

FLOYD COUNTY TRANSIT STUDY

FLOYD COUNTY

Summary of Findings and Recommendations

June 2023



Acknowledgments

A SPECIAL THANK YOU TO ALL WHO HAD A ROLE IN THE DEVELOPMENT OF THIS STUDY.

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Executive Summary

The Floyd County Transit Study was undertaken in the summer of 2022 and concluded in the late spring of 2023. It was conducted on behalf of Floyd County via funding from the Indiana Department of Transportation and the region's Metropolitan Planning Organization (MPO), the Kentuckiana Regional Planning and Development Agency (KIPDA), through monies from federal, state, and local governments. A consultant team led by the Lochmueller Group, Inc. (Lochmueller) from Jeffersonville, Indiana along with Nelson Nygaard, Taylor Siefker and Williams, and Via conducted the study.

The study sought to evaluate local and regional transit needs and identify corresponding opportunities to improve public transportation in the county. The key objectives of the study were to:

- Examine existing conditions and data driven market needs for public transportation within Floyd County and neighboring jurisdictions;
- Assess the feasibility of various types of public transportation services;
- Develop service plans and estimate capital and operating costs for sustainable transit service delivery; and
- Develop an implementation, governance, and funding plan for a preferred service alternative.

The study began with an Existing Conditions Report, which analyzed existing fixed-route and ADA paratransit services operated by the region's public transit provider, the Transit Authority of River City (TARC), as well as rural demand-response type service operated by the Southern Indiana Transit System (SITS) and nonemergency medical service provided by LifeSpan Resources. This project evaluated area demographics, and noted key activity centers, as well as travel patterns. These analyses served to clarify existing mobility-related challenges and opportunities for fixed-route buses and to baseline strategies for on demand and microtransit network development.



Current Transit Service

Currently, the county is served by one fixed route transit route provided by TARC and two (2) on demand type services. In recent years, TARC has made substantial cuts to fixed route services in southern Indiana, including Floyd County due to the COVID-19 pandemic and other challenges. The demand response services are provided by SITS and LifeSpan, respectively. SITS operates a county-wide demand response service which began in early 2022. SITS is trying to balance the provision of these services with publicity for the service it provides. This is due to the shortage of drivers and somewhat based on the limitations of their system parameters, including their number of vehicles in operation and their dispatching system.

Trips that begin and end within Federal Transit Administration (FTA)-designated rural areas, or between rural areas and urban areas, are funded primarily through the FTA Section 5311 (formula grants for rural areas). Currently, SITS serves approximately 30 of these 5311-funded trips per month in Floyd County. Trips within or between FTA-designated urban areas, on the other hand, are funded primarily with general funds supported by the County. SITS currently serves about 90 of these County-funded trips per month. SITS also operates demand-response service in the adjacent, predominantly rural Crawford, Harrison, Scott, and Washington counties.

In addition to SITS, a human-services nonprofit organization called LifeSpan provides demand-response service to qualified older adults and people with disabilities. LifeSpan has been in operation for decades and has a loyal cohort of customers. They primarily provide nonemergency medical transportation in the southern Indiana region and make specific trips to the medical complex in downtown Louisville.



Analysis

This study determined that most of Floyd County is relatively low-density and thus would not support larger scale fixed-route transit service based on current transit industry best practice and anticipated funding levels, particularly the areas west of New Albany. However, there remain significant transportation-disadvantaged populations throughout the county, and thus unmet needs. About 12% of Floyd County residents are racial minorities, 16% live below 150% of the federal poverty line, and 16% are elderly.

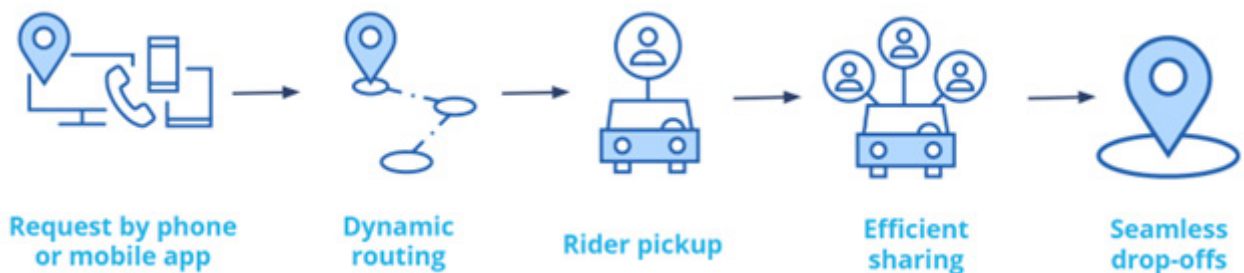
There are also significant clusters of community-oriented destinations along the US-150 and SR-64, and I-64 corridors that warrant further exploration for demand-response / microtransit service opportunities. A microtransit or demand response service along these corridors could provide local mobility and intra-county connections to key hubs and activity centers in New Albany, such as Baptist Floyd Hospital, Walmart on Grant Line Road, Indiana University Southeast (IUS) campus, and the industrial center just south of the campus, just to name a few. Ultimately, there are unmet transit needs in the county due to a growing population and employment base, a large transportation-disadvantaged population, and limited transportation options between residential and employment and activity centers.

Potential Solutions

The recent expansion of SITS service into Floyd County to provide more demand response transit services could be expanded even more. Expanded service is possible with a modest increase in the number of vehicles dedicated to the county, coupled with additional marketing of the service, overlaid with a more robust dispatch interface and reservations system, including advanced software, offering multiple booking and fare payment options. This type of service would allow riders to book trips in a two (2) hour window as compared to the existing twenty four (24) hour window and offers a significant opportunity to improve mobility for the predominantly rural portions of the county, where fixed-route service is not suitable.

In particular, a more modern software platform would enable SITS to upgrade its dispatching, vehicle routing, and customer communications processes such that it could accommodate significantly greater ridership and serve a broader range of mobility needs. This service delivery model, known as microtransit, is defined as technology-enabled, demand-responsive, public transportation. In rural areas, microtransit is often run with a pre-booked operating model, enabling dispatchers greater efficiency in sequencing pickup and drop-off requests across a broad coverage area with a limited number of available vehicles. An outline of the basic steps to make a trip is illustrated in Figure 1.

FIGURE 1. MICROTRANSIT PROCESS FLOW



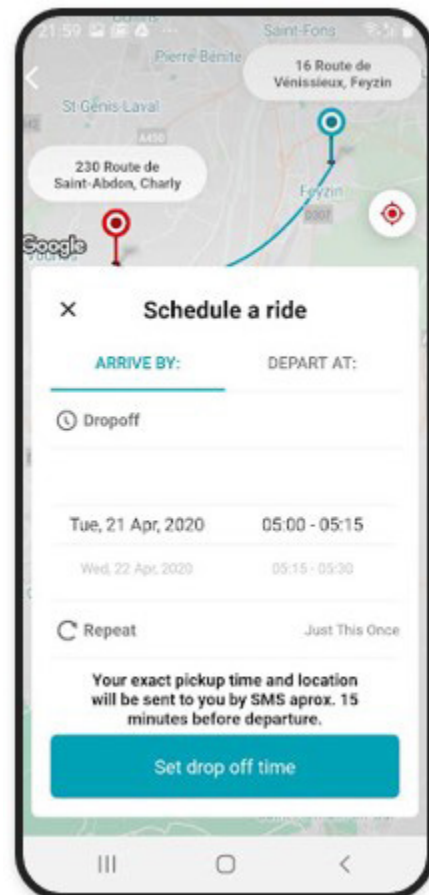
-Image produced by Via

Opportunity 1 - Expanded Rural Microtransit

An expanded micro transit service area would be bounded by the northern and western borders of Floyd County and the New Albany city limits, with a southern extension along the SR-11 corridor to the border with Harrison County. This zone has an area of 95.5 square miles, and contains 29,000 residents and 4,600 jobs, with a population density of about 300 residents per square mile and an employment density of 50 jobs per square mile. Key activity centers expected to generate ridership within the zone include Floyd Central High School, grocery and retail stores such as Cash Saver and Jay C, and Goodwill. Service would also be provided to select activity centers within New Albany, highlighted in the Existing Conditions Report, including Indiana University Southeast (IUS), New Albany Plaza shopping center, Baptist Floyd Hospital, and the Walmart location on Grant Line Road. Expected use-cases in this zone include locally oriented trips within rural Floyd County, regional shopping, and medical trips between rural areas of the zone and the activity centers within New Albany, and home-to-school trips for students at IUS. A small number of commute trips are also likely among workers traveling to jobs in the industrial center just south of IUS campus.

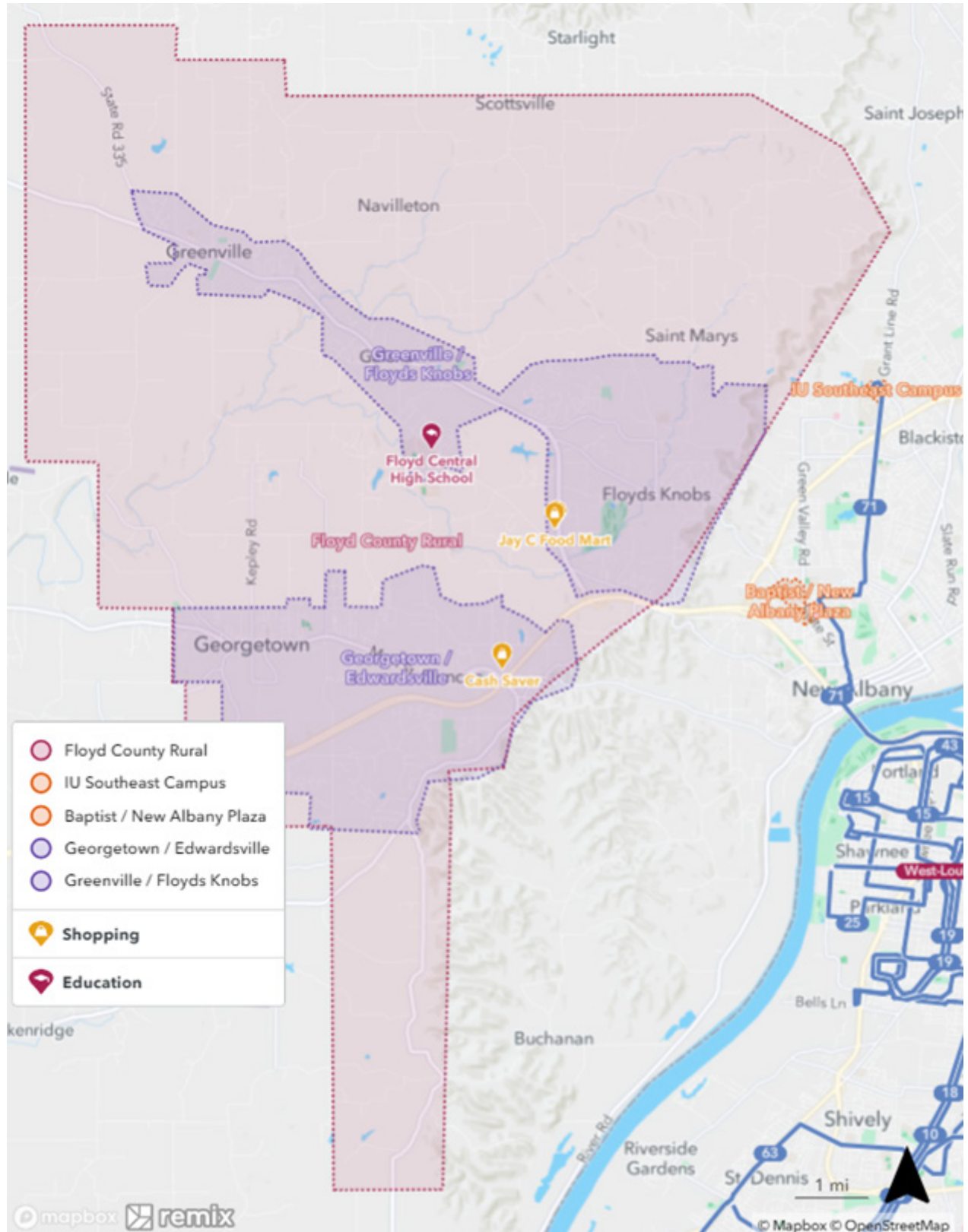
One potential challenge with this zone is that the current SITS demand-responsive service is primarily funded by FTA Section 5311 (Formula Grants for Rural Areas), which prohibits funding trips that begin and end in FTA-designated “urban” areas. In Floyd County, these FTA-designated urban areas included not only New Albany, but also significant areas of Greenville, Georgetown, Galena, and Floyds Knobs along the US-150, SR-64, and I-64 corridors (shown in purple in Figure ES2 below). As a result, 5311-funded vehicles and drivers may not serve trips that begin and end in these areas, nor can they serve trips between these areas and the key activity centers of New Albany. Trips between rural areas of the County (shown in red in the map below) and urban areas are allowed, however.

Since early 2022, Floyd County has supported SITS with its own funding contribution to serve these trips within and between FTA-designated urban areas. While this is not a meaningful distinction from the rider’s perspective, in daily operations this FTA Section 5311 funding restriction means that some SITS vehicles must remain dedicated to serving trips within rural areas, while the remainder serve only trips within or between FTA-designated urban areas.



-Via pre-booked microtransit mobile app

FIGURE 2. OPPORTUNITY 1: UPGRADE SITS DEMAND RESPONSE TO PRE-BOOKED MICROTRANSIT



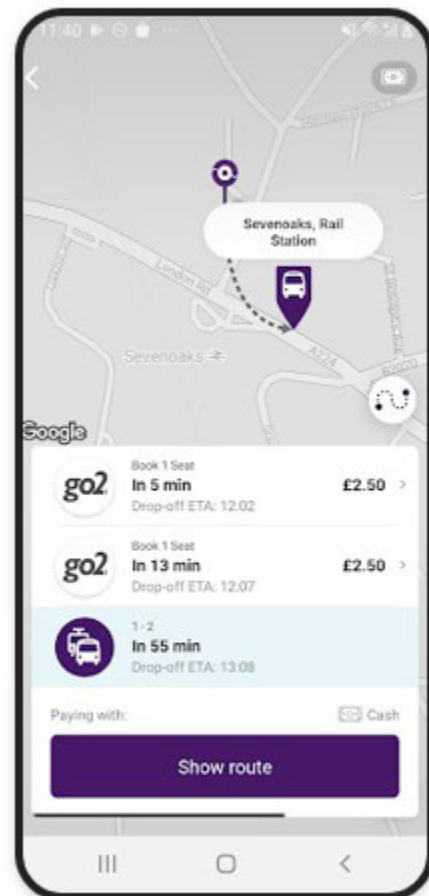
Opportunity 2 - Urban On-Demand Microtransit

Opportunity 2’s service zone consists of the more urban areas in and around New Albany, as well as the unincorporated portion of Floyd County between Grant Line Road and County Line Road, bordering Clark County (see Figure ES3). This zone has an area of 17.4 square miles, and contains 43,800 residents and 23,000 jobs, with a population density of 2,500 residents per square mile and an employment density of 1,300 jobs per square mile. Key activity centers within the zone include Downtown New Albany, Baptist Health Floyd Hospital, New Albany Plaza, Walmart on Grant Line Road, the Indiana University Southeast (IUS) campus, and Meijer on Charlestown Road. Expected use-cases in this zone are likely to include locally oriented shopping and other discretionary trips within New Albany, home-to-school trips for IUS students, nonemergency medical trips to Baptist Health Floyd, and a smaller number of riders making regional trips via connections to TARC Route 71, along State Street or Grant Line Road. One potential challenge with this service zone is that it omits several key activity centers located in Clark County that would generate significant travel demand, including Ivy Tech Community College and Green Tree Mall. Service to these locations would require an interlocal agreement between Floyd and Clark counties to support these longer trips. Because the service zone is located within an area where TARC has traditionally operated fixed-route service, it is likely that TARC would manage the service with the County playing a supporting role. Another challenge in this zone is the limited frequency of TARC Route 71 (30-40 minute headways), which will present riders with potentially long wait times as they transfer between microtransit and Route 71 to complete regional trips between Floyd County and Louisville.

Other Service Options

Other options looked at reestablishing fixed route services between New Albany and Clarksville and a cross-town connection from IU Southeast campus to Ivy Tech Community College, in Sellersburg (Clark County). These options prove too costly when comparing their potential ridership versus their costs and are not currently recommended for implementation by the County. The situation for these options should be monitored, and if demographic or operations parameters change in the future, the County could talk with TARC and other partners about reexamining them.

Although two other opportunities to reestablish fixed route service were analyzed, those two services are not an immediate opportunity at this time. They are however more fully explained and analyzed in the full report.



-Via on demand microtransit mobile app

TABLE 1. COST-BENEFIT ANALYSIS FOR RECOMMENDED MICROTRANSIT SERVICE ALTERNATIVES

	Opportunity 1: Upgrade SITS demand-response to pre-booked microtransit			Opportunity 2: TARC New Albany on-demand microtransit
Primary funding source	FTA Section 5311 (“rural”)	Floyd County (“urban”)	Combined 5311- and County-funded	TARC
Annual vehicle-hours	4,700 - 5,700	4,700 - 5,700	9,400 - 11,400	10,100 - 13,500
Annual ridership	6,000 - 8,000	8,000 - 12,000	14,000 - 20,000	32,000 - 47,000
One-time software installation fees	\$30,000 - 40,000		\$30,000 - 40,000	\$30,000 - \$40,000
Annual software license fees	\$10,000 - \$20,000	\$10,000 - \$20,000	\$20,000 - \$40,000	\$20,000 - \$30,000
Annual operating costs (inc. driver wages & benefits, vehicles, maintenance, fuel)	\$380,000 - \$460,000	\$380,000 - \$460,000	\$760,000 - \$920,000	\$640,000 - \$860,000
Total annual cost (gross)	\$410,000 - \$490,000	\$410,000 - \$490,000	\$820,000 - \$980,000	\$700,000 - \$920,000
Cost per passenger trip (gross)	\$59 - \$72	\$41 - \$51	\$49 - \$59	\$20 - \$22

Costs are shown in 2023 dollars.

TABLE 2. COMPARISON OF SERVICE ALTERNATIVES & PERFORMANCE OUTCOMES

	Opportunity 1: Upgrade SITS demand-response to pre-booked microtransit	Opportunity 2: TARC New Albany on-demand microtransit
Mode	Pre-booked Microtransit	On-Demand Microtransit
Hours of operation	Wkdy: 6am – 6pm	Wkdy: 6am – 8pm
Service frequency	Max: 30 min Typical: 10-20 Min	Max: 30 min Typical: 10-20 Min
Peak Vehicles	Rural: 2 Urban: 2	2 - 4
Annual Vehicle Revenue Hours	Rural: 4,700 – 5,700 Urban: 4,700 – 5,700	10,100 - 13,500
Operating Costs		
Annual operating costs	\$820,000 - \$980,000	\$700,000 - \$920,000
Capital Costs		
One-time software installation fees (capital)	\$30,000 - \$40,000	\$30,000 - \$40,000
Vehicles	--	\$512,500

Costs are shown in 2023 dollars.

Recommendation

Based on the analysis, this report recommends the microtransit services for both urban and rural portions of the county be implemented. The study also recommends that the County work with TARC to establish enhanced on demand micro transit in New Albany, which would be managed by TARC. The County could provide additional funding to support the expansion of this as identified in TARC's previous study. Other options that were examined in the report include restoration of the fixed route services and cross county transit service connecting Floyd and Clark counties. These services proved to be relatively expensive compared with the ridership and are not feasible in the short range and may not be feasible thereafter unless demographics and/or service delivery characteristics change. Therefore, the County should not pursue them at this time. Specifics of the costs, who potentially would ride the services, etc. are portrayed in the tables on page 8.

Implementation & Next Steps

The County should execute a new agreement with SITS for expanded service and work with them to procure a new software platform with additional functionalities such as automated trip assignment and dispatching, vehicle routing, and multiple ride booking and fare payment options for customers. The costs of the microtransit software could be shared by all the counties involved. Such a project could be a candidate for a grant like READI or another program from the BIL and/or FTA. The County could work with the US Congressional delegation to re-designate the areas of Floyd County such as Georgetown to be "rural" rather than "urban" so FTA Section 5311 funds can be used in those areas. The County should also consult with the FTA, INDOT, and perhaps TARC to inform them of the service needs and the changes under consideration for their input and comments. The County should also periodically work with the region's operators (SITS and LifeSpan) to share information about operations, staffing, vehicle procurement and other challenges facing the service providers in the region and periodically evaluate their existing and future contracts with service providers monitoring performance (ridership and costs) as well as customer satisfaction.

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Introduction

The Floyd County Transit Study was initiated in 2022 to explore opportunities to improve transit and multimodal transportation opportunities in Floyd County, Indiana. The key objectives of the study were to:

- Examine existing conditions and market needs for public transportation within Floyd County and neighboring jurisdictions;
- Assess the feasibility of various types of public transportation;
- Develop service plans and estimate capital and operating costs for sustainable transit service delivery; and
- Develop an implementation, governance, and funding plan for a preferred service alternative.

The study was delivered in three phases. The first phase involved an existing conditions and needs assessment. During this phase, the study team documented the current land use, socioeconomic, and transportation conditions in the county as they pertain to the demand for public transportation. This phase also involved discussions with stakeholders and the public regarding the community's goals and perceptions of need for transit in Floyd County. In the second phase, the study team prepared various service scenarios and evaluated them against the project's goals. In the third and final phase, recommended scenarios were selected and advanced for detailed implementation planning, including an assessment of governance and funding strategies.

For more detailed information including the full contents of reports summarized here, please see the Appendix.

This report is outlined in the following sections:



Existing Conditions provides an overview of the current demographic, socioeconomic, and transportation conditions within Floyd County as they pertain to public transportation.



Transit Market Analysis provides an assessment of potential transit markets in Floyd County based on an analysis of population and employment density, transit propensity, and travel patterns.



Public Engagement provides an overview of public engagement efforts including stakeholder meetings and interviews, surveys, and the public open house.



Service Alternatives discusses potential service alternatives including microtransit and fixed route opportunities.



Alternatives Evaluation summarizes the results of simulation models, cost-benefit analysis, and provides recommended service alternatives.



Implementation & Funding Plan establishes the County's preferred service plan, governance and management approach, financial plan, and identifies next steps for implementation.

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Existing Conditions

Population and Employment

Population Characteristics

The county population has increased by 45% in the past five decades, with the annual growth rate fluctuating between 0.5% and 1%. New Albany and Georgetown Townships each housed about 30% of the population increase since 1970, and Greenville and Lafayette Townships each housed about 19%. Despite an increase in population, New Albany Township experienced a 15% decrease in its share of the total county population. Georgetown Township’s share of the countywide population steadily rose from 7% to 14%. Greenville and Lafayette Townships each experienced a slight 3 to 4% increase.

Since 2010, the average annual population growth rate in Floyd County was 0.8%. In the same period, Georgetown, Greenville, and Lafayette Townships grew at 1.6%, 1.2%, and 1%, respectively, outpacing the county average. While New Albany Township experienced the greatest amount of raw population growth at 2,750, it only amounted to a 0.6% annual growth rate. Overall, this indicates that while New Albany Township has the largest population in the county, its population growth rate and countywide share is slowly being outpaced by Georgetown, Lafayette, and Greenville Townships.

Figure 4 shows the population density of U.S. Census Block Groups (CBGs) in Floyd County in 2021. CBGs with a population density of 4,000 to 8,000 individuals per square mile are found in New Albany Township and include several neighborhoods in various locations. CBGs with a population density of 1,000 to 4,000 per square mile include most of the neighborhoods inside I-265 and SR 64, except for a few areas, as well as neighborhoods outside of I-265 and areas between Charlestown Rd. and Grant Line Rd inside Jacobs Creek. CBGs with a population density of 500 to 1,000 include the rest of central/eastern New Albany, Georgetown Downtown, Edwardsville Gateway area north of SR 64, and northeast Mt. St. Francis between Scottsville Rd. and Highway 150.

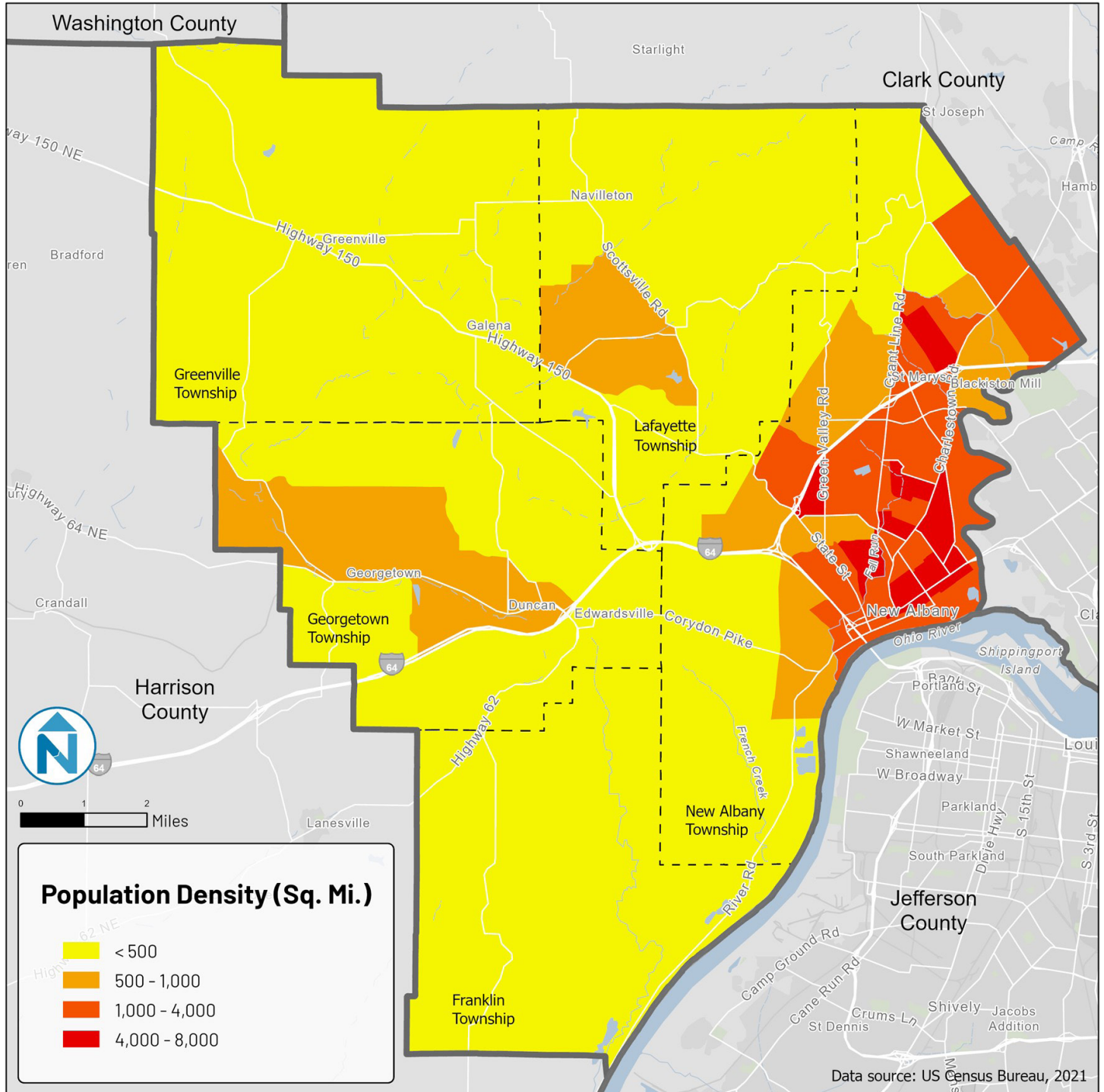
Transportation Disadvantaged Populations

In most urban settings, population and employment density are typically the most important factors that influence transit ridership. Potential ridership demand, or propensity, is also strongly driven by socioeconomic characteristics such as household income/poverty status, race/ethnicity, and access to personal vehicles. Table 3 presents key socioeconomic indicators for Floyd County.

TABLE 3. FLOYD COUNTY SOCIOECONOMIC CHARACTERISTICS

Variable	Total	Density per Square Mile	Percent of County Total
Population			
Total Population	77,880	526	100%
Minority Population	9,720	66	12%
Elderly population	12,540	85	16%
College age population (18-24)	6,510	44	8%
Disabled Population	5,750	39	7%
Population in Poverty (<150% FPL)	12,170	82	16%
Low or No English Proficiency	260	2	0.3%
Households			
Total Households	29,260	198	100%
Zero-vehicle households	1,710	12	6%

FIGURE 4. FLOYD COUNTY POPULATION DENSITY



Employment Characteristics

In 2019, Floyd County's total employment base was approximately 31,000 jobs. Employment has fluctuated over the past two decades, especially after 2008, but overall has increased by about 4,000 jobs, or 15%, between 2003 and 2019.

Figure 5 shows employment density in Floyd County. CBG's with 2,000 to 11,000 employees are located within New Albany and include neighborhoods along the State St. Corridor and neighborhoods along the E. Spring St. Corridor. CBG's with 1,000 to 2,000 employees are located between Silver St. and Vincennes St. and the area between Chapel Ln. and County Line Rd. in northeast New Albany. CBG's with 200 to 1,000 employees include the rest of central-eastern New Albany, Floyds Knobs, Galena, and Greenville. The highest employment density areas are adjacent to, but do not overlap with, the neighborhoods with the highest population density.

Major Employers

This study aimed to examine not only employment density at the Census Block Group (CBG) level, but also the employer and activity centers in Floyd County that generate and attract significant travel demand. These centers include business parks, shopping centers, hospitals, universities, and entertainment venues. To visualize these areas, the study used Figure 6, which shows employment clusters illustrated in gray bubbles, indicating areas with high-density job sites, regardless of the number of employees.

Moreover, Figure 6 also shows the employee volume at a point level, helping distinguish concentrations of jobs that are difficult to discern using LEHD data at the CBG level. The dots in Figure 6 range in size and color, indicating the volume of jobs at each individual job site.

The main employment clusters in the region are:

- Greenville Township (two employment clusters): 26 job sites in downtown Greenville and 18 in Galena
- Lafayette Township (three employment clusters): 25 job sites at the Paoli Pike and Highway 150 intersection, 113 job sites at the Old Vincennes Rd. and Highway 150 intersection, and 47 job sites in Floyds Knobs along Paoli Pike
- Georgetown Township (two employment clusters): 111 job sites in downtown Georgetown and 60 job sites at the Edwardsville Gateway, with the Novaparke Innovation Campus under development
- New Albany Township (seven employment clusters): 602 job sites in the Spring St. Corridor, 274 job sites in the State St. Corridor, 344 job sites in the Hausfeldt Ln. corridors, 40 job sites on Grant Line Rd., 356 job sites in the Charlestown Rd. Corridor, and smaller clusters with 46 job sites on Charlestown Rd. and 21 job sites around the Eagle Ln. and Corydon Pike intersection.

Activity Centers and Points of Interest

Activity centers are places with high potential to produce and attract trip demand for both work and non-work purposes. These include locations that generally have high overall travel demand (e.g., retail and entertainment districts) and locations that are likely to attract transit riders (e.g., social and municipal services, senior centers). Subsidized or more affordable housing developments are also important generators of transit demand in many communities. Likewise, employment centers with concentrations of shift workers in sectors such as retail, hospitality, and healthcare also generate transit demand. These places tend to be located within the employment clusters identified in the previous section.

FIGURE 5. FLOYD COUNTY EMPLOYMENT DENSITY

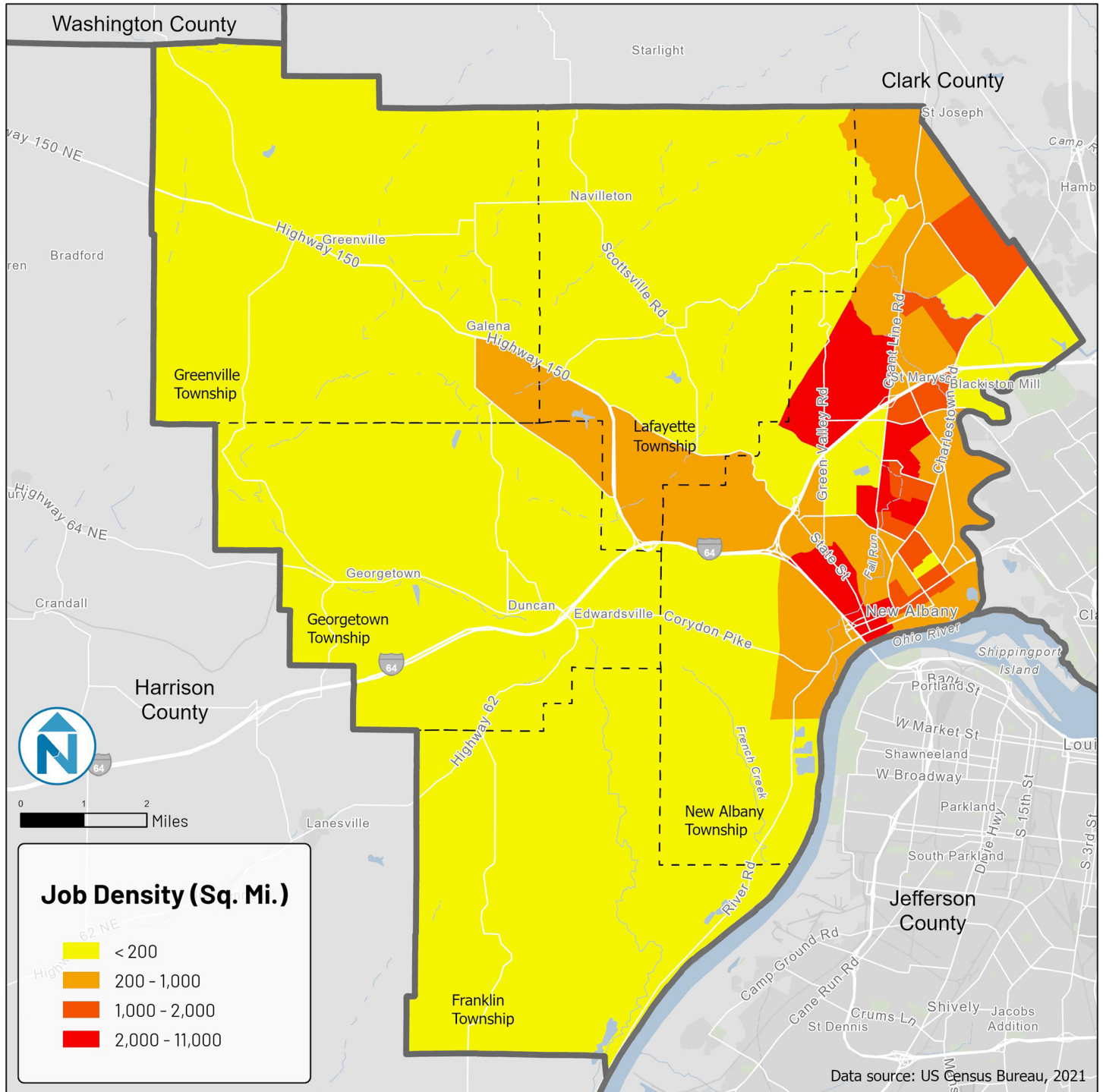
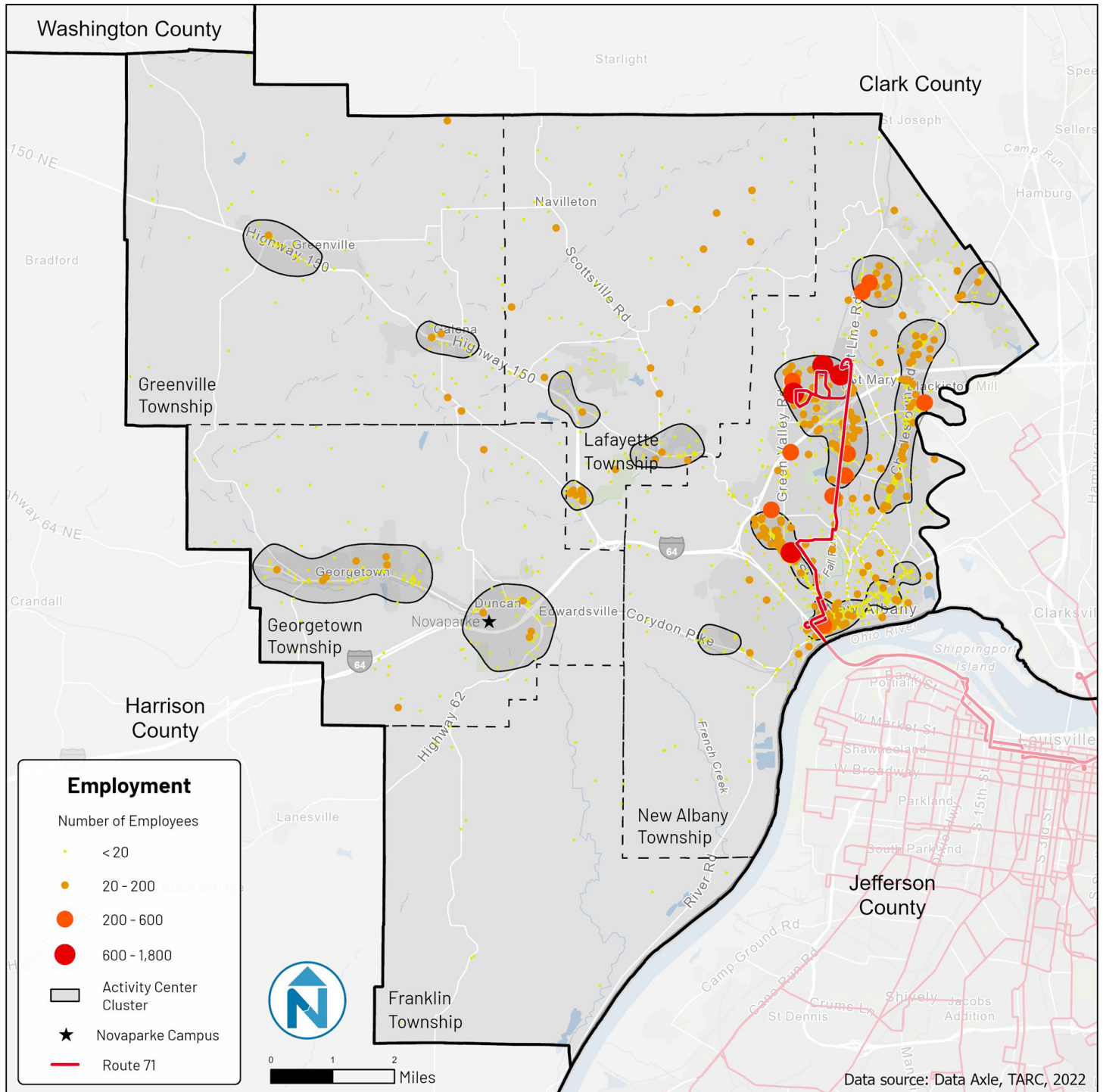


FIGURE 6. EMPLOYMENT CLUSTERS AND HOTSPOTS



Public Transportation Services

This section provides an overview of the existing public transportation services available in Floyd County. These services include fixed route and paratransit services operated by the Transit Authority of River City (TARC) within the urbanized areas of the county and dial-a-ride service operated by the Southern Indiana Transit System (SITS).

Transit Authority of River City (TARC) Fixed Route Service

The Transit Authority of River City (TARC) provides public transit in the Louisville-Southern Indiana metropolitan area, serving over 4.4 million passenger trips in 2021. TARC operates 31 fixed routes on weekdays, 24 on Saturdays, and 21 on Sundays. These routes are classified into four service types tailored to specific markets, including Local (19 routes), Frequent (3 routes), Circulator (5 routes), and Express (4 routes). In 2022, three new routes were added to the TARC network: Route 46, Route 73, and Route 74. These new routes serve suburban job centers and were funded by the Congestion Mitigation and Air Quality (CMAQ) transportation improvement program.

In Floyd County, the only TARC route that operates is Local Route 71: Jeffersonville-Louisville-IUS. The western half of this route connects downtown Louisville to major employment centers in Floyd County, such as the Floyd Memorial Hospital, Indiana University Southeast, and New Albany Industrial Park, via Spring Street and Grant Line Road. Route 71 also travels across the Ohio River into Clark County, Indiana, serving the communities of Jeffersonville, Oak Park, and the River Ridge Industrial Park. Route 71 operates on weekdays between approximately 5:30 AM and 10:00 PM, and on weekends between approximately 7:00 AM and 9:30 PM. During peak hours on weekdays, the bus arrives approximately every 30 minutes, while during off-peak periods it arrives hourly. On weekends, the frequency drops to approximately every 80 minutes.

Route 71's performance was also evaluated on a stop-level basis. Figure 7 shows stop-level boardings for Route 71 on an average weekday in 2021. Floyd County accounted for 20% of boardings, with 58 boardings on the State St. Corridor, 40 on Pearl St./Bono Rd., 45 on Grant Line Rd. south of I-265, and 19 north of I-265. The stop at State St. and E. Elm St. had the most boardings in Floyd County with 58, while the IUS stop had the most boardings north of I-265 with 15.



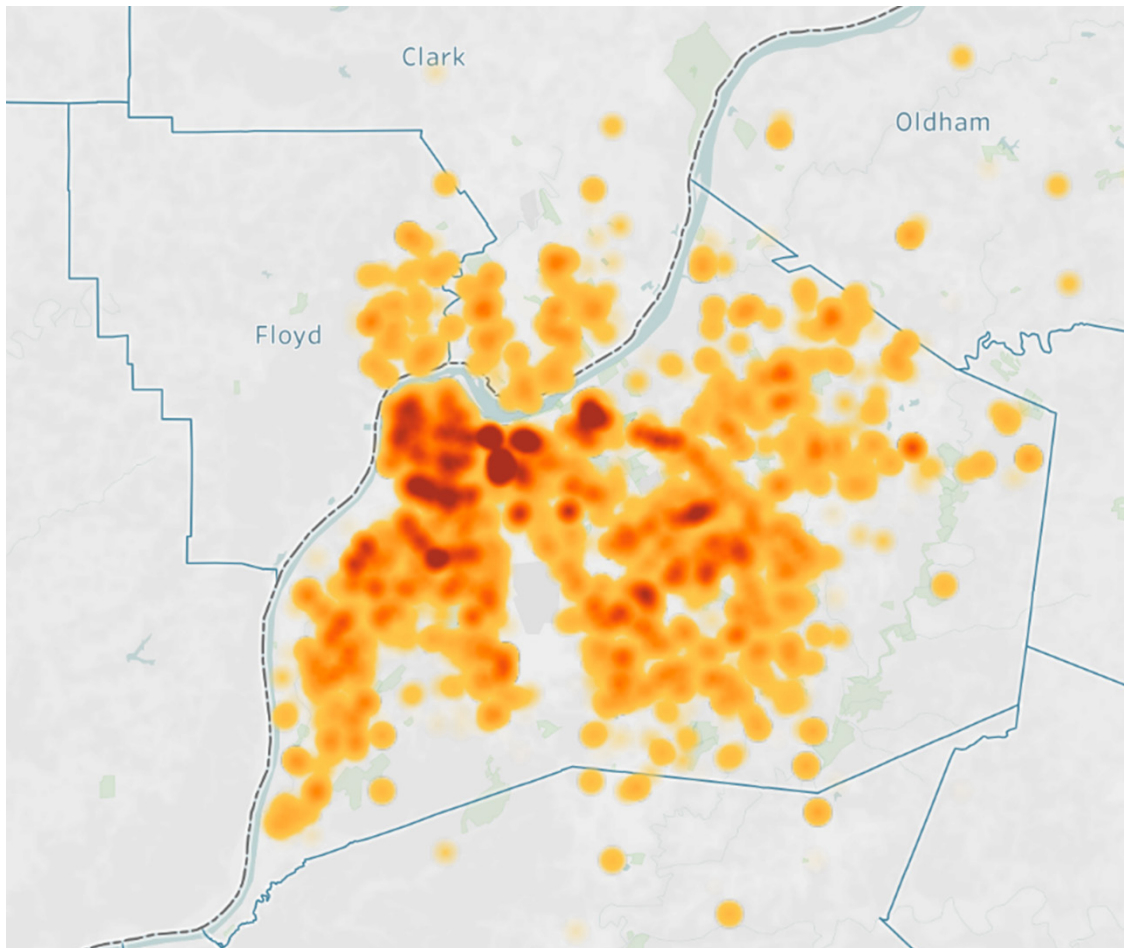
TARC Paratransit Service

TARC3 operates standard hours seven days a week from 6:00 am to 10:30 pm, with select trips available outside this timeframe. Trips are scheduled by calling the TARC3 reservation line. Reservations can be made up to one week in advance and as late as 4:30 pm the day before the trip.

According to the National Transit Database (NTD), TARC3 provided about 624,000 paratransit trips in FY 2019. Ridership dropped by 20% in FY 2020 due to the COVID-19 pandemic to about 490,000 annual passengers. In 2021, ridership dropped even further to 317,000 annual passengers.

As depicted in Figure 8, TARC3’s service area in Floyd County generates a moderate volume of trip activity. In 2019, about 13,400 paratransit trips were taken by customers with a home address in Floyd County, primarily within the New Albany township. This represents about 42% of the total TARC3 ridership generated in Indiana and about 3% of the total system-wide ridership.

FIGURE 8. TRIP VOLUME BY TARC3 PARATRANSIT RIDER LOCATIONS



Southern Indiana Transit System (SITS)

SITS provides public transportation services in a five-county region in southern Indiana as a program of Blue River Services, a non-profit offering various services. Originally established in 2000 as a Medicaid non-emergency medical transportation provider, SITS now serves all county residents. As an FTA Section 5310 and 5311 recipient, SITS offers rural-rural and rural-urban trips but not urban-urban trips as per the region's urbanized area boundary. Due to financial limitations, Floyd County only recently entered a contract with Blue River Services for rural demand-response service starting in January 2022.

SITS provides demand-response service across five southern Indiana counties, with customers booking trips in advance via a customer service line. Fares range between \$2.00 and \$4.00 per one-way trip depending on distance traveled, and out-of-county trips are available within the service area. SITS operates on weekdays between 6 a.m. and 6 p.m. and offers deviated routes in Harrison, Washington, and Crawford counties. SITS served nearly 18,000 passenger boardings in 2021, and operates a fleet of 40 vehicles including minivans, cutaway transit buses, and wheelchair accessible vans. Two vehicles are allocated to rural-to-rural service in Floyd County and two to three vehicles for contracted rural-to-urban service.

SITS faces challenges in expanding its services and market capture in Floyd County. One challenge is the demand for trips within the urbanized area, which SITS is limited to providing within rural areas or between rural and urban areas. TARC is the designated recipient of funding for service within the urbanized area, leaving a mobility gap in areas such as Georgetown and Floyds Knobs. Blue River Services is working with Floyd County to explore addressing this need. The second challenge is access to Clark County, where there is a high demand for travel between the two counties. SITS had previously explored a partnership with Clark County, but it was deemed impractical at the time. SITS has also struggled with vehicle and driver shortages, resulting in reduced service capacity and slower phased-in service delivery in Floyd County.

LifeSpan Services

LifeSpan Resources is a non-profit organization that connects individuals to resources, options, and services to remain living independently for as long as possible. Clients include the elderly and persons with disabilities of any age. Services include home delivered meals (Meals to Go!), transportation, and numerous in-home services.

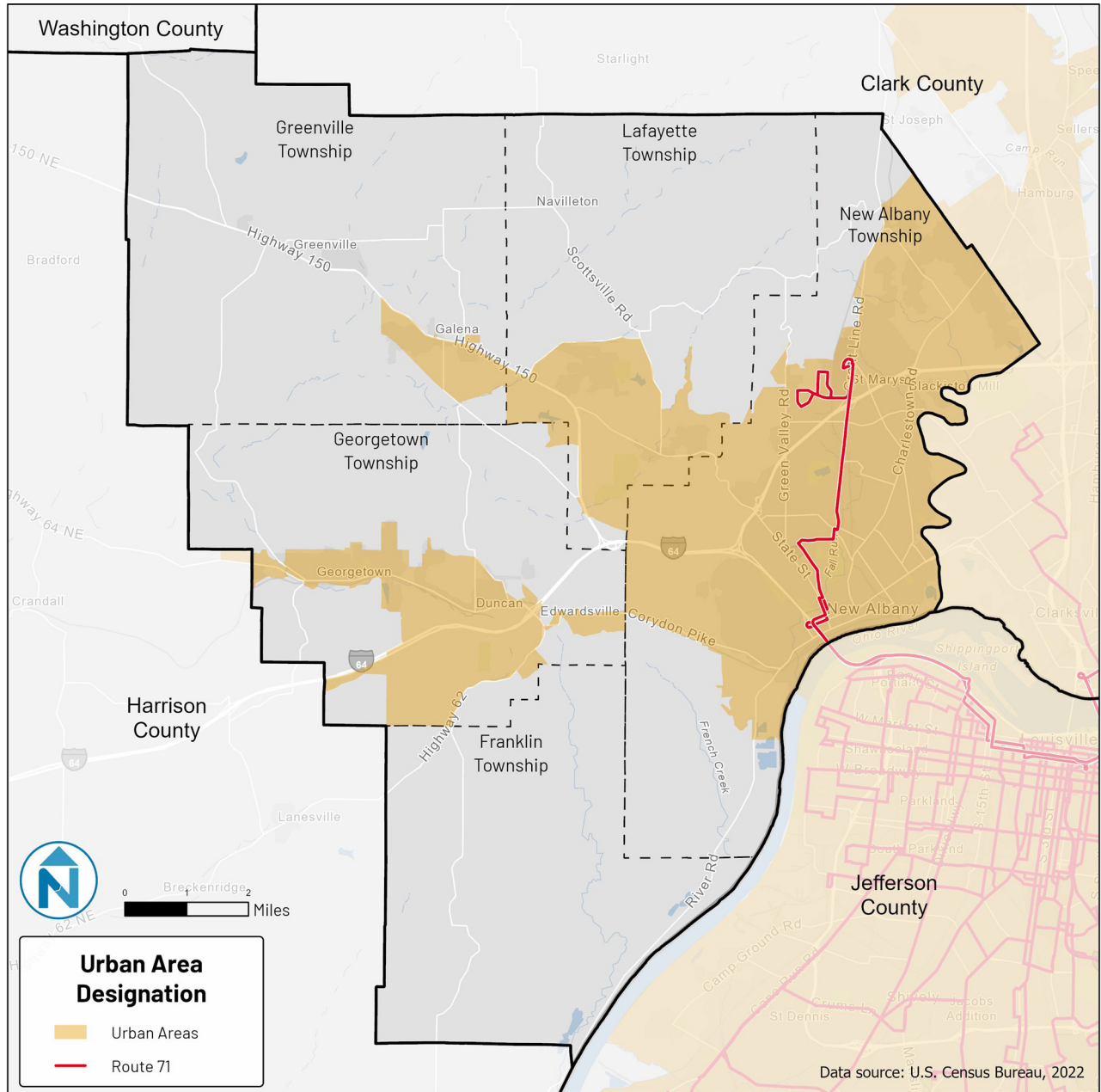
Their service area includes Clark, Floyd, Harrison and Scott counties. LifeSpan is one of 15 state designated Area Agencies on Aging in the state of Indiana. They are funded by state, federal and local sources, in addition to private and community foundation grants, United Way, client and private citizen donations and fundraising events. In addition, they rely on volunteers to help in many of their programs.

LifeSpan Resources' Rides To Go! program provides door to door transportation to medical institutions (renal dialysis, chemotherapy, and radiation treatments), doctors, social service organizations, grocery stores, pharmacies, senior centers and more. Registration for the program is free, and trips are pre-scheduled up to eight months in advance. Private pay medical trips are \$25 one way. Social trips, which are deprioritized, are available on a donation basis. Medicaid patients must call Verida to schedule trips with LifeSpan. Capital costs for the program is funded through 5310 grants, though maintenance and operations require separate grants.

LifeSpan operates 15 vehicles, from 5am to 5pm. No service is provided on weekends and holidays. The 15 drivers use EcoLane dispatch software.

In 2022, LifeSpan ridership averaged 1,882 rides per month, or about 433 rides across the five weekdays. Ridership is lowest in the winter months, with around 1,600 between December and February, while it is highest in March and August, exceeding 2,100.

FIGURE 9. URBAN AREA DESIGNATION



Summary of Planning Studies

In recent years, Floyd County and several local jurisdictions have undertaken a variety of land use and transportation related planning studies. The following plans were deemed to be the most relevant and are summarized in Table 4.



TABLE 4. SUMMARY OF RECENT PLANNING STUDIES

Plan	Description	Key Findings / Recommendations
Vision Floyd County Comprehensive Plan (2017)	Uses demographic analysis and stakeholder meetings to determine themes to integrate into infrastructure and public service planning to maintain rural charm.	Stakeholder meetings show only 39% prefer to ‘create public transit’, lowest on the list. Limit dense housing development in rural areas.
Greenville Comprehensive Plan (2020)	Development of land-use, transportation, infrastructure, economic development, historic preservation, and parks/recreation plans.	Conduct survey for park and ride/on-call bus network (1–2-year timeline) Identify potential grant sources for mass-transit (1–2-year timeline)
Georgetown Downtown Plan (2017)	Analyzes existing conditions and proposed improvements, to address rural decline and urban sprawl in and around ‘Old Town’.	Largest growing town in Floyd County, with influx of families and traffic near I-64, through Old Town. Attract commercial development to entice new families and commuters to enter Old Town
Edwardsville Gateway Master Plan (2011)	Create a Master Land Use Plan and a gateway identity into the region along the I-64 corridor.	SR64/State Rt 62 is a potential commercial gateway. Commuters are biggest potential draw into commercial area
Floyd County Thoroughfare Plan Update (2022)	Analyzes vehicular traffic, and current and proposed bike, pedestrian, and mass transit routes.	Recommends the county to establish park and ride for carpooling or connecting to existing transit into Louisville.

Plan	Description	Key Findings / Recommendations
Community Foundation of Southern Indiana (CFSI) Community Assessment (2015)	Stakeholders indicated the need to address homelessness and mental illness, build a strong work force, and sustainable develop economy.	<p>Improve, educate, and advocate for improved transit coverage and service</p> <p>Procure grant funding for transportation related needs like school programs, workforce development, and services for homeless and mentally ill.</p> <p>Lack of transit leads to increased traffic, exacerbating air quality.</p>
Community Needs Assessment (2018)	Identify and create implementation strategies for community’s health regarding social determinants of health, cardiovascular disease, obesity, and substance abuse/ addiction.	<p>Identify patients that are not receiving medical care due to transportation issues</p> <p>Review hospital procedures related to transportation needs of patients</p> <p>Educate staff about patient transportation issues</p>
TARC Comprehensive Operations Analysis (2021)	Evaluates the current system and develops a range of improvements to help meet the changing transit needs in the greater Louisville region. Examines existing services and identifies opportunities for improving efficiency and effectiveness. Develops potential near-term operational changes to help deliver more effective and useful service to the community.	<p>TARC Route 71 lost half of ridership from 2019 to 2020, but it was only the sixth lowest loss in the overall system. The lowest is Route 99 at a 37 percent loss, and the highest is Route 61 at an 87 percent loss.</p> <p>Former Route 82 had low average weekday ridership and high cost per rider.</p>
TARC Micro Mobility Transit Study (2022)	Evaluates how TARC can use Mobility on Demand (MOD): safe, affordable, technology-enabled services integrated into the transit network, such as micro transit, bike share, ride-hailing, mobility hubs, and others, to offer customers improved service and extend the reach of its network to suburban areas where fixed-route service is limited or absent.	<p>Downtown New Albany is a promising area for micro mobility (bike / scooter) share, and can be implemented by expanding LouVelo system</p> <p>New Albany North can benefit from ride-hail (Ivy Tech Community College, IU-Southeast, Meijer)</p> <p>New Albany South can benefit from micro transit</p>



Transit Market Analysis

A transit market analysis was prepared to evaluate the community characteristics and travel patterns that influence the demand for transit service in Floyd County. This section presents the methodology and results of this effort for local and regional transit markets.

Estimating Transit Demand

Public transportation demand is influenced by factors such as population and employment density, prevalence of transportation-disadvantaged populations, major activity centers, and the cost of driving. Urban design characteristics, such as roadway networks and pedestrian infrastructure, also impact transit service suitability. In Floyd County, a suburban area, demand for transit is largely driven by transportation-disadvantaged riders, with major activity centers having a limited impact.

The transit market analysis focuses on two segments: local transit markets and regional transit markets. Local transit serves various trip purposes within a community and operates on arterials, collectors, and local streets, making frequent stops for high accessibility. Regional transit, common in large metropolitan areas, caters to employment markets and operates at higher speeds with fewer stops on limited access roadways.

Transit services are designed to cater to their intended markets. In Floyd County, potential transit markets were assessed based on four general service typologies. The analysis provides insights and key takeaways for the local and regional transit markets in Floyd County. For this analysis, potential transit markets in Floyd County were evaluated based on four general service typologies as presented in Table 5.

Local Transit Market Analysis

This section summarizes the analysis and findings of the local transit market analysis for Floyd County. The market analysis merges three key components of transit demand to identify geographic markets within the county relative to the range of potential service models described in Table 5. These components include:

- Population and Employment (or “Activity”) Density
- Transportation Disadvantaged (or “Needs-Based”) Population Density
- Activity Centers and Key Destinations

Activity Index

Development patterns and density are a primary driver of transit demand. Most riders walk to access transit; therefore, the typical market capture area of a local bus route is generally limited to approximately $\frac{1}{4}$ to $\frac{1}{2}$ mile from a stop. As a result, population and employment densities along a route determine how many people will be able to access transit and ultimately influences the level of service that can be efficiently supported. Areas with higher densities tend to support greater frequencies of service, while lower density areas are typically better suited to lower-frequency fixed-route service or alternative modes such as flexible routes or on-demand service.

In Floyd County, an activity index was developed based on population and jobs at the Census Block Group (CBG) level. Higher index scores are likely supportive of fixed route service while lower index scores are most likely suitable for pre-scheduled on-demand service only. As shown in Figure 10, most locations outside of New Albany have a low activity index score.

TABLE 5. TRANSIT SERVICE TYPES

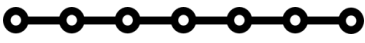

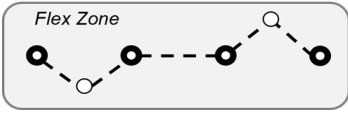
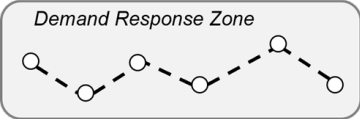
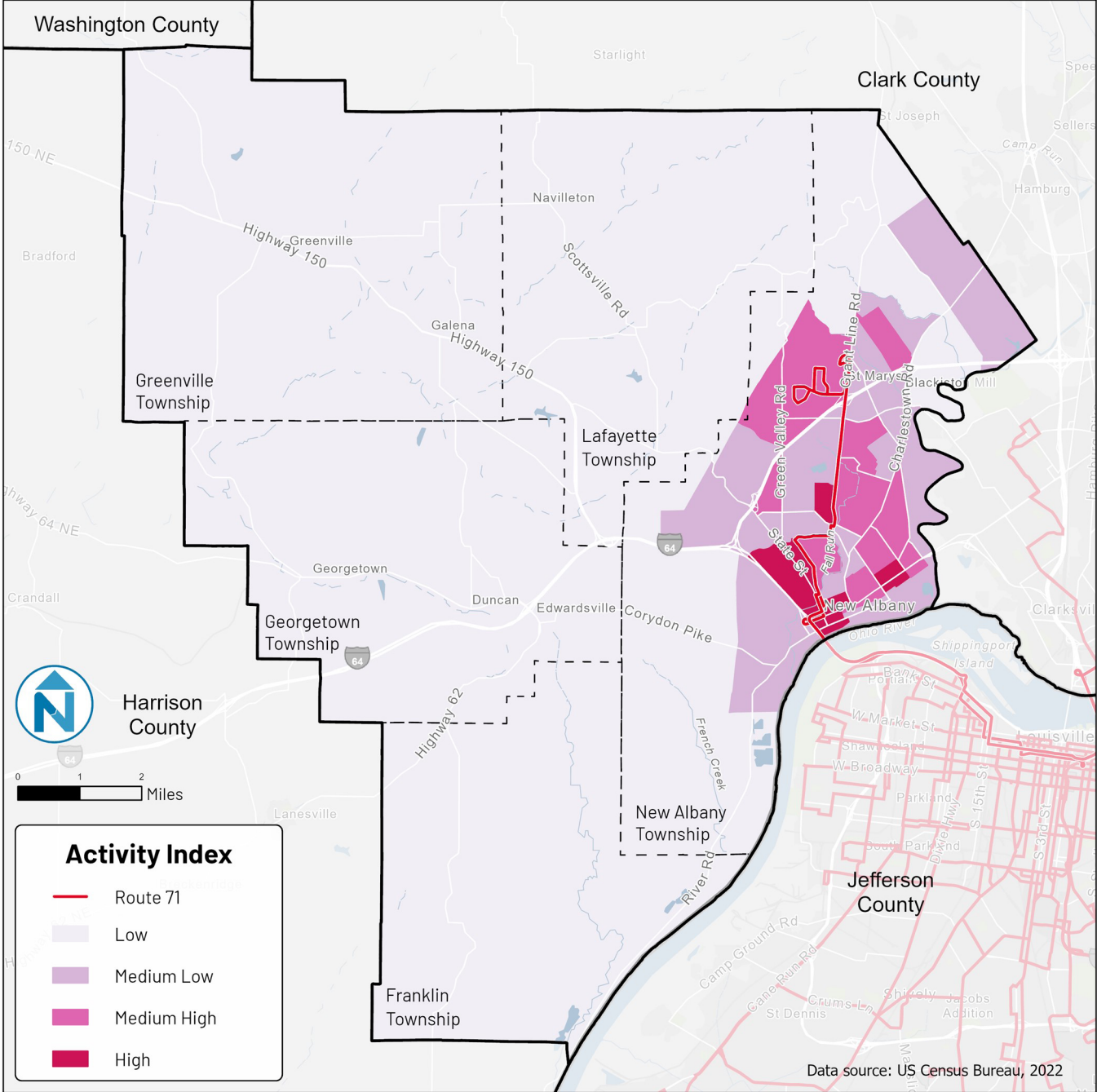
Service Type	Description
<p>Fixed-Route Bus</p> 	<p>Fixed-Route Bus Service travels on a defined (fixed) route along which many stops (about every ¼ mile) are made where passengers may board and depart. Fixed-route buses follow a published schedule and serve stops at defined intervals, or frequencies (e.g., every 60 minutes or every 30 minutes).</p>
<p>Express Bus</p> 	<p>Express Bus Service travels on a defined (fixed) route and maintains a schedule but has very limited stops. Often serves commuter markets with direct service between a single origin (usually a park and ride lot) and a single destination (usually a major employment or activity center). Depending on market demand, service may be peak-oriented with limited midday service.</p>
<p>Deviated Fixed-Route Bus</p> 	<p>Deviated Fixed-Route Service follows an established route and schedule but deviates a defined distance off of the route upon request, typically within ¼ mile of the route and taking no more than a few minutes. The requests must be made in advance. This provides regular service for higher density areas while providing access to less dense areas that otherwise might not be served. However, as trip deviations increase, schedule reliability may decrease, and additional flex routes or fixed-route service should be considered.</p>
<p>Demand Response</p>  <p>KEY</p> <ul style="list-style-type: none"> ● Scheduled Stop ○ On-Demand Stop — Fixed Route - - Flexible Path 	<p>Demand Response (DR) includes ADA paratransit as well as microtransit or dial-a-ride services. Demand-response service offers a door-to-door service where passengers arrange rides (by phone, online, or mobile app) with the transit agency (or another operator). The agency will then typically combine several trip requests and pick up and drop off passengers in an order that balances efficiency and the timeframe requested by the passengers. Vehicles are typically small vans or small buses. In higher density areas where fixed-route service is available, demand response service is commonly limited to approved paratransit customers. In some lower-density areas, demand response service is also offered to the general public. If demand for trips exceed the ability of the agency to provide timely service, additional vehicles or a new higher-capacity service type such as fixed-route service may warrant consideration.</p> <p>Like dial-a-ride, microtransit offers flexible service in that vehicles do not follow a pre-defined route, nor are there fixed schedules or stop locations. Instead, vehicles are routed dynamically in real time based on customer demand within a defined service area. Passengers typically must walk a short distance to or from a pre-defined pick-up or drop-off location to improve operational efficiency, though passengers with disabilities are offered door-to-door service. Microtransit services may operate on a pre-scheduled basis (known as pre-scheduled microtransit), where riders must book trips in advance (typically the day before travel or earlier), or on-demand at the time the rider wishes to travel, a service design also known as dynamic or on-demand microtransit. Additionally, some microtransit services may feature a hybrid design, with on-demand service as the default setting and pre-scheduled service available upon request.</p>

FIGURE 10. ACTIVITY INDEX



Needs Index

A needs index was developed to aggregate and summarize the relative need for transit service. A total of seven variables were utilized in the needs index, which are listed below:

1. Low-income population (below 150% of the federal poverty line)
2. Minority population
3. Zero-vehicle households
4. Population with low or no English-speaking ability
5. Disabled population
6. Elderly population
7. College age population (18-24)

Each variable in the needs index was given equal weight so that an individual counted as elderly has equal weight as a student, minority individual, etc. The needs index is shown in Figure 11.

Composite Overlay

The activity index and needs index were combined to produce a composite market assessment that highlights areas of potential transit demand in Floyd County. This combination creates a matrix where activity-based density is shown in shades of pink and needs-based density is shown in shades of blue. Areas that score highly in terms of both activity and needs density are depicted in dark purple and are considered strong candidates for fixed-route transit service. Figure 12 provides a geographic representation of the composite market assessment. Here, the third component of market demand, activity centers, are overlaid to identify places that warrant special consideration due to their increased likelihood to generate travel demand. In some cases, the activity center clusters overlap with areas of lower composite market assessment scores, indicating pockets of potential demand within otherwise large and rural Census Block Groups (CBG).

Key findings from the composite market assessment are summarized below:

- Potential fixed-route markets with the highest needs are limited to the New Albany Township. Specific neighborhoods include:
 - A neighborhood west of Green Valley Rd. Corridor north of E. Daisy Ln. and south of I-265
 - Neighborhoods along E. Spring St. Corridor from I-64 Beharrell Ave.
 - Neighborhoods along State St. Corridor bounded by Ohio River and Captain Frank Rd./S. Country Club Dr., between I-64 and Graybrook Ln.
 - One neighborhood north of I-265 between Kamer Miller Rd. and St. Joseph Rd.
 - Neighborhoods between Charlestown Rd. and Slate Run Rd., between Beechwood Ave. and Mt. Tabor Rd.
 - The small neighborhood west of Grant Line Rd., bounded by E. Daisy Ln. and Cherokee Dr.
- Potential dynamic on-demand / microtransit markets generally fall within the urbanized area boundary. These areas tend to have medium-low to medium-high densities of needs-based populations. Specific areas within this market category include:
 - Areas north of I-64 in New Albany
 - Central Floyd County, bounded by I-64 and Scottsville Rd., encompassing Floyds Knobs, Mt. St. Francis, Duncan, and eastern Galena and Georgetown and the activity center clusters therein.
- Potential demand response markets include the most rural parts of the county outside of the areas mentioned above.

FIGURE 11. NEEDS INDEX

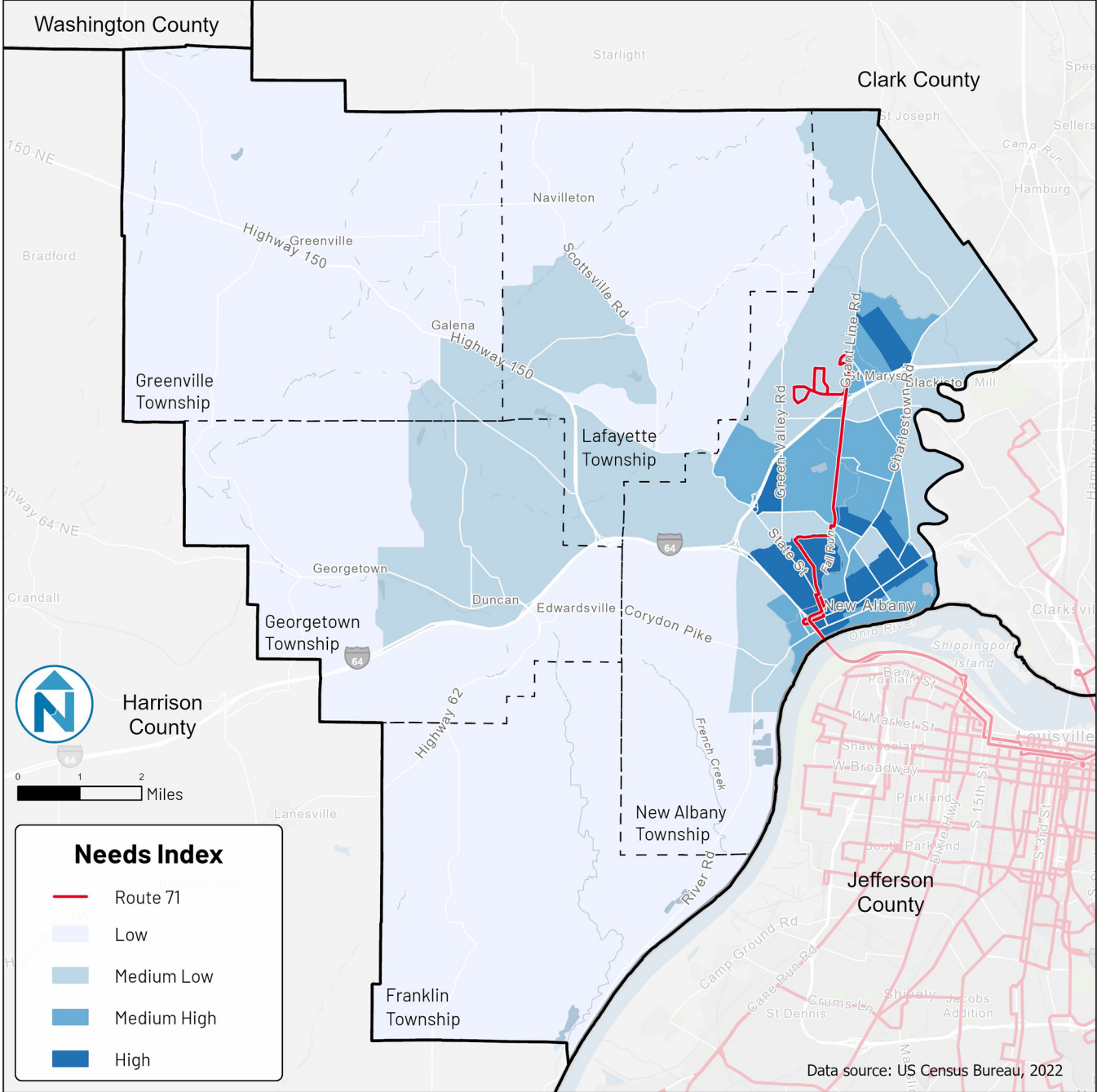
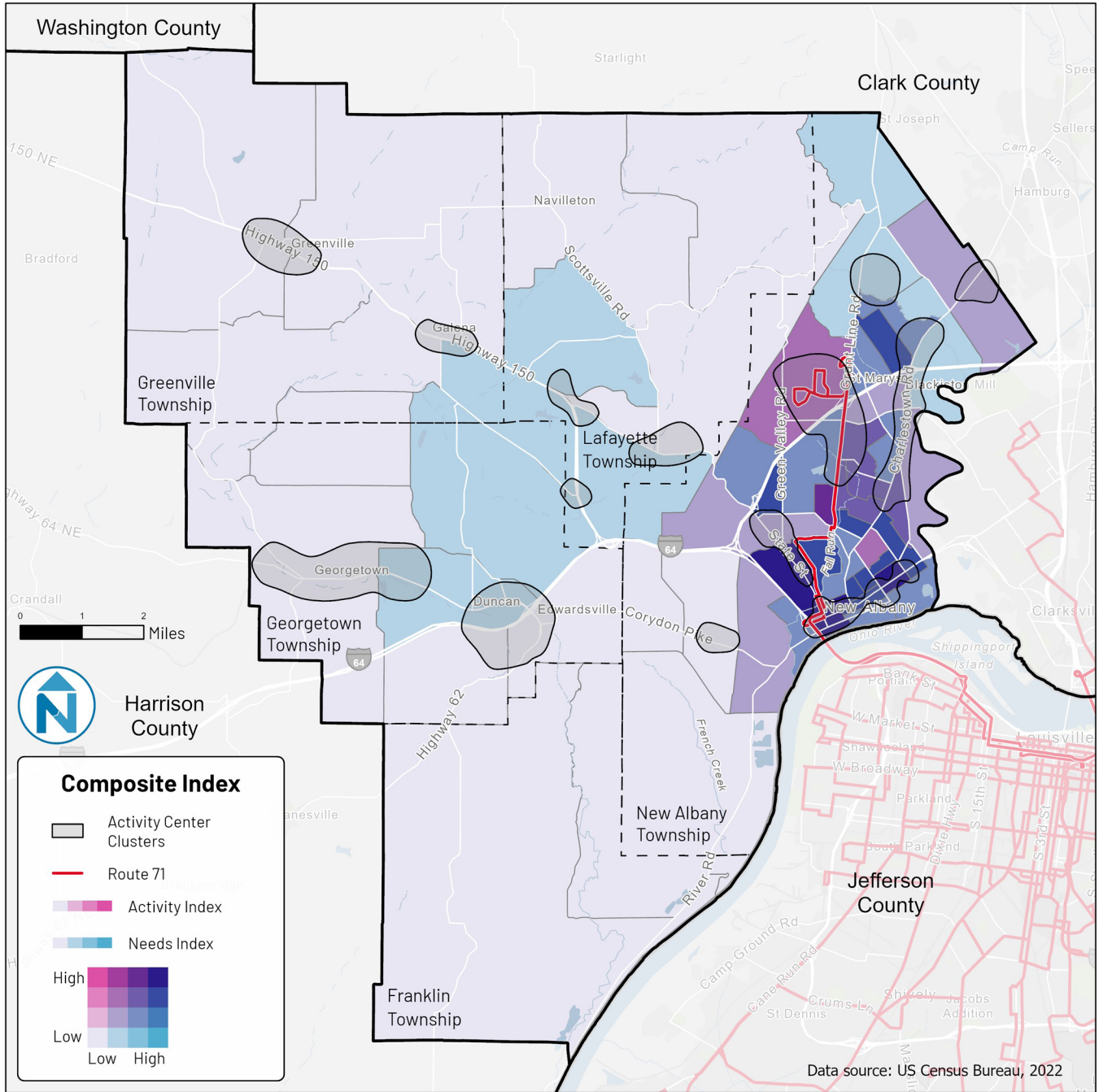


FIGURE 12. NEEDS INDEX + ACTIVITY INDEX COMPOSITE



Summary of Transit Needs

This section provides a summary of local and regional transit needs and opportunities derived from the market analysis.

County-wide Demand Response Expansion:

SITS expanded its demand-response service in Floyd County in early 2022 to meet the mobility needs of transportation-disadvantaged populations, including racial minorities, those living below 150% of the federal poverty line, and the elderly. SITS plans to expand service as it acquires more vehicles and hires additional drivers.

New Albany Service Fixed-Route / Microtransit Expansion:

New Albany Township has high-density population and high transit demand, making it a suitable location for fixed-route or dynamic on-demand/microtransit services. Opportunities include expanding mobility options in downtown New Albany, extending Route 71 to reach new markets in the northern part of the township, and expanding service along the Charlestown Rd. corridor to connect major activity centers without fixed-route service.

In terms of travel patterns, New Albany has some of the highest trip volumes and densities in the county, indicating a strong demand for travel to, from, and within the township. Specific opportunities in New Albany include:

- Expand mobility options in downtown New Albany where there is high transit demand but low transit supply. The area has a grid-like street network with high intersection density suitable for fixed-route or micromobility options. Route 82 was suspended due to the COVID-19 pandemic.
- Extend Route 71 to capture new markets in the northern part of the township where there is an activity center cluster just north of the current terminal at IUS.
- Expand service along the Charlestown Rd. corridor which lacks access to fixed-route service for major activity centers such as Meijer, Jay C Food Store, and Ivy Tech Community College. This area is suitable for potential fixed-route expansion or new microtransit service.

Floyd-Clark Inter-county Service:

There is a large volume of trip interactions between Floyd and Clark counties, but there is no longer any fixed-route service between the two counties since TARC's Route 82 was removed from service. New Albany would benefit from a connection with high-density activity zones in Clark County. Intercounty rural demand-response would fill in gaps that fixed-route service misses.

Community Circulator and Urban Connector Service:

While much of the county lacks the density needed for fixed-route service, there are activity center clusters along the Hwy 150 and SR-64/I-64 corridors that warrant exploration for potential dynamic on-demand / deviated fixed-route service opportunities. A microtransit or deviated fixed-route service along these corridors could provide local mobility and intra-county connections to key hubs and activity centers in New Albany. SITS should monitor trip demand along these corridors to determine the feasibility of this concept.

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Public Engagement

Throughout the development of this study, the planning team worked to engage with a variety of stakeholders, including local officials, experts, and the general public to understand how public transit will best suit the needs and context of Floyd County. To do this, a stakeholder group was formed that helped to guide the planning process, stakeholder interviews were held to gain insights from key organizations and individuals, and public meetings and surveys were hosted to understand the demand for potential service models and the scenarios in which community members would be most interested in using public transit.

"I believe a shuttle would be a wonderful asset for those who are unable to drive, have no car, etc. I'm not there yet but would like to watch the development of this possibility."

Stakeholder Meetings

Throughout the planning process, two stakeholder meetings were hosted in order to allow key stakeholders to offer valuable insights into future transit models. These stakeholders included representatives from local governments, public agencies, nonprofits, and educational institutions. The list of organizations that were included:

- Blue River Services (BRS), operator of SITS
- City of New Albany
- Community Foundation of Southern Indiana
- Indiana University South East
- Kentuckiana Regional Planning and Development Agency (KIPDA)
- Life Span Services
- Metro United Way
- New Albany-Floyd County Consolidated Schools
- One Southern Indiana
- Southern Indiana Works
- Town of Georgetown
- Town of Greenville

"I'm excited for this idea. I think it is important for our community to be accessible to people that don't have their own transportation, especially as our population ages. Transportation options will be an important factor in making our county a desirable place to live. More people want to decrease their environmental footprint and public transportation helps with that. I'm glad you are gathering data."

"TARC doesn't get people very close to the hospital, nothing on Charlestown Rd including SS office. Also, a blind friend lives in Greenville. Lifespan does not go there. He has limited resources for getting out."

Meeting #1

*January 27th, 2023, 1pm-3pm
Pine View Government Center*

Stakeholder groups were introduced to the goals and scope of the transit study, their role as members of the stakeholder committee, the progress on public engagement efforts, and the current state of public transit in Floyd County. Additionally, discussion was held amongst the stakeholder groups. Below are some key highlights from this conversation:

- Discussion was held on the potential for ride share services to help fill the public transit gap, but it was ultimately decided that these businesses could not work within Floyd County’s context.
- Meeting attendees would like to have future population projections considered in the models for future transit options.
- Discussion was also held on the ability of micro transit/on-demand service(s) to accommodate out-of-county trips

Meeting #2

*March 23rd, 2023, 9am-11am
Pine View Government Center*

The planning team shared different transit model options that were being considered to provide additional transit service in Floyd County. In discussion, meeting attendees shared the following insights and feedback:

- One factor that should be considered are the benefits and challenges of requiring the use of an app or website to book rides. This might work well for certain service models, but some of the populations that have the greatest needs for transit service may not have access to the internet or might not be fluent with using technology.
- When developing simulations for different service models, the planning team should consider how longer loading/unloading times for people with disabilities will affect the suitability of different service models for Floyd County.
- Due to grant funding and coordination, it may be difficult to fully integrate existing nonprofit transit services from Lifespan Resources and Blue River Services.



Stakeholder Interviews

Interviews with five local stakeholders were conducted in order to better understand the current conditions of public transit in Floyd County and some unique challenges and opportunities that should be considered in the planning process.

The five interviews included discussions with representatives from the Town of Georgetown, Town of Greenville, City of New Albany, Blue River Services, and New Albany-Floyd County Consolidated Schools. Below are some key highlights from these interviews:

- Capacity to serve new routes, especially urban to urban routes, is a barrier for Blue River Services (BRS) due to the number of new staff that would be needed to support those routes. By collaborating with TARC, BRS has recently been able to provide service between Georgetown and New Albany. This has been a popular service.
- In areas where transit service is new or unfamiliar, effort should be put towards engaging with residents so they know how a new transit service will work, how they can book rides, and how transit can benefit both individuals and the community overall. Educating people about existing transit options, such as SITS, would also be beneficial.
- In Georgetown, some residents are using the current cost of gas when traveling to work to help decide where to look for jobs.
- In Greenville, an on-demand service would help residents reach TARC's fixed bus routes so they can reach more regional destinations.
- New Albany public transit routes have been reduced and/or eliminated in recent years, leaving New Albany with only one route that provides direct access to Louisville but no access to Clarksville or Jeffersonville.
- For public schools, transportation challenges exist both for getting students and workers to jobs and educational opportunities. A shortage of drivers puts a strain on this system, especially in regard to transporting students to school in the morning. When routes are cancelled, having a back up option for families would be helpful.

Sidewalk Intercept Event

An informal public event was hosted in December of 2022 in order to gain initial insights from the community. At this event, members of the planning team set up a table outside the Jacy-C Food Store and asked shoppers to share their input, either in-person or through the online public survey #1 (detailed below), on how public transit should (or should not) operate in Floyd County. In total, the planning team engaged with about 70 different shoppers during the event.

Public Survey #1

Throughout December of 2022, the Floyd County community was invited to participate in a brief online survey to gain insights on how public transit would best suit the needs of future riders and fit into the context of Floyd County. In total, 81 people completed the survey. It is notable that 56% of survey respondents lived in New Albany and 40% of respondents were between the ages of 60 and 69.

Below are some key highlights from these survey responses:

- The cost and convenience of riding future transit services will likely be the top determinants of whether or not people actually ride.
- A shuttle service is either consistently or occasionally a necessary service for some people, such as people who are saving money to make automobile repairs or people who cannot drive themselves, such as older adults or people with disabilities.
- Survey respondents had a greater interest in destinations that trend toward requiring weekly, rather than daily, trips. These destinations include shops (74%), restaurants and bars (58%), medical offices (56%), and libraries and community centers (48%).
- 36% of respondents expressed an interest in reaching destinations located outside of Floyd County, both in Louisville and across Southern Indiana in Jeffersonville and Clarksville.

Public Open House

Open House

March 27th, 2023, from 4pm to 6pm.

Pineview Government Center

A formal open house was hosted at the Pineview Government Center to provide the public with the opportunity to review and discuss the draft service model options in person. As the County considers the potential for how different transit service options would benefit or not benefit the community, input from the public is important at this stage in the planning. Because this event was not heavily attended by the public, a second online survey ultimately offered more insight into how future service models can best support future riders.

Public Survey #2

In April of 2023, the Floyd County Commissioners promoted a second online survey. Over the course of the month, 112 people completed the survey. In total, 88% of survey respondents do not currently use public transportation in Floyd County and when asked where they live, 40.5% of respondents shared that they live in New Albany and 26% shared that they live in Floyds Knobs.

Below are some key highlights from these survey responses:

- Respondents strongly indicated a preference for reaching vital destinations that would require less-than-daily trips, such as medical services (72%), shopping or groceries (70%), and social services (35%).
- When asked how far in advance respondents would like to book a ride, 60% said they would like to book 24 hours in advance, 37% said they would like to book one hour in advance, and 34% said they would like to book one week in advance. Only 17% were interested in booking less than 30 minutes for their ride.

- When asked about the days and times that respondents would typically like a ride, there was a strong preference for day-time hours, with 84% preferring weekday hours between 6am and 6pm and 49% preferring Saturdays from 7am to 8pm.
- Using smartphones to book rides (69%) was preferred over calling a dispatcher to book rides (49%).
- When asked how much respondents would be willing to pay to ride an on-demand service, 48% would be willing to pay \$0 to \$5, 37% would be willing to pay \$6 - \$10, and 17% would be willing to pay \$11 to \$20.
- The aspects of on-demand service that were most important to survey respondents included affordable fares (73%), access to more places (62%), and shorter wait times at pickup (55%).

Additionally, respondents were asked what would encourage them to start riding public transportation, or to ride more often. To this, the top answer was “shorter wait times or more frequent service” (57%).



Service Alternatives

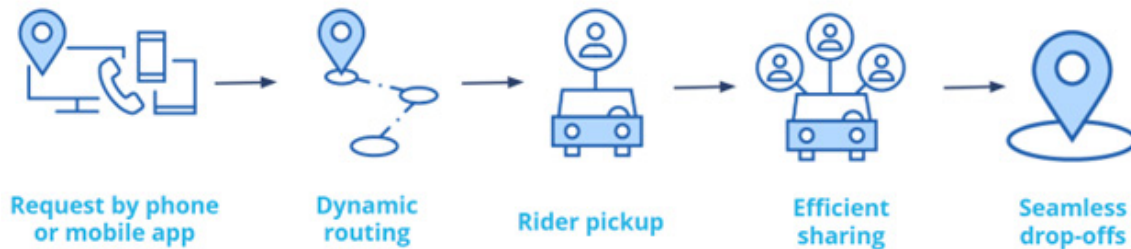
Microtransit

Microtransit is a type of demand-responsive public transportation that uses flexible routing and scheduling. Riders can book rides through a smartphone app or by calling a dispatcher. Microtransit services are designed to efficiently match rider demand with available seats on vehicles, using a geofenced service zone with limited pickup and dropoff locations. These services are typically operated by wheelchair-accessible minivans, vans, or smaller cutaway shuttles with seating capacity between 6 and 12 passengers. Fares are kept low and operations are usually subsidized by a local government or transit agency, as microtransit services generally do not serve a large enough ridership or generate sufficient revenue to operate without subsidy. A diagram below (Figure 8) illustrates the general process flow of microtransit service from the rider’s perspective.

Microtransit services may request riders to walk a short distance to a designated pickup point or between a designated dropoff point and their destination to improve efficiency. However, those with disabilities will always be offered curb-to-curb service. Vehicle information is provided to riders, who can cancel at any time, but may be charged a small fee. Multiple fare payment methods are typically offered, and riders can track their trip in progress using a smartphone app. The vehicle will pick up and drop off other riders heading in the same direction, but lengthy detours are avoided.

The project team has identified two microtransit zones to address specific mobility needs: 1) improving travel in rural areas of Floyd County and between urban and rural areas; and 2) enhancing mobility within urban areas of New Albany without fixed-route bus service. A successful microtransit service zone should have a range of key activity centers, including large employers, schools, grocery stores, medical centers, shopping centers, and other destinations likely to attract riders. The zones should feature a mix of residential and commercial areas to support different trip purposes throughout the day and ensure an even distribution of demand. Proposed microtransit service zones include two alternatives.

FIGURE 13. MICROTRANSIT PROCESS FLOW



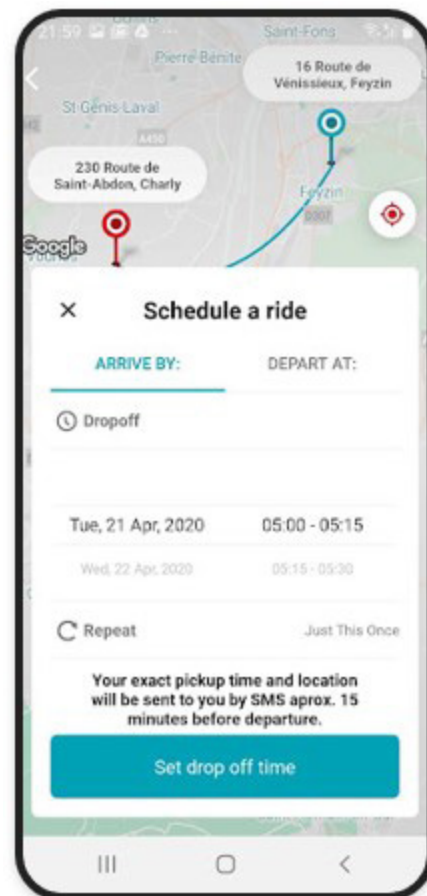
-Image produced by Via

Opportunity 1: Upgrade SITS Demand-Response Service to Pre-booked Microtransit

After reviewing travel patterns and demographics, it was found that there is a significant need for public transportation in Floyd County, particularly in the Lafayette, Greenville, and Georgetown Townships. Fixed-route bus service is not practical due to the low-density development in these areas, so a demand-responsive service model is recommended. Opportunity 1 is a pre-booked microtransit service that aims to provide point-to-point mobility throughout rural areas of Floyd County. It will upgrade the existing demand-response service provided by Southern Indiana Transit System (SITS) to increase capacity and quality. With a service zone covering 95.5 square miles and including 29,000 residents and 4,600 jobs, Opportunity 1 includes key activity centers such as Floyd Central High School and grocery stores like Cash Saver and Jay C. The service would also cover activity centers in New Albany such as Indiana University Southeast (IUS), New Albany Plaza shopping center, Baptist Floyd Hospital, and Walmart on Grant Line Road.

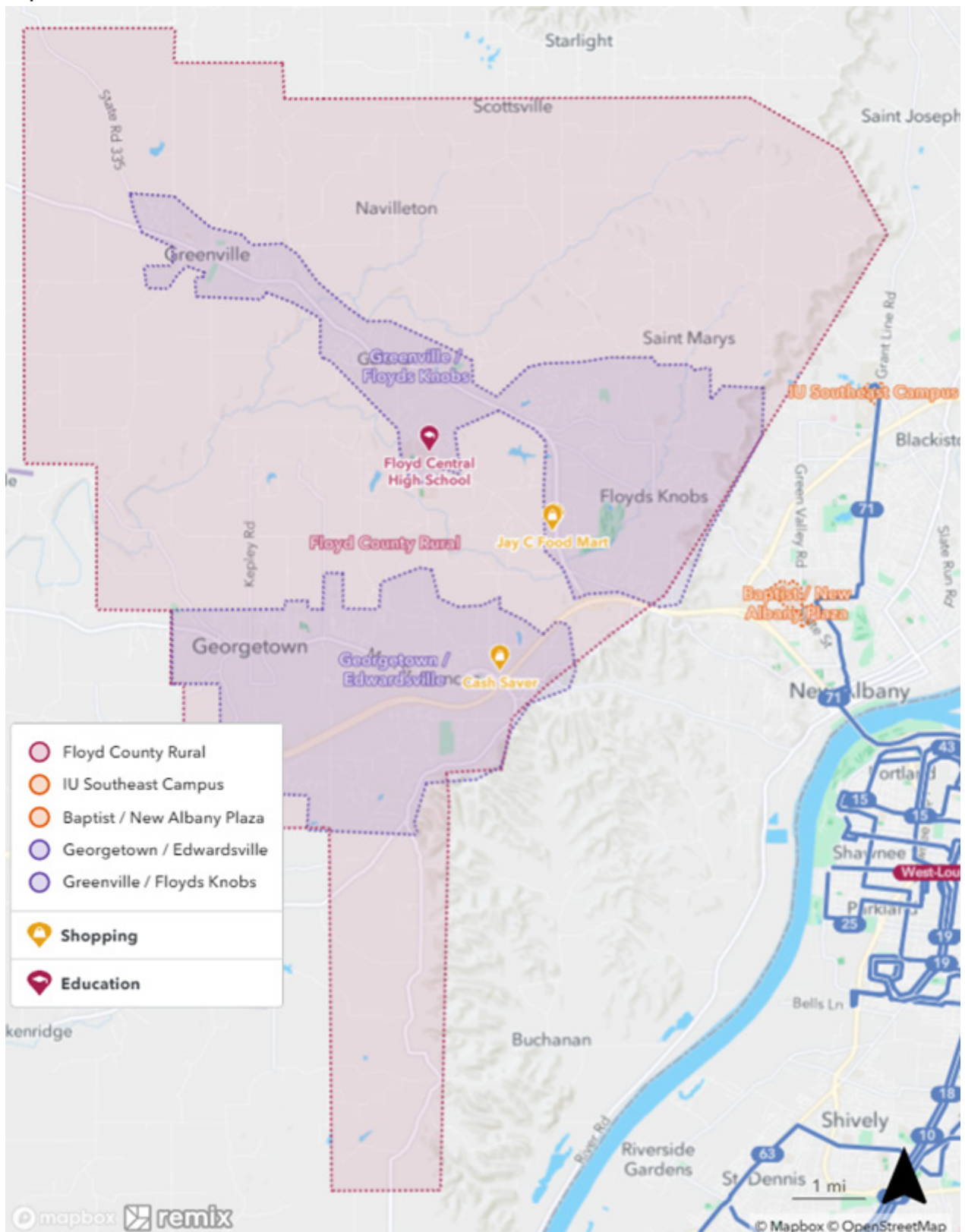
The use-cases expected in this zone include locally oriented trips within rural Floyd County, regional shopping and medical trips between rural areas and activity centers within New Albany, and home-to-school trips for students at IUS. A few commute trips are also likely.

The current SITS demand-responsive service is mainly funded by FTA Section 5311, which does not permit funding for trips that begin and end in FTA-designated urban areas. Since early 2022, Floyd County has supported SITS with its own funding contribution to serve these trips within and between FTA-designated urban areas. However, this funding restriction means that some SITS vehicles must remain dedicated to serving trips within rural areas while the remainder serve only trips within or between FTA-designated urban areas. Opportunity 1 is illustrated in Figure 14.



-Via pre-booked microtransit mobile app

FIGURE 14. OPPORTUNITY 1: UPGRADE SITS DEMAND-RESPONSE SERVICE TO PRE-BOOKED MICROTRANSIT



Opportunity 2: TARC New Albany On-Demand Microtransit

In New Albany, there is particularly high demand for transit service, as well as a range of activity centers, along the Spring Street, State Street, Grant Line Road, and Charlestown Road corridors. The second microtransit service option, referred to hereafter as Opportunity 2, is designed to provide an on-demand mobility option for the urbanized areas of New Albany where fixed-route bus service has underperformed in the past. Due to higher population and job densities and greater clustering of activity centers, microtransit service in this area should be operated as an on-demand service in which riders book rides at the time they need to travel, a distinct operating model from the pre-booked service described in Opportunity 1 above.

Opportunity 2's service zone consists of the New Albany municipality as well as the unincorporated portion of Floyd County between Grant Line Road and County Line Road, bordering Clark County. This zone has an area of 17.4 square miles, and it contains 43,800 residents and 23,000 jobs, with a population density of 2,500 residents per square mile and an employment density of 1,300 jobs per square mile. Key activity centers within the zone include Downtown New Albany, Baptist Health Floyd Hospital, New Albany Plaza, Walmart on Grant Line Road, the Indiana University Southeast (IUS) campus, and Meijer on Charlestown Road. Expected use-cases in this zone are likely to include locally oriented shopping and other discretionary trips within New Albany, home-to-school trips for IUS students, nonemergency medical trips to Baptist Health Floyd, and a smaller number of riders making regional trips via connections to TARC Route 71, along State Street or Grant Line Road.

One potential challenge with this service zone is that it omits several key activity centers located in Clark County that would generate significant travel demand, including Ivy Tech Community College and Green Tree Mall. Service to these locations would require an interlocal agreement between Floyd and Clark counties to support these longer trips. Because the service zone is located within an area where TARC has traditionally operated fixed-route service,

it is likely that TARC would manage the service with the County playing a supporting role. Another challenge in this zone is the limited frequency of TARC Route 71 (30-40 minute headways), which will present riders with potentially long wait times as they transfer between microtransit and Route 71 to complete regional trips between Floyd County and Louisville. Opportunity 2 is illustrated in Figure 15.

Fixed Route Service

Opportunity 3: Restoration of TARC Route 82

This option restores a portion of the former TARC Route 82 and would operate between New Albany Plaza and the Walmart on Sam Gwin Drive, in Clarksville. Service would operate via State Street, through Downtown Albany via Spring Street, and continue to Walmart via Lewis-Clark Parkway and Greentree Boulevard, in Clark County. The route would also serve destinations along the way, such as Green Tree Mall, Target, and Kroger in Clarksville, plus Baptist Floyd Hospital on State Street. The two primary trip purposes served by this route include intercounty, regional trips between New Albany and Clarksville and locally oriented shopping or commute trips within New Albany. A smaller number of riders may also choose to transfer to other TARC services, such as Route 72, via stops on Greentree Boulevard in Clarksville.

The primary challenge with this route is that when TARC operated Route 82 before the COVID-19 pandemic, the route was among its least productive services, with an operating cost of about \$15 per passenger trip and a productivity of just 6.5 passengers per revenue-hour. However, the previous route included a much longer segment through thinly developed suburban areas, between the Walmart on Sam Gwin Drive in Clarksville and the Meijer in Jeffersonville, that contributed to its poor performance. By cutting this route segment and operating only between New Albany and Clarksville,

FIGURE 15. OPPORTUNITY 2: TARC NEW ALBANY ON-DEMAND MICROTRANSIT

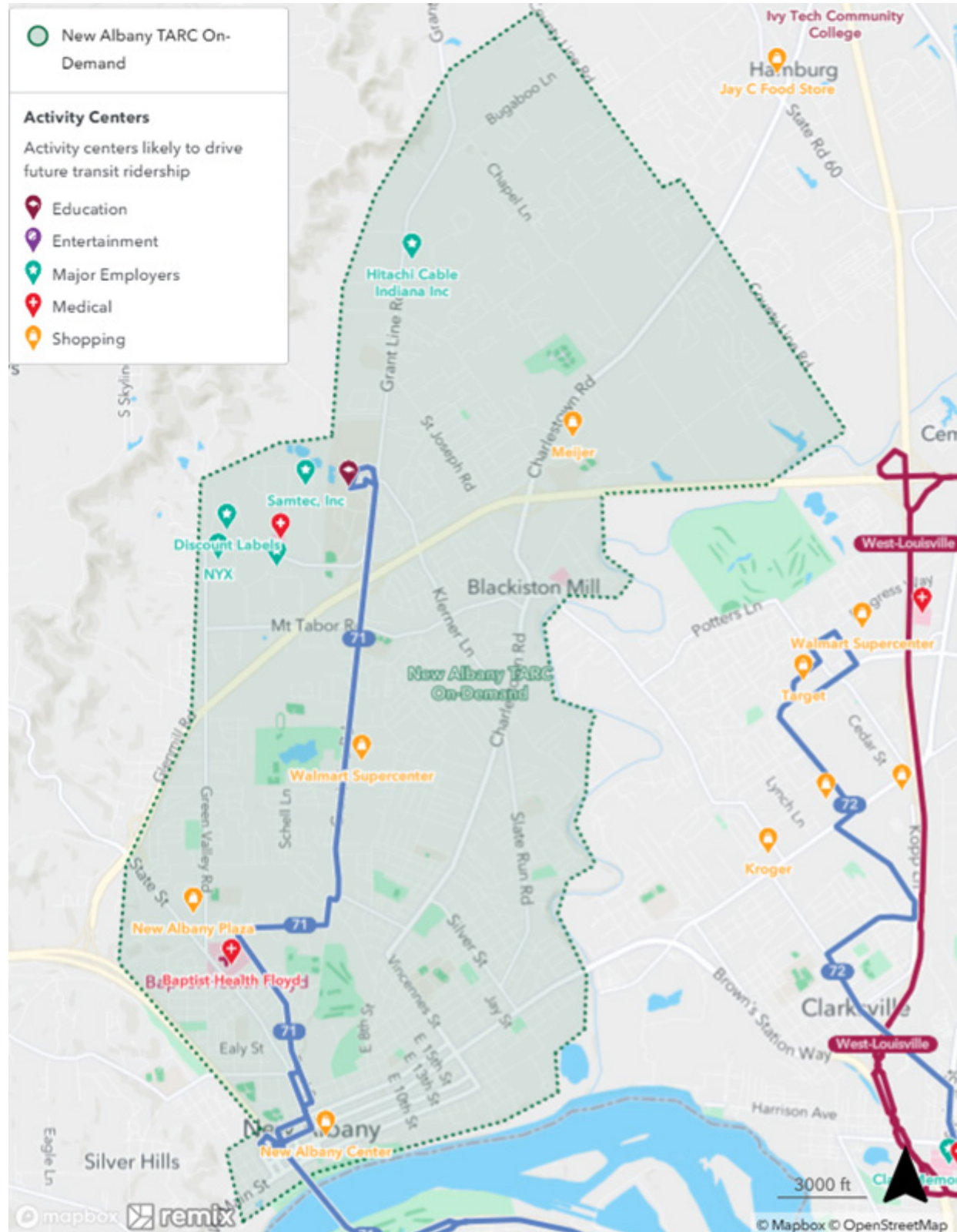
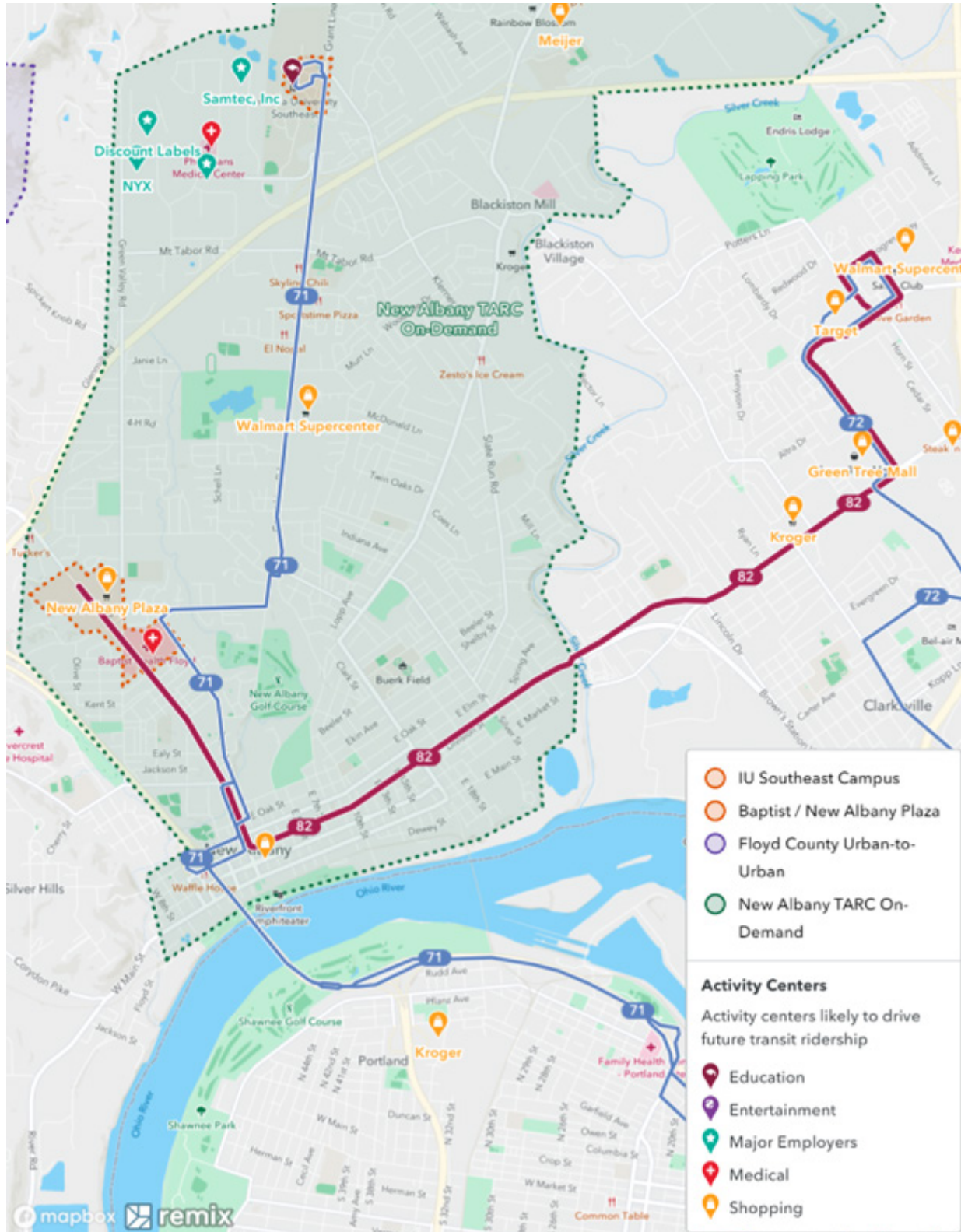


FIGURE 16. OPPORTUNITY 3: TARC ROUTE 82 RESTORATION WITH MORE FREQUENT SERVICE



its performance is likely to improve. Opportunity 3 is illustrated in Figure 16.

Opportunity 4: Fixed-Route Service between Downtown New Albany and Ivy Tech Community College, via Charlestown Road

This option provides fixed-route service to one of New Albany’s key arterial corridors for the first time. The route would offer a vital mobility option for Ivy Tech and Purdue Polytechnic students, shoppers at Meijer and Jay C grocery stores, and residents along the Charlestown Road corridor. If operated in conjunction with Opportunity 3 above, the two routes would share a service corridor along Spring Street in Downtown New Albany, between Vincennes and State Streets. This shared corridor would offer a combined transit service frequency of about 19 minutes, a significant improvement for a corridor that currently lacks fixed-route service. The two primary trip purposes served by this route include home-to-school trips for Ivy Tech and Purdue Polytechnic students, locally oriented shopping or

commute trips within New Albany.

The primary challenge with this option is TARC’s limited operating funds; given that significant service cuts are planned for August 2023, it is unlikely that TARC would begin operations on a new service corridor unless additional funding was secured.

TABLE 6. OPERATING STATISTICS FOR FIXED ROUTE ALTERNATIVES

	Opportunity 3: Restoration of TARC Route 82	Opportunity 4: Downtown New Albany to Ivy Tech, via Charlestown Road
Population within ¼ mile of bus stops	11,700	12,200
Employment within ¼ mile of bus stops	10,700	7,400
Round-trip route length (miles)	14.9	19.0
Round-trip cycle time (minutes)	60	76
Recommended hours of operation	Weekdays 6am - 8pm, Saturdays 7am - 8pm	Weekdays 6am - 8pm
Vehicles required	2 on weekdays, 1 on Saturdays	2
Service frequency	35 minutes on weekdays, 70 minutes on Saturdays	45 minutes
Annual revenue-hours	7,700	6,100
Annual operating cost	\$1.02 million	\$810,000



Alternatives Evaluation

Microtransit Cost/Benefit Analysis

Floyd County and other organizations that could potentially support microtransit service have limited budgets and vehicle resources. As a result, the total annual cost to operate microtransit, as well as the operating cost-per-passenger trip, are important metrics to evaluate each service alternative. As described in the previous section, Opportunity 1's costs are cross-tabulated for both 5311- and County-funded service segments because each of these funding streams are directed to distinct vehicles and drivers.

The following cost-benefit analysis tables take into consideration the following factors for each microtransit service alternative:

- **Vehicles required.** This figure represents the maximum number of vehicles necessary to operate during peak hours with the quality of service specified in the Microtransit service design guide section. Not all vehicles would need to be in service at all hours of the day, however. Typically, the average vehicle has an in-service ratio of between 80-85% in an on-demand microtransit service.
- **Annual-vehicle hours.** The number of vehicle-hours is rounded to the nearest hundred and assumes the more conservative hours of operation, weekdays 6am-6pm for Opportunity 1 and weekdays 6am-8pm for Opportunity 2. The annualization factor assumes 255 weekdays, 52 Saturdays, and 52 Sundays per year in which the service is operating. The remaining 6 days per year are assumed to be holidays when the service is not running.
- **Annual operating cost (gross).** This figure is the annual vehicle-hours required multiplied by the hourly operating costs for SITS, under Opportunity 1, and TARC for Opportunity 2. These cost assumptions are based on recent state and federal reporting for both agencies. This is a gross cost figure that does not include projected fare revenues for either service.
- **Operating cost per passenger trip.** This figure is a ratio of the annual ridership and the annual vehicle-hours of each scenario.

This analysis finds that in terms of gross annual operating costs, Opportunity 1 and Opportunity 2 would cost similar amounts, between \$820,000 and \$980,000 and between \$700,000 and \$920,000, respectively. These costs are typical for agency-operated microtransit services with 3-4 vehicles and similar hours of operation. However, because Opportunity 2 operates in a denser urban area, it is expected to serve much greater ridership and therefore a lower cost per passenger trip compared to Opportunity 1. However, Opportunity 1's cost per passenger trip is comparable to SITS' existing operations. In FY 2021, SITS reported an average cost per passenger trip of \$39. This figure includes some fixed-route operations accounting for about a quarter of the operator's annual costs, suggesting the cost per passenger trip for SITS demand-response service is somewhat higher than this average. These findings are summarized in Table 7.

TABLE 7. COST-BENEFIT ANALYSIS FOR MICROTRANSIT SERVICE ALTERNATIVES

	Opportunity 1: Upgrade SITS demand-response to pre-booked microtransit			Opportunity 2: TARC New Albany on-demand microtransit
Primary funding source	FTA Section 5311 (“rural”)	Floyd County (“urban”)	Combined 5311- and County-funded	TARC
Annual vehicle-hours	4,700 - 5,700	4,700 - 5,700	9,400 - 11,400	10,100 - 13,500
Annual ridership	6,000 - 8,000	8,000 - 12,000	14,000 - 20,000	32,000 - 47,000
One-time software installation fees	\$30,000 - 40,000		\$30,000 - 40,000	\$30,000 - \$40,000
Annual software license fees	\$10,000 - \$20,000	\$10,000 - \$20,000	\$20,000 - \$40,000	\$20,000 - \$30,000
Annual operating costs (inc. driver wages & benefits, vehicles, maintenance, fuel)	\$380,000 - \$460,000	\$380,000 - \$460,000	\$760,000 - \$920,000	\$640,000 - \$860,000
Total annual cost (gross)	\$410,000 - \$490,000	\$410,000 - \$490,000	\$820,000 - \$980,000	\$700,000 - \$920,000
Cost per passenger trip (gross)	\$59 - \$72	\$41 - \$51	\$49 - \$59	\$20 - \$22

Costs are shown in 2023 dollars.

Fixed-Route Cost/Benefit Analysis

To evaluate the cost-effectiveness of the proposed fixed-route options, Opportunity 3 and Opportunity 4, we began by calculating the annual revenue-hours using Remix Transit software, based on hours of operation, service corridors, and service frequency specified in the Fixed-route options section. Data for TARC Routes 71, 72, and the former Route 82’s operations are sourced from the agency’s Comprehensive Operations Analysis, which conducted route-level evaluations in 2018. Annual ridership is calculated using daily ridership totals for weekdays, Saturdays, and Sundays (where applicable) specified in the fixed-route ridership estimates along with an annualization factor of 255 weekday service days, 52 Saturday service days, and 52 Sunday service days per year. The average cost per passenger trip is shown for weekday service in Table 7 below. Likewise, the average productivity of service, the ratio of passenger boardings to revenue-hours, is provided in the table’s third row. This is an important measure of cost-effectiveness because fixed-route service is traditionally viewed as unsustainable if its productivity is below 10 passengers per revenue-hour.

By this benchmark, **neither Opportunity 3 nor Opportunity 4 can be considered sufficiently productive to justify operations as a fixed-route service.** Table 8 shows fare recovery ratios and the average subsidy per passenger trip (operating costs less fare revenue, divided by annual ridership). While the costs per passenger trip for both Opportunity 3 and Opportunity 4 would fall below those of the suspended Route 82, they are considerably higher than active Routes 71 and 72. This is an important consideration given the ongoing fiscal constraints TARC faces.

TABLE 8. COST-BENEFIT ANALYSIS FOR FIXED-ROUTE SERVICE ALTERNATIVES

	Route 71 Jeffersonville / New Albany	Route 72 Clarksville	Route 82 (suspended)	Opportunity 3: Reactivated Route 82	Opportunity 4: Downtown New Albany to Ivy Tech
Est. annual revenue-hours	19,630	10,470	7,100	7,700 (est.)	6,100 (est.)
Est. annual ridership	251,000	156,000	53,000	73,000	54,000
Average service productivity (boardings per revenue-hour)	13.1* (weekdays)	13.3* (weekdays)	6.5* (weekdays)	9.5	8.8
Est. annual operating cost	\$2.01 million	\$1.04 million	\$790,000	\$1.02 million	\$810,000
Average cost per passenger trip (weekdays)	\$7.71*	\$6.64*	\$14.82*	\$12.66	\$12.76
Fare recovery ratio	11.2%*	12.9%*	5.8%*	10.7%	9.9%
Average subsidy per passenger trip	\$6.85*	\$5.78*	\$13.96*	\$11.29	\$11.53

*2018 data reported in the TARC Comprehensive Operations Analysis.

Costs are shown in 2023 dollars.

Recommended Service Alternative

This study's primary direction is to guide the County in making effective, sustainable investments to improve mobility for its residents, visitors, and workers. **Based on the simulation results and cost-benefit analysis above, we recommend advancing Opportunity 1 (Upgrade SITS Demand-Response Service to Pre-booked Microtransit) to implementation.** This alternative offers the broadest service zone, to nearly all of the predominantly rural portion of Floyd County, while also leveraging the County's existing sponsorship of SITS' demand-response service. Increasing the County's contribution to SITS service in Floyd County will be instrumental in implementing a pre-booked microtransit platform capable of supporting higher levels of ridership.

Opportunity 2, an on-demand microtransit service operating within the more urbanized areas of the county in New Albany, serves significant mobility needs and would provide cost-effective service relative to comparable microtransit services in other suburban areas of the United States. However, Opportunity 2's service zone in New Albany lies squarely within TARC's service area, and large portions of the zone have already been identified as service priorities in TARC's Micro Mobility Transit Study. Therefore, as a longer-term option, we recommend that the County support TARC's efforts with a matching contribution to implement on-demand microtransit in this zone.

Despite serving significant community destinations and population/employment centers in New Albany, neither of the two fixed-route service alternatives, Opportunity 3 and Opportunity 4, would operate with sufficient productivity of service to fit within industry best practices for fixed-route service planning. Likewise, the estimated operating cost per passenger trip of these alternatives likely exceeds available operating funds given the agency's fiscal constraints, with similar costs per trip to the former Route 82 (\$13 compared to \$14, respectively). A summary of the transit improvement opportunities and key performance metrics collected through this Study's evaluation is included in Table 9.

TABLE 9. COMPARISON OF SERVICE ALTERNATIVES AND PERFORMANCE OUTCOMES

	Opportunity 1: Upgrade SITS Demand-Response Service to Pre-booked Microtransit		Opportunity 2: TARC New Albany On-Demand Microtransit	Opportunity 3: Restoration of TARC Route 82 with Increased Frequency	Opportunity 4: Downtown New Albany to Ivy Tech, via Charlestown Road
Operations Model	Pre-booked Microtransit		On-Demand Microtransit	Fixed-Route	Fixed-Route
Population + jobs served	33,600		66,800	22,400	19,600
Estimated weekday ridership*	44 - 74		122 - 182	269	210
Vehicles required	2	2	2 - 4	2 weekday, 1 Saturday	2
Annual revenue-hours*	4,700 - 5,700	4,700 - 5,700	10,100 - 13,500	7,700	6,400
Primary funding source(s)	FTA Section 5311 (rural areas)	Floyd County (urban areas)	TARC and/or Local	TARC and/or Local	TARC and/or Local
Hours of operation	6am-6pm M-F		6am-8pm M-F	6am - 8pm M-F, 8am - 6pm Sat.	6am-6pm M-F
Annual Operating Cost*	\$820,000 - \$980,000		\$700,000 - 920,000	\$1.02 million	\$860,000
Cost per Passenger Trip*	\$49 - 59		\$20 - 22	\$13	\$13

Costs are shown in 2023 dollars.

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Implementation & Financial Plan



The purpose of this section is to provide a roadmap to county staff and community decision makers for the implementation of upgraded public transit systems in Floyd County, Indiana. The implementation and financial plan establishes the County's preferred service plan, governance and management approach, financial plan, and identifies next steps for implementation.

Operating & Capital Requirements

Table 10 presents the estimated operating and capital requirements for the four transit service opportunities identified in the previous section. These figures are briefly described below.

- **Hours of operation** specifies the days and times that the service is proposed to operate.
- **Service Frequency** specifies how often a bus arrives at a stop per hour. For microtransit service, this is expressed as average wait time between trip booking and pickup by a vehicle.
- **Peak Vehicles** represents the maximum number of vehicles necessary to operate the proposed service plan. Not all vehicles would need to be in service at all hours of the day, however. Typically, the average vehicle has an in-service ratio of between 80-85% in an on-demand microtransit service. The upgrades to SITS service (Opportunity 1) do not require the purchasing of new vehicles. New vehicles would be required, however, for the other service alternatives.
- **Vehicle Revenue Hours** specifies the total hours that each vehicle is in service on an annual basis. The number of vehicle-hours is rounded to the nearest hundred and assumes the more conservative hours of operation, weekdays 6am-6pm for Opportunity 1 and weekdays 6am-8pm for Opportunity 2. This assumes 255 weekdays, 52 Saturdays, and 52 Sundays per year in which the service is operating. The remaining 6 days per year are assumed to be holidays when the service is not running. The figure is calculated using Remix Transit software, based on hours of operation, service corridors, and service frequency. Data for TARC's former Route 82's operations are sourced from the agency's Comprehensive Operations Analysis, which conducted route-level evaluations in 2018.
- **Annual operating cost** represents annual vehicle-hours required multiplied by the hourly operating costs for SITS, under Opportunity 1, and TARC for Opportunity 2. These cost assumptions are based on recent state and federal reporting for both agencies. This figure is the annual vehicle-hours required multiplied by the hourly operating costs (\$132 per revenue-hour, according to the FTA National Transit Database's FY 2021 reporting for TARC. This is a gross cost figure that does not include projected fare revenues for either service.
- **Software Installation and Licensing Fees.** These figures represent the key parts of the service upgrade – installation and annual licensing of the on-demand software would be considered capital expenses.

TABLE 10. OPERATING AND CAPITAL REQUIREMENTS BY TRANSIT SERVICE OPPORTUNITY

	Opportunity 1: Upgrade SITS Demand-Response Service to Pre-booked Microtransit	Opportunity 2: TARC New Albany On-Demand Microtransit	Opportunity 3: Restoration of TARC Route 82 with Increased Frequency	Opportunity 4: Downtown New Albany to Ivy Tech, via Charlestown Road
Service Characteristics and Operating Requirements				
Mode	Pre-booked Microtransit	On-Demand Microtransit	Fixed-Route	Fixed Route
Hours of operation	Wkdy: 6am – 6pm	Wkdy: 6am – 8pm	Wkdy: 6am – 8pm Sat: 7am – 8pm	Wkdy: 6am – 8pm
Service frequency	Max: 30 min Typical: 10-20 Min	Max: 30 min Typical: 10-20 Min	Wkdy: 35 min Sat: 70 min	Wkdy: 45 min
Peak Vehicles	Rural: 2 Urban: 2	2 - 4	Wkdy: 2 Sat: 1	Wkdy: 2
Annual Vehicle Revenue Hours	Rural: 4,700 – 5,700 Urban: 4,700 – 5,700	10,100 - 13,500	7,700	6,100
Operating Costs				
Annual operating costs	\$820,000 - \$980,000	\$700,000 - \$920,000	\$1,020,000	\$810,000
Capital Costs				
One-time software installation fees (capital)	\$30,000 - \$40,000	\$30,000 - \$40,000	--	--
Vehicles	--	\$512,500	\$1,425,000	\$1,425,000
Bus Stops Signs	--	--	\$30,000	\$38,000

Costs are shown in 2023 dollars.

Governance and Administrative Framework

Transit agencies in the United States operate under many forms of institutional structures. Most commonly, transit agencies are run as a unit of city or county government or as an independent authority with an appointed board of directors. In Floyd County, public transportation services are currently provided by three entities:

- Transit Authority of River City (TARC) provides fixed-route and ADA paratransit service within the urbanized areas of the county, predominantly within New Albany Township. Service in Indiana is funded through a mix of federal formula funds and state contributions from Indiana’s Public Mass Transportation Fund.
- Southern Indiana Transit System (SITS), operated by Blue River Services, Inc., provides general public demand response (dial-a-ride) transit within the county. Service is funded through a mix of federal, state, and local funding through an agreement between Floyd County and Blue River Services, Inc.
- LifeSpan Resources is a nonprofit organization that provides demand-response and nonemergency medical transportation service to qualified older adults and people with disabilities. Service is funded through federal, state, and private grants.

Based on input from Floyd County staff and stakeholders, the study ruled out the possibility of creating a new entity responsible for administering and managing transit service within the county. Instead, it is recommended that the county work within its existing relationships with SITS and TARC to advance the proposed service opportunities. Table 11 specifies the potential operators for each service opportunity.

For Opportunity 1, which envisions an upgrade of the current countywide demand response service to a pre-booked microtransit service, it is assumed that SITS will continue to administer and manage this service through funding contributions from the county. Under this arrangement, the County and SITS would execute an agreement specifying the County’s desired service policies, (span of service, fare structure), performance requirements (reliability, safety, vehicle cleanliness), and responsibilities of each party. It is assumed that SITS will continue to directly operate the service.

Opportunity 2, which envisions on-demand microtransit service in New Albany, would likely be operated by TARC since it is located within an area where TARC has traditionally operated fixed-route service. Opportunities 3 and 4 envision new fixed-route service and therefore, by default, would be operated by TARC.

TABLE 11. POTENTIAL OPERATORS BY SERVICE OPPORTUNITY

Service Opportunity	Potential Operator
Opportunity 1: Countywide Pre-Booked Microtransit	SITS
Opportunity 2: New Albany Microtransit	TARC
Opportunity 3: Restore TARC Route 82 Fixed-Route Service	TARC
Opportunity 4: New Charlestown Road Fixed-Route Service	TARC

Potential Funding Sources

This section outlines potential sources of revenue that could be used to fund the capital and operating costs of the service alternatives. These include directly generated farebox revenues, federal and state grant funding contributions, and local contributions. Table 12 summarizes the range of potential funding sources available to Floyd County and its partners. Each of these funding sources is briefly described below.

Fare Revenue

Most transit agencies charge passengers a fare to use the public transit system. However, fares are not set simply based on the cost of each trip. Very few public transit systems generate enough revenue from fares to cover operating expenses, and therefore have a high reliance on government subsidies. For FY 2021, the National Transit Database reported that, on average across all modes and all transit systems in the United States, passenger fares funded 11% of public transit operations. That is, for each dollar spent on operating costs per trip, 11 cents were recovered through fares.

Locally, farebox recover ratios tend to be lower. In 2021, TARC's fare revenue accounted for 9% of its fixed-route operating cost while SITS's farebox revenue accounted for about 2% of its operating cost. Thus, while farebox revenues will cover some operating costs, other funding mechanisms will need to be identified to fund system operating costs.

Federal Funding Sources

SITS and TARC currently receive both formula and discretionary (competitive) grants from the Federal Transit Administration (FTA). These grants are funded through federal transportation authorizations. The most recent federal transportation bill, the Bipartisan Infrastructure Law (BIL), was signed into law in January 2022, reauthorizing surface transportation programs from FY 2022 through FY 2026. The BIL authorizes up to \$108 billion to support federal public transportation programs, including \$91 billion in guaranteed funding.

A key funding consideration is that most federal grants require non-federal matching funds. The non-federal match funding requirements and possible sources vary by the locality's Census-designated area type, by federal funding program, and by purpose (i.e., capital vs. operating). For most capital expenses, the federal share is 80% of the total project cost. The remaining non-federal share of 20% could be required to come exclusively from local funding or could be split with state funding (i.e., 10% state and 10% local). For most operating expenses in non-urbanized and small urbanized areas, the federal share is 50% of the net project cost. Net project cost is that portion of the cost of a project that cannot be reasonably financed from fare revenues. The remaining 50% of the net project cost generally must come from local or state sources.

As noted above, a locality's Census-designated area type is important in determining which FTA federal funding programs are applicable. The USDOT, including the FTA, however, only classifies areas with 50,000 or more people as being urban. Areas with less than 50,000 people, including Urban Clusters, are classified as rural by the USDOT. The USDOT further categorizes Urbanized Areas (UZAs) as small urbanized areas (under 200,000 population) and large urbanized areas (200,000 or more population). Floyd County is unique in that it includes both urban and rural-designated areas. Rural areas are served by SITS, which is eligible for FTA Section 5311 funding. Urban areas in the County are served by TARC and LifeSpan Resources, which are eligible for FTA Section 5307 and 5310 funding. The summary of applicable FTA funding programs that follows, therefore, includes discussion of programs available in both urban and rural areas.

TABLE 12. POTENTIAL CAPITAL AND OPERATING FUNDING SOURCES

Funding Source	Description	Eligible Activities	Local Match
Federal			
FTA Section 5307 – Urbanized Area Grant	Supports operating and capital costs for transit service in urbanized areas.	Operating & Capital	50% Op. 20% Cap
FTA Section 5311 – Formula Grants for Rural Areas	Provides capital, planning, and operating assistance to states to support public transit in rural areas with populations of less than 50,000	Operating & Capital	50% Op. 80% Cap.
FTA Section 5339(b)	Provides for replace, rehabilitate, and purchase buses and related equipment and to construct bus-related facilities including technological changes or innovations to modify low or no emission vehicles or facilities	Capital	20%
FHWA Surface Transportation Block Grant	Provides funding for states and localities for a wide range of projects, including transit. The MPO allocates local funding for this program via a regular call for projects.	Capital	20%
Congestion Mitigation and Air Quality (CMAQ)	CMAQ provides funding for a variety of air quality projects including transit capital expenditures.	Capital	20%
Multiple competitive grants	USDOT has several competitive grant programs that include transit projects as eligible activities. These include the EMI, ARP, RAISE, SMART, Carbon Reduction and Congestion Relief programs, and 5339(c) grant programs.	Varies	Varies
State			
Public Mass Transportation Funds	The Indiana State Legislature established the Public Mass Transportation Fund to promote public transportation in Indiana. The funds are allocated to public transit systems on a performance-based formula.	Operating & Capital	n/a
READI Grant	The Indiana Regional Economic Acceleration & Development Initiative (READI) Grant has a stated goal of promoting strategic investments that will make Indiana a magnet for workforce talent and economic growth.	Operating & Capital	50%
Local			
Floyd County Property Tax Assessment	A local property tax assessment of 0.1, 0.25, and 0.5 cents for every \$100 of property value for Fayette County property owners.	Operating & Capital	n/a
Directly Generated			
Fares	Revenues from fares and passes	Operating & Capital	n/a
Service Contracts / Partnerships	Revenues from agreements with partner organizations related to providing transit service to a particular location or for subsidized or free transit.	Operating & Capital	n/a
Advertising	Revenues from advertising at stops and on vehicles	Operating & Capital	n/a
Concessions	Revenues from selling concession items at facilities	Operating & Capital	n/a

URBANIZED AREA FORMULA FUNDING - 5307

The Urbanized Area Formula Funding program (49 U.S.C. 5307) makes federal resources available to urbanized areas and for transit planning, capital, and operating assistance in urbanized areas. Funding is apportioned based on a combination of bus revenue vehicle miles, bus passenger miles, fixed guideway revenue vehicle miles, fixed guideway route miles, as well as population and population density. The federal share is not to exceed 80 percent of the net project cost for capital expenditures and 50 percent of the net project cost of operating assistance. The federal share may be 90 percent for the cost of vehicle-related equipment attributable to compliance with the Americans with Disabilities Act and the Clean Air Act.

FORMULA GRANTS FOR RURAL AREAS - 5311

The Formula Grants for Rural Areas program (49 U.S.C. 5311) provides capital, planning, and operating assistance to states to support public transportation in rural areas with populations of less than 50,000, where many residents often rely on public transit to reach their destinations. The federal share is 80 percent for capital projects, 50 percent for operating assistance, and 80 percent for Americans with Disabilities Act (ADA) non-fixed route paratransit service. Section 5311 funds are available to the States during the fiscal year of apportionment plus two additional years (total of three years). Funds are apportioned to States based on a formula that includes land area, population, revenue vehicle miles, and low-income individuals in rural areas.

The 5311 funds can be utilized for capital and operating assistance. Public transportation agencies, non-profit organizations, and local public bodies are eligible to receive these funds. Eligible assistance categories under 5311 funds which can be utilized in Floyd County include the following:

Capital Grants: These funds can be utilized for capital expenses (up to 80 percent of the costs) including but not limited to:

- Transit vehicle purchase
- Communications equipment
- Bus shelters and signs

- Wheelchair lifts and restraints
- Vehicle rehabilitation
- Operational support (e.g., Computer hardware and software)
- Spare parts
- Construction or rehabilitation of transit facilities

Operating Grants: Floyd County and/or SITS can utilize the 5311 funds for the following operating expenses (not to exceed 50 percent of the operating expenses):

- Salaries and wages
- Fringe benefits
- Transit service contracts
- Fuel, oil, lubricants, spare parts, tires
- Vehicle insurance and license
- Office rental cost

Rural Transit Assistance Program (RTAP): This grant program is also under the FTA Section 5311 program. Funding from this program can be used to assist in designing and implementing training and technical assistance projects and other rural transit-related support services tailored to fulfill the needs of rural transit operators. This program can be utilized for the software procurement and required training for the operators for the proposed Microtransit service.

Section 5311 apportionment to existing grantees are based on a specific formula followed by INDOT. The funding is allocated based on:

- Service Area Population (30 percent weighing factor)
- Annual passenger boardings (30 percent weighing factor)
- Locally Derived Income (40 percent weighing factor)

Locally Derived Income (LDI) has the highest weighing factor as INDOT encourages local funding support for transit funding. LDI includes fare revenues, local appropriations, unrestricted federal/state funds and cash grants.

Successful implementation of Microtransit service can contribute to higher annual passenger boardings and fare revenues and would help bring for Section 5311 funds for Floyd County.

GRANTS FOR BUSES AND BUS FACILITIES FORMULA PROGRAM - 5339(B)

This federal grant program (49 U.S.C. 5339(b)) makes federal resources available for the States and local transit agencies through a statutory formula to replace, rehabilitate, and purchase buses and related equipment and to construct bus-related facilities. Eligible activities include capital projects to replace, rehabilitate and purchase buses, vans, and related equipment, and to construct bus-related facilities, including technological changes or innovations to modify low or no emission vehicles or facilities.

SURFACE TRANSPORTATION BLOCK GRANT PROGRAM

The Surface Transportation Block Grant program (STBG) provides flexible funding that may be used by States and localities for projects to preserve and improve the conditions and performance on any Federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals.

CONGESTION MITIGATION AND AIR QUALITY (CMAQ)

The Congestion Mitigation and Air Quality Improvement (CMAQ) Program provides funds to States for transportation projects designed to reduce traffic congestion and improve air quality, particularly in areas of the country that do not attain national air quality standards.

State Funding Sources

INDOT's Office of Transit manages federal and state transit grant programs. The Transit Office works to develop operating and financial program standards, criteria, procedures, and policies for public and specialized transit agencies throughout the state. Floyd County and its partners would need to work closely with INDOT to include the transit projects in the Statewide Transportation Improvement Program (STIP) prior to requesting state funds.

PUBLIC MASS TRANSPORTATION FUND

The Indiana State Legislature established the Public Mass Transportation Fund (PMTF) to promote and develop public transportation in Indiana. The PMTF receives revenue from the State's General Fund. In CY 2023, the PMTF was funded at \$45 million. These funds are allocated using a performance-based formula, which looks at system operating expenses, passenger trips, total vehicle miles, and locally-derived income data. In the three years prior to 2020, SITS and TARC received funding through the PMTF equal to approximately 25% of net operating costs, on average. PMTF funding is available for the following uses:

- Operating Grants - Provides assistance for the operations of the transit service. PMTF funds are restricted to a dollar-for-dollar match with Locally Derived Income.
- Capital Projects - Generally include expenses for purchasing vehicles, communication equipment, fare boxes, passenger shelters, and construction of and rehabilitation of transit facilities. PMTF funds are restricted to a dollar-for-dollar match with Locally Derived Income.

INDIANA READI GRANT

The Indiana Regional Economic Acceleration & Development Initiative (READI) Grant has a stated goal of promoting strategic investments that will make Indiana a magnet for workforce talent and economic growth. The grant will award up to \$50 million per region, with Floyd County located in the Our Southern Indiana Regional Development Authority, a self-defined region including Clark, Floyd, Jefferson, Scott, and Washington counties. Proposed projects must be included in regional development plans, which will be evaluated by the READI review committee and IEDC board of directors. Fundable strategies include not only physical projects, but also sustainable multi-year programs like public-private partnerships to advance industry innovation.

Local Funding Sources

Local funds will be necessary to provide the local match share of the federal capital grants and the operating costs not covered by the passenger farebox revenue and federal or state operating assistance. There are a number of different mechanisms to raise local funding for transit service. While general fund appropriations, property taxes or sales taxes are the most common sources to fund transit systems. Below is a summary of some of the more common local transit funding sources.

GENERAL FUND APPROPRIATIONS

The additional costs of the public transit service are often covered by reallocating funds within local general funds. Historically, the use of the general funds for transit service reduces the long-term reliability of transit funding, especially when down economies result in fewer available funds.

PROPERTY TAXES

While Indiana does not levy any local sales taxes, revenue is generated by property taxes. Property tax revenues are common sources for funding transit operations and capital investments. Floyd County could elect to increase property taxes and dedicate the additional revenue to public transit services.

OTHER LOCAL TAXES

Other potential sources of local taxes that could be used for transit include:

- A dedicated tax or fee on the sale or registration of vehicles
- Several fuel tax options (above and beyond the current federal, state, and local taxes) on motor fuels purchased in Floyd County
- Occupational taxes
- Selective taxes applied to specific items such as tobacco, alcohol, and tourism related activities such as hotels or rental cars

ADVERTISING REVENUES

While usually a very small component of operating costs, most transit agencies do gain some revenue from advertising. Transit systems now sell the rights for companies to advertise on vehicles, benches, shelters, transfer facilities, kiosks, schedules, transfers, passes, system maps, etc. The transit system can realize cash revenue, or be compensated in trade (e.g., getting “free” advertising on radio stations that are advertising on the bus).

COMMUNITY AND EMPLOYER PARTNERSHIPS

Many transit agencies generate ancillary revenue streams through formal partnerships with major institutions, major employers, and human service agencies. These partnerships can be tailored to any organization but a common feature is discounted or free rides for an organization’s employees or customers. For example, a college, hospital, or major employer may provide an annual contribution in exchange for discounted bulk passes or for free rides for their employees/students when they flash their ID badges. Hospitals may also partner with microtransit services to provide nonemergency medical transportation (e.g., post-discharge). Human service agencies may have high demand for vouchers for special populations such as people with disabilities.

NON-DOT FEDERAL FUNDS AS LOCAL MATCH

In recent federal transportation authorizations, it has become possible for applicants to use non-DOT federal funds as local match, creating the possibility of local communities implementing transit projects with 100% federal funding. Use of non-DOT federal funds as local match is now possible under the following FTA programs:

- Section 5307 (Urbanized Area Formula Program),
- Section 5310 (Enhance Mobility for Seniors and Individuals with Disabilities), and
- Section 5311 (Formula Grants for Rural Areas).

In recent years, U.S. Department of Health and Human Services, U.S Department of Labor, and U.S Department of Housing and Urban Development are some agencies whose funds have been used as local match. One example is Older Americans Act (OAA) Title IIIB Supportive Services Funds.

Financial Plan

This section documents the anticipated capital and operating expenses and revenue sources required to operate the proposed transit opportunities identified in this study.

REVENUE SOURCES

The following sources of revenue will be used to cover the capital and operating expenses of the proposed transit opportunities. These include directly generated farebox revenues, federal and state grant funding contributions, and local contributions.

- **Farebox:** For planning purposes, it is assumed that the proposed service will generate a 5% farebox recovery ratio. If the service generates additional revenue beyond this amount, the local and federal operating share will be reduced accordingly. On the other hand, if farebox recovery falls below 5%, the County will be responsible for covering the shortfall.
- **Federal:** It is assumed that SITS will apply FTA Section 5311 grant funding for eligible rural service under Opportunity 1 (countywide demand response). Section 5311 covers up to 50% of net operating expenses after fare revenue is deducted and up to 80% of capital expenses including revenue vehicles and certain eligible equipment purchases. Federal operating funds are not assumed for opportunities 2, 3, or 4. However, it is assumed that all opportunities will be eligible for federal capital funding.
- **State:** It is assumed that the state of Indiana, through the PMTF, could cover up to 25% of annual net operating costs for all service opportunities. This figure is based on an assessment of PMTF funding allocation to SITS and TARC between 2017 and 2019. The total state funding commitment is subject to approval by the state legislature and apportionments based on the PMTF formula. In recent years, the appropriated amount of funds statewide has been flat and the competition for these dollars is intense.
- **Local:** The County will be required to cover 50% of the net operating cost and 20% of the capital expenses. It is assumed that the County will utilize general fund contributions to fund the local match requirement, less any state contributions.

OPERATING FINANCIAL PLAN

Table 13 provides the estimated operating expenses and revenue assumptions for the first year of operation for each service opportunity, presented in 2023 dollars. Annual O&M costs were developed for both SITS and TARC expenses for each service opportunity. These budget items include all transportation-related expenses including driver wages and benefits, supervisory and support staff wages and benefits, insurance, fuel, and maintenance-related expenditures. Additional expenses incurred directly by the County related to administration or marketing are assumed to be ineligible for federal or state grant funding.

- Opportunities 3 and 4: Restore TARC Route 82 fixed-route service between New Albany and Clarksville and Implement new fixed-route service along the Charlestown Road corridor between New Albany and Sellersburg. While it is likely that TARC could absorb the estimated vehicle requirements for this new route into its existing fleet, for the purpose of these estimates, it is assumed that two new 40-foot transit buses will need to be purchased. A new fixed-route will also require installation of new bus stop signs. A bus stop installation allowance was built into the capital budget based on an average of four bus stops per route mile

CAPITAL FINANCIAL PLAN

Table 14 details the estimated capital items and costs required for the proposed service opportunities. For each opportunity, it is assumed that federal funds will be leveraged at 80% of total project cost with a 20% local match. Assumptions for each service opportunity are described below:

- Opportunity 1: Upgrade SITS demand-response service to pre-booked microtransit. It was determined that the upgrades proposed for Opportunity 1 require no additional vehicles. The only capital costs would be in the form of upgraded dispatch software capable of handling reservations from an app or via call center to accommodate a two-hour reservation window. For the purpose of these estimates, it is assumed that the software investment will be limited to SITS's Floyd County operation. As a practical matter, it may be more advantageous for SITS to utilize the improved software and app across its five-county service area, which would likely require a larger up-front capital cost.
- Opportunity 2: Implement new on-demand microtransit zone in New Albany. Like opportunity 1, opportunity 2 will require acquisition of new dispatch software. In addition, it is assumed that this new service will require the purchase of five new vans or cutaway buses, four peak vehicles plus one spare.

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TABLE 13. ESTIMATED BASE-YEAR OPERATING FINANCIAL PLANS BY SERVICE OPPORTUNITY

		Opportunity 1			Opportunity 2	Opportunity 3	Opportunity 4
		Microtransit Rural SITS	Microtransit Urban SITS	Urban + Rural Total	Microtransit Urban TARC	Fixed Route Urban TARC	Fixed Route Urban TARC
Annual O&M Costs							
A	Estimated O&M Costs	\$394,000	\$394,000	\$788,000	\$662,000	\$1,020,000	\$810,000
Operations Financial Plan - FTA 5311							
B	Estimated Fare Revenue @ 5% of Total O&M Cost (A*5%) ¹	\$19,700	\$19,700	\$39,400	\$33,100	\$51,000	\$40,500
C	Net Operating Cost (A-B)	\$374,300	\$374,300	\$748,600	\$628,900	\$969,000	\$769,500
D	Federal Section 5311 Funds @ 50% Share (C*50%) ²	\$187,150	\$0	\$187,150	\$0	\$0	\$0
E	Total Local Match Required (C-D)	\$187,150	\$374,300	\$561,450	\$628,900	\$969,000	\$769,500
F	Indiana PMTF Allocation @ 25% Net O&M Cost (E*25%) ³	\$93,575	\$93,575	\$187,150	\$157,225	\$242,250	\$192,375
G	Net Local Operating Contributions Required (E-F)	\$93,575	\$280,725	\$374,300	\$471,675	\$726,750	\$577,125

1. Based on SITS three-year average farebox recovery ratio, 2017-2019 (pre-COVID)
 2. Assumes local contribution is sufficient to maximize federal contribution
 3. Based on SITS and TARC three-year average state share of net operating expenses, 2017-2019 (pre-COVID)
 Costs are shown in 2023 dollars.

TABLE 14. ESTIMATED INITIAL CAPITAL COSTS BY SERVICE OPPORTUNITY

Item	Description	Unit	Unit Cost	Opportunity 1			Opportunity 2		Opportunity 3		Opportunity 4			
				Microtransit Rural SITS	Microtransit Urban SITS	Urban + Rural Total	Microtransit Urban TARC	Fixed Route Urban TARC	Fixed Route Urban TARC					
Revenue Fleet & Equipment				Qty	Ext Cost	Qty	Ext Cost	Ext Cost	Qty	Ext Cost	Qty	Ext Cost	Qty	Ext Cost
Demand-Response Bus	12 passenger cutaway (accessible)	EA	\$87,500	0	\$0	0	\$0	\$0	5	\$437,500	0	\$0	0	\$0
Fixed-Route Bus	40' transit bus	EA	\$675,000	0	\$0	0	\$0	\$0	0	\$0	2	\$1,350,000	2	\$1,350,000
Bus Equipment	See note 1	EA	\$15,000	0	\$0	0	\$0	\$0	5	\$75,000	5	\$75,000	5	\$75,000
			<i>Subtotal</i>	\$0		\$0		\$0	\$512,500		\$1,425,000		\$1,425,000	
Passenger Facilities & Amenities														
Bus Stop Signs	Pole-mounted signs w/ install	EA	\$500	0	\$0	0	\$0	\$0	0	\$0	60	\$30,000	76	\$38,000
			<i>Subtotal</i>	\$0		\$0		\$0	\$0		\$30,000		\$38,000	
Software														
Software Installation Fees	One-time	EA	\$35,000	1	\$35,000	1	\$35,000	\$35,000	1	\$35,000	0	\$0	1	\$35,000
			<i>Subtotal</i>	\$35,000		\$35,000		\$35,000	\$35,000		\$0		\$35,000	
Total Capital Costs				\$35,000		\$35,000		\$35,000	\$547,500		\$1,455,000		\$1,498,000	
Projected Federal Share @ 80%				\$28,000		\$28,000		\$28,000	\$438,000		\$1,164,000		\$1,198,400	
Projected Local Share @ 20%				\$7,000		\$7,000		\$7,000	\$109,500		\$291,000		\$299,600	

- 1. Headsigns, fareboxes, radios, tablets, pullcords, bike racks, branding/vehicle wrap
- 2. Local share may be offset by state funding through PMTF allocation or READI grant

Costs are shown in 2023 dollars.

Implementation & Phasing

The four transit service opportunities identified in this study represent a menu of options to improve mobility throughout Floyd County. These opportunities each carry unique costs and benefits and can be implemented as standalone projects or as a program of projects implemented over time as funding becomes available. Table 15 provides a phased implementation framework that takes into consideration costs and potential complexity of each opportunity.

TABLE 15. IMPLEMENTATION TIMEFRAME BY SERVICE OPPORTUNITY

Service Opportunity	Timeframe	Partnerships & Actions
Opportunity 1: Countywide Pre-Booked Microtransit	Near-Term: 1-2 years	SITS – establish/amend service contract and procure upgraded software and customer facing application
Opportunity 2: New Albany Microtransit	Mid-term: 3-5 years	TARC – initiate discussions to explore viability of launching New Albany pilot project City of New Albany – initiate discussions to explore potential partnership and/or funding arrangements
Opportunity 3: Restore TARC Route 82 Fixed-Route Service	Mid-term: 3-5 years	TARC – initiate discussions to explore viability of restoring Route 82 and potential cost-sharing arrangements
Opportunity 4: New Charlestown Road Fixed-Route Service	Long-Term: 5+ years	TARC – initiate discussions to explore viability of implementing new route and potential cost-sharing arrangements

OPPORTUNITY 1 IMPLEMENTATION CONSIDERATIONS

The study identified Opportunity 1 (upgrade SITS demand-response service to pre-booked microtransit) as the most viable improvement that Floyd County should consider for near-term implementation. Below are the key steps the County should take to advance this project.

Pre-Implementation

- **Establish operating agreement with SITS.** The Floyd County Commission will need to officially enter into an agreement with SITS to expand the services and enter into an amended agreement specifying service hours, reservations windows and other performance parameters.
- **Secure capital and operating funding.** The County should also engage with INDOT's Office of Transit to ensure that the new concept for countywide on demand service is compliant with INDOT operating and financial program standards, criteria, procedures, and policies. SITS and the County should coordinate to ensure the project is documented and included in the STIP to maximize potential federal and state funding opportunities.

- **Implement marketing campaign.** For any new transit service to be successful, it is critical to create a comprehensive marketing plan prior to the launch of the service. In addition to marketing to customers directly, local institutions are often excellent marketing partners who can help promote local transit services to their customers, employees, and, in the case of universities, students. Marketing efforts for the upgraded services could include:
 - Street marketing at fixed-route bus stops
 - Parking branded service vehicles in high-traffic areas
 - Canvassing or handouts at key points of interest
 - Bus driver handouts
 - Ads/notices on bus stop signage
 - Producing a public service announcement (PSA) to be aired on local public television or the agency's YouTube account
 - Placing social media ads
 - Participation in community events (e.g. farmers markets, sports tournaments, street fairs)
 - Activation of key local influencers and community leaders

Post-Implementation

- **Periodic evaluation.** As part of ongoing operations, periodic evaluation of the operations of the on demand service. This will include the number of trips per month, the on time performance and adherence to pick up times both to and from the destination, as well as any missed trips or denials of trips.
- **On-going communication.** As part of the implementation plan, it is suggested that the County convene a periodic meeting with service providers in the region to include SITS, LifeSpan, TARC and any others operating under FTA 5311 or 5310 that serve residents of Floyd County.

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