

# Transit Coordination Study

## Framework Recommendations Report

By

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For

Knoxville Regional Transportation Planning Organization

In Cooperation with

Knoxville Area Transit

Knox County CAC Transit

East Tennessee Human Resource Agency

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## Introduction and Project Background

Transit studies are a crucial subset of transportation planning that ensure the functionality, practicality, and safety of transit operations. Within the Knoxville region, four agencies provide transit services to various and overlapping markets around the region:

- Knoxville Area Transit (KAT) provides fixed route services mostly within the City of Knoxville as well as complementary ADA (Americans with Disabilities Act) paratransit service. Before the pandemic, ridership on KAT services totaled about 2.8 million trips per year.
- Knoxville-Knox County Community Action Committee (Knox County CAC Transit) is a demand-response transit service that provides transportation services to those in Knox County outside the Knoxville city limits, as well as those in Knoxville who are outside of the KAT service area. Before the pandemic, Knox County CAC Transit ridership totaled about 160,000 trips per year.
- East Tennessee Human Resource Agency (ETHRA) provides demand response services for 16-counties in the larger East Tennessee region. ETHRA is the service provider for the City of Oak Ridge's transit system called Oak Ridge Transit. ETHRA also provides fixed route transit services within Morristown, Tennessee, branded as Lakeway Transit. Before the pandemic, ETHRA ridership totaled approximately 280,000 trips per year in their 16-county service area with approximately 80,000 annual trips within the Knoxville urbanized area (the Census defined contiguously developed urban area centered on Knoxville and including most of Knox County and portions of Blount, Loudon, and Anderson Counties).
- University of Tennessee Transit (The "T") provides fixed route transit services within and near its main campus in Knoxville as well as on-demand services for students, faculty, and staff in the evenings and nights to supplement its fixed route services.

Three of these providers (KAT, Knox County CAC Transit, and ETHRA) provide on demand services in overlapping markets and service areas. The map in Figure 1 shows the extent of the overlap between the three service providers in Knox County.

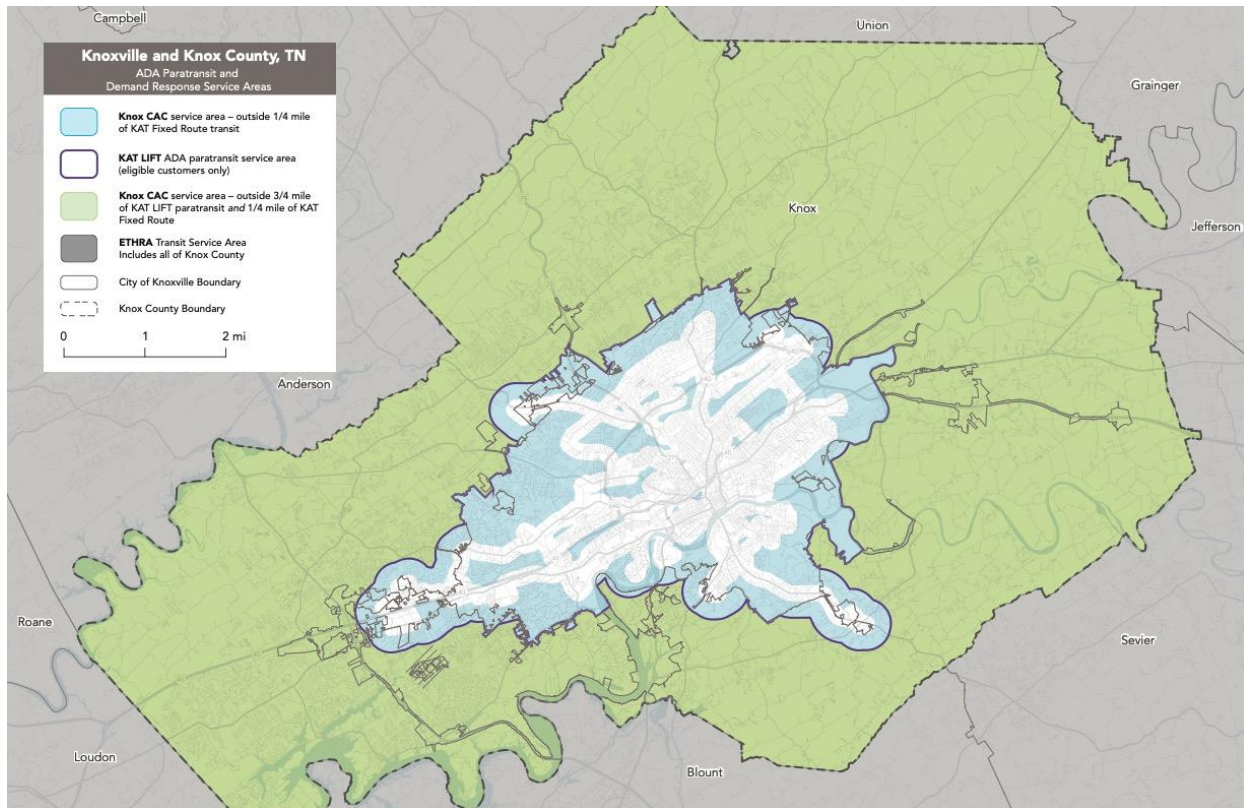


Figure 1: Map of Overlapping On-Demand Service Areas in Knox County (Source: Jarrett Walker + Associates)

There is value in assessing and considering strategies for coordination and collaboration among the three providers to avoid redundancy in the service provided to the region's residents, making the most efficient using of their collective resources.

Stakeholders in the study include the Knoxville Regional Transportation Planning Organization (TPO) and the four local transportation organizations. All five major stakeholders were examined collectively to determine how to better coordinate services within the Knoxville Metropolitan Planning Area (MPA). They have successfully coexisted to serve the MPA for over 40 years; however, there is a recognized need to improve and formalize coordination efforts, especially regarding service area responsibility. These holistic recommendations should minimize redundancies, streamline operations, and improve the four organizations in regard to their respective goals, while not compromising the TPO's overarching goals. This is especially true within the geographic confines of the City of Knoxville where all 4 providers services extensively overlap.

The methodology for developing these recommendations consisted of conducting in-depth interviews with local grassroots organizations whose members frequently utilize public transit services in and around Knox County. The organizations chosen were selected upon request from the transit agencies participating in the study. Information obtained in these interviews was used to determine potential methods for how the agencies can collaborate and coordinate services, along with identifying redundancies and agency-specific services. Additionally, the prescribed recommendations would seek to improve transportation services for not only for the general public but also for persons with disabilities, older adults, and individuals with lower incomes in Knoxville and the surrounding metropolitan area through a better

coordinated transportation system. Ultimately, these interviews provided pivotal information in amplifying local voices and finding common needs and service gaps between agencies.

## Stakeholder Agency Profiles

### Knoxville Regional Transportation Planning Organization (TPO)

The Knoxville Regional TPO is a Metropolitan Planning Organization (MPO) housed within Knoxville-Knox County Planning. The Knoxville Regional TPO was established in 1977 initially to serve only the City of Knoxville and its surrounding area. In 1982, however, the TPO's MPA expanded in response to the 1980 Census to include more of Knox County, including Farragut, as well as Alcoa and Maryville in Blount County. In 2000, the TPO's service area expanded again to include a greater area of Knox and Blount Counties, Lenoir City and its surroundings of Loudon County, and the Sevier County portion of Seymour. In 2010, the TPO expanded to include parts of Anderson County, including Oak Ridge and the City of Clinton, as well as parts of Roane County.

Per Federal regulations, the TPO is intended to serve the entire urbanized area of the Knoxville region. The urbanized area is defined by the U.S. Census and includes most of Knox County, and parts of Anderson, Blount, Knox, Loudon, Roane, and Sevier counties. Federal regulations require that a MPO being designated for any urban area over 50,000 in population. The MPA is an area set by the TPO to include the Census-defined urbanized area and an area the TPO expects to be urbanized over the next 20 years. At the time of this Study's publication, the results of the 2020 Census are still being analyzed. The Census changed the way they defined the urbanized area. It appears, in some places, the Knoxville urban area will contract, but in a few other areas it will expand. The TPO will eventually modify the MPA to account for these urban area changes. Changes to the urbanized area boundary can impact FTA funding that goes to the transit agencies and how these areas, which are now either in-or-out of the urban boundary, will be served.

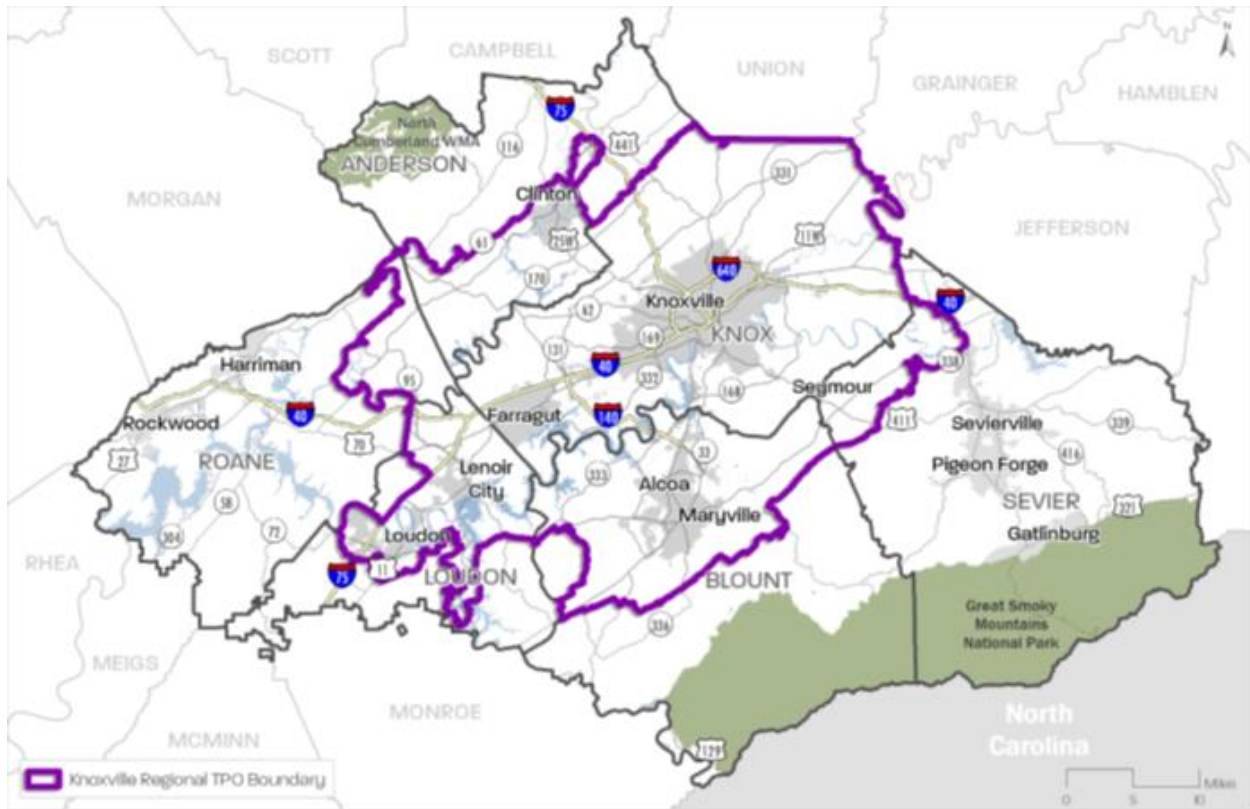
Through collaboration and decision-making, the TPO's Executive Board is responsible for setting regional transportation policies, adopting plans and programs, and overseeing funding. The Executive Board is comprised of 13 elected members representing the TPO's MPA, as well as the East Tennessee Development District, Tennessee County Highway Officials Association, KAT (public transportation representative), and the Governor of Tennessee. The Technical Committee is responsible for providing regional transportation plan and program recommendations to the Executive Board through collaboration with staff. The Technical Committee has 22 representatives comprised of administrators, planning directors, and engineers from local governments and transportation-related agencies. Non-voting representatives on both boards include the Tennessee Division of the Federal Highway Administration (FHWA) and Region 4 of the FTA.

The TPO receives FTA funding to help with transit planning activities for the MPA, which can include assisting to coordinate regional services. The TPO is also the FTA Designated Recipient of the Section 5310 Enhanced Mobility for Seniors and Individuals with Disabilities funding. The TPO typically uses this funding to help provide vehicles to non-profits, to fund Volunteer Assisted Transportation Programs, and to provide additional resources to ETHRA and Knox County CAC Transit. The TPO also houses the Smart Trips program that promotes alternatives to driving alone to improve your quality of life, reduce traffic congestion, and improve air quality. Smart Trips helps employers design and implement commuter programs for their employees. If you walk, bike, ride the bus, ride an electric scooter, carpool or vanpool,

work from home, or work a flexible schedule, Smart Trips has a program that you can log that trip and earn rewards.

The TPO's MPA serves as the study area and is outlined in purple in Figure 4. It includes the entire city of Knoxville and Knox County, many other cities and towns, and parts of Anderson, Blount, Loudon, Roane, and Sevier counties. Within the MPA are three federally funded public transit providers: KAT, Knox County CAC Transit, and ETHRA. The University of Tennessee at Knoxville, which has a campus located in downtown Knoxville, also operates a fixed route system; however, it does not utilize Federal Transit Administration (FTA) funding.

*Figure 4: Knoxville Regional TPO's Metropolitan Planning Area (MPA)*



Source: Knoxville Regional TPO

### University of Tennessee's "T"

The University of Tennessee – Knoxville (UTK) established its own transit system, the "T", in 2003. The service was initially operated by the KAT system. In 2013, when the campus wanted to expand bus service and introduce UTK-branded buses with enhanced technologies, operations were subcontracted to First Transit, which operates 31 campus bus systems nationwide. The "T" is provided fare-free to students, staff, faculty, and visitors, offering campus-wide service, as well as service to nearby Pellissippi State Community College. The "T" offers an ADA-accessible fleet of vans and buses as well as a mobile app which provides real-time GPS tracking of buses, information on route stops, and updates on route and service changes.

Both daytime and nighttime service is offered, allowing for frequent, around-the-clock campus-wide transportation. During the Fall and Spring semesters, with four fixed routes and two on-demand routes, the "T" operates extensive service throughout the campus, as well as portions of the Fort Sanders



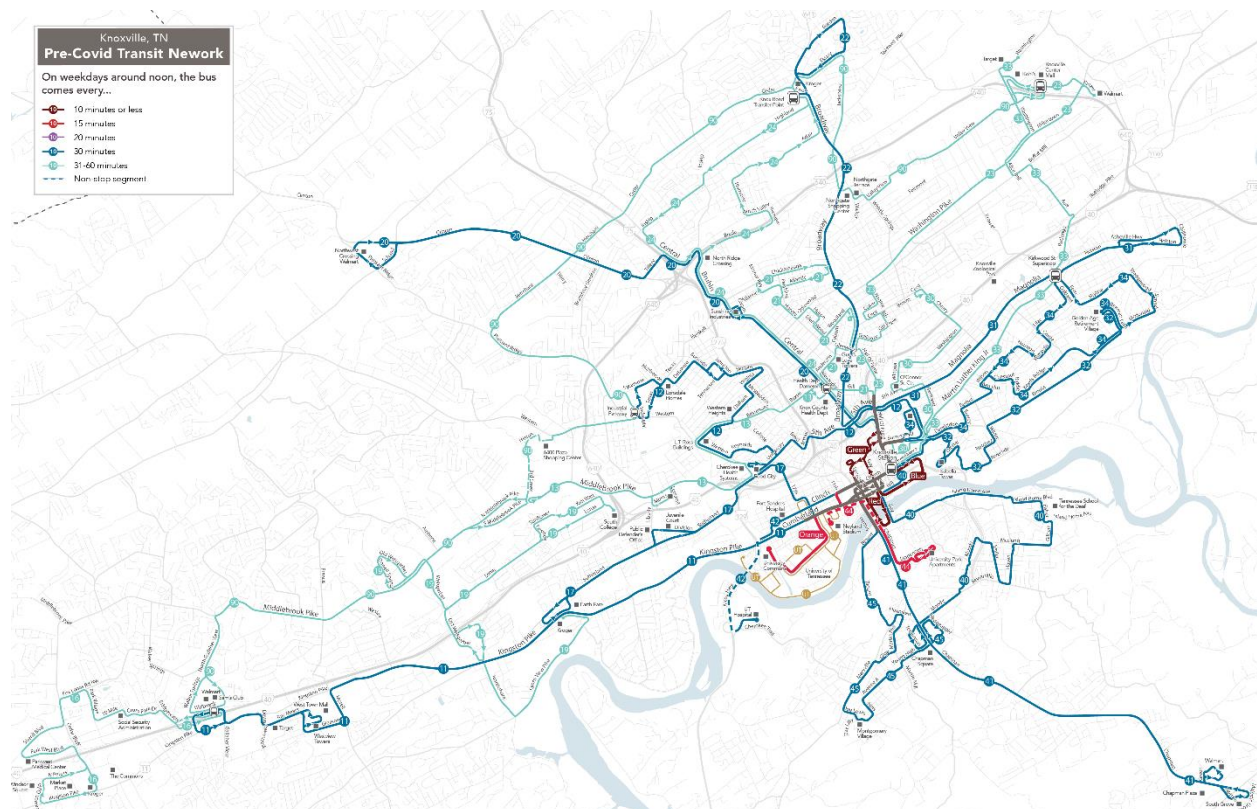
neighborhood. Summer semester service is limited to the operation of only one fixed route and two on-demand routes.

### Knoxville Area Transit (KAT)

Operating as a department of the City of Knoxville, KAT is the largest and most utilized transit agency. KAT can trace its origins to 1876 when the first streetcars of the Knoxville Street Railway Company were pulled by mules and horses along Gay Street. In 1958, a UTK bus route was added to the system. In 1967, the city bought the private company Knoxville Transit Lines (KTL) and changed its name to the Knoxville Transit Corporation (KTC). The agency was renamed to K-Trans in 1978, before finally becoming the KAT that the community is familiar with today. KAT formed the “T” transit system for UTK in 2003, whose routes were later subcontracted to First Transit in 2013.

Currently, KAT operates a fixed route transit system, composed of 72 buses along 24 pre-planned routes, as well as a door-to-door demand-response system, LIFT, which utilizes 24 vans to transport people who qualify under ADA through an application process. Along with these inclusive offerings, KAT has been ahead of the curve regarding ambitious environmental and sustainability policies. The agency introduced its Clean Fuels Program and propane-powered vehicles in 2003 and continues to innovate, implementing renewable energy technologies in their vehicles and buildings. In 2010, KAT began operations from Knoxville Station, a state-of-the-art LEED-certified transit center on Church Avenue. In 2017, KAT earned the Outstanding Public Transportation System Achievement Award for small transit systems from the American Public Transportation Association (APTA). KAT’s first electric bus arrived in 2021 and they now have 12 Battery Electric Buses (BEBs) and more are on the way. It is a goal of KAT to have a complete electric bus and paratransit vehicle fleet by 2050.

Figure 6: KAT Service Route Map, 2019



*Source: Jarrett Walker and Associates*

### [Knoxville Knox County Community Action Committee \(Knox County CAC Transit\)](#)

Knox County CAC Transit is the on-demand transit service offered by the Knoxville-Knox County Community Action Committee (CAC). Knoxville Knox County CAC is a local public agency serving the community with a comprehensive range of federal, state, and locally funded programs. In 1964, Knoxville Knox County CAC was formed by a joint effort between Knox County and the City of Knoxville. Knoxville Knox County CAC is locally governed by a diverse group of citizens who seek democratic representation for their constituents, such as residents of low-income neighborhoods, local government, and the community at large. Their transit arm, Knox County CAC Transit, seeks to provide services to those who live outside the city, as well as those within Knoxville without adequate access to KAT services.

Knoxville Knox County CAC is a pivotal piece of the many nonprofit private and public organizations established under the Economic Opportunity Act of 1964, which was ratified to fight America's War on Poverty. Community Action Agencies like Knoxville Knox County CAC are united to assist people in need as they strive to achieve self-sufficiency. Today, Knoxville Knox County CAC is proud to be an integral part of the union of approximately 1,100 Community Action Agencies throughout the United States, Puerto Rico, and the Trust Territories. These agencies stress Flexibility, Immediacy, and Coordination as their fundamental principles to assist those in the greatest need.

### [East Tennessee Human Resource Agency \(ETHRA\)](#)

ETHRA was established in 1973 after the Tennessee Legislature passed the Human Rights Act (HRA). ETHRA was formed by local public officials to serve the East Tennessee region, which consists of Anderson, Blount, Campbell, Claiborne, Cocke, Fentress, Greene, Grainger, Hamblen, Hawkins, Hancock, Jefferson, Knox, Loudon, Meigs, Monroe, Morgan, Roane, Sevier, Scott, and Union counties. The transportation provided by the agency is intended to increase mobility for medical service and meet the Rural Health Initiative to develop rural medical clinics. Since its inception, ETHRA has been an advocate of the community by implementing the Women, Infant and Children's Food Program (WIC) along with coordinating Local Recreation Programs. Within a few years of its formation, ETHRA began early transportation programs with the use of eight Easter Seals vans.

During the mid-1970s, ETHRA began their Home Delivered Meals Program on a small scale. In the late 1970s, the transfer of the East Tennessee Area Agency on Aging to ETHRA improved the administration and service delivery by utilizing both agencies' infrastructure. ETHRA expanded transportation to rural areas of Knox County in the early 1980s and later into Upper East Tennessee. In the early 1990s, ETHRA developed an agreement to incorporate the Anderson County Community Action Agency.

Continuing their desire to provide equitable and inclusive transportation to medical service centers, ETHRA began administering transportation for TennCare clients. In 2008, ETHRA was awarded a \$1.7 million-dollar special federal appropriation to replace 40 dated transit vehicles with brand new ones. Such allocations have allowed ETHRA to improve its own transportation network.

ETHRA has operated transportation programs since the mid-1970s. Approximately 100 vehicles are on the road every day helping individuals access community and health services. Drivers travel throughout the region and clock over three million miles a year. Public and medical transportation are essential to help thriving, active communities. ETHRA is also the contracted service provider for the City of Oak Ridge and the City of Morristown (Lakeway) transit systems.



## Tennessee Department of Transportation (TDOT)

The State of Tennessee has a vested interest in having a multimodal transportation system that moves people efficiently and effectively allowing all residents and visitors to participate in society's – economic, health, social, education, and tourism opportunities. The TDOT Multimodal Transportation Resources (MTR) Division supports mobility for all through public transportation, bicycling and pedestrian infrastructure, complete streets, and transportation demand management. Transportation has a considerable influence on the quality of life in communities across Tennessee and public transportation is a key part of that system. TDOT's MTR Division has several offices under its purview that are important for the regional transit agencies to coordinate with and these include:

The Office of Public Transportation (OPT) that administers state and federal transit grants, provides compliance oversight, and works in partnership with transit agencies to support ridership, mobility, and accessibility. The OPT works to promote public transportation by providing both financial and technical assistance to transit agencies and transit projects across the state. The OPT is responsible for transit planning and the administration of capital and operating assistance in both urbanized and rural areas. Through the promotion of efficient transit systems and coordination of all available resources, OPT seeks to maximize the customer service potential of all agencies offering transit services to residents of Tennessee. TDOT remains committed to a high standard of excellence and dependability in the provision of research and technical assistance in all aspects of public transportation. OPT proudly sponsors other transit programs and transit-related activities and offers capital assistance through various FTA and TDOT state funded grants.

The Office of Accessible Transportation and Mobility (OATM) was formed in 2020 to provide resources and expertise for expanding and improving accessible transportation and mobility across the state. Across the country, transportation remains a top barrier to inclusion for seniors and individuals with disabilities. Accessible transportation and mobility options are key components of community inclusion, so that seniors, individuals with disabilities, and others who use accessible transportation are able to access important destinations such as health care, employment, and education. OATM coordinates with the TPO's Section 5310 Enhanced Mobility for Seniors and Individuals with Disabilities program as well as the transit providers and various non-profits throughout the Knoxville region.

The Office of Multimodal Planning implements TDOT's Multimodal Access Policy, administers the Multimodal Access Grant, reviews all TDOT projects for opportunities to expand pedestrian, bicycle, and low-speed mobility access, and facilitates communications with external stakeholders. It is important for transit to connect and coordinate with other modes, especially pedestrian facilities. Several Multimodal Access Grants have been approved for projects in the Knoxville region that have had a transit component.

## Observations

To gain insight on the MPA's transit services, interviews were conducted with local stakeholder groups. This included TPO, each of the transit agencies, the University of Tennessee-Knoxville, as well as DAGWould? (Knox County Disability Advisory Group) and Centro Hispano. Key areas of need and service gaps were identified from themes heard throughout the interviews:

### **COORDINATION**

Actively and continuously working together to streamline processes, procedures, and services, as well as establishing an open communication channel is ideal.

### **COLLABORATION**

Agencies working together collaboratively to achieve a common goal, not necessarily formally or under a singular agency.

### **ACCESSIBILITY AND CONNECTIVITY**

It is important to ensure that all of the MPA's transit services are connected and accessible for all persons, regardless of which agency is being utilized.

## COORDINATION

### *Coordination and Communication Across Agencies*

Continuous coordination and communication across agencies could help to streamline processes, procedures, and services, helping to ensure the best use of the agencies' collective resources. Currently, KAT requires 14 days for application processing and approval to ride its paratransit service due to the ADA timeline. Other agencies within the region are able to process and approve their own ADA applications within 72 hours. This timeline differential forces Knoxville residents that need transportation services immediately to utilize Knox County CAC Transit services during the waiting period for KAT services. The difference in registration timeframes often leads to confusion for passengers during the later transition between agencies.

To provide service clarity, the three agencies, could explore unifying their disparate paratransit registration policies. Such a move would create a level of uniformity among the agencies and require identical sets of rules to be passed by each agency's Board of Directors. The TPO has potential to be the region's coordinating agency to help facilitate such coordinated efforts since it has already held agency joint meetings, is a neutral party, and is perceived by the three transit organizations to be already providing substantial levels of coordination.

Alternatively, a new, standalone entity could act as an advocate, providing coordination services between the three agencies to allow them to operate more as a collective unit. In either scenario, criteria would need to be determined for any new Board appointments, if applicable.

Regardless of the lead agency, the desired outcome is for that entity to facilitate formalized coordination in areas such as:

- service/operations
- administration
- procurement (fuel, equipment, fleet, systems etc.)
- shared infrastructure (door-to-door service)

- policies, such as eligibility for services or operator hiring policies

## COLLABORATION

### Planning and Establishing Cooperative Relationships

Currently, the three transit providers do not seem to routinely invite the other agencies to take part in their major planning activities—such as transit development, Title VI, or long-range transportation plans—despite the fact that these could potentially influence the other agencies and their collective riders. While some communication occurs between agencies during these processes, there is not a documented nor systematic process for involvement in planning activities with regionwide impacts.

There also appears to be less autonomy in the strategic management and administration of regional transit compared to other large MPAs. Major strategic planning activities including procurement, hiring, and asset management are all managed within each agency, separately. While this is logical for span of control and management, there may be economic and efficiency advantages to synchronizing such activities across agencies. For example, since each agency has similar human resources, maintenance, and logistical needs, they may be competing for the same pool of resources such as equipment and personnel.

### Funding

Currently, federal funding for the urbanized area (5307 formula funds) are sub-allocated to each agency by a set formula. KAT receives 79.8% of the funding, Knox County CAC Transit receives 14.9%, and ETHRA receives 5.3%. Currently, there is no measurable method of equity or performance indicators, such as tying funding to the number of unlinked trips or revenue miles.

FTA guidance states that sub-allocations should be based on the investment needs of the individual agencies, which may or may not be well-represented by a predetermined split or formula. The key is that the metropolitan planning organization and “designated recipient” should be able to demonstrate that whatever system they use “adequately represents” the current needs of the various agencies. FTA does not prescribe the methodology to be used to sub-allocate formula funds within an urbanized area.

In researching other sub-allocation models used in other region, there are few comparable examples where multiple agencies overlap so significantly, nor comparable examples where one agency serves multiple urbanized areas and a very large rural area (such as ETHRA). Three examples from North Carolina are somewhat instructive.

### *Asheville, NC*

Asheville conducted an Urban Transit Funding Formula study in 2017 to address the need to distribute funding to four transit providers in the region: City of Asheville, Buncombe County, Henderson County, and Haywood County. Based on a detailed review of alternatives, the MPO and partners decided to use a formula similar to the federal 5307 distribution, but without revenue miles. The factors include:

- Non-incentive bus portion tier – 90.8 percent
  - 50% apportioned based on population
  - 50% percent apportioned based on population x population density
- Incentive bus portion tier – 9.2 percent
  - Bus passenger miles x bus passenger miles/operating cost

### *Greensboro, NC*

The City of Greensboro is the designated recipient for 5307 funding for the Greensboro UZA. The City and MPO worked together to determine a funding distribution that relies on a modified version of the federal distribution formula to distribute funding to the City's transit agency and the regional agency, PART. In applying the FTA formula, only the City of Greensboro transit agency (GTA) is allocated funds based on the population and population density factors. Therefore, GTA gets the majority of FTA 5307 funding.

### *Durham and Chapel, NC*

The Durham-Chapel Hill-Carrboro MPO leads the process to determine the annual distribution of FTA 5307 funding in Durham and Orange Counties. Four agencies serve the area, GoDurham, Chapel Hill Transit, Go Triangle, and Orange County Public Transportation. The agencies and the MPO have agreed to use the FTA distribution formula, using all the factors. Since Orange County Public Transportation is not a full reporter to the NTD, they do not get credit for the Passenger Miles and Operating Cost portions of the formula.

For the population and population density portions of the formula, the agencies have agreed to use a modified system that distributes those portions of the formula by percent of the region's population to GoDurham and Chapel Hill Transit. Therefore, neither Go Triangle or Orange County Public Transportation get funding from that portion of the formula.

### *Takeaways from the Three Examples*

In all three examples from North Carolina regions, the local agencies have agreed to use a modified version of the FTA distribution formula. In two cases, the regions have chosen to credit the population and population density factors to only one or two agencies, and not all in the region. If the Knoxville region were to try and apply the FTA formula, the population and population density factors would be the most challenging to address, as all three agencies have overlapping service areas, and thus overlapping populations that are served.

### *Possible Funding Formula in Knoxville Region*

The TPO and the three agencies met to discuss the 5307 formula in November 2023 to consider the examples above and discuss possible changes to the local sub-allocation formula. Since it would be hard to apply the complete FTA formula in the Knoxville region, and an equitable resolution to the population distribution would need to be determined, most participants felt it would be inappropriate to apply that method. Most participants were also concerned with a major change in the formula that might reduce the federal funding that any agency received going forward.

Therefore, there was consensus to move forward with an approach that held all three agencies to their most recent 5307 distribution as the minimum going forward, and if 5307 funding grows in the future, then the additional funding should be distributed on the basis of service or performance measures. Those measures could include passenger miles, revenue miles, or other factors tracked by the FTA in the National Transit Database and used in the FTA 5307 distribution formula.

## **ACCESSIBILITY AND CONNECTIVITY**

### *Rider Recognition of Agency Service Areas*

All of the stakeholders interviewed were in agreement that passengers do not see political boundaries when planning or taking a trip. Currently, there is not an easy way for travelers to identify how the various transit agencies in the Knoxville region are interconnected. This exemplifies the need for the agencies to

clarify each of their service areas, types of services provided, and connection points between the region's agencies. If the agencies were able to visually show this information and post it in public places, customer confusion of which agency to utilize could potentially be reduced or avoided altogether. The transit agencies utilizing a consistent regional branding could also allow passengers to better understand which transit agencies service similar geographic areas. In addition to passengers benefitting, the time that agencies spend answering customer questions in relation to service areas and determining which transit service to use would most likely decrease.

Related to historical missions, each transit agency intends to serve different types of passengers, which causes some overlap in service in certain areas. KAT is the city's fixed route service provider in addition to providing complementary paratransit service as required by ADA. Knox County CAC Transit intends to serve Knox County residents—including the city of Knoxville—with transportation challenges to destinations within the county:

- not served by KAT
- destinations served by KAT, but outside usual service hours
- on-demand rides to individuals pending disability evaluation by KAT

ETHRA provides service for the 16 counties in the East Tennessee region, often bringing riders into Knox County and the City of Knoxville. There does not appear to be any conflicts in terms of intended service areas, since many of these counties are outside the MPA, but there are perceived conflicts in the execution of trips with other agencies within Knox County and the Knoxville city limits.

As part of this study, the consultant team looked more closely at the overlap between service providers and the trips they provide, particularly Knox County CAC Transit and ETHRA. Trips served for the months of June through September 2022 were analyzed using information provided by each agency. The trips included information on the origin and destination as well as purpose of the trip, such as medical appointments, and if the trip was billed to a third-party (like TennCare).

| Trips from July-September 2022                    | Knox CAC     | ETHRA       |
|---|--------------|-------------|
| Total Trips                                       | 44,584       | 50,281      |
| Average daily trips                               | 485          | 547         |
| Total trips entirely within Knox County           | 40,548 (91%) | 8,956 (18%) |
| Average trips per day entirely within Knox County | 441          | 97          |

Figure 2: Summary of Trip Data for ETHRA and Knox County CAC Transit (July-Sept 2022)



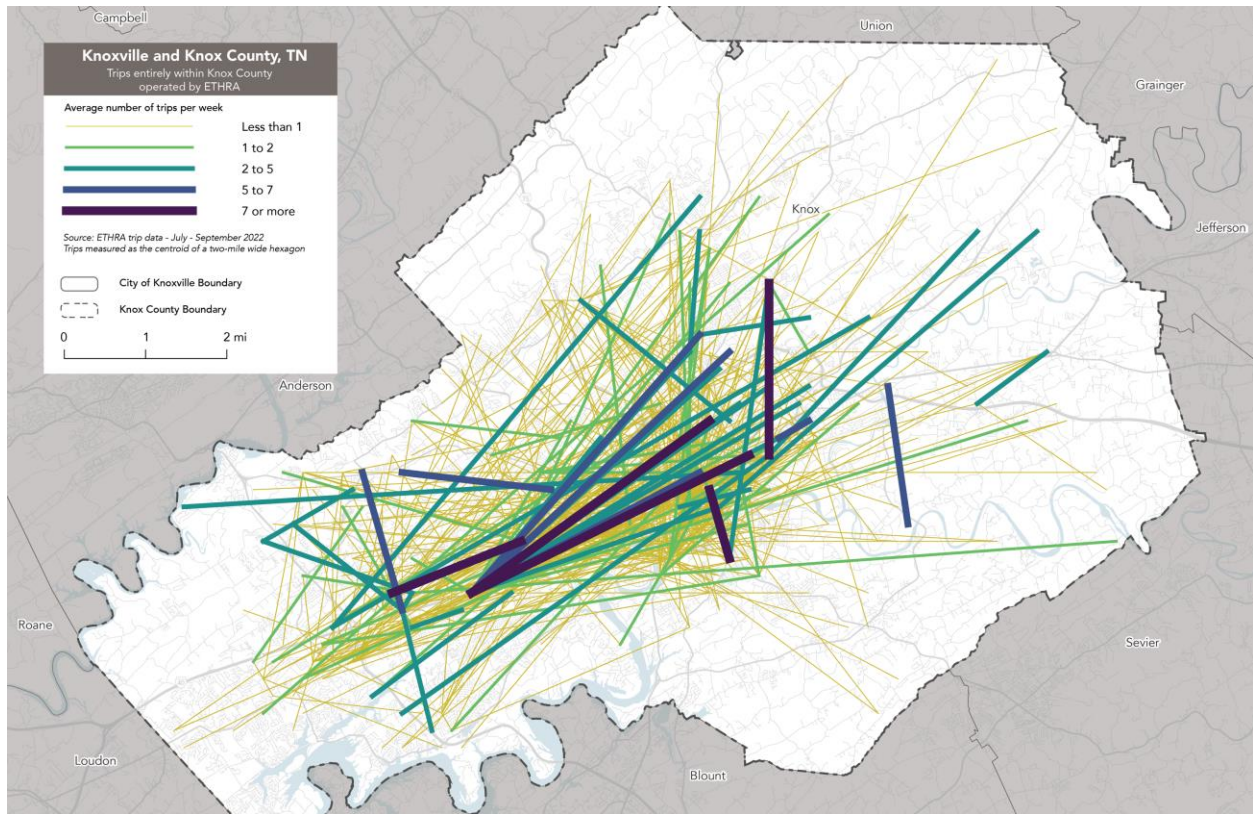


Figure 3: ETHRA Trip Origins and Destinations within Knox County

The map in Figure 3 shows the various origin and destinations of trips by ETHRA entirely in Knox County, with darker and thicker lines showing pairs with more trips. Common trip destinations are to hospitals and the Social Security office. The consultant team analyzed the ETHRA trips in Knox County to assess which trips are very similar to trips made by Knox County CAC Transit. About 64 trips per day by ETHRA are to and from places that Knox County CAC Transit also serves regularly. That is about 12% of all daily ETHRA trips. To conduct this analysis, the origin and destination of all trips were aggregated to a two-mile hexagonal area shape. Therefore, this analysis of origins and destinations counts all trips that start within any one hexagon as having the same origin, even if the actual origins were different location that could be a mile apart. Thus, it is not possible to conclude that Knox County CAC Transit and ETHRA are serving exactly the same trips where this analysis suggests they have some overlap. Overall, though, it appears that the percentage of trips with a high degree of overlap is relatively small.

One area of overlapping trips that may cause extra friction between the agencies are TennCare trips. TennCare is the state's Medicaid program, and certain recipients may use a human services transportation provider, like ETHRA or Knox County CAC Transit, to get to and from medical appointments, with the cost of the transportation billed to TennCare. The reimbursement of costs to ETHRA and Knox County CAC Transit from TennCare is relatively higher than the funding per trip that the providers receive from other programs and services, so there is some incentive for each provider to serve these trips, where possible.

| Trips from July-September 2022                  | Knox Co CAC Transit | ETHRA       |
|---|---------------------|-------------|
| Total Trips                                     | 44,584              | 50,281      |
| Average daily trips                             | 485                 | 547         |
| % of all trips entirely within Knox County      | 91%                 | 18%         |
| Total TennCare Trips                            | 14,504 (33%)        | 8,686 (17%) |
| Average daily TennCare Trips                    | 158                 | 94          |
| Total TennCare Trips within Knox County         | 13,508 (30%)        | 1,876 (4%)  |
| % of TennCare Trips Entirely within Knox County | 93%                 | 22%         |

Figure 4: Summary of TennCare Trip Data for ETHRA and Knox County CAC Transit (July-Sept 2022)

Based on the summary of the trip patterns in Figure 4, Knox County CAC Transit has a higher overall percentage of trips that are paid for by TennCare with 33% overall compared to 17% for ETHRA. For Knox County CAC Transit, nearly all trips occur within Knox County, with 91% of all trips beginning and ending in Knox County and 93% of TennCare trips occurring within Knox County. For ETHRA, about 17% of all trips occur entirely within Knox County, while 22% of TennCare trips happen within Knox County, a slightly higher rate than the overall rate across ETHRA's service area. These trip patterns are just a snapshot of one period. It would be worthwhile for the TPO and the agencies to track these trip trends over time to see if these trip patterns change.

## Strategy Recommendations

### COORDINATION

Actively and continuously working together to streamline processes, procedures, and services, as well as establishing an open communication channel is ideal.

#### **Short-Term Objective (next 1 – 3 years)**

Unify software and databases across the agencies, enabling coordinated dispatching and customer service from a singular, centralized location.

The transit agencies each utilize different transit planning, scheduling, and dispatching software, hindering streamlined cooperative planning and communication. Unifying all of the agencies' software packages and databases would lead to greater coordination with route and trip scheduling, planning, and logistics by allowing for shared dispatching and customer data from a singular, centralized location. Generally, shared technology services such as Computer-Aided Dispatch/Automatic Vehicle Location (CAD/AVL) should be implemented. With the data pooled into one database, dispatch software would be able to assign the closest vehicle, regardless of the agency.

**1) *Determine feasibility for a singular planning software across agencies within the next fiscal year.***

While there is an opportunity available to allow transit agencies to contract for a common planning software, a study should be conducted to determine feasibility of one platform or database for all three transit providers. There may be a possibility for a third party to consolidate the information from the disparate legacy software systems into a more accessible form. Using a data consolidator on the back end would allow for agencies to utilize different software programs. Scheduling software for fixed route services, would likely need to be different from demand response.

**2) *Select software vendor and identify funding for procurement by 2024.***

It should be determined whether the State would be willing to pay for a joint procurement effort to unify the agencies' disparate technologies. Currently, the Tennessee Department of Transportation (TDOT) is working on a statewide bid for dispatching software, which could create an opportunity to put all Knoxville-region agencies on a single software platform. Once an agency has selected a vendor and has attended a vendor software demonstration, TDOT will provide funding for the new software.

#### **Pros**

Using the same software package among the agencies would allow for trip sharing by dispatching service from a single database. With a consolidated database patterns, trends, and service overlaps can be more easily identified, allowing for service to be better catered to customers. This could set the stage for future efforts such as collaborative service planning and scheduling throughout the region.

#### **Cons**

Without state or regional funding assistance, it may be difficult for all three transit agencies to procure the necessary software to allow for operation on a singular platform.

#### **Trade-offs or Other Considerations**

Options should be explored to secure a software package that can handle both paratransit and fixed route services, otherwise a secondary software may need to be procured for agencies providing both services.

Although this decision is short-term, the entire process could occur over multiple procurement cycles.

### **Short-Term Objective (next 1 – 3 years)**

*Establish a 24/7 Communications Center that services all three agencies.*

A single, unified customer service center representing the three agencies should be established to assist customers in navigating the various systems.

- 1) Establish a singular phone number to reach any of the agencies by the end of the current fiscal year.*

If the agencies retain their separate call centers, there should be a singular phone number with an automated phone tree to redirect calls to the appropriate agency. Additionally, an Interactive Voice Response (IVR) or customer service representative on the front end could help evaluate which agency the call should be dispatched to.

- 2) Create a singular, centralized 24/7 Communications Center, representative of all the agencies over the next three fiscal years.*

This 24/7 “Communications Center” (i.e., a Coordinated Customer Service Center: “Knoxville Transit Services”) would take calls and service requests, route the individuals to the appropriate agency on the back end, or directly input trips into a shared database, which is only feasible if all agencies share the same database technology. Coordination should be seamless for customers through further measures such as common media, logo, and appointment scheduling across agencies.

The Maryland State Government’s MDOT Statewide Highway Operations Center is an example of this coordination method, with Baltimore, Washington, D.C., and Tolls employees all staffed under one roof, facilitated by the use of common software. Employees are dispersed within each locale to create regional redundancies, so operations can continue if there are issues at other locations. Coordinating in this way would not lead to job loss and may even require more employees.

- 3) Utilize the shared database information to determine service changes annually once the center is established.*

A shared center could also be the catalyst for data-driven coordination and study. By sharing one system for service requests, data could be collected to make better-informed decisions about where stops, Superstops, and/or regular trips should be added.

#### **Pros**

A Coordinated Customer Service Center could create an enhanced customer service experience and promotes regional cooperation by allowing riders to contact a single source for all of their transit needs within the Knoxville area.

Cross-training could be employed to allow customer service representatives from one agency to assist another agency short-term or in an emergency to backfill unexpected absences or position vacancies.

#### **Cons**

Though no job losses would be anticipated, agencies may instead need to plan for more employees within possibly limited budgets.

To be as effective as possible, the Coordinated Customer Service Center concept relies heavily on implementation of a shared trip database among all of the transit agencies. The center would operate at a limited capacity for trip sharing if agencies retain separate dispatching software.

### **Trade-offs or Other Considerations**

A physical location for this center would need to be established.

An assessment of staffing needs for the center would likely need to be conducted. A plan would need to be created to increase hiring if the assessment indicates that the three agencies cannot operate such a center(s) at their collective current staffing levels.

Staff redundancies within each agency may need to be considered if cross-training is not considered to be a viable option.

### **Short-Term Objective (next 1 – 3 years)**

Standardize fares, and possibly create shared fare products, across all transit agencies to create fare parity for riders; establish regional reciprocal fare agreements and/or fare revenue sharing agreements.

Currently, all three transit agencies have separate fare structures, each with distinct price points and fare products. To help facilitate transfers and coordinated dispatching, as well as create a more comprehensive and seamless riding experience for passengers, the agencies could elect to standardize fares, fees, and other charges so that the same type of trip would cost the same amount regardless of which organization is providing the service.

***1) Establish a standard fare structure or base fare across all agencies, enabling a comprehensive transfer system between agencies over the next two fiscal years.***

A transfer system should be enabled between the agencies, with riders paying a singular price point to move between vehicles to complete a trip. This type of fare system collaboration is also currently being considered for implementation by 12 of the 27 transit services within the Bay Area in California, which already utilize a shared fare media product among the multiple agencies.

KAT, Knox County CAC Transit, and ETHRA can work together to identify analogous trip types and fare products between each agency's fare structure and determine a reasonable price point that would allow for similar trip cost coverage compared to current amounts or percentages while remaining affordable for riders.

***2) "Umbrella" fare products could be created, assisting with coordinated dispatching and enabling ease of transfers for customers over the next two fiscal years.***

This level of collaboration could allow for the creation of regional "umbrella" fare products, such as multi-day or multi-ride passes and fare cards, that could be used on all three agencies throughout the greater Knoxville service area to allow riders to seamlessly travel throughout the area without the need for various agency-specific tickets or passes. Utilizing fareboxes or card readers to read these universal fare cards would help facilitate coordinated dispatching, as well as ease and cost of transfers.



**3) *Determine revenue sharing among agencies through the establishment of formal transfer policies over the next two fiscal years.***

Formal transfer policies could be put into place to divide revenue among the agencies in an equitable manner. These agreements could be established between all the agencies as a collective group or between any two agency pairs. The basis for agreements can be varied; as an example, they could be set at an agreed-upon revenue percentage split between two or more agencies utilized during a trip or specific criteria such as which agency provided the first or final leg of a trip in a particular direction (typically used for reciprocal fare agreements).

Another model for revenue sharing consists of one agency providing the full trip and collecting the entire fare upfront and then splitting the revenue through back-end invoicing. This model is commonly seen between prime transit agencies and subcontractors (money collected and sent to prime, subcontractor invoices for their share based on number trips provided or other formula) as well as transit agencies who have agreements with rideshare services to provide first/last mile service (rideshare company collects revenue upfront and sends agreed upon amount or percentage back to transit agency).

**Pros**

Utilizing shared fare products creates an easy-to-understand regional fare structure for riders without the need for all the agencies to formally create a singular shared fare structure system. However, this would lay the groundwork for further regional fare structure collaboration efforts among agencies.

Shared fare products would reduce the number of passes and tickets that riders would need to carry when making multi-agency trips.

**Cons**

There could be some initial revenue disparities for individual agencies as revenue price points are adjusted to accommodate new unified price points, potentially requiring reciprocal fare agreements or general revenue sharing agreements between agencies to resolve.

**Trade-offs or Other Considerations**

There may be some trip types and fare products that may be difficult to establish at a single price point for standardized fares across all three agencies due to some fares or products may not exist or have a reasonable comparison. In the case of shared “umbrella” fare products, if the original fares and trip types between the agencies are too dissimilar it may not be feasible to implement regional fare items. Changes in fare structures to any agency would require a Fare Equity Analysis.

**Short-Term Objective (next 1 – 3 years)**

Continue tracking trip patterns for on-demand services to assess changes in trips by agencies, origins and destinations, and overlap among agency trips.

During the process of developing this report, the consultant team analyzed the origin and destination of on-demand trips by ETHRA and Knox County CAC Transit. It would be worthwhile to continue tracking those trip patterns and reviewing patterns on a quarterly or semi-annual basis. This would allow the TPO and agency staff to see if new destinations are emerging as major activity centers for on-demand trips or if additional coordination opportunities are emerging.

### **Long-Term Objective (next 3 – 5 years)**

**Establish or identify a coordinating agency to consolidate and streamline services and processes.**

Through interview observations, it has been identified that establishing or identifying a coordinating agency, or advocate for the group, would be beneficial for not only the participating agencies, but also the residents within the MPA. This would streamline services and processes, reduce service duplication and the agencies' administrative costs, improve service clarity for passengers, increase marketability of services, and improve fleet coordination. Many of the recommendations within this study could become the responsibility of this new coordinating advocate agency, however, it is recognized that this is a long-term initiative. The coordinating agency is not intended to serve as an authority, but instead provide support, coordination and advocacy for the region's transit agencies.

- 1) Establish or identify an organization that will serve as an advocate for the group of transit agencies over the next three fiscal years.*

An advocate for the group could be established or identified, either as an organization under the current TPO or a standalone entity. If the TPO took on the responsibility of serving as the advocate for the transit agencies, a new department within the TPO could become the dedicated coordinating liaison between the TPO itself and the agencies. The role that the TPO plays in the coordination needs to be clearly determined.

#### **Pros**

Through better transit coordination efforts, there may be the ability to reduce or eliminate duplicate services, allowing those operational funds to be repurposed in more productive means within the Knoxville regional transportation network.

#### **Cons**

Resource savings (reduced administrative costs, streamlining of services, etc.) from utilizing an umbrella organization may not materialize or be less than anticipated.

#### **Trade-offs or Other Considerations**

An additional layer of governance would be established if an additional organization is created to serve as a coordinating agency.

## COLLABORATION

Agencies working together collaboratively to achieve a common goal, not necessarily formally or under a singular agency.

### Short-Term Objective (next 1 – 3 years)

Consolidate planning efforts, or at least inform and attempt to include other agencies.

The transit agencies should create a systematic process to include or inform each other in major transit planning activities, such as the development of more regionally focused plans. The TPO could serve as the role of facilitator or as technical support.

- 1) All agencies should be informed of other agencies' plans, projects, or changes, starting immediately and continuously going forward.*

At a minimum, agencies should be informed of other agency's plans, projects, or changes. This would allow for input from all of the agencies, which could help deter later realized problems, as well as provide an opportunity for potential shared funding and implementation efforts.

- 2) Representatives from each agency should be selected and begin to work collaboratively by the next fiscal year on a continuous basis.*

Major strategic and operational activities such as procurement, asset management, and human resource planning could benefit from collaboration. Furthermore, coordination of service hours and fare structures could be mutually beneficial. The TPO and the three transit agencies would be the core coordinating group for this process. On occasions, and as needed to coordinate across larger regional issues or other policies and processes, other parties should be invited to coordinate, such as Smart Trips, Knoxville Commuter Pool, Tennessee Vans, Lakeway Transit, and TDOT's Multimodal Transportation Resources Division's Office of Public Transportation and Office of Mobility and Accessible Transportation.

- 3) Use the Knoxville Regional Human Services Transportation planning process as an opportunity to revisit coordination efforts.*

The Human Services Transportation Plan is a federally-required planning effort that the TPO must undertake every 3-4 years. The plan outlines strategies to improve services for seniors and persons who are disabled. Through the HSTP and its process, the TPO and agencies should revisit these coordination recommendations and consider new or revised coordination efforts as tools and technologies and needs change.

### **Pros**

Improved levels of communication and collaboration would be of benefit to the local transit rider community at large, allowing for more cohesive regional planning efforts and services now and in the future.

There may be financial benefits to each agency by collaborating on administrative processes such as reduction of time, effort, and expenses.

### **Cons**

Limited coordination between the agencies may contribute to undesirable results such as duplicate transit services, competition for market share of trips, and rider confusion related to varying service areas/hours, and multiple fare structures.

### **Trade-offs or Other Considerations**

Individual agencies may have initial transportation plans that are in conflict with those of another agency.

## **Long-Term Objective (next 3 – 5 years)**

Formalize transit agency coordination agreements and seek methods to stabilize and maximize funding.

Currently there are various unofficial agreements between the transit agencies to coordinate service. However, without a formal mechanism in place to recognize these agreements, they are subject to volatility that may be caused by factors such as funding, trip availability, or changes in organization leadership.

- 1) Formalize verbal agreements through written contracts and operating procedures between agencies immediately and on an as needed basis.*

Written agreements and Standard Operating Procedures will create a more assured level of consistency and formality which will be to the benefit of all the transit agencies as well as their riders. Additionally, producing memos to share with agency staff, as well as elected officials allows for transparency of funding and agency changes.

- 2) Identify local funding sources or alternate methods to provide expanded service to meet demand over the next three fiscal years.*

A regional model for funding beyond what is provided by the TPO should also be examined for feasibility. A dedicated local funding source would help to stabilize and expand regional services. Community sentiment indicates outlying areas should be connected to Knoxville regional transit and financially contribute to those services. The MPA covers the entire city of Knoxville and Knox County, as well as areas of Roane, Anderson, Blount, and Sevier counties, while ETHRA covers a total of 16 counties in the region: Anderson, Blount, Campbell, Claiborne, Cocke, Grainer, Hamblin, Jefferson, Knox, Loudon, Monroe, Morgan, Roane, Scott, Sevier, and Union counties.

New local funding sources would need to be determined for the proposed service expansion to occur. Municipalities that desire the addition of fixed route service may not currently have the funding available to implement the associated large capital and infrastructure projects such as bus procurements, sidewalk infrastructure, and curb cuts (within  $\frac{3}{4}$  miles radius for ADA complimentary service). It may take two fiscal years, at a minimum, for municipalities to be prepared for new transit service.

- 3) Identify methods of joint procurement and grant applications across all agencies.*

Joint procurement and grant applications could help to not only secure limited funding but can also allow for a larger amount of funding to be allocated towards the entire region. One agency, perhaps the TPO, could serve as the contracting authority to coordinate and manage the process for the other agencies. Another option is to have all of the agencies hold equal responsibility throughout the process. Working together allows for lower administrative costs and an exchange

of knowledge across the agencies regarding procurement best practices and procedures. Coordination with TDOT should occur for procurements or grants that involve FTA and/or state funds under their purview

### **Pros**

Most or all unofficial partnerships between agencies would become formal written agreements. This would provide an opportunity for agencies to discuss and negotiate terms that would be mutually agreeable and review any existing agreements for missing or overlooked details.

Dedicated funding would allow for improved long-range planning efforts and possible service expansion.

### **Cons**

Initial discussions relating to either formalizing agreements or seeking dedicated regional funding could be difficult to navigate due to possible competing interests, sensitivities, or reluctance among involved parties; an intermediary may help assist with facilitation and addressing concerns.

### **Trade-offs or Other Considerations**

Codifying informal agreements may formally obligate existing agencies to one another.

There may be limits to transit expansion to outlying areas if those communities are not able or do not wish to financially support public transportation.

## **Long-Term Objective (next 3 – 5 years)**

Current transit services should be examined to identify how the agencies can work together to limit customer confusion regarding types of services and service areas, as well as expand the region's service area and hours.

It is unclear if existing and potential passengers fully understand the service areas of the three agencies, nor the differences between the types of services they offer. For example, within Knoxville's city limits, Knox County CAC Transit currently fills in the gaps within KAT's service area during the early morning, late-night, and weekend hours. This service overlap leads to customer confusion as to which service should be used. Additionally, due to its limited hours and days of operation, many shift workers currently have difficulty using KAT to commute and/or tend to childcare needs.

### ***1) Examine a rebalance of transit service resources to expand the region's overall service operation hours.***

To help limit customer confusion as well as meet the needs of 2<sup>nd</sup> and 3<sup>rd</sup> shift workers, KAT could rebalance its resources to provide expanded early morning and late-night service for all days of the week. This would not only help to capture the trips that are currently being provided by Knox County CAC Transit as infill service, it would allow for all fixed route trips that both originate and terminate within the city limits to be provided by a single agency, and also establish a more definitive line between the KAT and Knox County CAC Transit geographical service areas. Additionally, KAT bus service frequencies balanced throughout the service day(s) on individual routes would help improve consistency and ease of transfer resulting in timelier rider trips.

### ***2) Establish partnerships between transit agencies and local employers to meet the demand of 2nd and 3rd shift employees.***

Since traditional fixed route transit service is cost-prohibitive in certain areas outside the city of Knoxville, such as industrial parks, warehouses, hospitals, and restaurants, due to the lack of



sidewalks and the varying shifts of each employer, another option is for agencies to partner with local employers to provide shuttle transportation for their 3:00 PM – 11:00 PM (2<sup>nd</sup> shift) and 11:00 PM – 7:00 AM (3<sup>rd</sup> shift) shift employees. This could potentially be accomplished through the creation of new transit routes and service times. This would also require the coordination of start and end times among local business clusters to make fixed route transit feasible in the area. As an example of this practice, bell schedules among schools are coordinated to minimize the number of vehicles and drivers needed to provide transportation services.

**3) *To help limit customer confusion, develop and utilize a shared logo or branding over the next three fiscal years.***

To enable riders to better understand the connectivity of all the transit services in the Knoxville area, the agencies should consider implementing a consistent regional branding amongst the transportation providers to help limit customer confusion. Each agency would still have the opportunity to maintain their individual brands while also acknowledging their role as part of a larger transportation network. For example, some regions utilize a common logo placed on all transit vehicles which serve a similar geographic area, such as the Regional Transportation Agency of Central Maryland which has combined various functions of multiple transit agencies and presented its fleet to the riding public with shared insignia. Operating under a shared logo or banner would be advantageous towards riders viewing the agencies as a unified front in providing public transit in the area. Such a change may require rider education to reinforce the idea of coordinated transportation in the Knoxville region and provide a way to better match agencies' services with riders' needs.

**4) *Explore the possibility of a combined app-based trip planner that includes all the regional agency services in one place.***

Many existing and potential riders use smartphones to plan trips, and a combined trip planning tool via a smartphone app could provide a set of regional services in one place so that riders could plan trips, pay fares, and get other information in one app, for all three agencies. Some private partners, such as Transit App and Moovit, provide this kind of service for one or more agencies in a region.

**Pros**

Providing the opportunity for riders to view the transit agencies as part of a singular regional transportation system can reduce or eliminate customer uncertainty related to which service provider operates within Knoxville city limits.

Improvement of service frequencies, additional weekend/night service hours and expansion of trips to employment, commerce and shopping areas would increase trip opportunities and likely lead to ridership gains.

**Cons**

There may be considerable pushback from the organized labor unions. Only KAT has unionized employees. When discussions occur on the possibility of shared services, representatives of the unionized operators for KAT might object to the possibility of shifting work to non-unionized operators. These issues may require the involvement of local political leadership to determine a workable solution.

Service improvements require additional funding that may not be readily available due to limited budgets.

### **Trade-offs or Other Considerations**

Consideration should be given to how alternate modes of travel, such as scooters and e-bikes, may be integrated directly with transit services.

## **ACCESSIBILITY AND CONNECTIVITY**

It is important to ensure that all of the MPA's transit services are connected and accessible for all persons, regardless of which agency is being utilized.

### **Short-Term Objective (next 1 – 3 years)**

Expand the current use of multilingual materials.

Efforts to provide multilingual signage and other forms of assistance should be continued across the transit agencies.

- 1) *Similar to the singular, centralized Communications Center recommendation, the expansion of multilingual materials can be achieved through joint material procurement or creation.*

This includes the advertisement of the Language Line on vehicles and websites, as well as translating bus schedules and public notices into Spanish. Extending this service to other majority minority languages prominent in the region should also be explored for the future.

- 2) *Develop an all-agency resource of multilingual contacts.*

With agency coordination, a resource network of multilingual contacts could be established. These contacts could also serve as community liaisons, helping the agencies realize underlying issues that may not be readily apparent through data analysis.

### **Pros**

Multilingual materials allow those who may speak little or no English to navigate the local transportation network more independently and creates a positive and more inclusive transit riding experience. It would also alleviate some of the communication barriers between foreign language speakers and agency vehicle operators.

### **Cons**

In some circumstances, it may be difficult for vehicle operators or others to identify which language a rider is speaking in order to direct them to the appropriate multilingual service or materials. Additionally, despite best efforts, there may be some locally spoken foreign languages that are not covered through an expansion of multilingual materials, due to costs constraints or a smaller population of speakers in the service area.

### **Trade-offs or Other Considerations**

The added costs associated with producing additional materials and services in other majority minority languages should be considered against factors such as the percentage of the regional population and documented percentage of transit riding population for each language group; alternate methods may be considered such as updating existing materials to add additional languages.

### **Short-Term Objective (next 1 – 3 years)**

Implement or continue a Travel Training program, covering all of Knoxville's transit agencies.

Travel Training is short-term comprehensive educational program used to help individuals learn how to use transit services to facilitate independent travel.

**1) Agencies should implement or continue to facilitate their own Travel Training program annually.**

Depending on the needs of different trainee groups, this training could include education on how the transit system works or honing skills for comprehensive understanding. Currently, KAT operates a robust Travel Training program, as well as Knox County CAC Transit hosting occasional events.

**2) Establish a region-wide Travel Training program, covering all of the agencies over the next three fiscal years.**

Establishing a Travel Training program is recommended, as it could help customers learn how to better navigate the regional systems with little to no assistance. This would be ideal if a singular, centralized Communications Center was established. Such a program would also be useful for populations with higher incidences of transit dependency such as senior and/or disabled communities, as well as middle and high school students. An additional positive effect of Travel Training is that its use can help to increase ridership levels by bringing new riders to the systems who may not have otherwise ridden without assistance. In the case of school-age children, they tend to have a higher propensity of continued patronage as they become adults due to being introduced to public transportation as an option early on in life.

**Pros**

Travel Training is a relatively low-cost program that can yield exponential benefits by providing a community service and helping acclimate more individuals to public transportation, which in turn can lead to ridership gains.

**Cons**

Depending on its popularity, a Travel Training program may require dedicated staff to effectively manage demand.

**Trade-offs or Other Considerations**

Since most transit vehicles and the associated riding experience are similar in nature from agency to agency, the possibility of creating a joint or regional Travel Training program should be explored.

**Short-Term Objective (next 1 – 3 years)**

**Coordinate on possible shared services among agencies.**

As part of KAT Re-imagined, KAT and Knox County CAC Transit are exploring a possible partnership where Knox County CAC Transit would operate a general-public on-demand service in a specified zone (sometimes called a Microtransit zone). This service would replace some low productivity fixed route service that is planned to be cut as part of the KAT Reimagined network redesign. These kinds of partnerships can be valuable, as Knox County CAC Transit is already running vehicles around the county, they can deploy their vehicles to serve specified zones at a relatively lower cost that KAT might be able to do. The three agencies should continue to explore ways that each can help the other achieve mobility goals for their respective communities by sharing in the operation of different services, and allowing each agency to operate those services that it can most efficiently provide.

**Long-Term**

**Establish Superstops along selected routes throughout the service areas and coordinate on future park-and-ride lots.**

“Superstops” are enhanced bus stops that offer services similar to those found at a transit center, having larger capacity than a standard stop but not as large as a formal transfer center facility. They provide amenities such as shelter for riders, ticket services and real-time travel information. The main advantage to using Superstops is to allow for the consolidation of riders within specific areas to streamline transfers between routes and/or transit agencies.

Park-and-ride lots can also serve as Superstops, in some cases, but tend to be larger facilities on the outskirts of the urban area, with large parking lots and space and shelters for fixed-route service and possible connections to on-demand services. If the region’s transit network expands, as contemplated by the Regional Transit Study, park-and-ride lots could provide greater access to transit in suburban and rural communities and serve as a focal point for connections to on-demand services.

**1) *Identify locations of potential Superstops over the next three fiscal years.***

Coordinated transit service using Superstops, where feasible, could channel county-based passengers to these points of interest, where KAT could then provide service to their final destination. ETHRA has expressed interest in utilizing KAT’s transfer center as a Superstop once a week for trips, particularly from Morristown.

Superstops should be easily identifiable to potential customers and passengers. It should be evident that transfers between agencies can occur at those locations. Coordination with TDOT should occur, especially examining the possibility of funding through their Multimodal Access grants.

**2) *Identify outlying points of potential Superstops over the next three fiscal years.***

Major outlying points for enhanced bus stops near major corridors would need to be identified to mitigate service disruption.

**3) *As the region prioritizes potential service expansions to suburban destinations, identify strategic locations for park-and-ride facilities along new or extended routes.***

The TPO and transit agency should coordinate with local governments as transit service expands to find suitable and strategic locations for park-and-ride facilities that complement new or expanded routes.

**Pros**

The establishment and expansion of a Superstops network would provide riders with enhanced bus stop amenities and create an improved customer service experience. New park-and-ride lots would encourage greater use of routes in suburban and rural communities, especially where routes connect quickly to major destinations like Downtown Knoxville or the University of Tennessee.

Superstops would allow for better transit service coordination between agencies and facilitate quick and easy transfers for riders. For example, Knox County CAC Transit riders could be connected to KAT at the Walmart.

**Cons**

Superstops or park-and-ride may be placed in less-than-ideal locations if local municipalities or private businesses will not allow for their placement in more functional areas.

Additional funding for Superstop or park-and-ride construction and amenities would be needed and have to be identified by agencies and/or the TPO.

#### **Trade-offs or Other Considerations**

Some county-based long-distance express trips into the city of Knoxville would likely bypass Superstops, as in those cases a transfer to another vehicle closer to their destination may be viewed as unfavorable by riders.

## Conclusion

Ideally, transit should generally serve the masses, while also being context-sensitive enough to assist those in need outside the domain of mass transit agencies. To provide a reliable transportation network, accommodating of the aging population and growing younger populations, access to multiple transit options is essential. However, the Knoxville MPA is serviced by three local transit agencies: KAT, Knox County CAC Transit, and ETHRA, creating overlapping customer markets, transit services, and geographical service areas. Therefore, the region would best be served if KAT, Knox County CAC Transit, and ETHRA worked together collaboratively and coordinated their services to provide better overall transit service accessibility and connectivity throughout Knoxville's MPA.