



Transit Facility Needs Assessment

Prepared for:

Lakeway Transit

In partnership with:

Lakeway Area Metropolitan -

Transportation Planning Organization

East Tennessee Human Resource Agency

Prepared by:

WSP

November 2023

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1.0 Executive Summary

The Lakeway Transit System (Lakeway), located in Morristown, Tennessee, in conjunction with the Lakeway Area Metropolitan Transportation Planning Organization (LAMTPO) and the East Tennessee Human Resource Agency (ETHRA), is proposing to construct a comprehensive transit facility for passenger boarding and transferring, as well as to house various transit-related functions, including dispatch, administration, training, passenger waiting areas, secure vehicle storage, bus maintenance bays, and equipment storage areas. The facility will allow the opportunity for expansion as service needs grow and financial capabilities warrant.

Lakeway Transit is currently located at 2800 West Andrew Johnson Hwy. Lakeway Transit began service on February 16, 2021, to serve the general public in Morristown. The service currently operates three fixed route bus routes and two ADA Paratransit vehicles (Lakeway Lift) daily, Monday through Friday, from 7:00 AM until 6:00 PM, with no weekend service. Lakeway Transit transported approximately 30,000 passengers in 2022. Lakeway Transit services are vital to the Morristown and surrounding area as they continue growing. The system provides crucial employment, medical, and recreational trips, ensuring the general public has convenient and equitable transportation options. As the system and ridership continue to grow, Lakeway Transit is considering adding new routes and additional trips, as well as regional transportation to Knoxville, Jefferson City, and White Pine.

The current transit center is a leased facility located in a commercial strip mall and has served as the hub and transfer facility for all fixed routes, and Lakeway Transit has outgrown the site. The facility is inadequate for accommodating ridership, service growth, transit demand, and operational needs. Additionally, the facility does not provide adequate indoor passenger waiting areas, public restrooms, or customer service areas, sharing the space with ETHRA operations and corrections and probation functions. Lakeway requires a center that supports better transit operations, improved safety, increased ridership, and enhanced service, is flexible and expandable, and promotes economic and sustainable development.

Lakeway Transit is considered a small urban transit agency by the Federal Transit Administration (FTA). It serves over 30,000 residents of the City and over 65,000 in the urbanized area.

In April 2023, the City contracted with WSP USA to undertake a transit facility needs assessment study to locate potential sites for a new transit facility and study those sites to determine which of those best meet the needs of the growing system. This report summarizes the analysis and findings of this needs assessment study, including:

- 2.0 Evaluation of Existing Conditions**
- 3.0 Statement of Space and Functional Needs**
- 4.0 Evaluation of Alternative Sites**
- 5.0 Public Engagement Efforts**
- 6.0 Impacts to Transit Route Alignments**
- 7.0 Estimated Implementation Timeline and Project Budget**
- 8.0 Appendices**

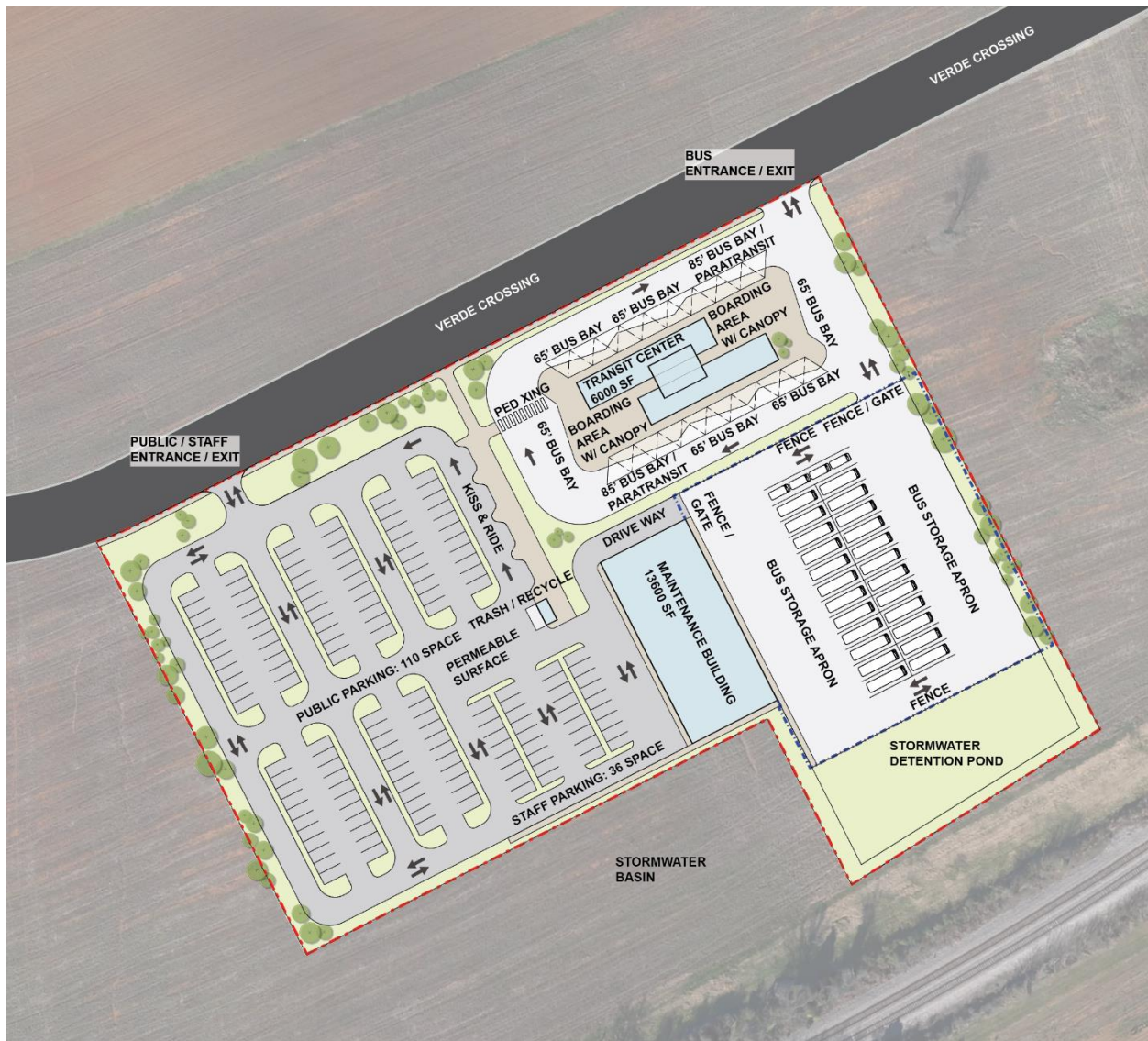
Based on the information collected and the analysis undertaken to date, it is recommended that the City construct a new transit facility to serve the community's existing and anticipated transit needs. The current Lakeway transit facility does not provide adequate operational space or space for needed growth. Given that the current facility is leased, Lakeway's options for modifying the building and area

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to more fully meet their needs, such as adding fencing to secure vehicles stored overnight, are severely limited.

An initial assessment of 35 sites, or a combination of sites, for a new transit facility was conducted. Eight (8) sites remained after the initial screening. Those sites were more thoroughly assessed, and based on the information gathered and analysis undertaken, the two sites best suited for the existing and future needs of Lakeway Transit are the undeveloped sites located at the southwest corner of Doctor M.L.K Jr Parkway and W. Morris Blvd (Site 25 or the W. Morris Blvd. Site) and the site located at mid-block on Verde Crossing, between Merchants Greene Blvd and Faith Lane (Site 9 or the Verde Crossing Site). These sites meet the current and future needs of Lakeway Transit. Both sites are large enough and situated in such a way as to allow for the construction of Lakeway's operations and maintenance facilities while allowing for adequate vehicular traffic.

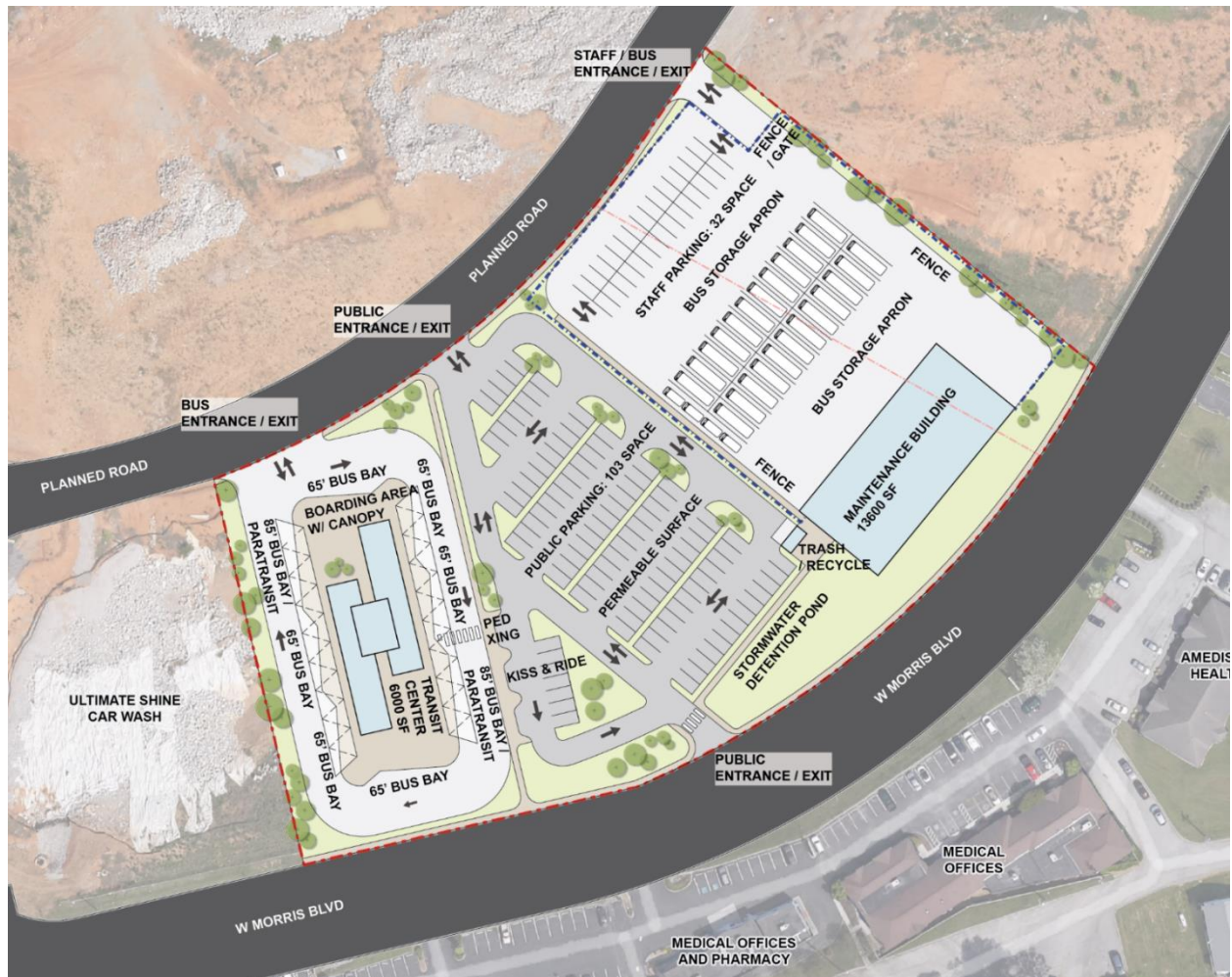
Figure 1-1: Visualization of Proposed Lakeway Facility at Verde Crossing (Site 9)



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As part of the overall transit facility needs assessments, the impact of each site that advanced to the second round of screening on existing Lakeway Transit operations was evaluated, including the potential need for realignment of existing routes (discussed further in section 6). The Verde Crossing Site (Site 9) is located approximately two miles west of the current Lakeway Transit center and is not along any existing routes. As such, all Lakeway Transit routes (Orange, Green, Blue) will require a realignment if this site is chosen.

Figure 1-2: Visualization of Proposed Lakeway Facility at W. Morris Blvd (Site 25)



As part of the overall transit facility needs assessments, the impact of each site that advanced to the second round of screening on existing Lakeway Transit operations was evaluated, including the potential need for realignment of existing routes (discussed further in section 6). The W Morris Blvd site (Site 25) is located along the current Orange and Green route alignments. While this site is not located along the Blue route, it is only approximately a third of a mile from the current Blue route alignment. As a result, realignment of existing routes if this site is chosen would be minimal.

The following schedule (**Table 1-1**) outlines the transit center's timeline and applies to both sites. This timeline is only an estimate, and it is possible that the actual timeline could be shortened or lengthened

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depending on many factors that are, at this point, unknown. Under this scenario, which assumes the use of FTA funding for the project, transit operations would begin at the new Lakeway Transit Center in May 2028.

Table 1-1: New Transit Facility Implementation Timeline (FTA Funding)

Phase	Start	Finish	Remarks
Title VI	January 2024	May 2024	
NEPA Study	June 2024	August 2025	NEPA could be as short as nine months or as long as 18 months
Land Acquisition	August 2025	October 2025	Geotechnical inspections and other due diligence are highly recommended before purchasing property
Transit Center Design	September 2025	September 2026	Design running parallel with the NEPA Study and prior to FTA approval.
Bid / Award	October 2026	December 2026	
Construction	January 2027	May 2028	18 months

Table 1-1 below details a rough order of magnitude budget for the construction of both the Verde Crossing (Site 9) and the W. Morris Blvd. Site (Site 25). This budget uses a blended approach to account for differences in both size and complexity between Site 9 and Site 25, resulting in a cost estimate that is appropriate to both sites. An additional design contingency is incorporated to account for cost uncertainty that is inherent given that final design has not been initiated. Construction cost award price (CCAP) represents the cost realized on bid day, and an all-inclusive cost estimate is included as well (includes design fees and owner contingency).

This preliminary project budget assumes a September 2027 date for the mid-point of construction. Additionally, costs associated with the National Environmental Policy Act (NEPA) phase of the project and costs associated with the purchase of property are not included.

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Table 1-2: Rough Order of Magnitude Transit Center Cost Estimate

Transit Center Cost Estimate					
Unadjusted Construction Costs					
Line Item	Quantity	Unit (Sq Ft or Acres)	Unit Price (\$)	Cost	Notes
Site Prep	6.82	AC	\$6,500	\$44,318.18	
Utility Work	1.70	AC	\$50,000	\$85,227.27	
General Grading	6.82	AC	\$35,000	\$238,636.36	
Passenger Vehicle Paving	110,000	SF	\$6	\$660,000.00	
Bus Paving	83,300	SF	\$18	\$1,499,400.00	
Vegetation Area	40,000	SF	\$5	\$200,000	
Stormwater Area	20,000	SF	\$8	\$160,000.00	
Passenger Waiting Pavers	14,700	SF	\$6	\$88,200.00	
Passenger Transit Facility	6,000	SF	\$320	\$1,920,000.00	
Passenger Waiting Canopy	8,000	SF	\$65	\$520,000.00	
Passenger Amenities	1	AL	\$50,000	\$50,000.00	
Maintenance Facility	14,000	SF	\$170	\$2,380,000.00	
Maintenance Facility Equipment	1	AL	\$800,000	\$800,000.00	
Site Lighting	6.82	AC	\$5,000	\$34,090.91	
Communications	20,000	SF	\$12	\$240,000.00	
Signage and Wayfinding	1	AL	\$35,000	\$35,000.00	
Total Unadjusted Costs (\$)	\$8,954,872.73				
Construction Cost Adjustments (Contingencies, Overhead, Profit, Fees, Other Conditions)					
	Contingency %			Cost	Notes
Design Contingency	20%			\$1,790,974.55	
Special Conditions	10%			\$1,074,584.73	
General Conditions	25%			\$2,955,108.00	
Contractor Overhead and Profit	15%			\$2,216,331.00	
Inflation	14.75%			\$2,506,300.97	
Construction Cost Award Price (\$)	\$19,498,171.97				Does not include Design Fee and General Owner Contingency
Design Fee	12%			\$2,339,780.64	
General Owner Contingency	10%			\$1,949,817.20	
Total Estimated Cost (\$)	\$23,787,769.81				

2.0 Evaluation of Existing Conditions

2.1 Existing Site

The existing Lakeway Transit facility is located approximately three miles west of Morristown City Hall at 2800 W Andrew Johnson Hwy in an area near service and retail establishments, where limited dispatching functions for the agency are currently housed (See **Figure 2-1**). Lakeway Transit shares approximately one-quarter of the joint-use building with the East Tennessee Human Resources Agency (ETHRA), corrections and probation functions, and retail stores occupy the remainder. The Lakeway entrance faces W Andrew Johnson Hwy. The Lakeway Transit center is approximately 7,000 square feet in size when accounting for Lakeway Transit, ETHRA transportation functions, and probation and corrections services.

Passenger boarding and alighting takes place in the parking lot among mixed traffic, and vehicles are parked in designated spots along the east side of the building at night. There are interior and exterior passenger waiting areas. The exterior waiting area is located along the east side of the building, next to Dollar General's recycling corral. The interior waiting area is located directly inside the structure and doubles as a waiting area for corrections and probation clients.

A half door separates the interior waiting area from the main staff corridor at the front of the building. The Lakeway Transit dispatcher's office is located just beyond the half door on the right, and the ETHRA and Lakeway Transit driver rooms are located toward the rear of the building. Additionally, two private offices for Lakeway Transit staff are located in the rear right of the building. Probations and corrections staff are located throughout the building along the central corridor. A public and staff restroom is located at the rear of the building, as is a storage area, kitchen, conference room, and lounge area that is shared between transportation staff and probation and correction staff. Among approximately 20 staff rooms, four rooms are used for Lakeway Transit or ETHRA transportation purposes.

The main Lakeway Transit, ETHRA transportation, and probations/corrections staff offices are separated by high cubicle-style walls instead of full walls that reach the ceiling and enclose each space. The condition of the building is generally good but is visibly aging.

Lakeway Transit being co-located with multiple other ETHRA services limits the space that Lakeway Transit can dedicate to passenger waiting, staff functions, and storage. Space that is not dedicated to Lakeway Transit personnel is shared with other ETHRA personnel, such as the conference room, staff kitchen, and rear storage area.

The limited space afforded to Lakeway Transit will inevitably hinder the ability of Lakeway Transit to expand its operations. Operating out of a mixed-traffic parking lot with minimal support for bus movements will present a major issue as routes are added and therefore more busses are at the center on layover. More staff will also be required, including both back-office staff (e.g., administrative, scheduling) and operators, while the current transit cannot support further staff expansion.

Administrative and most other operational functions are located at the Lakeway Area Metropolitan Transportation Planning Organization (LAMTPO) and ETHRA offices. LAMTPO is located at 100 W 1st N St in Morristown, while ETHRA is located at 9111 Cross Park Dr, Suite D-100 in Knoxville.

Figure 2-1: Lakeway Transit Existing Facility Location Map



Figure 2-2: Lakeway Transit Facility Photos (1)



Figure 2-3: Lakeway Transit Facility Photos (2)



2.2 Other Facilities

Lakeway Transit is operated by the same organization that operates the East Tennessee Human Resource Agency (ETHRA). ETHRA is the rural public transit provider for a 16-county area in East Tennessee, including Hamblen County. The agency operates a demand-responsive style service with over 100 vehicles in operation each day, providing nearly 200,000 trips and covering over 3 million miles annually.

Lakeway Transit currently shares maintenance staff and facilities with ETHRA. The maintenance facility for both Lakeway and ETHRA is located at 298 Blair Bend Road, Loudon, TN.

Lakeway/ETHRA Maintenance Facility

The joint Lakeway Transit/ETHRA Maintenance Facility is located at 298 Blair Bend Road, Loudon, TN, over 75 miles from the current Lakeway Transit hub.

The maintenance facility was constructed in 2000, is of concrete block/steel construction materials, and is 11,150 square feet in size. There was an addition to the building in 2010. In addition to the five (5) pull-through maintenance bays, administrative offices and meeting space are present. The administrative space is shared with city corrections and probation personnel.

There are seven offices, two restrooms without showers, and one (each) restroom with shower, supply room, training room, server room, computer room, break room, copy room, storage room, drivers' room, parts room, and wash bay. The garage doors are 14 ft wide overhead electric doors. A detailed floor plan is included in **Figure 2-4**. The general condition of the building is good. The interior finishes and materials are also in good condition.

It is important to note that the distance to the maintenance shop poses numerous challenges to the agency. The Federal Transit Administration (FTA) requires that all federally-funded vehicles undergo routine, scheduled preventive maintenance in 6,000-mile increments, which heavily-used transit vehicles accumulate quickly. This maintenance ranges from oil and brake pad changes to more intense transmission work and spark plug replacement. Lakeway does not have the ability to perform this work at its Morristown facility and must send vehicles to the Loudon facility regularly, adding unnecessary miles and wear and tear to the fleet. Additionally, due to the distance, a simple flat tire could result in a vehicle being decommissioned for the day when, if a facility were nearby, the bus could be back in operation within the hour.

Additionally, with the construction of a maintenance shop in Morristown, ETHRA vehicles serving the eastern portion of the service area will have facilities available for light and routine maintenance needs, such as headlight replacement or wheelchair lift troubleshooting, without needing to return to Loudon, saving time and money, and promoting a state of good repair.

Finally, the size of the Loudon facility is inadequate to meet the demand of servicing and maintaining over 150 revenue vehicles. As vehicles remain in service well beyond their typical useful life and continue to degrade due to the nationwide vehicle storage, the demand for regular care is increasing rapidly. Likewise, the facility will struggle to keep up when additional vehicles are added to the fleet in conjunction with new services. Adding maintenance space in Morristown will relieve the pressure on the Loudon facility and allow for more effective and efficient fleet maintenance.

Figure 2-4: Existing Maintenance Facility Floor Plan

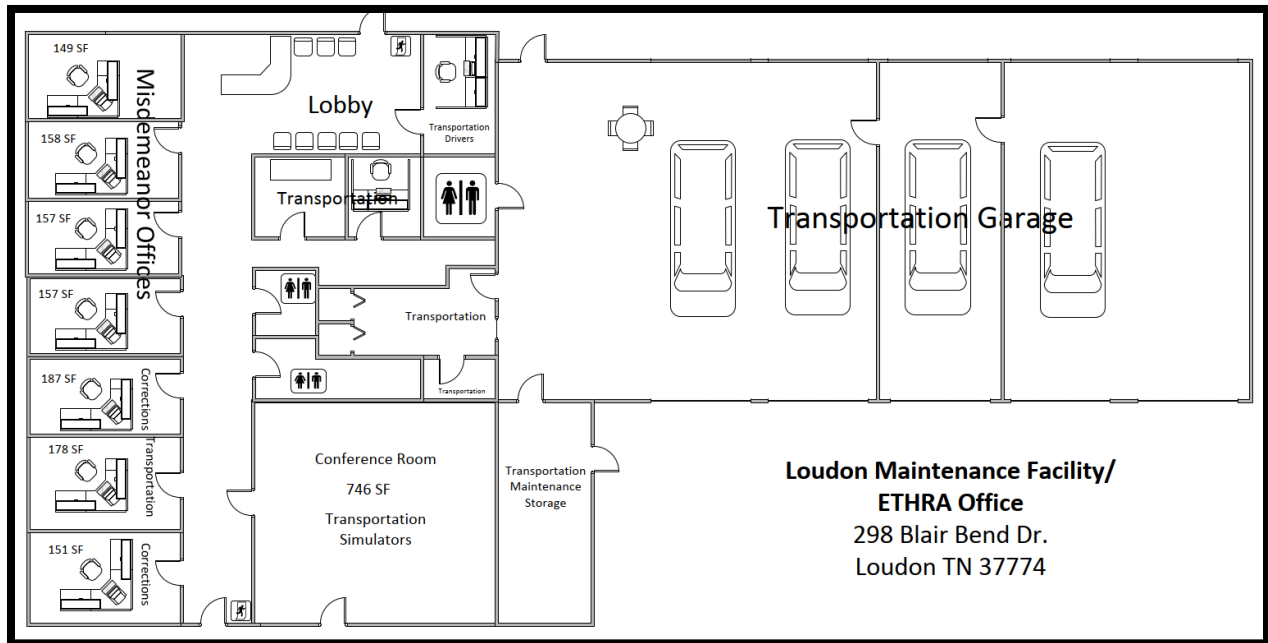


Figure 2-5: Lakeway Fleet Maintenance Facility

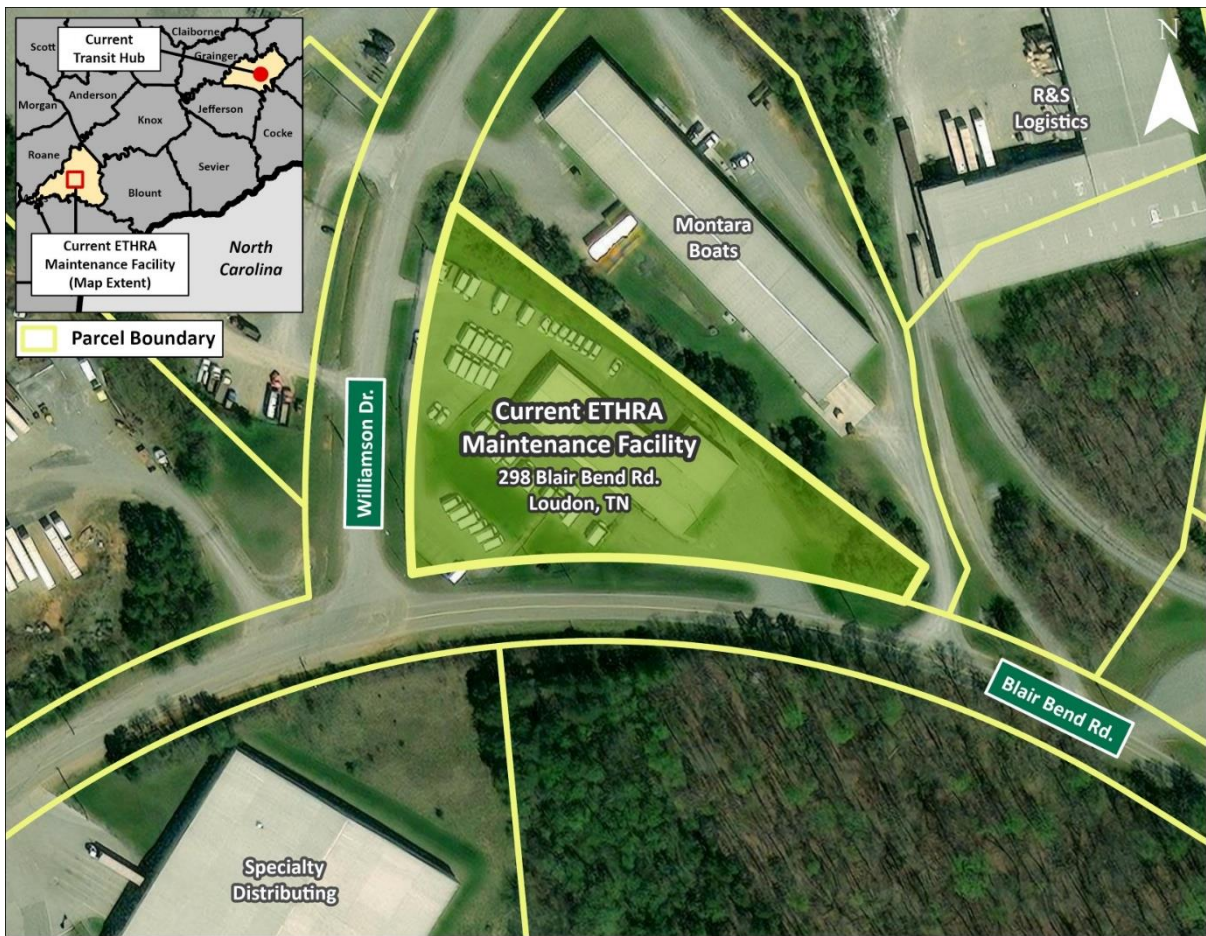
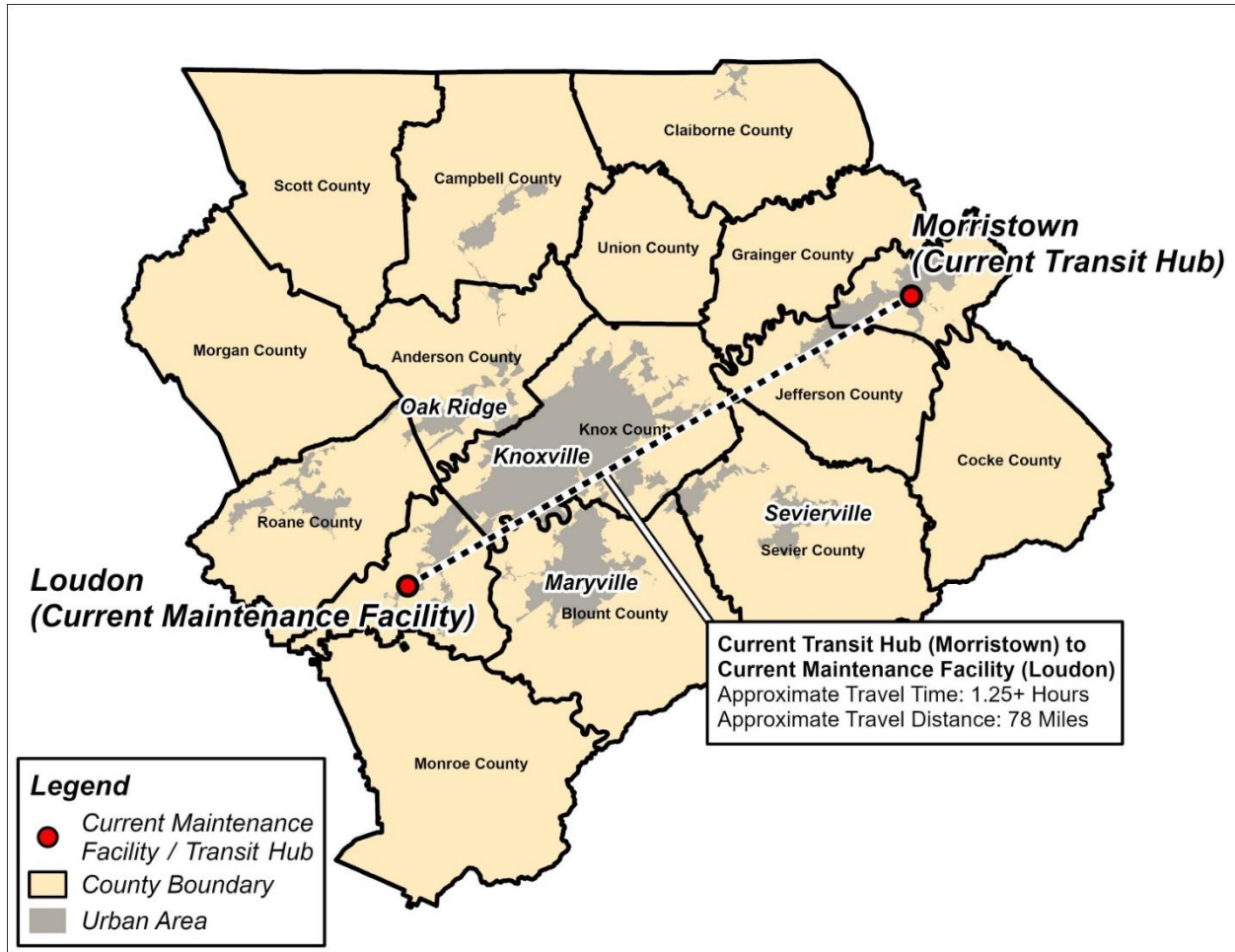


Figure 2-6: Distance from Lakeway Transit Center to Loudon Maintenance Facility



3.0 Statement of Space and Functional Needs

The Lakeway Transit program is distributed between four general functions: Transit Administration, Transit Operations, Passenger Services, and Bus Storage and Maintenance. The current W Andrew Johnson Hwy facility houses dispatch and limited customer services. Bus Storage is the publicly accessible parking on site. Maintenance, bus wash, and cleaning facilities are located at the Fleet Maintenance Facility on Blair Bend Rd. Lakeway Administration is also housed at this facility, and the ETHRA offices located at 9111 Cross Park Dr, Suite D-100, in Knoxville.

As part of the Space and Functional Needs Assessment, Lakeway Transit and ETHRA staff were interviewed to understand better how the current facility was being used, what improvements could be made, and what anticipated growth was forecasted for the staff and routes. The following summarizes the input provided by the Lakeway staff. This input was incorporated into the Space Needs Assessment, which identifies the space needed by each function of the transit center. The transit center's final Space Needs Assessment is in **Appendix C**.

3.1 Site Needs

Lakeway Transit sees significant ridership given its status as a new small urban transit system. While the COVID-19 pandemic has hampered initial growth, trends are strong as riders return to normal day-to-day activities and their transportation needs increase. Lakeway Transit sees the potential for regional routes to provide service to Knoxville, Jefferson City, and White Pine.

Lakeway currently operates 25-foot light-duty transit buses, and those vehicles are meeting current demand. However, a new facility should be designed to accept heavy-duty transit buses in the typical 30-, 35-, and 40-foot sizes, as future growth may require larger vehicles. Notably, the current maintenance facility is ill-equipped to handle heavy-duty transit buses.

The following sections summarize the facility requirements per interviews with Lakeway Transit and ETHRA. More detailed space programming information, including square footage and exact numbers of programmed spaces, can be found in Appendix C.

Transit Operations

- Transit Operations should be separated from public spaces but convenient to the bus platform.
- Provide dedicated restroom facilities for the drivers as they have a short window between routes to use the facilities.
- Space for bus dispatchers, paratransit schedulers, and an expansion room for microtransit should be provided and must be separated from the customer waiting area but accessible through a customer service window.
- A Breakroom and "fitness space" for staff is desired.
- Road Supervisors need space to complete paperwork and other administrative activities.
- Dedicated, secured revenue vehicle parking is required. Fencing and cameras will be used for security.
- The new facility will have adequate administrative office space to allow Lakeway Transit staff to be on-site.
- Custodial space, conference room, secure money counting room, breakroom, and locker room are other spaces needed in the new facility.

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- An area for multimodal connections with ride-share providers and inter-city bus carriers is desired.

Maintenance Needs

- The maintenance building will be separate from the passenger and operations building, allowing for phased construction (if desired) and increased passenger safety.
- A minimum of two maintenance bays are required.
- Maintenance bays shall be large enough to house heavy-duty vehicle lifts and equipment.
- The building should include space for:
 - Vehicle washing;
 - Tool cribs for mechanics;
 - A secure parts room;
 - Tire storage;
 - A locker area for mechanics;
 - General storage;
 - Eye wash stations;
 - A maintenance breakroom;
 - Restrooms with shower(s);
- The maintenance manager will need a dedicated office space

Passenger Services

- An indoor passenger waiting area in the same building housing the administrative and operational functions is desired.
- Public restrooms will be provided.
- Ample parking for riders and visitors.
- There is a need for a passenger drop-off/pick-up area.
- Other amenities on the property include:
 - Bicycle racks;
 - Public gathering space;
 - Benches;
 - Covered outdoor waiting areas;
 - Wayfinding signage;
 - Real-time arrival information;
- A customer service window is required to allow passengers to interact with staff for ticketing, IDs, and general information.

General

- Bike share and scooter staging areas are desired.
- All parking will be ground-level.
- Space for future electric vehicle charging infrastructure is desired but not mandatory.
- The site shall include adequate security lighting.
- Include a dedicated smoking area at least 25 feet from any building.
- A green space and ample landscaping are desired.
- Lakeway Transit and ETHRA staff have viewed the Kingsport Area Transit facility and like the layout and design. This facility can be used as a template.

4.0 Evaluation of Alternative Sites

4.1 Site Identification

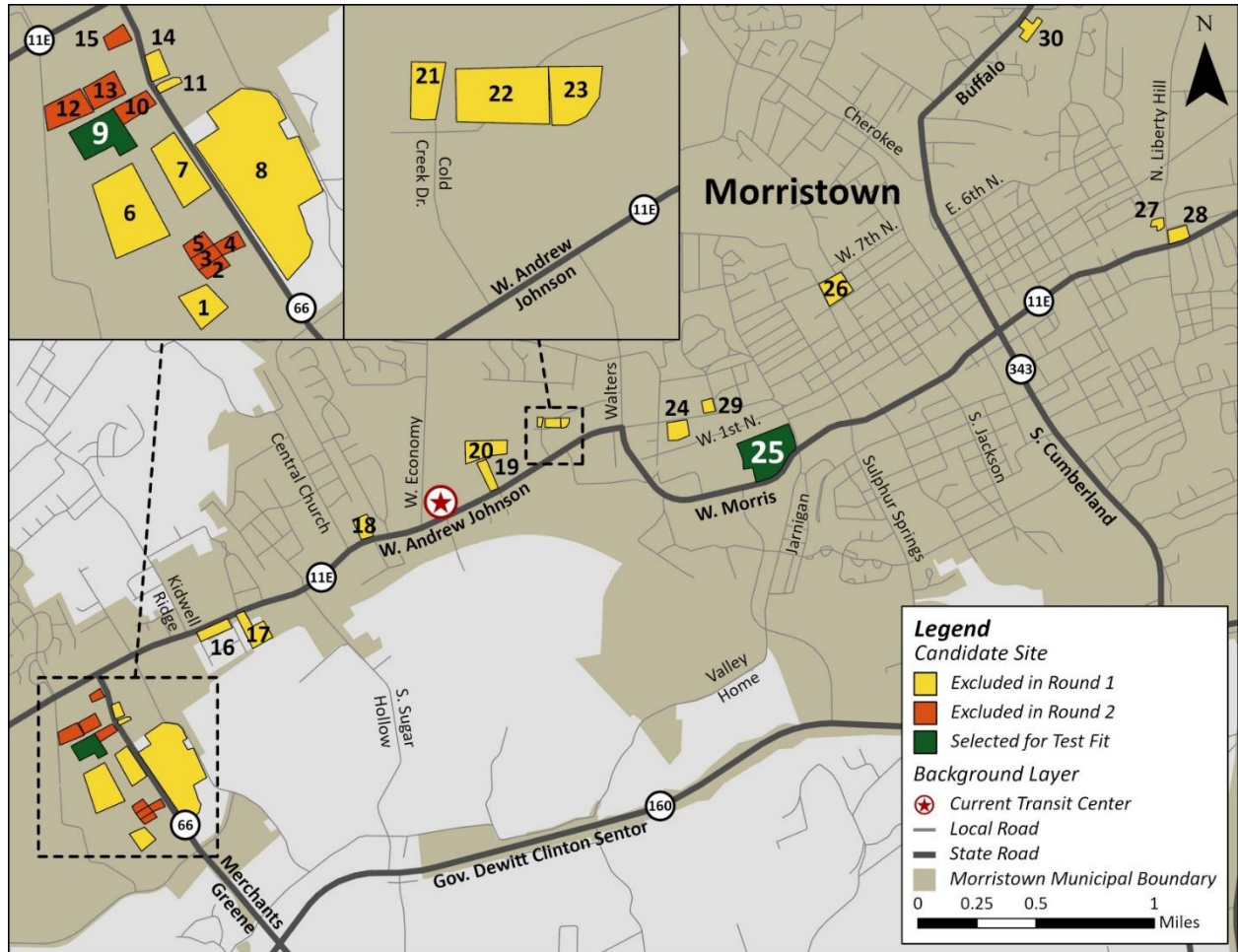
Working closely with the Lakeway Transit and ETHRA staff, 35 sites, or combinations of sites, were identified and evaluated as potential sites for a new transit facility. Members of the public submitted multiple sites during the public survey period, which were included in the study. Combinations of sites were considered where sites would need to be combined with others to be viable, such as if individual sites did not have the requisite acreage (at least 3 acres).

WSP partnered with Greenbrier Real Estate Advisors, LLC (GREA) to identify the properties detailed below. GREA has operated as a commercial real estate firm in the Morristown, TN, area since 2015 and has extensive experience locating suitable potential development sites. The firm's local knowledge, contacts, and expertise were vital in identifying sites that are currently for sale, may be available, and are municipally owned.

It is important to note that, in accordance with FTA real property acquisition requirements, neither WSP, GREA, nor Lakeway staff presented any property owners with offers, promises, or intents to negotiate purchases. In most circumstances, communication was conducted via the property owner's broker/representative only to determine if a site could be purchased. In all cases, the purpose of the inquiry was not revealed to the owner, broker, or representative. Price discussions were not conducted with owners, brokers, or representatives. All sale prices determined during this study and used for evaluation are publicly available and listed or were generated through "market comps" by GREA.

Figure 4-1 displays the geographic location of each candidate site throughout Morristown and whether sites were excluded for selection for test fitting. Brief overviews of each site are also provided below.

Figure 4-1: Candidate Sites and Evaluation Results



Site 1

Located behind the new Morristown Landing athletic complex along Evelyn Johnson Way, the City of Morristown owns this site, is approximately 5.8 acres in size, and is zoned Intermediate Business (IB). Site 1 is located within a single parcel (ID = 048 058.00). This site was determined to be unavailable and did not advance to Round 2, as the city plans to use the property for future expansion of Morristown Landing.

Sites 2, 3, 4, and 5

These sites are located in front of the new Morristown Landing athletic complex, along either Evelyn Johnson Way, Durham Landing, or Merchants Greene Blvd. All four sites are zoned Intermediate Business. All sites are located within a single parcel (ID = 048 059.07). Per the site requirements identified during the Facility Functional Needs Assessment, a minimum of 3 acres is required, these sites are each less than 3 acres in size. These sites are the following sizes:

- Site 2: 1.67 acres
- Site 3: 1.68 acres

- Site 4: 1.9 acres
- Site 5: 2.22 acres

Due to their size, Sites 2, 3, 4, and 5 were combined into three sites (5a, 5b, 5c), each meeting the minimum acreage requirement, which is discussed in the following three sections.

Site 5a

Site 5a consists of Sites 3 and 4, totaling 3.58 acres. Site 5a connects to Evelyn Johnson Way (via Site 3) and Merchants Greene Blvd (via Site 4). Site 5a is located within a single parcel (ID = 048 059.07). This site passed Round 1 but did not pass Round 2 and, therefore, was not selected for test fitting. Site 5a received a score of 1 in the following Round 2 criteria: topography, operational impact, transit propensity index, pedestrian connectivity, future expansion potential, and utilities.

Site 5b

Site 5b consists of Sites 3 and 5, totaling 3.9 acres. Site 5a is located within a single parcel (ID = 048 059.07). This site passed Round 1 but did not pass Round 2 and, therefore, was not selected for test fitting. Site 5a received a score of 1 in the following Round 2 criteria: topography, operational impact, transit propensity index, pedestrian connectivity, future expansion potential, and utilities.

Site 5c

Site 5c consists of Sites 2 and 3, totaling 3.35 acres. Site 5a is located within a single parcel (ID = 048 059.07). This site passed Round 1 but did not pass Round 2 and, therefore, was not selected for test fitting. Site 5a received a score of 1 in the following Round 2 criteria: operational impact, transit propensity index, pedestrian connectivity, future expansion potential, and utilities.

Site 6

Site 6 is located along Durham Landing, northwest of the Morristown Landing athletic complex. This site is owned by the City of Morristown and is zoned Intermediate Business. Site 6 is located within a single parcel (ID = 048 058.00). The exact size of the site is unknown due to a site plan not yet existing. Site 6 was determined to be unavailable due to likely being used for municipal purposes and thus did not advance to Round 2.

Site 7

Site 7 is located directly along Merchants Greene Blvd., immediately south of the Norfolk Southern railroad intersecting Merchants Greene Blvd, and is 6.41 acres. This site is owned by the City of Morristown and is zoned Intermediate Business. This site is located within a single parcel (ID = 048 059.15). Site 7 was determined to be unavailable due to likely being used for municipal purposes and thus did not advance to Round 2.

Site 8

Site 8 is located across Merchants Green Blvd from Morristown Landing, immediately south of the Norfolk Southern railroad intersecting Merchants Greene Blvd. This site is owned by John Bell and is 138 acres. Site 8 is unincorporated and thus has no Morristown zoning designation. It is bordered to the northwest and west by Intermediate Business districts and to the northeast by a Single-family Residential district. Site 8 is located within a single parcel (ID = 048 059.00). This site did not advance to Round 2 due to the property owner living on the site and associated concerns with impacts to the owner. Additionally, the site's topography was found to be particularly challenging in an initial screening.

Site 9 (Verde Crossing Site)

Site 9 is located along Verde Crossing and is adjacent to the Norfolk Southern railroad that intersects Merchants Greene Blvd. The site spans two parcels, one of which is owned by Morristown Hotel Partners, LLC (Parcel ID = 040 030.23) and the other by Merchants Greene Partners (Parcel ID = 040 030.03). Site 9 is 6.2 acres and is zoned Intermediate Business. Site 9 was evaluated in Round 2 and selected for test fitting, which is discussed further in Section 4.3.

Site 10

Site 10 is located at the southwest corner of the intersection of Verde Crossing and Merchants Greene Blvd. The site is owned by Merchants Greene Partners and is zoned Intermediate Business. Site 10 is located within a single parcel (ID = 040 030.03). Per the site requirements identified during the Facility Functional Needs Assessment, a minimum of 3 acres is required, while this site is only 2.1 acres. Site 10 was combined with Site 15 for evaluation purposes, which is discussed further under the Site 15A heading below.

Site 11

Site 11 is located at the southeast corner of the intersection of Merchants Green Blvd. and Verde Crossing. This site is owned by Mayur and Chetna Shah and is zoned Intermediate Business. Site 11 is located within a single parcel (ID = 040 030.08). Per the site requirements identified during the Facility Functional Needs Assessment, a minimum of 3 acres is required, while this site is only 0.84 acres. Site 11 did not advance to Round 2 due to its size and lack of an evident site that it can be combined with for separate operations and maintenance functions.

Site 12

Site 12 is located at the northeast corner of the intersection of Verde Crossing and Faith Ln. The site spans two parcels, one owned by AB Hotels Morristown, LLC (Parcel ID = 040 030.22) and one by Merchants Greene Partners (Parcel ID = 040 030.03). Site 12 is 4.0 acres and is zoned Intermediate Business. Site 12 was evaluated in Round 2 but was not selected for test fitting. It received low scores for the following criteria: operational impact, acquisition cost, transit propensity index, and site visibility.

Site 13

Site 13 is located along Verde Crossing to the north, in the middle of the block between Merchants Green Blvd. and Faith Ln. This site is owned by Merchants Greene Partners. Site 13 is 3.95 acres and is zoned Intermediate Business. Site 13 is located within a single parcel (ID = 040 030.03). After being evaluated in Round 2, Site 13 was not selected for test fitting. It received low scores for the following criteria: operational impact, acquisition cost, and transit propensity index.

Site 14

Site 14 is located at the northeast corner of the intersection of Verde Crossing and Merchants Greene Blvd. It is owned by Wal-Mart Real Estate Business Trust and is zoned Intermediate Business. Site 14 is located within a single parcel (ID = 040 030.07). Site 14 is 1.39 acres, which is smaller than the minimum 3 acres identified in the Needs Assessment. Site 14 was eliminated in Round 1 because Wal-Mart was unwilling to sell this site, preferring to lease the land.

Site 15

Site 15 is located at the southwest corner of Erica Greene Cir. and Merchants Greene Blvd. The site is owned by Merchants Greene Partners and is zoned Intermediate Business. Site 15 is located within a single parcel (ID = 040 030.15). Per the site requirements identified during the Facility Functional Needs Assessment, a minimum of 3 acres is required, while this site is only 1.44 acres. Site 15 was combined with Site 10 for evaluation purposes, which is discussed further under the Site 15A heading below.

Site 15a

Site 15a consists of Site 10 and Site 15, which were combined for evaluation purposes due to not meeting minimum site size requirements individually. A combination of sites would entail separate operations and maintenance functions. Together, they total 3.54 acres in size. Both sites are zoned Intermediate Business. Site 15a was evaluated in Round 2 but was not selected for test fitting. This site received low scores for the following criteria: topography, transit propensity index, and future expansion potential.

Site 16

Site 16 is located along W. Andrew Johnson Hwy., between the intersections with W. Sunset Hills and Kidwell Ridge Rd. This site spans six separate parcels, with the owners and parcel numbers outlined below:

- 040L E 029.00: Robert T. Ballance and Janice C Ballance
- 040L E 029.01: Robert T. Ballance and Janice C Ballance
- 040L E 028.00: Robert T. Ballance and Janice C Ballance
- 040L E 027.00: Harold D. Hickman and Sharon Hickman
- 040L E 027.02: Harold D. Hickman and Sharon Hickman
- 040L E 027.01: Harold D. Hickman and Sharon Hickman

In total, Site 16 is 4.25 acres and is zoned Intermediate Business. This site did not advance to Round 2 due to multiple issues. Site 16 is bordered by single-family homes, raising neighborhood compatibility concerns. This site also has access challenges, being located along W. Andrew Johnson Hwy. with no signalized intersections.

Site 17

Site 17 is located along W. Andrew Johnson Hwy. at the intersection of W. Sunset Hills and W. Andrew Johnson Hwy. This site spans two parcels, one owned by Manley Storage, GP (ID = 040 E 034.00) and the other by Billy Dale Rugel, Leonard Rugel, and Joan Smith Rugel (ID = 040 L 033.00). In total, the size of the site is 7.03 acres. Site 17 is partially within an Intermediate Business zone and partially unincorporated. This site did not advance to Round 2 due to site access challenges, mainly being located along W. Andrew Johnson Hwy. with no signalized intersections. Additionally, the site's geometry is challenging, requiring the acquisition of a long, thin portion of land to access the more suitable rear portion of the site.

Site 18

Site 18 is located along W. Andrew Johnson Hwy, near the intersection of Walker Dr. and W. Andrew Johnson Hwy. The site spans one parcel owned by Shiva Survarna, LLC and Roger Holbrook (ID = 041A A 02300). This site is 4.33 acres and is zoned Intermediate Business. Site 18 did not advance to Round 2

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due to neighborhood compatibility issues, bordered significantly by single-family homes and townhomes.

Site 19

Site 19 is located along W. Andrew Johnson Hwy., at the intersection of S. Austin Rd. with W. Andrew Johnson Hwy. This site includes one parcel owned by Dwight Frazier and Pro Partners (ID = 041B A 016.02). The site is 4.03 acres and is zoned Intermediate Business. Site 19 did not advance to Round 2 due to site geometry and site access challenges. The site is long and narrow, with a particularly narrow face abutting W. Andrew Johnson Hwy. As a result, Site 19 is not appropriate for operations and maintenance functions, only as access to another site (Site 20, discussed below). Moreover, Site 19 is not located near a signalized intersection, complicating access to Site 19 itself (and, therefore, site 20).

Site 20

Site 20 is located behind Site 19, with access off Sandstone Dr. This includes one parcel owned by Virginia Kay Masengill (ID = 041B A 016.00). The entire parcel is 47.85 acres and is zoned Single-family Residential. This site did not advance to Round 2 due to having poor access off Sandstone Dr. and no direct access to W. Andrew Johnson Hwy. To give Site 20 direct access to W. Andrew Johnson Hwy., Site 19 would also need to be acquired, significantly increasing the price of real estate acquisition.

Sites 21, 22, and 23

Sites 21, 22, and 23 are all located along Sandstone Dr., directly south of the Food City parking lot, for which these sites are out parcels. Each site is located on a separate parcel owned by BB&J Holdings. The parcel IDs/parcels sizes are as follows:

- Site 21: 041B A 008.04 / 0.66 acres
- Site 22: 041B A 008.05 / 1.59 acres
- Site 23: 041B A 008.06 / 1.00 acre

All three parcels are within the Planner Commercial Development District. These parcels did not advance to Round 2 due to possible unwillingness to sell to maintain the visibility of Food City and other businesses from W. Andrew Johnson Highway and Sandstone Dr.

Site 24

Site 24 is located along W. Andrew Johnson Hwy., approximately 230 feet east of the intersection of E. Economy Rd. and W. Andrew Johnson Hwy. This site is located within a single parcel (ID = 041C B 002.00) that is split between the Intermediate Business and Light Industrial districts. Site 24 is 5.14 acres. It did not advance to Round 2 due to potential unwillingness on the part of the current owner to sell the property.

Site 25 (W. Morris Blvd Site)

Site 25 is located between Doctor MLK Jr. Pkwy and W. Morris Blvd (US-11E) and S. Fairmont Ave. It is bordered to the north by the Norfolk Southern railroad that runs through Morristown. This site is located within a single parcel (ID = 041C C 004.00) owned by Manchester Realty, LLC. Site 25 is zoned for Intermediate Business and is 23.38 acres. The property owner has subdivided the property for sale, and the portion directly along W. Morris Blvd (US-11E) to the east of the Ultimate Shine Car Wash (lots 7 & 8) is the subject of this study. This portion of Site 25 is approximately 4.39 acres. After being evaluated in Round 2, Site 25 was selected for test fitting, which is discussed in more detail in Section 4.3.

Site 26

Site 26 is located on the site on the former hospital site bounded by W. 7th N. St., N. Church St., W. 5th N. St., and McFarland St. This site spans ten separate parcels, and the parcel IDs/owners are listed below:

- 033L C 00100 / Trademark Investments, LLC
- 033L C 00200 / Trademark Investments, LLC
- 033L C 01600 / Trademark Investments, LLC
- 033L C 01500 / Trademark Investments, LLC
- 033L C 01800 / Trademark Investments, LLC
- 033L C 03100 / Trademark Investments, LLC
- 033L C 01900 / Trademark Investments, LLC
- 033L C 03200 / Samuel P. Niederlander
- 033L C 03101 / Gregg Shirley
- 033L C 03000 / Trademark Investments, LLC

Site 26 is 4.26 acres and is zoned Intermediate Business. This site did not advance to Round 2 due to neighborhood compatibility and site access concerns. Site 26 is surrounded by significant single-family residential development that raises concerns about the surrounding areas' impact. Additionally, the roads providing access to Site 26 are generally residential in nature and are likely difficult for transit vehicles to use.

Site 27

Site 27 is located along S. Liberty Hill Rd. at its intersection with the Norfolk Southern railroad. This site includes one parcel owned by Marathon Realty Corporation (ID = 034J A 001.03). Site 27 is 1.55 acres and is thus below the minimum site size (3 acres) required for an operations and maintenance facility to be co-located. No site(s) was identified that could reasonably be paired with Site 27 for separate operations and maintenance functions; thus, Site 27 did not advance to Round 2.

Site 28

Site 28 is located along S. Liberty Hill Rd. at its intersection with the Norfolk Southern railroad across from Site 27. This site includes three parcels owned by Southbound Morristown, LLC (IDs = 034J G 001.00, 034J G 002.00, 034J G 003.00). In total, Site 28 is 3.17 acres and is zoned Intermediate Business. This site did not advance to Round 2 because acquisition would likely be prohibitively costly based on recent sale prices and site preparation costs.

Site 29

Site 29 is located along W. Andrew Johnson Hwy. at the northwest corner of the intersection of W. Andrew Johnson Hwy. with Lumbardy Dr. It includes one parcel that is owned by Brevard Partners of Tennessee, GP (ID = 033N K 016.00). Site 29 is zoned Intermediate Business and is 1.75 acres. As Site 29 is below the minimum site size identified in the Needs Assessment, it must be paired with another site to support separate operations and maintenance functions. No site was identified that could clearly pair with Site 29; thus, Site 29 did not advance to Round 2.

Site 30

Site 30 is located along Buffalo Trl., approximately 180 feet southwest of the intersection of Buffalo Trl. with Hartman Rd./De Vault St. It includes one parcel owned by Encore Theatrical Company (ID = 025P G

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003.00). Site 30 is 9.17 acres and is zoned Intermediate Business. The Hamblen County Government is considering constructing a new county health facility at this location. Site 30 was not advanced to Round 2 due to neighborhood compatibility concerns, as there is significant single-family residential development near Site 30 and the potential for future municipal use.

4.2 Site Selection Process

The various sites under consideration were evaluated in two rounds, the first round serving as a high-level screening using pass/fail criteria and the second including a more in-depth analysis of demographic, engineering, and operational factors. The criteria included in each round were derived from Site Selection Criteria, which themselves were developed through collaboration between Lakeway Transit, ETHRA, and WSP transit planning and architectural design staff (see [Appendix D](#)). Each round is described below.

Round 1

Round 1 evaluated all 30 sites and five combinations of sites described above and noted below. The sites were evaluated according to the following factors:

- Site Size: Individual sites must be at least 3 acres, or combinations of individual sites must be at least 3 acres to be considered.
- Proximity to Existing Transit Center: Sites must be within 5 miles of the current transit center to minimize potential impacts to the route structure and operations.
- Neighborhood Compatibility: Surrounding land use must generally be compatible with transit maintenance and operations.
- Site Access: Sites must be readily accessible via transit vehicles, have relatively direct access to major thoroughfares, be accessible for left and right in/out without crossing multiple traffic lanes without a signal, and ideally, have multiple access points.
- Availability: The site should not be known to be unavailable for purchase.

Sites were evaluated on a pass/fail or yes/no basis, where a site must warrant a "pass" or "yes" in all of the criteria above to advance to Round 2. Of the 30 sites included in Round 1, eight sites were advanced to Round 2:

- Site 5a
- Site 5b
- Site 5c
- Site 9
- Site 12
- Site 13
- Site 15a
- Site 25

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Table 4-1: Round 1 Site Selection Results

Sites	Site Size (>3 Acres)	Proximity to Existing Transit Center (Within 5 Miles)	Neighborhood Compatibility	Site Access	Availability	Advance to Round 2?
1	PASS	PASS	PASS	FAIL	NO	NO
2	FAIL	PASS	PASS	FAIL	YES	NO
3	FAIL	PASS	PASS	FAIL	YES	NO
4	FAIL	PASS	PASS	FAIL	YES	NO
5	FAIL	PASS	PASS	FAIL	YES	NO
5a	PASS	PASS	PASS	PASS	YES	YES
5b	PASS	PASS	PASS	PASS	YES	YES
5c	PASS	PASS	PASS	PASS	YES	YES
6	PASS	PASS	PASS	PASS	NO	NO
7	PASS	PASS	PASS	PASS	YES	NO
8	PASS	PASS	FAIL	PASS	NO	NO
9	PASS	PASS	PASS	PASS	YES	YES
10	FAIL	PASS	PASS	PASS	YES	NO
10a	PASS	PASS	PASS	PASS	YES	NO
11	FAIL	PASS	PASS	PASS	YES	NO
12	PASS	PASS	PASS	PASS	YES	YES
13	PASS	PASS	PASS	PASS	YES	YES
14	FAIL	PASS	PASS	PASS	NO	NO
15	FAIL	PASS	PASS	PASS	YES	NO
15a	PASS	PASS	PASS	PASS	YES	YES
16	PASS	PASS	FAIL	FAIL	NO	NO
17	PASS	PASS	PASS	FAIL	YES	NO
18	PASS	PASS	FAIL	PASS	YES	NO
19	PASS	PASS	PASS	FAIL	YES	NO
20	PASS	PASS	PASS	FAIL	YES	NO
21	FAIL	PASS	PASS	FAIL	YES	NO
22	FAIL	PASS	PASS	FAIL	YES	NO
23	FAIL	PASS	PASS	FAIL	YES	NO
24	PASS	PASS	PASS	PASS	NO	NO

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Sites	Site Size (<u>>3</u> Acres)	Proximity to Existing Transit Center (Within 5 Miles)	Neighborhood Compatibility	Site Access	Availability	Advance to Round 2?
25	PASS	PASS	PASS	PASS	YES	YES
26	PASS	PASS	FAIL	FAIL	YES	NO
27	FAIL	PASS	PASS	PASS	YES	NO
28	PASS	PASS	PASS	PASS	NO	NO
29	FAIL	PASS	PASS	PASS	YES	NO
30	PASS	PASS	FAIL	PASS	YES	NO

Round 2

Only the eight sites that passed Round 1 were evaluated in Round 2, as was the existing transit center. The study team developed various criteria that accounted for operational, site preparation and engineering, and demographic factors that determine the suitability of each site. Sites were evaluated on a scale of 1-3 in each criterion, with 3 as the best and 1 as the worst. Criteria were split into "Tier 1" and "Tier 2" criteria, in which Tier 1 was considered of particular importance and thus received a 1.5x multiplier to their scores.

The following criteria were considered:

- Tier 1 Criteria
 - Topography: Cost estimates of grading the site, including cut and fill volumes
 - Vehicular Accessibility: Further ranking of ingress/egress to sites, including accessibility to major thoroughfares, proximity to traffic signals, number of ingress/egress points, and the ability of connecting roads to support transit vehicle traffic
 - Operational Impact: Impact of transit center relocation on existing route structure/alignments and deadhead
 - Block Size and Geometry: Further ranking of the geometry of sites, including width, depth, road frontage, and shape of the site
 - Acquisition Cost: Estimated acquisition costs (published or estimated), including costs of acquiring land/structures and site preparation (if applicable)
 - Transit Propensity: Density of typically transit-dependent populations surrounding sites and proximity to public housing developments. The following populations were included:
 - Low-income individuals
 - Disabled individuals
 - Seniors (65+)
 - Zero-vehicle households
 - Non-White individuals
 - Unemployed individuals
- Tier 2 Criteria
 - Pedestrian Connectivity: Density of sidewalks within 1-mile buffer of sites

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- Site Preparation Issues: Conditions likely to negatively affect site preparation, such as particularly steep grades and significant existing structures
- Site Visibility: Visibility of site from major thoroughfares
- Future Expansion Potential: Capacity to install additional operational or maintenance facilities on-site and whether the site hinders or enhances the ability to expand the route network
- Utilities: Cost of impacts to existing utilities (if applicable) and cost of installing new utility infrastructure (if applicable)

The sites were also evaluated with respect to existing high-risk flood areas, and none of the eight sites were near existing high-flood-risk areas, as documented in FEMA's National Flood Insurance Program data.

Table 4-2 below displays the evaluation results of Round 2:

Table 4-2: Round 2 Site Selection Results

Criteria	Sites							
Tier 1 Criteria (1.5x Multiplier)	5a	5b	5c	9	12	13	15a	25
Topography	1	1	3	3	3	2	1	2
Vehicular Accessibility	3	3	3	2	2	2	3	2
Operational Impact	1	1	1	1	1	1	2	2
Block Size/Geometry	2	2	2	3	3	3	3	3
Acquisition Cost	3	3	3	2	1	1	2	2
Transit Propensity	1	1	1	1	1	1	1	3
Tier 2 Criteria								
Pedestrian Connectivity	1	1	1	2	2	2	2	3
Site Preparation Issues	2	2	2	2	3	3	2	2
Site Visibility	3	2	2	2	1	2	3	3
Future Expansion Potential	1	1	1	3	3	3	1	3
Utilities	1	1	1	3	2	2	2	3
Total Score	24.5	23.5	26.5	30	27.5	27	28	35
Advance to Testfitting?	NO	NO	NO	YES	NO	NO	NO	YES

LAMPTO, EHTRA, Lakeway Transit, and WSP had focused discussions on the result of Round 2, particularly to identify if there were site conditions or other factors not captured in previous scoring processes that warrant excluding any of the sites. No issues were identified that warranted excluding sites at this stage. Sites 9 and 25, the highest-scoring sites in Round 2, advanced to the test fitting stage.

4.3 Test Fit and Evaluation

The initial screening of the alternative sites focused the planning team's attention on investigating further how the transit center program might be deployed on the Verde Crossing Site (Site 9) and the W. Morris Blvd. Site (Site 25). The size and configuration of the site are critical to the efficient operation of the transit system, passenger safety and convenience, and maintenance functions. The space needs assessment identified the desire for four or more bus bays and two vehicle repair bays.

Existing Lakeway Transit Site (Figure 4-2)

The existing Lakeway Transit Center configuration severely limits expansion potential and operational efficiency. Inactive vehicles and vehicles on layover are both stored and operated along the east side of the building. Returning vehicles turn right from W. Andrew Johnson Hwy., with some routes pulling directly into the waiting area and others looping around the transit center's rear. These same areas also have significant personal vehicle circulation, severely limiting the movements of transit vehicles and presenting safety hazards to revenue and private vehicles and store patrons.

An interior waiting area is located at the front of the transit center, and an exterior waiting area is located along the east side of the building, alongside where vehicles queue when completing their runs. Directly behind the interior waiting area are staff offices, public and private restrooms, storage, conference rooms, and a breakroom for staff. Lakeway Transit shares these facilities with some ETHRA and probation and corrections functions.

There is no opportunity for Lakeway Transit to make needed improvements to the current transit hub. The building is leased space and is not available for purchase. To properly secure vehicles, install amenities, and separate pedestrians from operations and vehicles would require Lakeway to make improvements to a property they do not own and permanently cordon off areas of a public parking lot. It is improbable that the building and property owner would grant permission for such improvements. Additionally, the administration space within the building is at capacity, and there is no room for expansion or renovation.

Figure 4-2: Existing Lakeway Transit Site



Verde Crossing Site (Site 9)

The Verde Crossing site, shown in **Figure 4-3**, features direct access to the transit center and public parking facilities off of Verde Crossing. It features a center platform with bus and paratransit traffic circulating clockwise. Bus bays are in a sawtooth configuration and include four 65' bays and two 85' bays, with the latter intended to accommodate up to 60-foot articulated buses or two paratransit vehicles simultaneously. Exterior and interior waiting areas are included, with a canopy providing shelter. Ample public and staff parking and a kiss and ride for passengers to be dropped off are provided.

Maintenance and storage facilities are located at the rear of the site, with a maintenance facility separating the bus storage area from the staff parking area. The maintenance building is sized for at least two repair bays plus additional parts storage and additional maintenance and staff functions. The bus storage area is sized to allow both clockwise and counter-clockwise circulation. A separate driveway also connects the bus storage area to the parking area, allowing circulation between staff parking and the storage/maintenance area. This driveway also provides an alternative way for vehicles to access Verde Crossing if the primary bus entrance is unavailable.

While discussing this site with members of the public and Lakeway Transit/ETHRA staff, the following comments were received:

- Site 9 is located too far west of the current routes.
- Site 9 is a good location because it provides ready access to industrial employment west of downtown Morristown as well as the restaurants located along W. Andrew Johnson Hwy.
- The project team should reach out to Tennessee Valley Housing Services, the public housing authority that covers Morristown (among other locations).
- Both sites should include a flexible office space where service providers (e.g., social security) can regularly meet with clients.

Figure 4-3: Verde Crossing (Site 9) Site Layout



W. Morris Blvd. (Site 25)

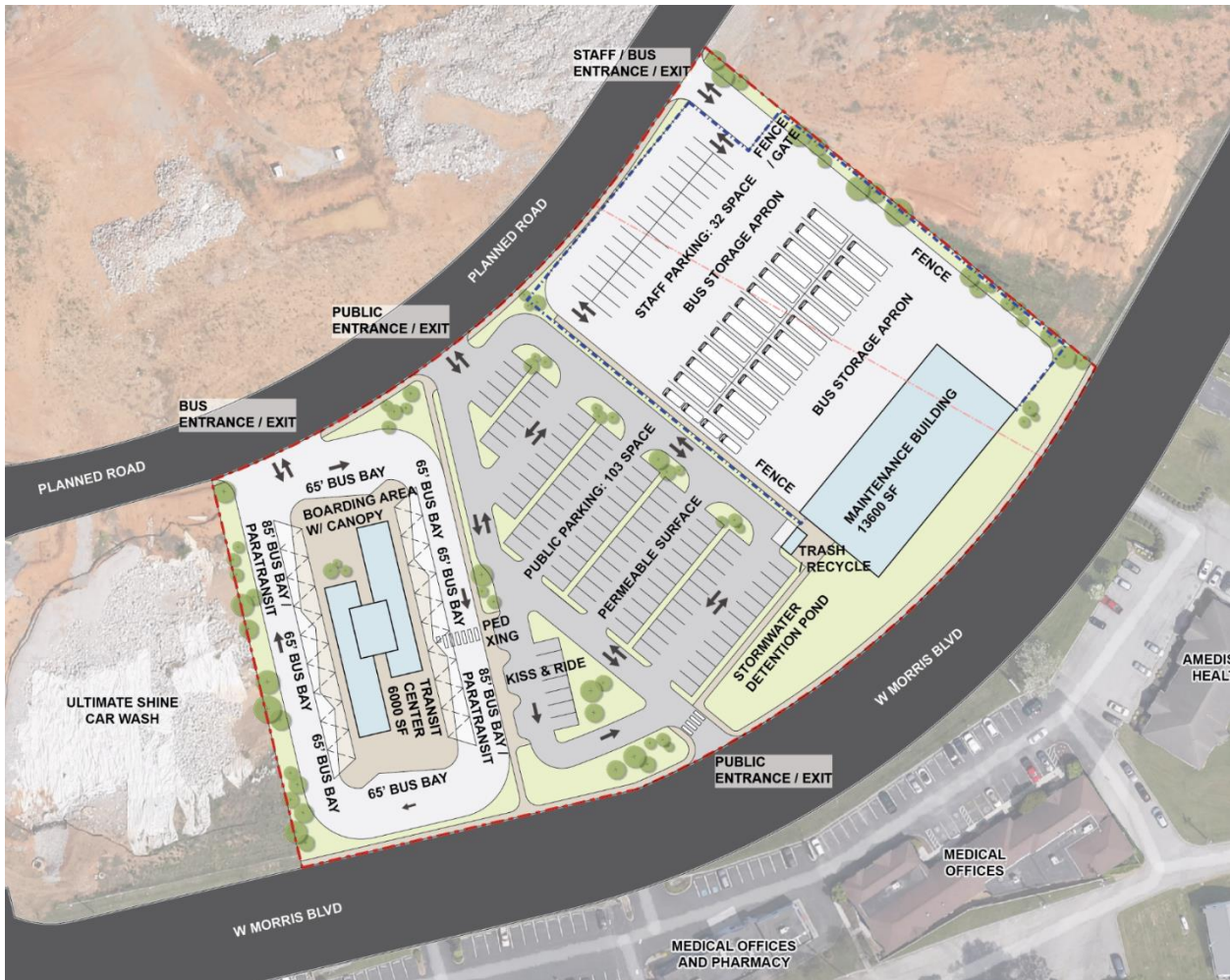
The W. Morris Blvd. site, shown in Figure 4-4, features direct access to the transit center, public parking facilities, and maintenance facility from a planned road at the rear of the site. The public parking area is also accessible off of W. Morris Blvd, likely in a right-in-right-out configuration. It features a center platform with bus and paratransit traffic circulating clockwise. Bus bays are in a sawtooth configuration and include four 65' bays and two 85' bays, with the latter intended to accommodate up to 60-foot articulated buses or two paratransit vehicles simultaneously. Exterior and interior waiting areas are included, with a canopy providing shelter. Ample public and staff parking are provided, as well as a kiss and ride for passengers to be dropped off.

Maintenance and storage facilities are located on the site's eastern end, with public parking separating the maintenance facility from the transit center. The maintenance building is sized for at least two repair bays plus additional parts storage and additional maintenance and staff functions. Bus storage is flush with the fence separating the bus storage area from the public area, with circulation of buses and other staff vehicles occurring along the northeastern edge of the site.

While discussing this site with members of the public and Lakeway Transit/ETHRA staff, the following comments were received:

- The project team should reach out to Tennessee Valley Housing Services, the public housing authority that covers Morristown (among other locations).
- Both sites should include a flexible office space where service providers (e.g., social security) can regularly meet with clients.
- Site 25 is in a great location, but there is occasionally a foul odor due to a nearby chicken plant.

Figure 4-4: W. Morris Blvd. (Site 25) Site Layout



5.0 Public Engagement Efforts

WSP, in conjunction with Fairpointe Planning, LLC, conducted two public surveys and a public workshop to obtain input from community members. This effort focused on identifying potential locations for the relocation of Lakeway Transit's transit center and maintenance facility. However, significant feedback on separate but related items was also collected (e.g., locations of potential new bus stops). While no preferred site is identified, public input gathered during this study process will be critical input when a preferred site is later identified, as well as in final site configuration and design.

The following sections describe the two public surveys and public workshop process and the results of these public input opportunities.

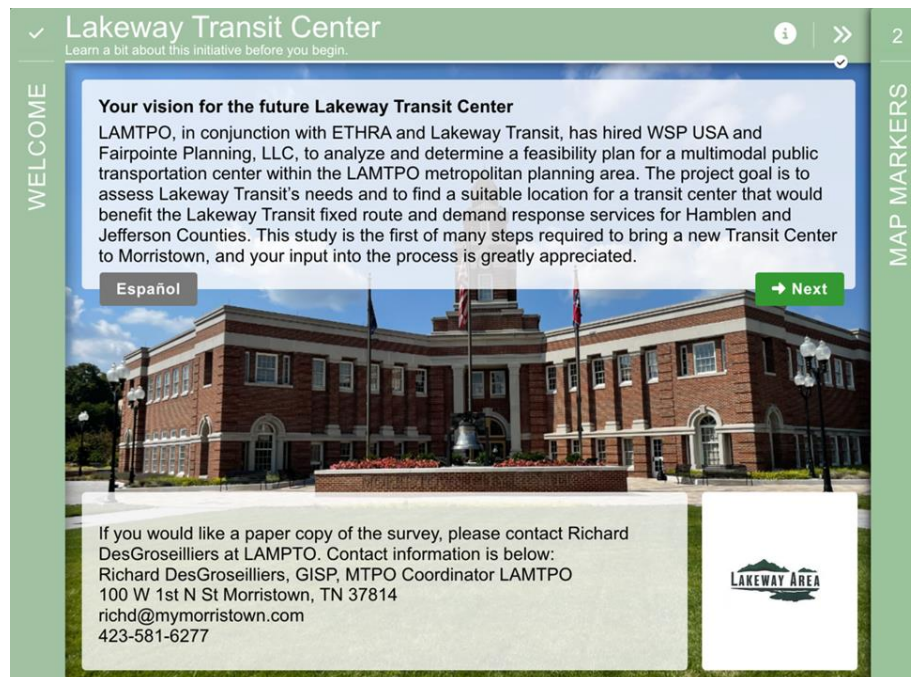
5.1 Public Survey #1

The public survey served as a tool to gather input from community members on transit center, bus stop/shelter/service location preferences and suggestions, current and future transit center uses, and top priorities for the future transit center. The survey collected responses from June 12 - July 17, 2023, and received 90 total responses. It was available in English and Spanish and was distributed via social media, community partners, the Lakeway and ETHRA website, transit center and on-vehicle flyers, and the local radio station. The project team met twice during the survey period to check in, monitor progress, and brainstorm new ways to reach the community. Below is a summary of the key takeaways from the survey results:

Screen One

The initial screen welcomed participants to the survey and provided project details and contact information for the Lakeway MTPo Coordinator.

Figure 5-1: Screen One: Welcome



Screen Two

The second screen displayed a map of the Lakeway area and existing transit routes and asked participants to mark an ideal location for a transit center, an available location for the transit center, and locations to add a bus stop, bus shelter, or bus service. Once a respondent dragged a marker onto the map, follow-up questions were presented to gather more specific information and requests.

The map received 181 map markers and 115 comments. Below is a breakdown of how many markers were placed on the map.

The project team identified and evaluated the locations that were marked available for the future transit center and narrowed the search down to two locations. The community provided additional input during an in-person November 2, 2023 workshop.

Figure 5-2: Screen Two: Map Markers

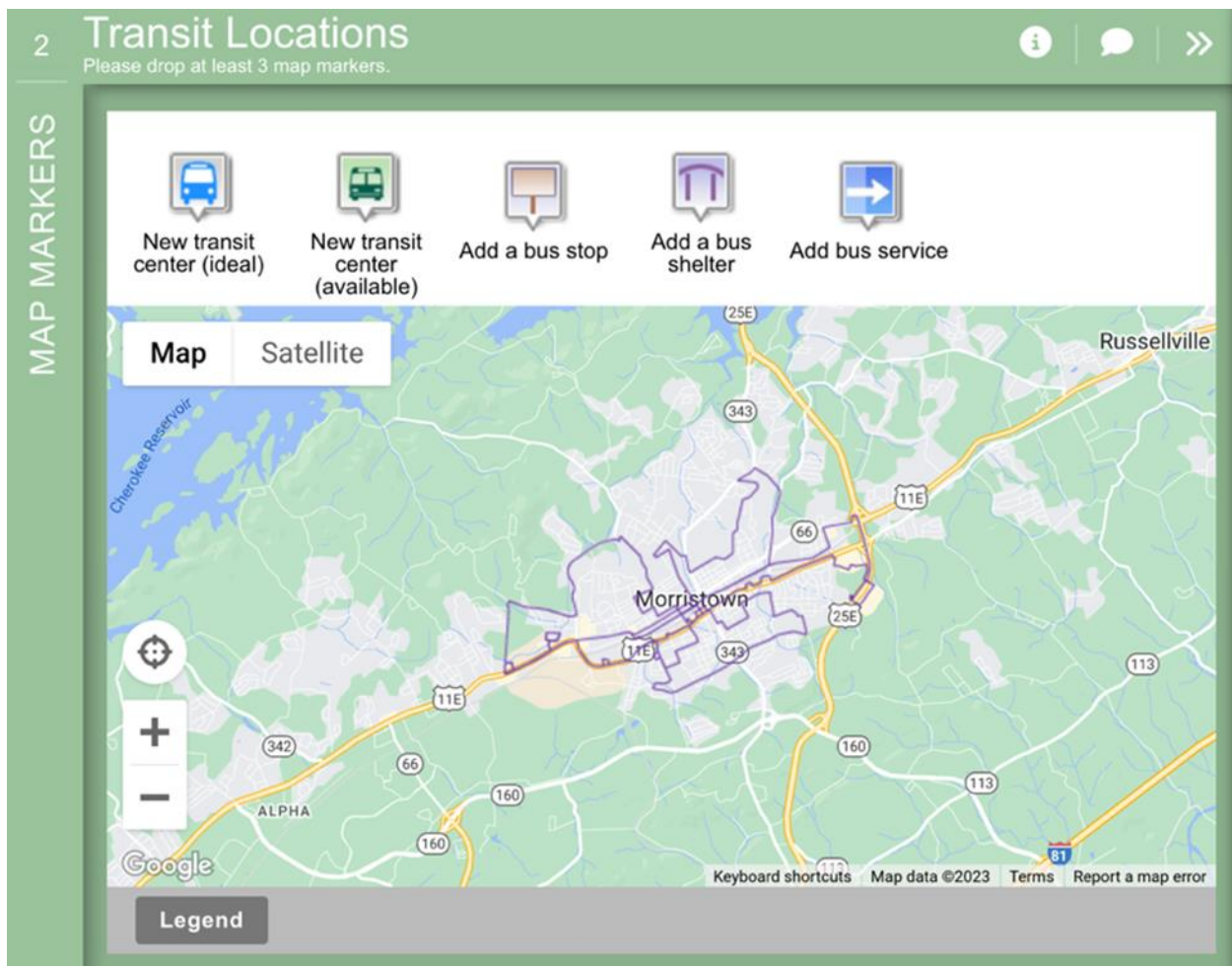


Figure 5-3: Types of Markers Placed on Screen Two

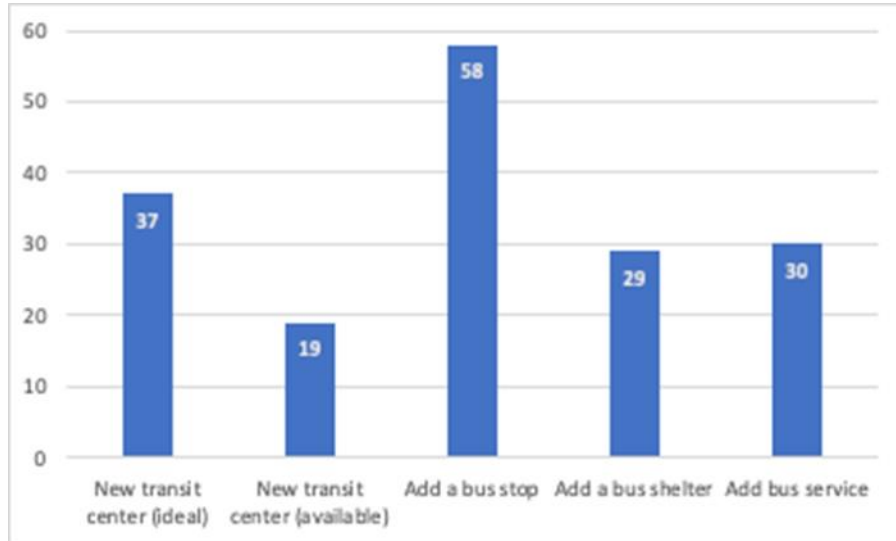
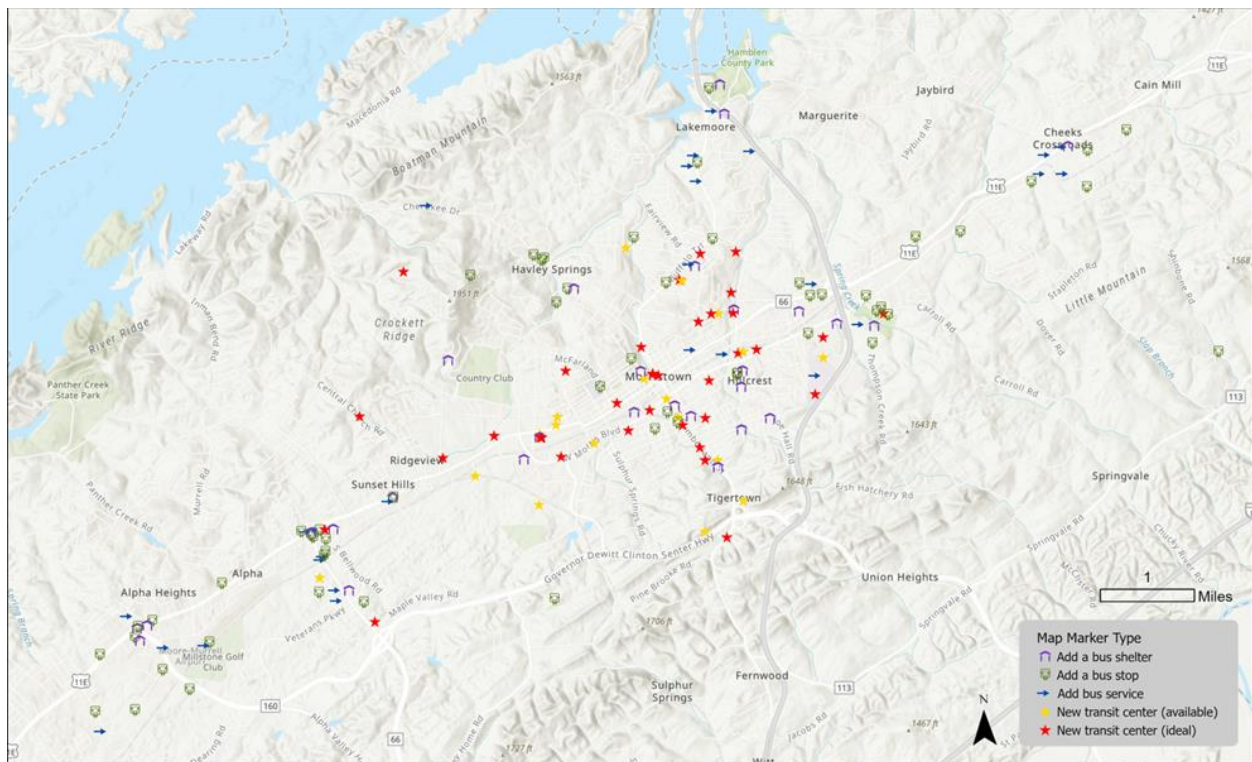


Figure 5-4: Geographic Distribution of Map Marks



Screen Three

The third screen of the survey aimed to gather current and future transit center uses, amenity options, and preferences. There were three sections of questions in a traditional survey format: one section on current transit center use, one on current and future transit center amenities, and one on preferences for the future transit center.

Figure 5-5: Screen 3: Standard Survey

Some key findings include:

- 72% of survey respondents do not currently use any transit services in the Lakeway area.
- Of the respondents who do use transit services, most are riding 1-2 times per week, and 43% drive alone to get to the current transit center, with others walking, taking the bus, or getting dropped off by another vehicle.
- Survey respondents would like to see public restrooms, waiting areas, and public computers in a new transit center.
- As part of the new transit center, respondents would like parking and spacious and separate waiting areas as focus areas.

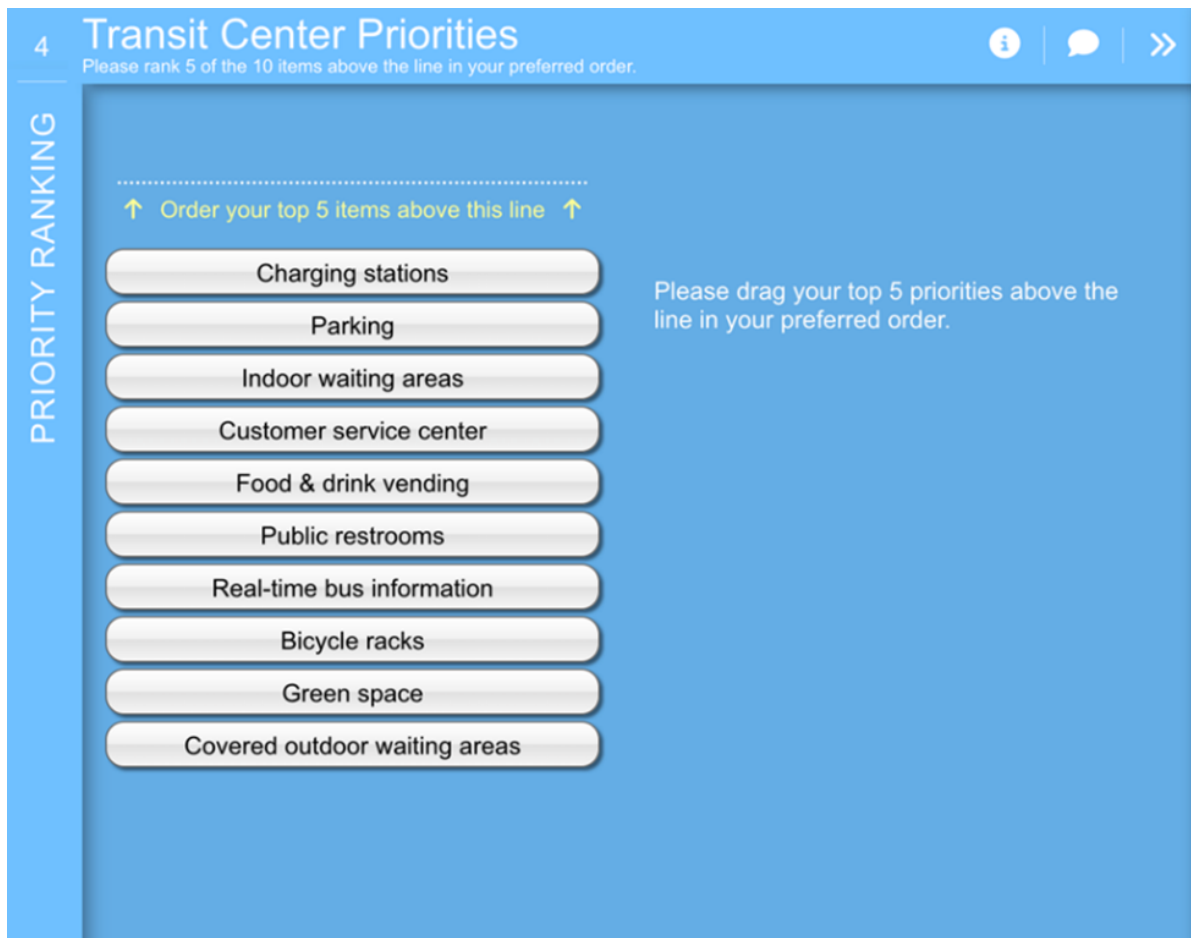
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- 38% of survey respondents would use an express service to Knoxville if it was available, followed by 22% who would use an express service to Jefferson City.
- The most important feature of a new transit center is proximity to shopping/attractions, followed closely by walkability and proximity to medical/human services. Respondents are not concerned with the new transit center being located within half a mile of the current one.
- New service areas were the most requested improvements, followed by weekend service and extended service hours. Comparatively, not many people requested an increase in bus frequency.

Screen Four

The fourth screen presented ten transit center priorities and asked survey participants to rank their top five priorities. This method means that some priority options were not selected in each respondent's ranking.

Figure 5-6: Screen Four: Priority Ranking

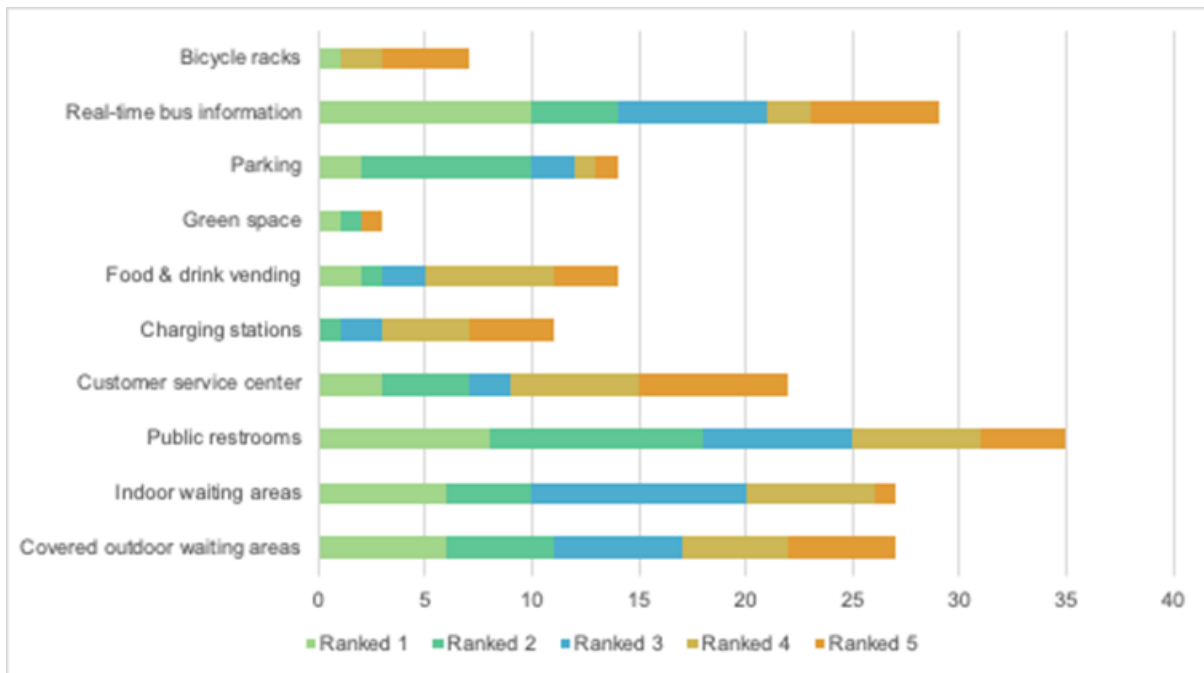


Below is a chart that shows a breakdown of each priority by the number of times it was ranked one, two, three, four, and five. The length of the bar indicates the total number of times the priority was included in a respondent's top five priority list. For example, public restrooms were included in

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respondents' top five rankings more often than real-time bus information, but real-time bus information was ranked as respondents' number one priority more often than public restrooms.

Figure 5-7: Prioritization of Transit Center Amenities



Screen Five

The final screen asked survey participants for optional demographic information and provided links to the project website, as well as the websites of the project partners.

Figure 5-8: Screen Five: Wrap Up

5 **About You**
Tell us a bit about yourself. Please click finish when you are done.

WRAP UP

Final Questions (Optional)

> What is your zip code?
12345

> What is your age?
Select...

> Leave your email if you want more project information:
Type... 0/50

Answer the questions you want to, then click Finish:
Finish

Thank You!

Thank you for your input on the future Lakeway Transit Center. Check back soon for information on the Public Workshop, to be held in late summer 2023. If you would like a paper copy of the survey, please contact Richard DesGroseilliers at LAMPTO.
100 W 1st N St Morristown, TN 37814
richd@mymorristown.com
423-581-6277

Project Partners

Project Site

Please share this with others and help us get everyone involved!

[f](#) [t](#) [in](#)

Key takeaways are summarized below:

- The 37814 and 37813 zip codes were the most represented among survey respondents
- The survey revealed that most of the respondents (72%) do not currently use transit services in the area.
- Most transit users travel 1-2 times per week, with 43% driving alone to reach the current transit center.
- Respondents expressed interest in amenities like public restrooms, waiting areas, public computers, parking, and spacious waiting areas.
- Proximity to shopping and attractions was deemed the most crucial feature of the new transit center.

5.2 Public Survey #2

As part of the public workshop (described below), an additional public survey was conducted, in which survey respondents were asked whether they prefer Site 9 or Site 25, to rank various transit center amenities in terms of importance, and to provide other comments or suggestions for a new transit center. This survey was available in English and Spanish and was publicized at the public workshop and via social media (NextDoor, LinkedIn). Comment cards with QR codes were available at the public workshop for attendees to scan and access the survey with their smartphones (Figure 5-9). The survey was open between November 2 and November 10.

Three responses were received, all of which stated a preference for the Verde Crossing site (Site 9). The following comments were provided in the survey:

- It (Site 9) is so much better located to more things
- Too much traffic issues at the other site (Site 25). Too many factories in the area around the chicken factory and too many stores and medical buildings and the chicken factory, car wash, and railroad tracks.
- Safer for bus movement (Site 9). Do not think you will get 3 driveways onto Morris Blvd. For the planned road, will the owner build the road, or will that be up to ETHRA? (Site 25)

5.3 Public Workshop

A public workshop was held on November 2, 2023, during which WSP staff presented on the Transit Facility Needs Assessments and Site Selection processes. The public workshop occurred during the Lakeway Area Metropolitan Transportation Planning Organization (LAMTPO) Technical Coordinating Committee (TCC) meeting. It included WSP staff, Fairpointe Planning staff, Greenbrier Real Estate Advisors (GREA) staff, 12 LAMTPO TCC members, ETHRA staff, Lakeway Transit staff, and members of the public. Figure 5-10 below shows a selection of photos from the public workshop. Appendix B contains a more extensive collection of photographs from the public workshop.

After presenting, an open comment period was held where members of the public, including transit riders, local reporters, and other interested persons interacted with project, ETHRA, and Lakeway Transit staff. Staff answered questions and discussed the needs of members of the public and how the transit center could be equipped to meet those needs. Attendees could leave sticky notes on large boards that displayed the conceptual designs for Site 9 and Site 25 with written comments. Comments from members of the public included the following:

- General Comments
 - The project team should reach out to Tennessee Valley Housing Services, the public housing authority that covers Morristown (among other locations).

Figure 5-9: Survey #2 Comment Card



Comment Here
Scan with your phone

Transit Facility Needs Assessment

- Both sites should include a flexible office space where service providers (e.g., social security) can regularly meet with clients.
- Site 9 Comments
 - Site 9 is located too far west of the current routes.
 - Site 9 is a good location because it provides ready access to industrial employment west of downtown Morristown, as well as the restaurants located along W. Andrew Johnson Hwy.
- Site 25 Comments
 - Site 25 is in a great location, but there is occasionally a bad odor due to a nearby chicken plant.

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Figure 5-10: Selected Public Workshop Photos



6.0 Impacts to Transit Route Alignments

6.1 Summary

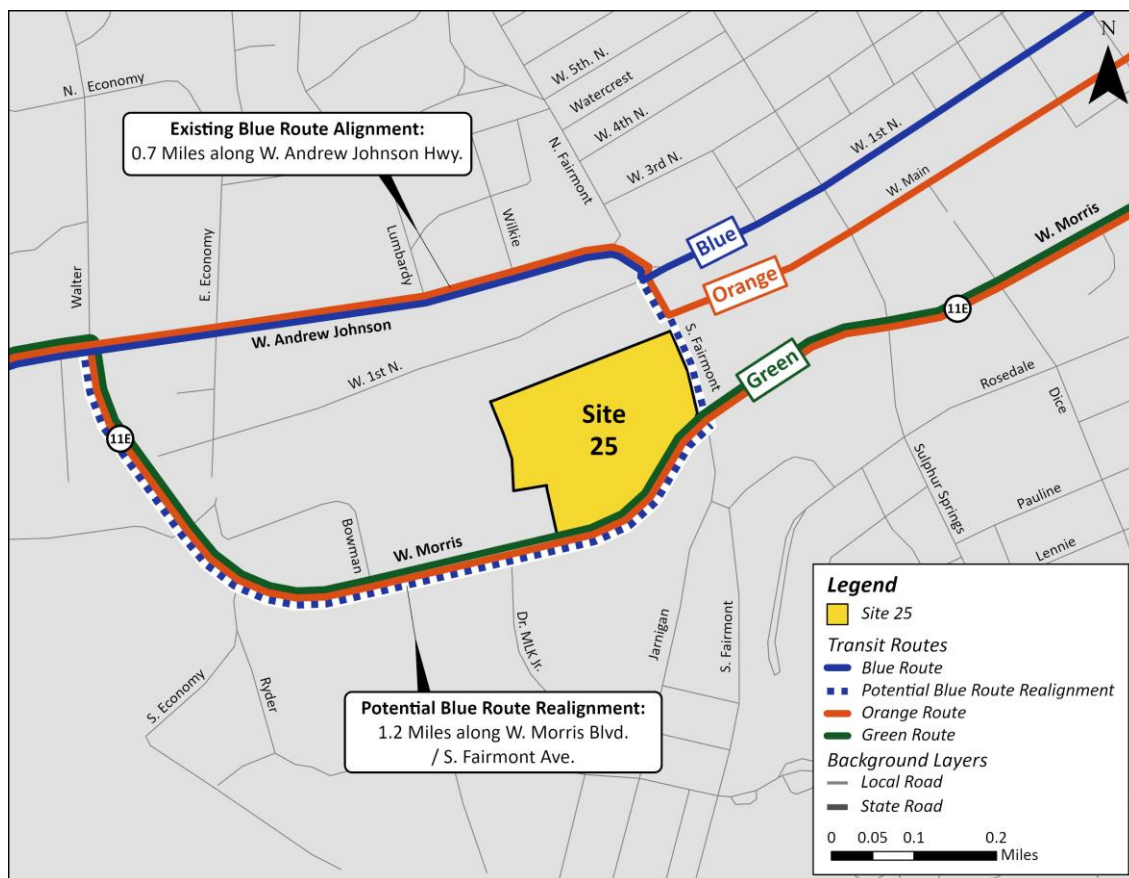
Realignment of the current Lakeway Transit route structure will be required in the event that any new location is chosen for a new transit facility. The magnitude of that realignment varies between the W Morris Blvd and Verde Crossing sites. Although a complete impact analysis was not part of this project, the project team has included a descriptive explanation of the required changes in the sections below.

6.2 W Morris Blvd (Site 25)

The W Morris Blvd site is located approximately 1.5 miles to the east of the current transit hub. The site is located along the existing Orange and Green routes and would not require major changes to those routes, as the extra time required to enter the new site would be offset by the removal of servicing the current hub. The Blue route would be required to deviate from Andrew Johnson Hwy onto W Morris Blvd in order to service the new site. Since the Orange and Green routes currently serve this portion of W Morris Blvd, the loss of service impact is minimal.

The W Morris Blvd site is well positioned to add local expansion routes to the neighborhoods located southeast of the site. Additionally, access to Highway 25E from the site provides a route for future expansion to White Pine. Finally, remaining centrally located maintains expansion opportunities both east and west.

Figure 6-1: W Morris Blvd (Site 25) Operations Map



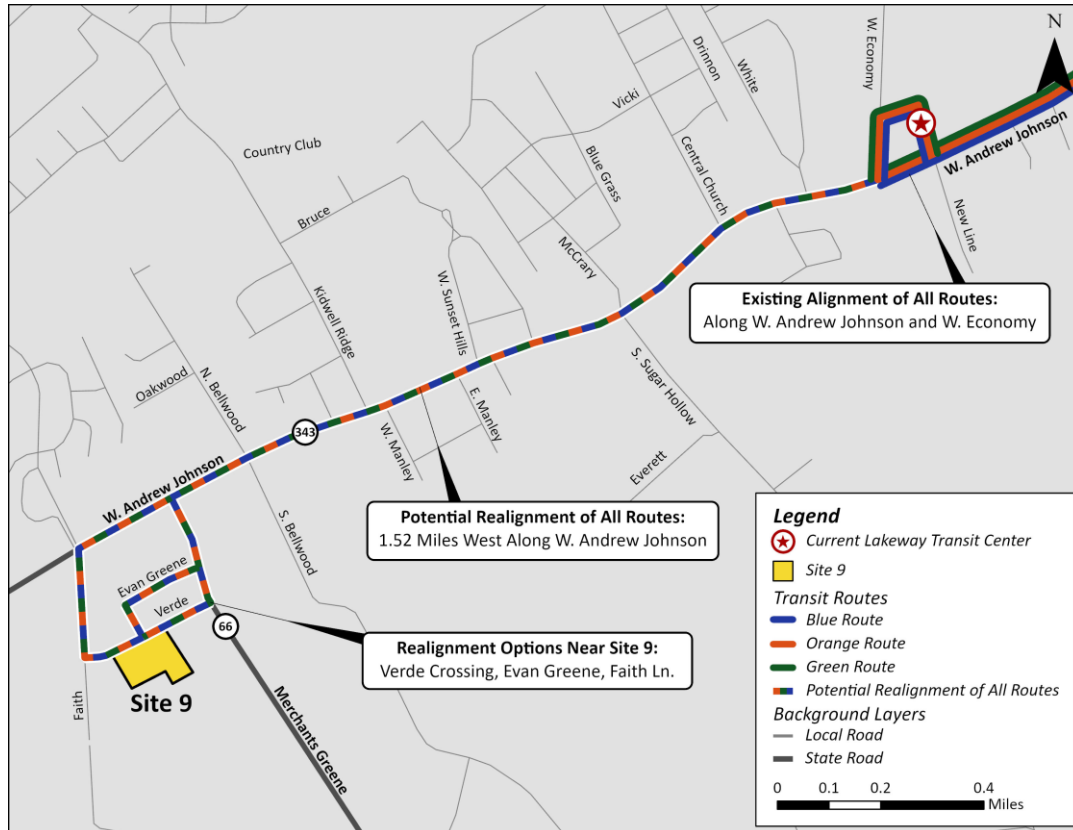
6.3 Verde Crossing (Site 9)

The Verde Crossing site is located approximately two miles west of the current transit hub. The site is not connected to any of the existing routes and will require all three routes to be realigned (see Figure 6-2). The Verde Crossing site is in an area known locally as the Merchants Greene area and is experiencing significant growth. Extending the routes to this area provides the opportunity to service the new retail and service industries, including Walmart, Covenant Health, and numerous restaurants, capturing new ridership. Realigning the routes may impact their timing and require that some routes not travel as far to the east and that some duplicative service areas be eliminated to maintain the pulse system.

Additional planning will be necessary to identify specific bus movements on outbound runs. While inbound runs may access the Verde Crossing site by turning right off of Merchants Greene Blvd onto Verde Crossing, this intersection is currently uncontrolled and thus would require unprotected left turns on outbound runs. The intersections of Evan Greene Plaza with Merchants Greene Blvd and Faith Ln with W. Andrew Johnson Blvd are controlled and thus may be more appropriate for outbound runs. However, access to Evan Greene Plaza is contingent on the further development of a service road directly opposite Site 9; thus, Faith Ln may be more appropriate on an interim basis.

The Verde Crossing site is well positioned to serve a rapidly expanding area of Morristown where shopping, medical services, and employment opportunities are located. Additionally, the site is well-positioned to provide future regional service to White Pine, Jefferson City, and Knoxville.

Figure 6-2: Verde Crossing (Site 9) Operations Map



7.0 Estimated Implementation Timeline and Project Budget

Implementation timelines were prepared for each site, as well as a cost estimate that applies to both sites, the details of which are provided below.

7.1 Implementation Timeline

Table 7-1 below provides an estimated timeline for implementing a transit center on either Site 9 or Site 25. Note that this timeline is estimated and is subject to many factors that may delay or accelerate certain phases. The following Phases are included in the timeline below:

- Title VI: A Title VI Equity Analysis must be completed before selecting a preferred site, including outreach to potentially impacted people and a comparison of alternative sites.¹
- NEPA Study: Receipt of Federal financial assistance is likely for this project; thus, a National Environmental Policy Act (NEPA) study will be necessary, including activities such as technical studies, public involvement, and preparation of environmental documents.
- Land Acquisition: Includes negotiation with landowner and purchase of land. **No negotiation or purchase may take place prior to completing NEPA.**
- Transit Center Design: Contracting with a qualified firm to design the operations and maintenance facility on the preferred site.
- Bid / Award: Conducting a competitive bidding process and contracting with a qualified firm to construct the transit center.
- Construction

Table 7-1: New Transit Facility Implementation Timeline (FTA Funding)

Phase	Start	Finish	Remarks
Title VI	January 2024	May 2024	
NEPA Study	June 2024	August 2025	NEPA could be as short as nine months or as long as 18 months
Land Acquisition	August 2025	October 2025	Geotechnical inspections and other due diligence are highly recommended before site acquisition.
Transit Center Design	September 2025	September 2026	Design running parallel with the NEPA Study and prior to FTA approval.
Bid / Award	October 2026	December 2026	
Construction	January 2027	May 2028	18 months

Title VI analysis is assumed to begin in January of 2024, followed by NEPA Study in June 2024 through August 2025. While 15 months is estimated for the NEPA Study, discussions with WSP environmental

¹ <https://www.transit.dot.gov/regulations-and-guidance/fta-circulars/title-vi-requirements-and-guidelines-federal-transit>

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planning staff and GMs of other Tennessee transit agencies indicate that the NEPA Study can vary considerably, varying anywhere from 9 to 18 months.

After the NEPA Study is completed, negotiations and the final purchase of land at the preferred site can be pursued (August 2025 – October 2025). No negotiations or acquisition of land may be pursued prior to completion of NEPA, as the ability to access Federal funding is contingent on approval of NEPA documentation by the FTA.

This timeline assumes Transit Center Design will occur between September 2025 and September 2026. While Land Acquisition cannot begin until the NEPA Study has been completed, flexibility exists regarding when Transit Center Design can begin, as the NEPA Study need not be completed to design the transit center. Design work can be completed while the NEPA Study is underway to shorten the overall project timeline. However, considerable risk must be accounted for in doing so, such as if an outside party purchases the preferred site during the NEPA process. If this occurs, Lakeway Transit may still negotiate with the new owner, though failure to acquire the land will result in sunk NEPA costs and sunk Design costs if pursued concurrently.

Bid/Award of a construction contract and construction itself follow, with the Bid/Award process occurring between October 2026 and December 2026 and construction occurring between January 2027 and May 2028.

7.2 Transit Center Cost Estimate

Table 7-2 below details a rough order of magnitude budget for the construction of both the Verde Crossing (Site 9) and the W. Morris Blvd. Site (Site 25). This budget uses a blended approach to account for differences in both size and complexity between Site 9 and Site 25, resulting in a cost estimate that is appropriate to both sites.

Unadjusted cost line items are detailed first, which includes the costs of construction and site preparation without adjusting for contingencies and other conditions such as a design contingency to account for uncertainty in design. The following contingencies, conditions, fees, and other adjustments are included in the final cost estimate:

- Design Contingency
- Special Conditions
- General Conditions
- Contractor Overhead and Profit
- Inflation
- Design Fee
- General Owner Contingency

This preliminary project budget assumes a September 2027 date for the mid-point of construction. Additionally, costs associated with the National Environmental Policy Act (NEPA) phase of the project and costs associated with the purchase of property are not included. Line-items not incorporated on a per unit basis (AL) are included as a lump sum.

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Table 7-2: Rough Order of Magnitude Transit Center Cost Estimate

Transit Center Cost Estimate					
Unadjusted Construction Costs					
Line Item	Quantity	Unit (Sq Ft or Acres)	Unit Price (\$)	Cost	Notes
Site Prep	6.82	AC	\$6,500	\$44,318.18	
Utility Work	1.70	AC	\$50,000	\$85,227.27	
General Grading	6.82	AC	\$35,000	\$238,636.36	
Passenger Vehicle Paving	110,000	SF	\$6	\$660,000.00	
Bus Paving	83,300	SF	\$18	\$1,499,400.00	
Vegetation Area	40,000	SF	\$3	\$120,000.00	
Stormwater Area	20,000	SF	\$8	\$160,000.00	
Passenger Waiting Pavers	14,700	SF	\$6	\$88,200.00	
Passenger Transit Facility	6,000	SF	\$320	\$1,920,000.00	
Passenger Waiting Canopy	8,000	SF	\$65	\$520,000.00	
Passenger Amenities	1	AL	\$50,000	\$50,000.00	
Maintenance Facility	14,000	SF	\$170	\$2,380,000.00	
Maintenance Facility Equipment	1	AL	\$800,000	\$800,000.00	
Site Lighting	6.82	AC	\$5,000	\$34,090.91	
Communications	20,000	SF	\$12	\$240,000.00	
Signage and Wayfinding	1	AL	\$35,000	\$35,000.00	
Total Unadjusted Costs (\$)	\$8,954,872.73				
Construction Cost Adjustments (Contingencies, Overhead, Profit, Fees, Other Conditions)					
	Contingency %		Cost	Notes	
Design Contingency	20%		\$1 790,974.55		
Special Conditions	10%		\$1 074,584.73		
General Conditions	25%		\$2 955,108.00		
Contractor Overhead and Profit	15%		\$2 216,331.00		
Inflation	14.75%		\$2,506,300.97		
Design Fee	12%		\$2 339,780.64		
General Owner Contingency	10%		\$1 949,817.20		
Construction Cost Award Price (\$)	\$19,498,171.97				Does not include Design Fee and General Owner Contingency
Total Estimated Cost (\$)	\$23,787,769.81				

8.0 Appendices

8.1 Appendix A: NEPA Red Flag Screening

Purpose of Red Flag Memorandum

This red flag memo was prepared to inform the site selection process and provide preliminary information on the resources that may be near or on the two final sites, Site 9 and Site 25. Field surveys or more intensive reviews conducted during the National Environmental Policy Act (NEPA) may affect project schedules and costs, so information in this memo is intended to provide a preliminary estimate of what additional work may need to occur so that the NEPA review can be completed efficiently.

A 0.25-mile buffer was set around both sites, and readily available databases were reviewed to identify resources within the study area and directly within the project boundaries.

Note: The 'Red Flag' screening did not uncover anything of significant concern about either site.

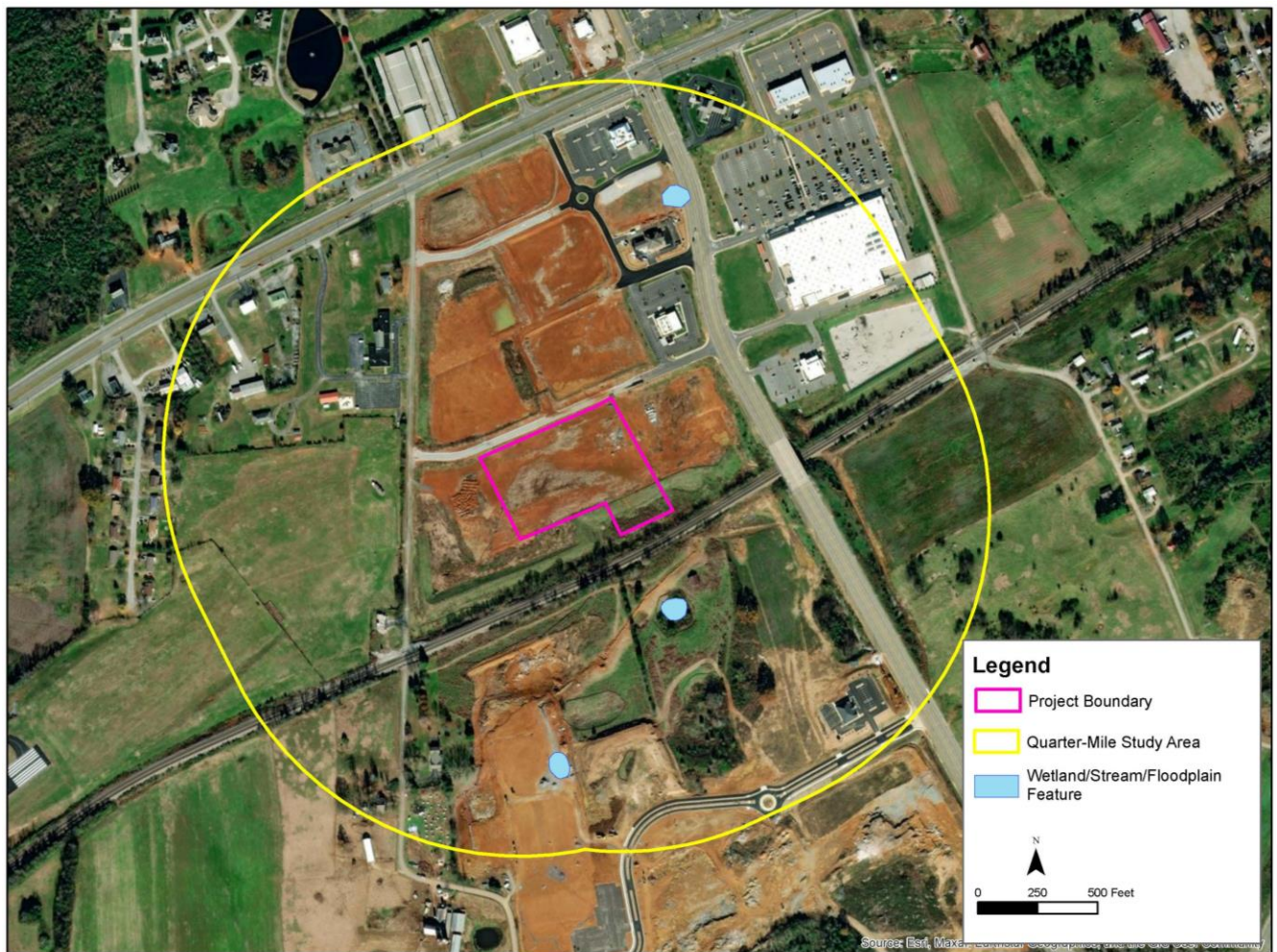
Summary of Findings

Sites 9 and 25 have similar resources in their study areas, as described below. At this stage, it is unknown whether direct, indirect, or cumulative impacts at one site would have greater impacts compared to the other. However, there do not appear to be critical issues at either site that would prevent the project from moving forward. Reviews required under NEPA and all associated reviews to comply with other federal and state regulations, laws, and executive orders should be completed during NEPA.

A review of readily available databases identified several resource areas that may need additional review during the next phase of design. There are several threatened or endangered species in the study area; habitat surveys and Section 7 consultation with the U.S. Fish and Wildlife Service may be needed. Cultural resource surveys and Section 106 consultation with the State Historic Preservation Office may be needed. Since the subject parcels are zoned for Intermediate Business, the selected site may need to undergo re-zoning and some level of public outreach to notify the neighbors about the re-zoning case. U.S. Census Bureau data indicates that there may be low-income and minority populations within the study areas, although data at the parcel level is not available. Outreach to the residents and businesses within the area would inform the Environmental Justice analysis and may be required as part of the NEPA evaluation. It should also be noted that public outreach may be needed based on other factors, such as changes to zoning, Section 106 or Section 4f regulations, or upon FTA's request.

Impact tables and a figure for both sites are detailed below.

Figure 8-1: Overview of Site #9 – Verde Crossing



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Table 8-1: Site 9 Natural Resources

Natural Resources		
Resource	Presence	Observation
Streams	Based on the National Hydrology Dataset, there are no delineated streams within 0.25-miles of the project.	It appears that there may be no project-related direct impacts to streams. Wetland and stream delineations may need to occur during project design to delineate jurisdictional features.
Wetlands	Based on the National Wetland Inventory database, the site is within 0.25-miles of wetlands, as shown on the above map.	There is a freshwater pond and two "waterbody" mapped sites within the study area. None of the wetlands are within the project footprint and are not anticipated to be directly impacted by the project. Wetland and stream delineations may need to occur during project design to delineate the boundaries of jurisdictional features.
Floodplains	Based on FEMA Flood Map Service Center data, there are no Special Flood Hazard Zones or floodplains within the 0.25-mile study area.	The nearest polygon is a Special Flood Hazard, Zone A, located approximately 0.15-mile southeast of the study area.
Threatened and Endangered Species	<p><u>Gray Bat</u> Endangered</p> <p><u>Northern Long-eared Bat</u> Endangered</p> <p><u>Tricolored Bat</u> Proposed Endangered</p> <p><u>Slender Chub (Clam)</u> Threatened</p> <p><u>Dromedary Pearlymussel (Clam)</u> Endangered</p> <p><u>Finerayed Pigtoe (Clam)</u> Endangered</p> <p><u>Turgid Blossom (Clam)</u> Endangered</p>	The listed species are federally-listed protected species within 0.25-miles of the project. No critical habitat has been identified through the U.S. Fish and Wildlife Services IPaC database (accessed October 2023). Field surveys may be required depending on the site's potential to support habitat for each species- for example, surveys for the clam species may not be needed due to the lack of water on-site. It is recommended that the subject parcel(s) are reviewed through IPaC again during design and the presence of critical habitat/individuals is confirmed through field surveys, as needed. If surveys are needed, consultation with the U.S. Fish and Wildlife Service may be required.
Farmland	The project footprint is within an area that is not zoned agricultural, and Morristown is a 2020 census-designated urban area.	

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Table 8-2: Site 9 Cultural Resources

Cultural Resources		
Resource	Presence	Observation
Historic Property	Based on available data from the Tennessee Historical Commission (accessed in October 2023), there is one structure within 0.25-miles that has been previously surveyed by the Historical Commission (HB-928).	It does not appear that the previously surveyed structure was determined eligible for listing on the National Register, based on the Tennessee online mapper. The project's Area of Potential Effects (i.e., cultural resources study area) would need to be assessed during project design to confirm the presence of properties eligible for listing or listed on the National Register of Historic Places. If eligible properties are within the Area of Potential Effects, the project would need to evaluate effects to those properties. If surveys are required, consultation with the Historical Commission would be required.
Historic Districts	None	N/A
Archaeology	Archaeology site locations are not typically available for public review.	Since the subject parcel(s) do not have structures on-site, additional review of Sanborn maps and archival research may be needed to determine whether archaeological surveys are required. If surveys are required, consultation with the Historical Commission would be required.

Table 8-3: Site 9 Human Environment

Human Environment		
Resource	Presence	Observation
Air Quality	Based on the Air Quality Conformity Determination Report for the Knoxville Regional TPO and Lakeway Area MTPO (2022), Hamblen County meets the attainment standards for pollutants under the National Ambient Air Quality Standard.	Based on the conformity report, a project-level air quality analysis or hot-spot analysis are potentially not needed. Conformity should be re-confirmed during design.
Zoning & Land Use	The project's 0.25-mile study area includes several zoning uses, including: <ul style="list-style-type: none"> - Intermediate Business - Heavy Industrial District - Agricultural Forestry Medium Density Residential District (small sliver)	The project footprint is entirely within the Intermediate Business District. The project should be reviewed with Morristown and Hamblen County to determine whether the parcel(s) require a re-zoning. In the case of a re-zoning, additional public outreach may be needed as part of the NEPA process.

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Human Environment		
Acquisitions & Displacements	The project would require the acquisition of two properties from two separate property owners.	Property should not be acquired prior to completing NEPA. The project would comply with the Uniform Relocation Assistance and Real Property Acquisition Act.
Minority & Low-Income Populations	The project's 0.25-mile study area is contained within 3 U.S. Census Bureau block groups (American Community Survey 2017-2021 5-year data). One block group, CT 1008, BG1, has a higher percentage of minority and low-income populations compared to Hamblen County's averages.	The project footprint is completely within CT 1008, BG1, which is the block group with the high minority and low-income populations. While the study area does not include a high number of business and residential properties, additional Environmental Justice analysis and outreach to these populations should be completed during design.
Community Resources	There is one dentistry office within the 0.25-mile study area. There do not appear to be other community services in the study area, such as public housing, day-care, or low-cost healthcare facilities.	While it does not appear that the project would directly impact community facilities, indirect effects should be evaluated in NEPA. Additionally, information about community resources in the study area can inform the NEPA evaluation, including the Environmental Justice analysis and public outreach.

Table 8-4: Site 9 Parklands, Section 4(f), and Section 6(f)

Parklands, Section 4(f), and Section 6(f)		
Resource	Presence	Observation
4(f) Property & Parklands	Based on a review of Morristown Parks and Recreation Department website data and Google aerial imagery, there are no existing or planned parks or greenways within 0.25-miles of the project.	Adopted parks and greenway plans will need to be reviewed during design to determine whether there are existing or planned recreational facilities within the study area. Historic properties that are eligible for listing on the NRHP are also protected under Section 4(f).
6(f) Property	As of October 2023, there are no projects in 0.25 miles of the subject parcel(s) that have received funds through the Land and Water Conservation Fund.	The Land and Water Conservation Fund database will need to be reviewed during design to determine whether there are existing or planned recreational facilities within the study area.

Figure 8-2: Overview of Site #25 – W. Morris Boulevard

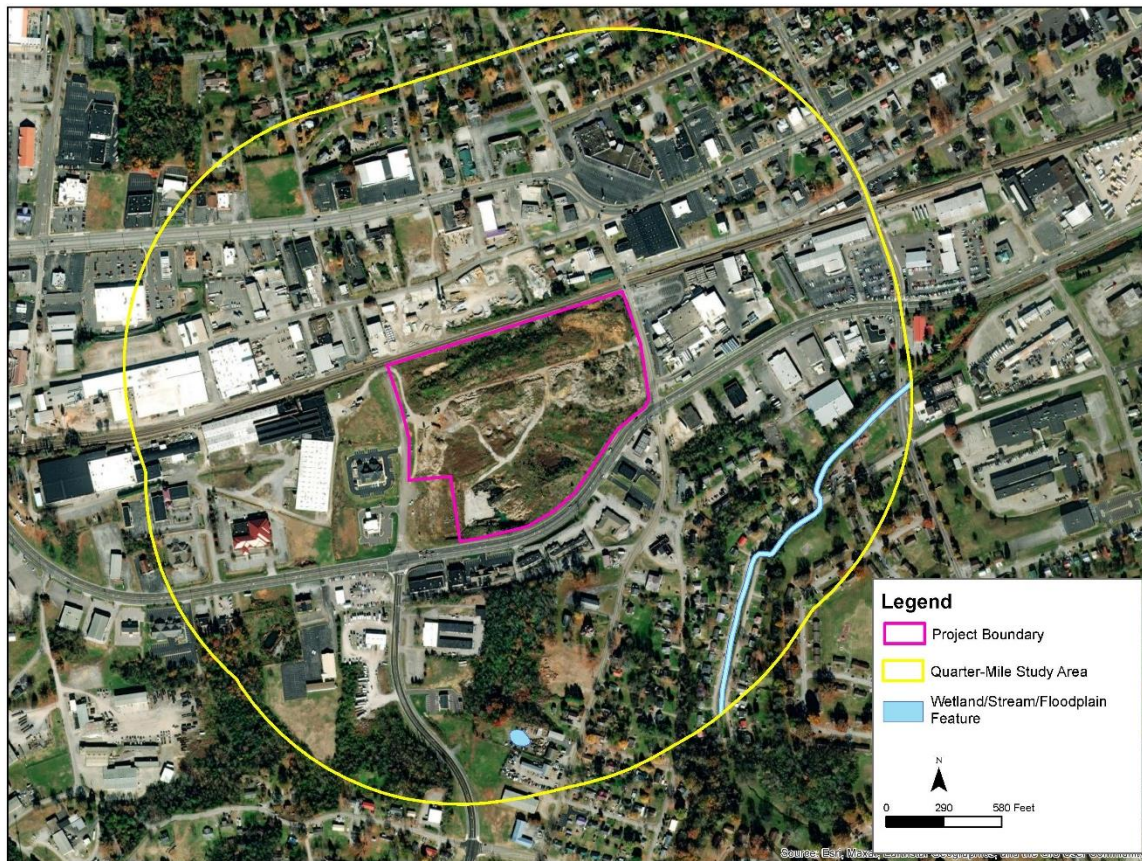


Table 8-5: Site 25 Natural Resources

Natural Resources		
Resource	Presence	Observation
Streams	Based on the National Hydrology Dataset, there is a mapped flowline in the southeast corner of the 0.25-mile study area, as shown on the above map.	It appears that there may be no project-related direct impacts to streams. Wetland and stream delineations may need to occur during project design to delineate jurisdictional features.
Wetlands	Based on the National Wetland Inventory database, the site is within 0.25-miles of wetlands, as shown on the above map.	The wetland feature is in the same southeast location as the National Hydrology Dataset stream. Wetland and stream delineations may need to occur during project design to delineate jurisdictional features.
Floodplains	Based on FEMA Flood Map Service Center data, there is Special Flood Hazard Zone A and Regulatory Floodway within the 0.25-mile study area, as shown on the above map.	It appears that there may be no project-related direct impacts to the floodways. The polygons are in the same area as the wetlands and stream features, so the southeast portion of the study area is

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Natural Resources		
		likely has regulatory features that should be avoided.
Threatened and Endangered Species	<u>Gray Bat</u> Endangered	The listed species are federally-listed protected species within 0.25-miles of the project. No critical habitat has been identified through the U.S. Fish and Wildlife Services IPaC database (accessed October 2023). Field surveys may be required depending on the site's potential to support habitat for each species- for example, surveys for the clam species may not be needed due to the lack of water on-site. It is recommended that the subject parcel(s) are reviewed through IPaC again during design and the presence of critical habitat/individuals is confirmed through field surveys, as needed. If surveys are needed, consultation with the U.S. Fish and Wildlife Service may be required.
	<u>Northern Long-eared Bat</u> Endangered	
	<u>Tricolored Bat</u> Proposed Endangered	
	<u>Slender Chub (Clam)</u> Threatened	
	<u>Dromedary Pearlymussel (Clam)</u> Endangered	
	<u>Finerayed Pigtoe (Clam)</u> Endangered	
	<u>Turgid Blossom (Clam)</u> Endangered	

Table 8-6: Site 25 Cultural Resources

Cultural Resources		
Resource	Presence	Observation
Historic Property	Based on available data from the Tennessee Historical Commission (accessed in October 2023), there are four structures within 0.25-miles that have been previously surveyed by the Historical Commission (HB-139, HB-140, HB-90, HB-152).	It does not appear that the previously surveyed structures were determined eligible for listing on the National Register, based on the Tennessee online mapper. The project's Area of Potential Effects (i.e., cultural resources study area) would need to be assessed during project design to confirm the presence of properties eligible for listing or listed on the National Register of Historic Places. If eligible properties are within the Area of Potential Effects, the project would need to evaluate effects to those properties. If surveys are required, consultation with the Historical Commission would be required.
Historic Districts	None	N/A
Archaeology	Archaeology site locations are not typically available for public review.	Since the subject parcel(s) do not have structures on-site, additional review of Sanborn maps and archival research may be needed to determine whether archaeological surveys are required. If

Cultural Resources	
	surveys are required, consultation with the Historical Commission would be required.

Table 8-7: Site 25 Human Environment

Human Environment		
Resource	Presence	Observation
Zoning & Land Use	<p>The project's 0.25-mile study area includes several zoning uses, including:</p> <ul style="list-style-type: none"> - Office, Medical and Professional District - Medium Density Residential District - Intermediate Business - Heavy Industrial District - Single-Family Residential District - Agricultural Forestry - Light Industrial <p>Local Business District</p>	<p>The project footprint is entirely within the Intermediate Business District. The project should be reviewed with Morristown and Hamblen County to determine whether the parcel(s) require a re-zoning. In the case of a re-zoning, additional public outreach may be needed as part of the NEPA process.</p>
Acquisitions & Displacements	<p>The project would require the acquisition of a subdivided portion of one parcel.</p>	<p>Property should not be acquired prior to completing NEPA. The project would comply with the Uniform Relocation Assistance and Real Property Acquisition Act.</p>
Minority & Low-Income Populations	<p>The project's 0.25-mile study area is contained within 2 U.S. Census Bureau block groups (American Community Survey 2017-2021 5-year data). Both block groups have a higher percentage of minority population compared to Hamblen County's average. One block group, CT 1003 BG1, has a higher percentage of low-income population compared to Hamblen County's average.</p>	<p>The project footprint is completely within CT 1003, BG1, which is the block group with the high minority and low-income populations. While the study area does not include a high number of business and residential properties, additional Environmental Justice analysis and outreach to these populations should be completed during design. There are also more residential and businesses within proximity to this site compared to Site #9.</p>
Community Resources	<p>There is one religious facility (Panther Springs United Methodist Church) within 0.25-mile of the project. There are several medical offices and pharmacies in the study area. Some appear to be home healthcare services.</p>	<p>While it does not appear that the project would directly impact community facilities, indirect effects should be evaluated in NEPA. Additionally, information about community resources in the study area can inform the NEPA evaluation, including the Environmental Justice analysis and public outreach.</p>

Table 8-8: Site 25 Parks, Section 4(f), and Section 6(f)

Parklands, Section 4(f), and Section 6(f)		
Resource	Presence	Observation
4(f) Property & Parklands	Based on a review of Morristown Parks and Recreation Department website data and Google aerial imagery, there are no existing or planned parks or greenways within 0.25-miles of the project.	Adopted parks and greenway plans will need to be reviewed during design to determine whether there are existing or planned recreational facilities within the study area. Historic properties that are eligible for listing on the NRHP are also protected under Section 4(f).
6(f) Property	As of October 2023, there are no projects in 0.25 miles of the subject parcel(s) that have received funds through the Land and Water Conservation Fund.	The Land and Water Conservation Fund database will need to be reviewed during design to determine whether there are existing or planned recreational facilities within the study area.

Sources

Tennessee Historical Commission: <https://tnmap.tn.gov/historicalcommission/>

National Wetlands Inventory, U.S. Fish and Wildlife Service: <https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper>

National Hydrology Dataset, U.S. Geological Survey: <https://prd-tnm.s3.amazonaws.com/index.html?prefix=StagedProducts/Hydrography/NHD/State/Shape/>

Knoxville Regional TPO/Lakeway Area MTPO Air Quality Conformity: https://www.lamtpo.com/files/ugd/cffdbd_41660cda16fd42d0898507b932f1a11b.pdf

Information for Planning and Consultation, U.S. Fish and Wildlife Service: <https://ipac.ecosphere.fws.gov/>

Tennessee Division of Remediation Site Map: <https://dataviewers.tdec.tn.gov/dataviewers/f?p=211:1:15733996401193:>

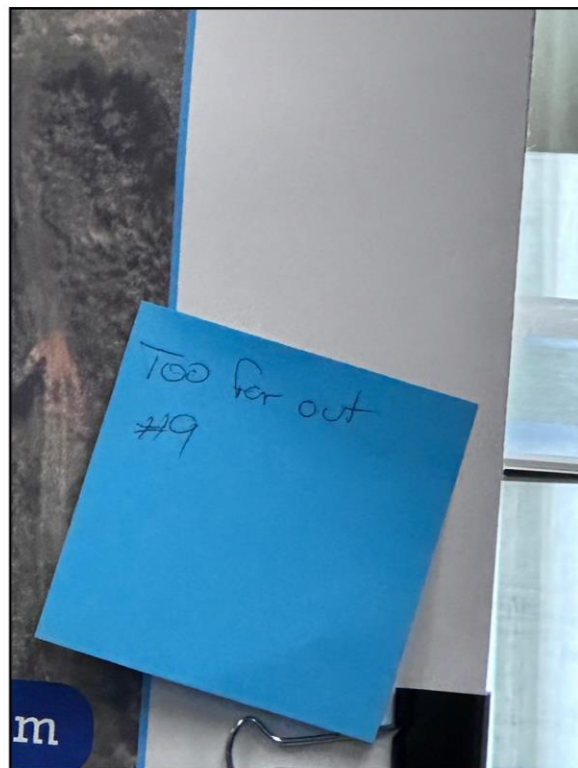
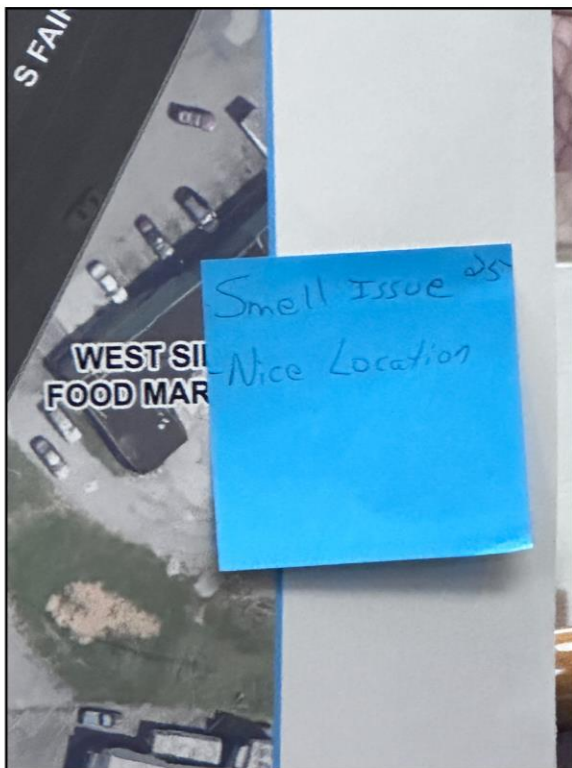
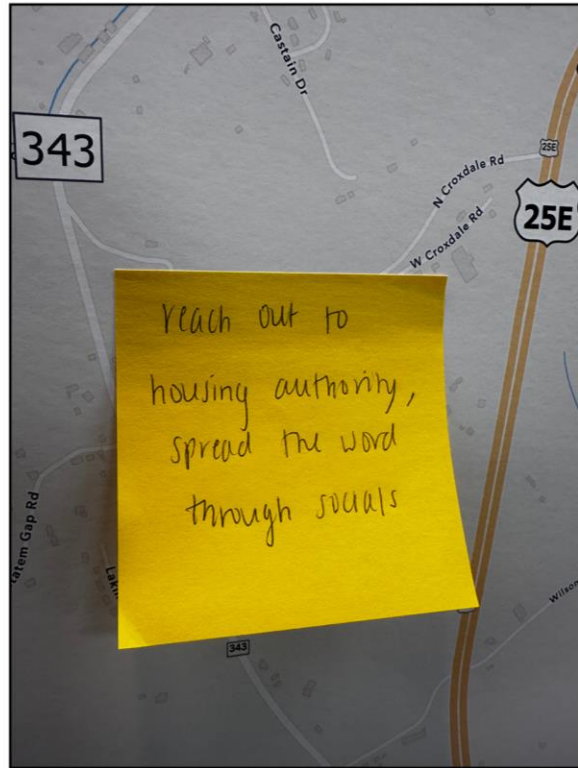
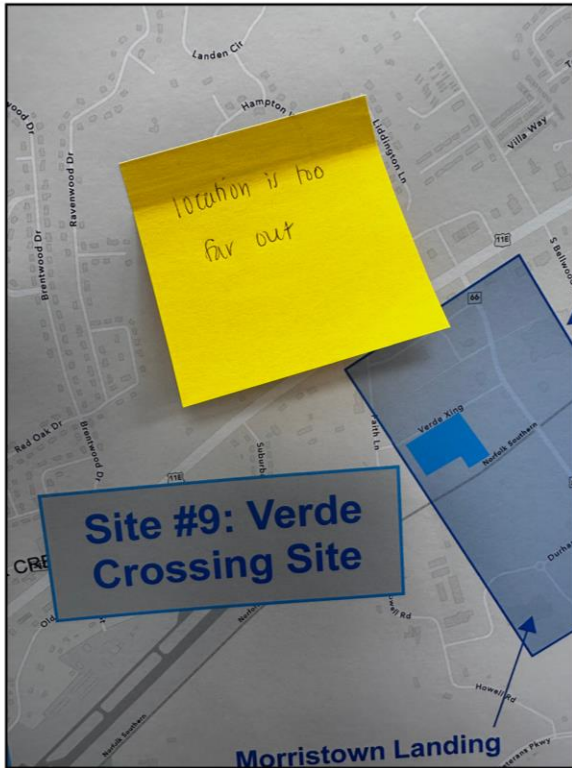
FEMA flood zone mapping: <https://msc.fema.gov/portal/home>

Ambition 2030: <https://cms1files.revize.com/morristown/Dev&Planning/Ambition%202030%20Plan-%20original.pdf>

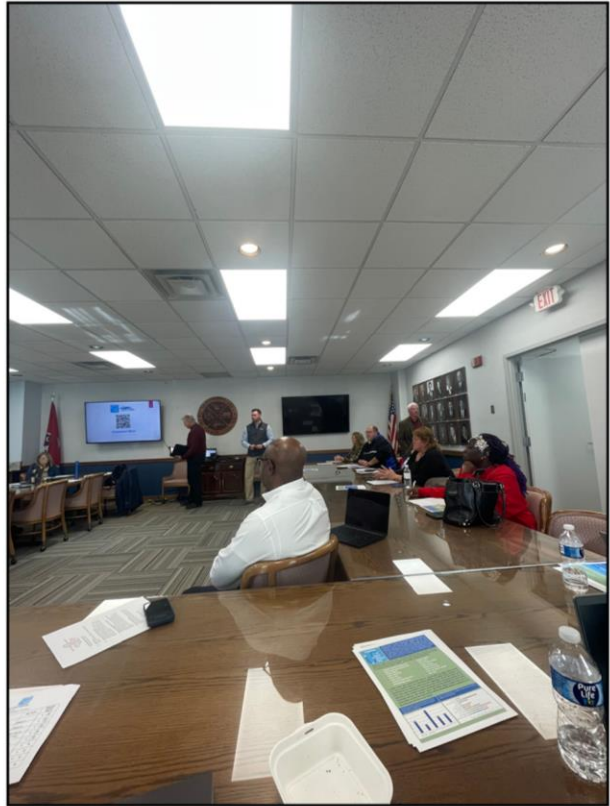
Morristown Parks and Recreation Department Park Locator App: <https://mh-gis.maps.arcgis.com/apps/webappviewer/index.html?id=6cd5f1770d64463497a611e01874d848>

Land and Water Conservation Fund Locator App: <https://lwcf.tplgis.org/mappast/>

8.2 Appendix B: Public Workshop Photographs



Lakeway Transit
Transit Facility Needs Assessment



Lakeway Transit Transit Facility Needs Assessment



Transit Facility Needs Assessment

8.3 Appendix C: Facility Functional Needs Assessment

Table 8-9 and **Table 8-10** below summarize the space needs for the Transit Center and Maintenance Facility, as developed in the Facility Functional Needs Assessment Workshop and through additional engagement with Lakeway Transit and ETHRA. **Table 8-11** provides an overall summary for space programming areas, including building area, non-building area, and site utilization factors. Additionally, **Table 8-12** summarizes technological amenities that are desired in the transit center.

Table 8-9: Transit Center Space Programming Table

Transit Center Exterior				
Use	# of Units	Sq Ft / Unit	Total Sq Ft for Use	Notes
Bus Bays	4	650	2,600	65' bus bays for 40' buses; sawtooth (future proofing)
Paratransit	1	400	400	
Microtransit (minivans)	1	200	200	Could flex to bus bays if overloaded
Intercity Bus (Greyhound, etc.)	1	1,300	1,300	
Boarding Areas	7	975	6,825	Benches with armrests; abundant seating; trash and recycling
Parking - Public	90	200	18,000	
Parking - Staff	20	200	4,000	
Boarding Area Canopy	7	1,300	9,100	Boarding and seating areas
Kiss & Ride	4	480	1,920	
Bike Racks	20	12	240	
Scooter Share	10	8	80	
Bike Share	15	12	180	
Trash / Recycle	2	100	200	
Designated Smoking Area	1	225	225	
Transit Center Exterior Total	45,270 Sq Ft			Includes 30% grossing factor
Transit Center Interior				
Use	# of Units	Sq Ft / Unit	Total Sq Ft for Use	Notes
Passenger Waiting Area	1	15	300	15-20 passengers; seating; phone charging
Passenger Services Area	1	14	168	Locate for staff standalone or via dispatch
Public Restroom	2	12	288	Single sex, ADA-compliant
Family Restroom (Public)	1	8	64	Single user, ADA-compliant
Dispatcher Area	1	20	320	Plan two dispatchers, with four in the future
Reception/Lobby	1	10	100	
Director	1	20	400	Includes conference area

Transit Facility Needs Assessment

Transit Center Exterior				
Transit Manager	1	20	300	
Transit Center Interior Cont.				
Transit Planner	1	15	225	
Marketing/ Communications	1	15	300	
Accountant	1	15	225	
Visitor	1	15	180	
Expansion Office	3	15	180	
Copy/Workroom	1	20	240	
Conference Room (staff)	1	15	420	Can also serve as public meeting room
Operator Check-in	1	10	100	
Break Room	1	24	432	Share with administrative and operations staff. Include small refrigerators, sink, table, and four chairs.
Kitchenette	1	6	72	Within break room
Operator Restroom	2	8	64	Single sex, ADA-compliant
Fitness Center	1	20	240	
Shower Compartment	1	10	60	
Janitor Closet	1	6	24	
Mechanical Room	1	10	150	
Elect Room	1	6	48	
Fire Riser/Pump Room	1	6	48	
IT Room	1	12	144	Coordinate size with dispatching needs
General Storage	2	8	64	
Operations Storage	2	10	100	
Supply Closet	2	6	72	
Transit Center Exterior Total	8,159 Sq Ft			Includes 30% grossing factor

Table 8-10: Maintenance Facility Space Programming Table

Maintenance Facility Exterior				
Use	# of Units	Sq Ft / Unit	Total Sq Ft for Use	Notes
Bus Bays	20	600	12,000	40' by 15' to allow morning lift exercise
Paratransit	4	600	2,400	
Microtransit (minivans)	4	300	1,200	
Intercity Bus (Greyhound, etc.)	10	300	3,000	
Maintenance Facility Exterior Total	18,600 Sq Ft			Includes 30% grossing factor
Maintenance Facility Interior				
Use	# of Units	Sq Ft / Unit	Total Sq Ft for Use	Notes
Vehicle Repair Bay	2	1,000	2,000	Pull-through preferred
Tire Storage	1	1,000	1,000	
Wash Bay	1	1,000	1,000	Hand sprayer included, pull-through preferred
Wash Bay Equipment	1	360	360	
Parts Storage	1	800	800	
Parts Shop	1	1,600	1,600	
Tool Crib	1	800	800	
Portable Equipment Storage	1	1,100	1,100	
Lube/Comp	1	300	300	
Reference Library	1	800	800	
Break Room	1	400	400	Includes small refrigerator, sink, table, and four chairs. No vending included.
Kitchenette	1	72	72	Included in breakroom
Lost and Found	1	80	80	
Conference Room	1	225	225	
Driver Training	1	400	400	
Count Room/Drop Box	1	180	180	
Shop Office	1	180	180	
Shower Compartment	1	60	60	
Locker Room	1	60	60	Located in the breakroom, not for changing.
Staff Restroom	2	64	128	Single sex, ADA-compliant
Janitor Closet	1	24	24	
Mechanical Room	1	150	150	

Maintenance Facility Exterior				
Maintenance Facility Interior Cont.				
Electrical Room	1	48	48	
Fire Riser/Pump Room	1	48	48	
IT Closet	1	64	64	
Storage	2	144	288	
Transit Center Exterior Total	14,600 Sq Ft		Includes 20% grossing factor	

Table 8-11: Space Programming Area Summary

Totals	
Total Building Area	22,759 sq ft
Total non-building Program Area	63,870 sq ft
40% Site Utilization Factor	25,548 sq ft
Total Area	112,177 sq ft
Total Area	2.58 acres

Table 8-12: Technology Amenity Programming Table

Technology	
Amenity	Notes
Lighting	LED lights, Incorporate Crime Prevention Through Environmental Design (CPTED) principles
Dynamic Messaging Signs/NextBus	Include monitors to display bus data
USB Charging Ports	Locate throughout waiting areas
Electronic Advertisements	Locate throughout waiting areas
Wi-Fi	Locate throughout waiting areas

8.4 Appendix D: Site Selection Criteria

The site selection criteria will be used to identify and evaluate potential sites for a new shared facility for Lakeway Transit, ETHRA and LAMPTO. The facility envisioned will serve as both a passenger facility and an Operations and Maintenance Facility.

Site selection criteria are listed in the following categories.

- General Geographic Area
- Site Size and Configuration
- Cost
- Access Requirements
- General Site Requirements
- Existing Structure Remodeling Criteria

General Geographic Area

It is expected that the selected site be within the Lakeway Transit service area and specifically be within a 3 to 5-mile radius from the current Lakeway Transit/ETHRA transit hub located at 2800 West Andrew Johnson Highway, Morristown, TN. The search should also consider smaller adjacent sites that could be combined to make larger parcels, particularly those adjacent to publicly owned properties.

Site Size and Configuration

A Facility Functional Needs Assessment has been completed to identify the total site and facility space needs to accommodate the current fleet (2023) and future expansion.

Site Area Needs

Potential sites should have at least 3 usable acres. Note that irregular shapes, topography, easements, and other factors may render a portion(s) of the site unusable.

Site Configuration

Ideally, the site would be approximately three times as long as it is deep, with access along the long side of the site with potentially multiple remote site access points to accommodate maintenance traffic, transit traffic, and personal vehicles. Note that sites that are selected from an initial list of sites will be further evaluated. This further evaluation will include the development of a "test fit" site and facility layouts on two candidate sites to determine if the programmed spaces can be accommodated on the site.

Cost

Acquisition Cost

The acquisition cost should be carefully evaluated in relation to the potential benefits derived from the site's other characteristics. Ideally, the site would already be publicly owned by a local government entity, the State of Tennessee, etc.

Development Cost

Many of the general site criteria may directly affect the cost of developing a facility on the site. These costs must also be evaluated in relation to the potential benefits of the site.

Operating Cost

The location of the facility will directly impact the operating cost. The deadhead cost will be considered for selected sites. Lakeway Transit requests that deadhead be limited to 10 minutes maximum.

Cost/Benefit Analysis

As has been mentioned above, the costs (acquisition + development + operating) must be evaluated in relation to the potential benefits of the site.

Access Requirements

Access streets should be in excellent condition and be capable of withstanding high-density traffic without reconstruction or repair. Traffic density counts should be capable of absorbing the additional vehicle traffic at peak times in the morning and afternoon when buses leave the site and when they return.

Median openings should be available to allow vehicles exiting the site to proceed in either direction. Street widths must accommodate vehicle turning requirements.

General Site Requirements

Utilities

Water, sanitary sewer, storm sewer, and electric power should be readily available. Large maintenance equipment usually requires 480 VAC service. Ideally, two redundant sources of power should be available for emergency backup. Natural gas would be considered an advantage in reducing operating costs. Adjacency to a backup fueling location would also be considered an advantage.

Easements

Easements on the site should be minimized. Constraints imposed by easements may force design decisions that increase construction costs and reduce operating efficiency.

Topography

The site should be relatively flat. Gradients should minimize cut and fill requirements. The maximum preferred slope shall be 10% for unimproved sites and 6% for sites with existing improvements.

Geotechnical

The site should not have any discernible geotechnical problems (i.e., water table, faults, karst features).

Drainage

The site should allow for efficient drainage during and after construction. Stormwater detention and quality will be in accordance with local standards and must have gravity discharge. Note that the acreage requirements previously given include space for stormwater management. The water table should be considered because de-watering during construction will increase the initial cost.

Flood Plains

Construction in or directly adjacent to flood plains should be avoided. Flood control measures such as minimum floor elevations, berms, fill, retention ponds, and diversion channels will increase costs. They can affect the construction schedule and lead to potential long-term maintenance issues.

Landfills

Sites of former landfills are unacceptable due to subsidence concerns.

Zoning

The site must be within a zone permitting this type of usage to avoid rezoning or variance procedures.

Neighborhood Compatibility

Transit operations generate considerable traffic and noise in the early morning hours during pull-out and at night during the servicing cycle. The adjacent land uses (or zoned land uses for undeveloped sites) should be compatible with the intended use of this site.

Environmental Impact

Conditions that will require the development of an Environmental Impact Statement should be avoided. Areas of concern include:

- Air quality
- Noise and visual impacts
- Water quality
- Traffic impacts
- Displacement of residences and businesses
- Biological impacts (wildlife and vegetation/wetlands)
- Impact on parks and historic structures

Existing Structure Remodeling Criteria

Facilities may be located on a potential site that could be considered for reuse. In order to minimize renovation costs, existing facilities should have the following characteristics:

1. Unobstructed overhead clearances in vehicle repair areas: 19 feet.
2. Repair bay dimensions: 18 to 20 feet wide by 50 to 55 feet deep.
3. Overhead door dimensions: 12 to 14 feet wide by 14 feet high.
4. Adequate lighting.
5. Good ventilation.
6. Parts storage area with 8 to 10 feet overhead clearance.
7. Sixty-five feet clear (minimum) driveway outside of overhead doors. Sixty-five feet is required on both sides for pull-through operations.
8. Concrete floors which will support the weight of the transit vehicles and lifts.
9. Adequate power for shop equipment.
10. Structural integrity.
11. Adequate restroom facilities.
12. Adequate security (lighting, fencing, etc.)

8.5 Appendix E: Utility & Earthwork Cost Estimates

Table 8-13 below summarizes estimated site preparation costs, including utility and earthwork costs, developed by WSP site and civil design staff. Utilities that estimates were provided for include Electric, Natural Gas, Sanitary Sewer, and Storm Sewer.

Utility cost estimates were produced by measuring the distance between the nearest respective utility line and the boundary of the site. Additional utility lengths within the site itself are not included in the below cost estimates. The below utility and earthwork cost estimates were considered in the development of the overall rough order of magnitude cost estimates for developing a transit center on either site.

Earthwork was calculated using the Volumetric Method. Tennessee Department of Transportation (TDOT) LiDAR was used to derive elevation. A preliminary alignment and profile was set for each site and a parking lot template was applied to create a baseline which the earthwork was run upon. The total cut and fill for each site was combined for a total cubic yard of soil, which will need to be manipulated to provide a smooth surface for the Transit Center. A unit price per cubic yard was applied to the total cubic yard to calculate a dollar value to assist in the comparison between sites.

Note that the actual earthwork costs may vary considerably given the age TDOT's LiDAR dataset, which was collected in 2016.

Table 8-13: Estimated Site Preparation Costs

Sites	Utilities				Earthwork (Cut/Fill, \$)	Total (Estimated, \$)
	Electric (\$)	Natural Gas (\$)	Sanitary Sewer (\$)	Storm Sewer (\$)		
Site 5A	\$ 17,000	\$ 27,500	\$ 255,000	\$ 600,000	\$ 428,958	\$ 1,328,458
Site 5B	\$ 17,000	\$ 137,500	\$ 255,000	\$ 600,000	\$ 417,948	\$ 1,427,448
Site 5C	\$ 17,000	\$ 137,500	\$ 255,000	\$ 600,000	\$ 269,024	\$ 1,278,524
Site 9	\$ 102,000	\$ 27,500	\$ 63,600	\$ 114,000	\$ 263,139	\$ 570,239
Site 12	\$ 42,600	\$ 27,500	\$ 159,000	\$ 380,500	\$ 284,036	\$ 893,636
Site 13	\$ 42,600	\$ 27,500	\$ 159,000	\$ 380,500	\$ 329,074	\$ 938,674
Site 15A	\$ 26,000	\$ 55,000	\$ 175,000	\$ 417,700	\$ 394,528	\$ 1,068,228
Site 25	\$ 34,000	\$ 55,000	\$ 76,000	\$ 32,000	\$ 305,054	\$ 502,054

STUDY PARTNERS



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