for this service. This service only serves workers commuting out of the study area, with no service to the study area during standard working hours.

[2] Likely riders from the latter two counties are recent transplants. Both counties are nearly 300 miles away from Franklin.

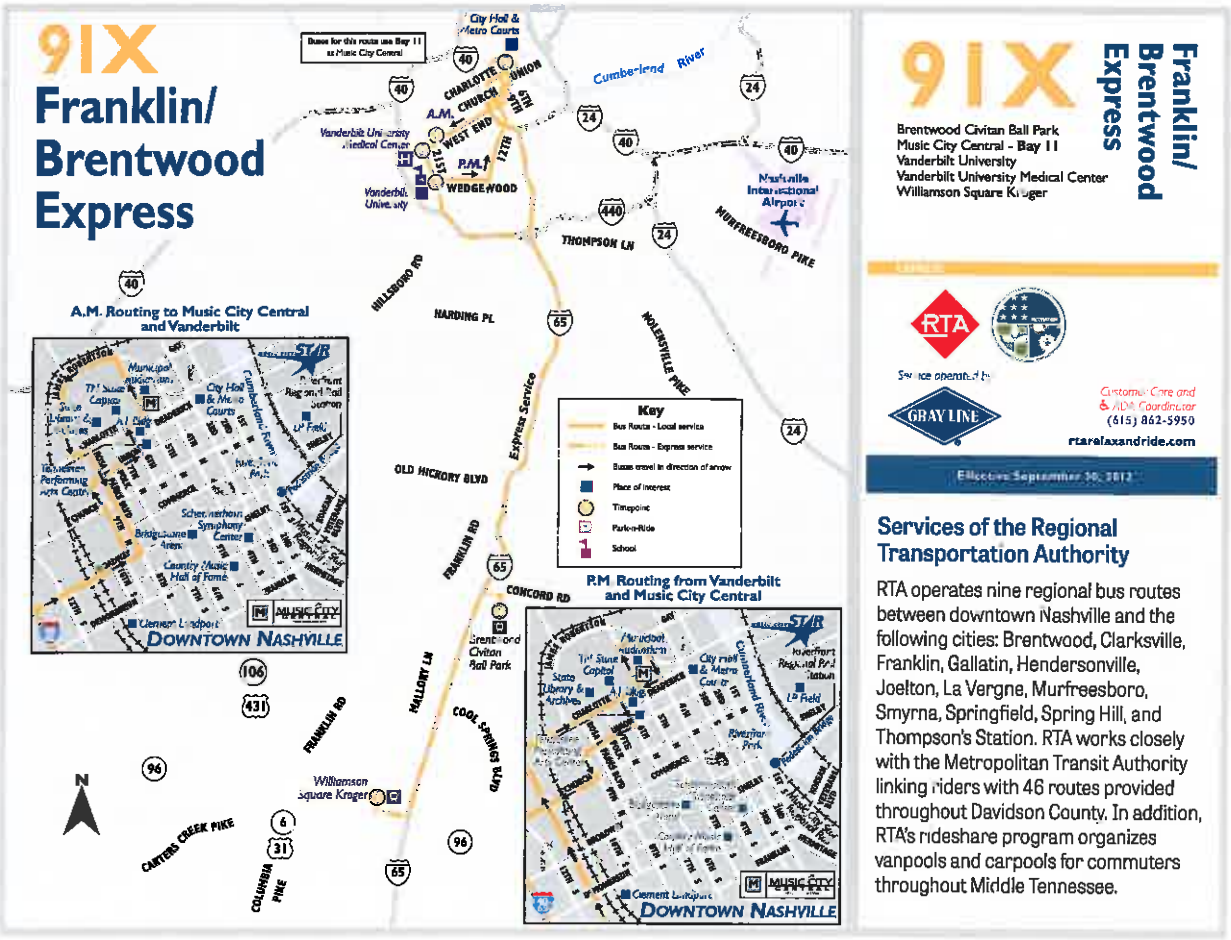


Figure 11: **Route 91X Service Map**

Vanpools

The TMA Group operates a regional vanpool program, under the brand vanstar*. The TMA Group contracts with Williamson County and the RTA to provide this service. The TMA Group provides the equipment, a 7, 12, and 15 person passenger van, insurance, maintenance, license and registration. One person becomes the primary coordinator; participants are qualified to drive the vehicle. The TMA Group also provides a matching service for riders who wish to form or join a vanpool, but do not have a group already formed.

Three vanpools have their destinations within the Cool Springs study area: Two end at the IRS office at 125 Market Exchange Court, and the other at the Ford Motor Credit Company at 9009 Carothers Pkwy. The origins of these vanpools are well outside the study area: Clarksville (64 miles away), Godlettsville (30 miles away) and Columbia and Spring Hill (20 to 30 miles away).

Other Public Transit Services

The Mid-Cumberland Human Resource Agency operates a public transit service in Cheatham, Houston, Dickson, Humphreys, Montgomery, Robertson, Rutherford, Stewart, Trousdale, Williamson, and Wilson counties. It is a rural transportation provider that uses a number of different types of vehicles to provide an on-demand service, with priority given to medical trips. There is a 24-hour notice of in-county trips, and a 72-hour notice for out of county trips.

Future Bus Service

The Nashville Area Metropolitan Planning Organization (MPO) has added to its 2014 Transportation Improvement Plan (TIP) a new express service that would stop in Spring Hill, the Cool Springs area of Franklin, and Brentwood on the way to Nashville. $1.1M is budgeted to implement this service. At this time, the days of operation and frequency of service are undetermined.

6. Pedestrian and Bike Connections

Pedestrian Access

The Cool Springs study area has an inconsistent network of sidewalks. Up until 2008, the City of Franklin did not require developers to build sidewalks when developing land so many residential and industrial streets in the Cool Springs study area lack this amenity. State roads, such as Murfreesboro Road (Tennessee Route 96) and Moores Lane (Tennessee Route 441) are not consistent in accommodating pedestrians. While sidewalks are present in some cases on these roadways, they tend to be in disjointed segments in front of certain properties and not others.

Sidewalks are present along the entire length of Liberty Pike, McEwen Drive, and Cool Springs Boulevard, including when these roads cross, or interchange with, I-65. Of the three major north-south roadways in the Cool Springs study area, Carothers Parkway and Mallory Lane have sidewalks along their entire length, even in areas where the adjacent land is undeveloped, although in some cases they only exist on one side of the street. The lengthiest sidewalk gap on arterials is on Royal Oaks Boulevard between Lakeview Drive and Liberty Pike. Crosswalks and pedestrian signalization are present at all signalized intersections in the Cool Springs study area.

Despite the presence of sidewalks on many of the area's arterials, most of the retail developments on the west side of I-65, and many of the corporate buildings lack connections to this arterial sidewalk network, forcing walkers to walk through parking lots or down driveways to access these uses. The City of Franklin has required intersecting sidewalks into new developments since the 2008 update to the Comprehensive Plan, so this should be remedied in future developments.

Bike Routes

On-street bike routes exist in the Cool Springs study area along McEwen Drive between Mallory Lane and Oxford Glen Drive, on Aspen Ridge Drive between Jordan Road and Cool Springs Blvd, and on Liberty Pike between Royal Oaks Boulevard and Turning Wheel Lane. A multiuse path has been constructed along Carothers Parkway from the Nissan Headquarters south to Quail Hollow Circle. There is another major off-street bike trail connecting the bike lane on McEwen Drive with the Corporate Center at Cool Springs. Minor trails include a short recreational trail along the north prong of Spencer Creek near Mallory Station Road.

Other major roads in the area are not conducive to on-street bicycling as they have four lanes, high speeds, and no shoulders. However, the City of Franklin allows bikes to be ridden on sidewalks, so this partially makes up for this deficiency. There is still a lack of connectivity to and from the area to the rest of Franklin, including the regional bike lane on Hillsboro Pike that links Franklin and Nashville. No bike routes traverse the City of Franklin.

In addition, wayfinding signage which directs bicyclists to places of interest is lacking, and the City does not require bike racks to be installed in existing businesses, except under certain conditions. Since the 2008 Comprehensive Plan update, if an existing business wants to expand their parking, they must install one bike parking spot for each 20 additional surface spaces and for every 20 existing spaces. This is the same formula for any new commercial development with more than 20 parking spaces. The bike parking must be within 100 feet of an entrance in both cases. New developments are required to install bicycle racks.

Source: http://randoboy.blogspot.com/

There has been an uptick in interest accommodating bike riders in the Cool Springs study area. Emery/ Spectrum has developed several properties along Carothers Parkway, all of which include bike racks. All of their projects have showers on site, either in the on-site health club (currently), or to be installed in the bathrooms (future). The Cool Springs Galleria is in the process of installing a bike rack in response to demand from their workers, who currently lock their bikes to trees or bollards on-site.

The TMA Group has been awarded a contract to pursue a pilot program to introduce bike sharing to the City of Franklin. A grant application has been submitted to the Nashville Area MPO, and the City has offered City property for potential bike sharing sites. Some of these sites could be located in the Cool Springs study area, although the City does not own any land in the area.

7. Roadway and Parking Conditions

Roadway Network

The roadway network in the Cool Springs study area is a comprehensive association of Interstate highways, U.S. highways, state routes, county roads, and local roads that form a connected system. Generally the volumes, sizes, and density of the roadways are large and have high volume and capacity, due to the number of large retail, commercial, health care, education, industrial, and office land uses in the Cool Springs study area. TDOT Roadway Classifications in the Cool Springs study area are shown in *Figure 12*.

Interstate Routes

Highway I-65 runs north to south through the middle of the Cool Springs study area for a total of 4.71 miles. There are exits at Moores Lane (Tennessee Route 440), Cool Springs Boulevard, McEwen Drive, and Murfreesboro Road (Tennessee Route 96).

Arterial Roadways

Arterial roadways are major highways or streets that function within the network to connect longer-distance travel between municipalities or other activity centers. The principal arterial roadway in the Cool Springs study area is Murfreesboro Road, with Cool Springs Boulevard, Moores Lane, and a portion of Carothers Parkway near the Williamson Medical Center designated as minor arterials. These arterials are four lanes wide, and all except Murfreesboro Road have landscaped medians, providing a boulevard-like driving experience.

Collector Roadways

Collector roadways are secondary roads that provide access from arterials to residential and commercial areas and local roads. Within the Cool Springs study area, Mallory Lane; Carothers Parkway between Cool Springs Boulevard and Moores Lane; and Liberty Pike are all considered Urban Collector roadways. These collector roadways provide infill for the arterial roadways for more municipal to municipal or locality to locality travel. As many commercial areas in the Cool Springs study area are served by collector roads, they serve as primary corridors for destinations within the Cool Springs study area. All collector roadways in the Cool Springs study area are four lanes wide.

Local Roadways

Local roadways, both urban and non-urban, are the basic residential streets and township roads that serve to connect to people's homes. Most are under the jurisdiction of the local municipality or township; however a few are county routes. All are two lane roads that provide a lower speed and scale suitable for higher pedestrian and bicycle activity. However, there is poor connectivity between these types of streets in the Cool Springs study area with many residential land uses, especially multi-unit buildings and planned-unit developments, located on street networks with only one outlet onto a major roadway, and no connectivity to local roadways outside the development. At present, the City of Franklin does not require these developments to connect to future adjacent developments, so it is expected that this trend will continue.

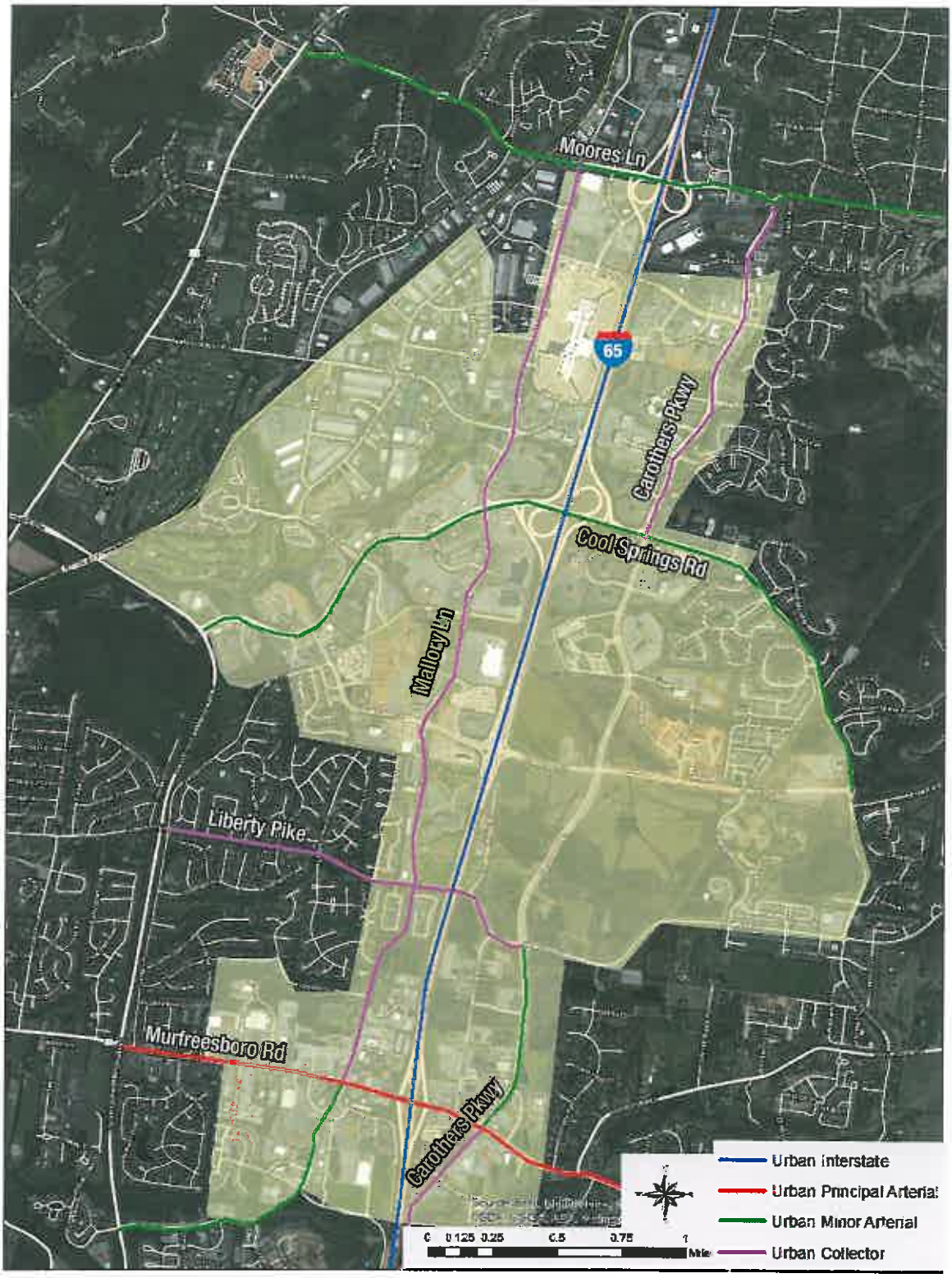


Figure 12: **TDOT Roadway Classifications in the Cool Springs Study Area**

Traffic Volumes

Traffic volumes in the Cool Springs study area generally increase the closer the roadway is to Nashville, with the greatest volumes occurring on Moores Lane as it approaches I-65. Average Annual Daily Traffic (AADT) on roadways in the southern portion of the study area are currently two-thirds what they are in the northern portion *(see Figure 13 and Table 6)*.

Table 6: AADT Counts: Non-Intersection*

Roadway	Nearest Cross Street	AADT
Moores Lane	Westgate Circle	32,866
Cool Springs Boulevard	Frazier Drive	26,479
Carothers Parkway	International Lane	24,258
Mallory Lane	Frazier Drive	20,790
Mallory Lane	Mallory Station Road	20,488
Royal Oaks Boulevard	Holiday Court	17,665
Liberty Pike	Liberty Hills Drive	15,130
Mallory Station Rd	General George Patton Drive	11,727
Carothers Parkway	Covey Drive	11,317
Carothers Parkway	Carrington Hills Drive	5,988

*Source: TDOT, 2013

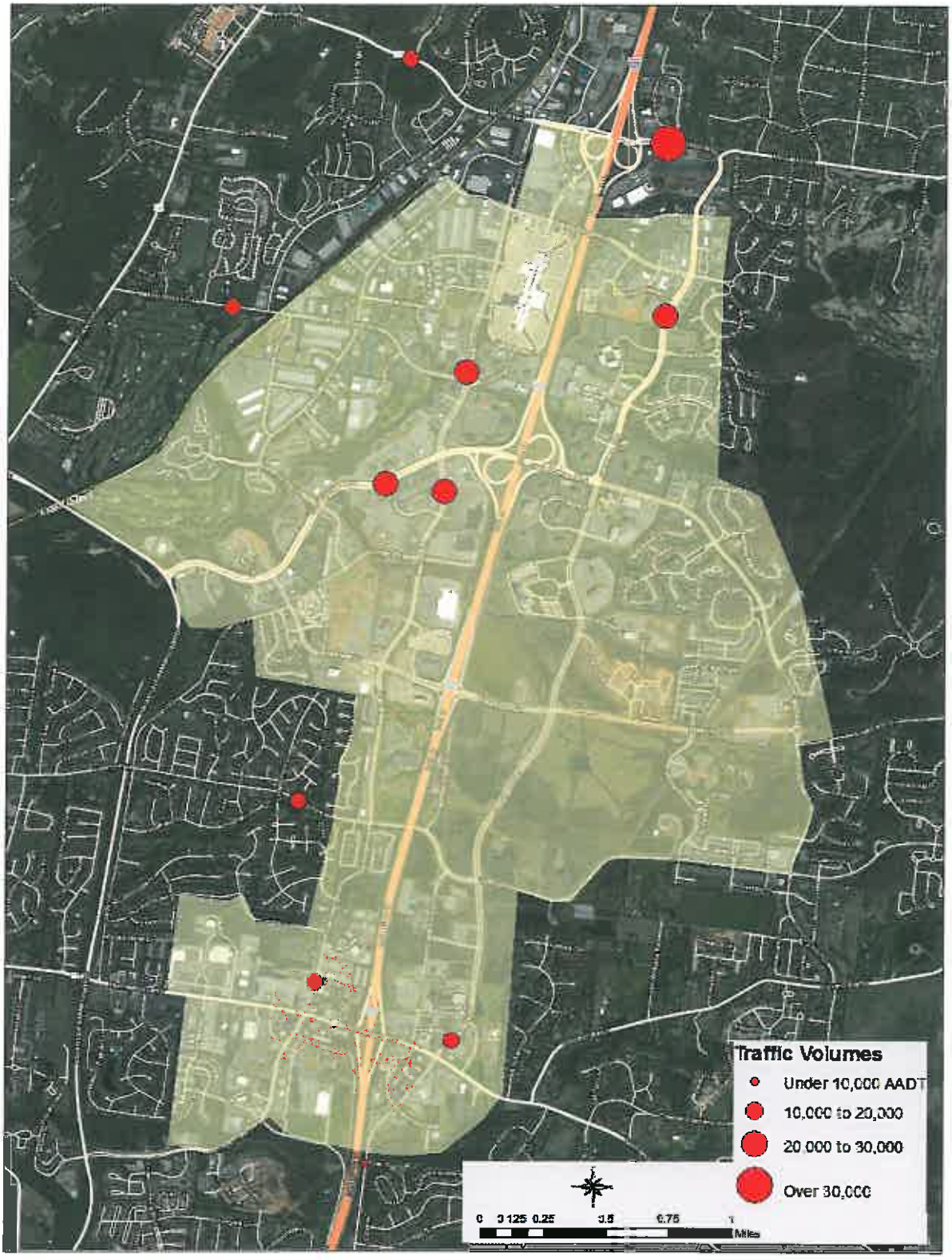


Figure 13: **2013 Non-Intersection Traffic Volumes in the Cool Springs Study Area**

More detailed intersection traffic counts were recently performed by the City of Franklin. Traffic volumes are generally four times as high at intersections in the study area in the PM peak as compared to the AM peak. Despite the growth along Carothers Boulevard, the highest traffic volumes are still found near the Cool Springs Galleria on Mallory Lane *(see Table 7)*.

Table 7: Franklin, TN 2013 Traffic Counts: Intersection*

Intersection		Time of Day		
Primary Road	Intersecting Road	6:00-9:00 AM Peak	11:00-1:00 Lunchtime	3:00-6:00 PM Peak
Bakers Bridge	Market Exchange	1,695	1,860	1,944
Carothers	Corporate Center	1,474	3,100	5,816
Carothers	Gillespie	1,405	5,994	5,930
Carothers	Mayfield	665	1,820	2,885
Cool Springs	Aspen Grove	397	1,420	1,605
Cool Springs	Carothers	1,094	3,631	4,978
Cool Springs	Frazier	415	1,461	2,157
Cool Springs	Highwoods	1,036	2,174	3,695
Cool Springs	I-65 NB	322	777	1,174
Cool Springs	Mallory	959	4,228	6,166
Galleria	Cool Springs Crossing	248	1,749	3,265
Liberty	Carothers	588	1,123	1,717
Mallory	Bakers Bridge	145	1,259	2,346
Mallory	Mallory Station	220	1,555	2,478
Mallory	Nichol Mill	707	5,865	10,117
Mallory	Spring Creek	801	4,311	6,718
McEwen	I-65 (All Directions)	1,079	1,912	3,060
McEwen	Mallory	957	3,216	8,451
McEwen	Spring Creek	964	2,445	3,896
TOTAL		**15,171**	**49,900**	**78,398**

*Source: Traffic Counts taken August 17, 2014 by the City of Franklin

Locations Generating Intermittent High Traffic Volumes

Four uses in the Cool Springs study area have the potential to draw much more traffic to the area when they hold events than the area typically sees.

1. ***A-Game Sports***, located in two facilities near the intersection of Seaboard Lane and Mallory Station Road, holds regular children's sporting events at around 6 PM on weekday evenings and on weekends hosts basketball tournaments and a Tier 3 junior league hockey team, the Nashville Jr. Predators.

2. ***D-1*** is an athletic training facility located on South Springs Drive just south of the Cool Springs Galleria that provides athletic training facilities to all ages. Combine training for future NFL draft prospects, which attracts many former college stars, is the major draw here in the spring.

3. ***The Cool Springs Conference Center***, attached to the Franklin Marriott Cool Springs at 700 Cool Springs Blvd, can accommodate up to 1,100 people for meetings and conferences.

4. ***The Cool Springs Galleria and adjoining retail*** attracts enough shoppers between Thanksgiving and Christmas that signals to the area are retimed on surrounding streets to meet the increased demand and Mallory Lane can experience gridlock during the holiday season.

Future Roadway Improvements

The roadway system in the Cool Springs study area has generally been built out. The City of Franklin's policy has been to build ahead of growth, rather than react to it. However, there are many projects just beyond the study area that will have a great influence on future traffic patterns within the area.

- The Nashville Area Transportation Planning Organization (MPO) has included the extension of the Intelligent Transportation System (ITS) in Franklin as part of its 2014-2017 Transportation Plan. The extension would add ITS capabilities within the Cool Springs study area. The goal is to evaluate, recommend, and oversee the installation of Adaptive Transit Signal Control at 40 intersections in the Cool Springs study area for implementation in 2014.
- Under construction presently just beyond the Cool Springs study area limits is the rebuilding of the roundabout at Oxford Springs and McEwen Drives. The new roundabout is expected to accommodate the increased traffic on the McEwen Drive temporary connector between Oxford Springs Drive and Wilson Pike, and the future extension of McEwen Drive east from Wilson Pike.
- Also under construction is the extension of Carothers Parkway south to Long Lane.
- In the Williamson County Major Transportation Plan Update, Murfreesboro Road (Tennessee Route 96) is slated to be widened to three lanes just east of the Cool Springs study area, from the Franklin City Limit to the proposed Temple Road extension.
- Liberty Pike is proposed to be extended east of the Cool Springs study area from the current terminus at Waverly Place to Wilson Pike (Tennessee Route 232). The extended roadway would be two or three lanes.
- The City of Franklin is presently extending sidewalks all the way from I-65 to downtown along Murfreesboro Road.
- A new stoplight is being added on Carothers just north of McEwen Drive.
- The intersection of McEwen Drive and Carothers Parkway is being rebuilt and widened in anticipation of future development at that corner.
- Franklin Major Thoroughfare Plan (MTP) projects in the study area are shown in *Table 8*.

Table 8: Franklin Major Thoroughfare Plan (MTP) projects

Roadway	From	To	Project Description	Horizon Year
McEwen Dr	Carothers Pkwy	Cool Springs Blvd	Widen from 2 to 4 lanes	2015
Cool Springs Blvd	Mack Hatcher Pkwy	Carothers Pkwy	Widen from 2 to 4 lanes	2015
Liberty Pike	Franklin Rd	Carothers Pkwy	Widen from 2 to 4 lanes	2025
Murfreesboro Rd	Mack Hatcher Pkwy	Royal Oaks Blvd	Widen from 5 to 7 Lanes	2025
Carothers Pkwy	Cool Springs Blvd	Mayfield Dr	Widen from 4 to 6 lanes	2025
Mallory Station Rd	Seaboard Ln	Franklin Rd	Widen from 3 to 4 lanes	2025
Royal Oaks Blvd	Liberty Pike	Lakeview Drive	Widen from 2 to 4 lanes	2025
Mallory Ln	Liberty Pike	Moores Ln	Widen from 4 to 6 lanes	2025
Seaboard Ln	Mallory Station Rd	Crossroads Blvd	Widen from 3 to 4 lanes	2035

Parking

Until the 2008 Land Use Plan, 5 spaces were required for 1,000 square feet of office space. This was reduced by 20% to 4 spaces per 1,000 square feet in the new Plan. The City of Franklin also has a maximum standard for parking—no more than 120% of the minimum parking spaces are allowed. See *Table 9* for more specific parking requirements.

Table 9: Parking Requirements for Selected Uses in the Cool Springs Study Area

Use Type	Min # Spaces	Additional Requirements
Retail and/or Commercial Use	3.33 for up to 300,000 sq ft;	
	2.67 for more than 300,000 sq ft. (per 1,000 sq ft.)	
Hotel		1 per guest room
		1 per employee on largest shift
		0.25 of max occupant load in assembly areas
Heavy and Light Industrial:		
1-3,000 sq ft	1 Per every 250 sq ft.	
3,001-5,000 sq ft	1 Per every 500 sq ft.	
5,001-10,000 sq ft	1 Per every 750 sq ft.	
Over 10,000 sq ft	1 Per every 1,250 sq ft.	
Office Use	4 Per 1,000 sq ft	
Attached Dwelling		0-1 bedroom 1.50
		2 bedroom 2.50
		3 or more bedrooms 3.00
Detached Dwelling		2 per unit
Medical Office		Reviewed on a case by case basis

The amount of parking utilized in the study area was observed to be approximately 80% utilized for many of the office buildings, leaving room for visitor and additional employee parking. Since the office vacancy rate is just 3%, it is unlikely that 100% of the spaces would be used when the buildings are fully occupied.

8. APPENDIX

Stakeholder Interviews

The following people were interviewed and provided some of the information that went into this report.

Rogers Anderson, *Williamson County Mayor*
Patrick Emery, *President, Spectrum Properties; Chairman, TMA Group*
Abby Gambrill, *TOC Operator, City of Franklin Engineering Department*
Stanton Higgs, *Business Development and Operations Director, TMA Group*
Emily Hunter, AICP, *Planning Supervisor, Franklin, TN*
Matt Largen, *President and CEO, Williamson, Inc.*
David Meadows, SCSM, *General Manager, Cool Springs Galleria and Cool Springs Crossing*
Dr. Ken Moore, *Mayor, Franklin, TN*
Jeremiah Pryon, *Vice President of Economic Development, Williamson, Inc.*
Michael Skipper AICP, *Executive Director, Nashville Area MPO*
Ralph Walker, *Director, Columbia State College*

These additional observations were supplied by the stakeholders:

Attraction of Cool Springs

- People and companies are locating in Cool Springs because of the quality of life in Franklin and Williamson County, including good schools, low taxes, open space, historic sites, and an educated workforce.
- Companies are also moving to Cool Springs because of a sense of inertia: Much of the quality of life stems from the fact that Franklin, TN and Williamson County are already affluent areas. CEOs of companies like to live near their offices also, and part of the school success is that the types of students they attract generally have educational success.
- In 1986, it was decided that a good education system would be the foundation for Williamson County's growth. All the school facilities have been built since the early 1980s.
- Development incentives are not given out to businesses wishing to locate in the County.

Transportation: Transit

- Ideas for transit include additional express service to/from the Cool Springs area, a circulator within the office complexes, an east-west connection between retail and office uses across I-65, a light rail or commuter rail line along the old Louisville and Nashville tracks through town, electric "branded" buses on any new routes within the I-65 corridor, and a regional express network with a hub in Cool Springs.
- A lunchtime shuttle for employees was cited as something that would attract a lot of riders, and ease congestion. A dissenting opinion suggests that for big office complexes, the cafeterias there are so good, that workers would not venture out to a fast food-type restaurant.
- Many stakeholders encouraged big thinking on the subject of transit.

- The existing fixed route service does not serve the Cool Springs area particularly well, and the TODD service tends to compete with the fixed route service, rather than complement it.
- The fixed route system was revised in 2007, which was when the TODD service was added.
- Initially, it was thought that tourists would make up a significant part of the transit customer base, but that hasn't panned out.
- Franklin should be able to have at least 80 vanpools either originating or ending in the City, which should be achievable with better promotion.
- Denver is a good model for Nashville to follow when it comes to a regional transit plan.
- Buses should have wi-fi on them.

Transportation: Auto

- Without lane and stoplight treatments in the area, congestion will not be eased. And without some kind of multimodal plan, the Cool Springs area development will not be sustainable in the long run—at least, with the quality of life that attracted the companies there in the first place.
- AADT is almost equal to/from Cool Springs during rush hour along I-65 (25,000 vehicles south, 27,000 north).
- There are big delays at Centennial High School during dismissal because the school employs crossing guards, rather than police, to direct/stop traffic on Mallory Lane.
- Mallory Lane should be expanded.
- The HOV lanes are not enforced on I-65 like they should be.
- Intersections are built to "Level of Service (LOS) C", but they act like "LOS E" at certain times of the day. There will be no innovation until the congestion gets so bad the intersections operate like "LOS F"

Transportation: Bike and Pedestrian

- Bike sharing, and bike riding, should be explored as an alternative mode of transit in the area.
- TDOT has been cooperative on bike and pedestrian improvements along Murfreesboro Road.
- If bike lanes were to be installed to access the Galleria, South Springs Drive would be superior to Bakers Bridge Avenue.
- Not many students walk to the high school.
- Pedestrian links are designed for exercise, rather than commuting (this may be a result of the large number of health-related industries in Cool Springs)

Development

- Many new developments along Carothers are incorporating sustainability into their design, as many have, or will have, LEED certification.
- Carothers Parkway and McEwen Drive is the big growth area in Cool Springs. This intersection will experience continued pressure from automobiles. The roads and intersections are already being expanded, even though they were just expanded a few years ago.
- The catalysts for Cool Springs development were the Galleria, the Saturn plant built in nearby Spring Hill, and the Main Street revitalization plan in downtown Franklin in the early 1990s.
- The Factory, the transfer point for the Franklin fixed route bus system, is under new ownership, and is envisioned as an upscale entertainment complex. It is not in competition with the Cool Springs area.
- Almost all of the growth in Franklin, TN, and Williamson County as a whole, has been within each city's urban growth boundary.
- Subdivisions are not required to link with adjacent subdivisions—the same holds true with retail and office uses. There is thought to be security concern if office planned developments link together.
- The City owns no land in the Cool Springs area.
- The Galleria is redeveloping the old Sears site with an American Girl Place and a Cheesecake Factory.
- Traffic signals in the retail heavy section of Cool Springs vary by time of day; eventually, they will be able to be controlled directly by the City (Adaptive Traffic Signalization).
- Some suspicion that mixed-use with the parking in back will not work (the development across from the Factory was cited).
- There is a maximum height of 10 stories in Cool Springs.
- Developers are required to pay an impact fee for transportation (i.e. roadways) upgrades. There is no impact fee that supports transit.
- Live-work developments are becoming more popular in the Cool Springs area.

Workforce Residence

- Many office workers in Cool Springs live in Nashville, particularly in the West End, the Gulch, and East Nashville.
- Retail workers, and lower level workers, come from the Antioch area of Nashville, and Spring Hill. Stakeholders are not aware of employers having difficulty attracting workers because of transportation issues getting to work. Some retail workers live in the apartments on Royal Oak Boulevard between Liberty Pike and Murfreesboro Road. Some walk or bike to work, and some use transit.
- Cool Springs and Franklin are too pricey for many office workers to live in. They need to commute from elsewhere, sometimes from great distances.