Berkshire Regional Planning Commission Microtransit Feasibility Study

Berkshire County Needs Assessment

March 2025

Prepared by:

Foursquare ITP

In association with:

Berkshire County Regional Planning Commission

Contents

Figures

Tables

Executive Summary

Microtransit is an on-demand rideshare service that offers an alternative to fixed-route transit service in areas lower density areas. Like for services offered by transportation network companies, microtransit customers can book private, door-to-door rides within a given zone, usually from their smartphone, but with a call-in option available.

The Berkshire Regional Planning Commission (BRPC) is conducting a microtransit feasibility study for Berkshire County, building upon prior work by BRPC as well as the Berkshire County Regional Transit Authority (BRTA) and 1Berkshire, the region's official economic development organization. Through this study, BRPC will develop recommendations for the implementation of a pilot microtransit service in the county, with the goal of providing sustainable, long-term microtransit service.

This Needs Assessment provides an overview of relevant existing conditions in Berkshire County, including existing transit options, key destinations, and demographic and socio-economic trends. It also presents initial findings on transit need and travel flows throughout the county and addresses how these factors may affect suitability for microtransit.

KEY FINDINGS

Microtransit suitability was analyzed through two primary lenses:

- **Demographic Suitability**, which is a combination of Transit Potential (density of jobs and population) and Transit Need (density of populations with a high propensity to use transit, such as low-income people, car-free or car-light households, or the elderly).
- **Travel Demand Suitability**, which analyzes travel flows in the region to find locations with trips with optimal characteristics for microtransit, such as length, trip purpose, lack of defined peak, and lack of alignment to a single transit corridor.

Areas that rank neither "low" nor "high" but in the "ideal" medium of both indices are considered most suitable for microtransit. Areas may still be somewhat suitable for microtransit if they rank elsewhere on either index, but areas that are "high" in both are likely most suitable for traditional fixed-route bus service, while those that are "low" in both are likely to have the least demand for microtransit. In addition, if a BRTA route has lower ridership per hour and/or higher operating cost per passenger, those may be indicators that microtransit could benefit those routes' catchment area—either as a substitute for or an enhancement to the fixed-route service.

This analysis revealed the following towns or clusters of towns to have the greatest confluence of areas "most" or "somewhat" suitable for microtransit including, Williamstown-North Adams-Adams, Pittsfield, Lee-Stockbridge, and Great Barrington.

1. Introduction

Microtransit is a service that offers on-demand rides in specific zones. Like rideshare services, microtransit customers can book private, door-to-door rides within a given zone, usually from their smartphone, but with a call-in option available. Microtransit is most effective in areas where the population density is too low or road conditions do not accommodate fixed-route bus service, but where there is enough density and transit need due to certain demographic factors such as income and car ownership. It can offer the benefit of improved accessibility for residents and visitors in rural areas.

The Berkshire Regional Planning Commission (BRPC) is conducting a microtransit feasibility study for Berkshire County, building upon prior work by BRPC as well as the Berkshire County Regional Transit Authority (BRTA) and 1Berkshire, the region's official economic development organization. Through this study, BRPC will develop recommendations for the implementation of a pilot microtransit service in the county, with the goal of providing sustainable, long-term microtransit service.

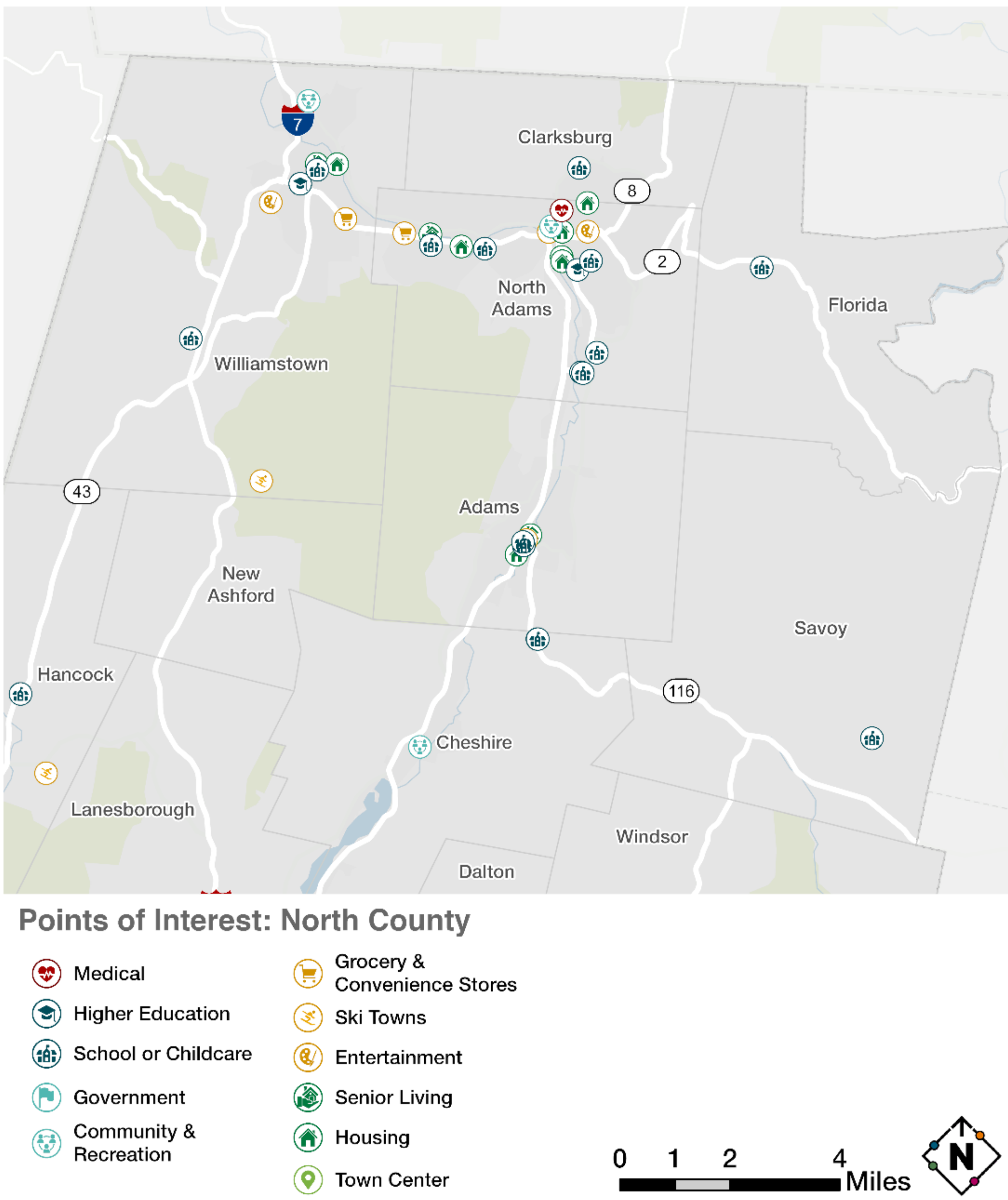
This Needs Assessment provides an overview of relevant existing conditions in Berkshire County, including existing transit options, key destinations, and demographic and socio-economic trends. It also presents initial findings on transit need and travel flows throughout the county and addresses how these factors may affect suitability for microtransit.

The Needs Assessment concludes with a summary of where microtransit service may be most successful based on existing demographic and travel trends. Overlaying each analysis highlights where there may be gaps in the existing transit network and begins to lay the groundwork for where new microtransit service could be implemented. The findings of this Needs Assessment will help inform the development of microtransit service scenarios, and ultimately, the development of recommendations for a microtransit pilot program.

2. County Snapshot

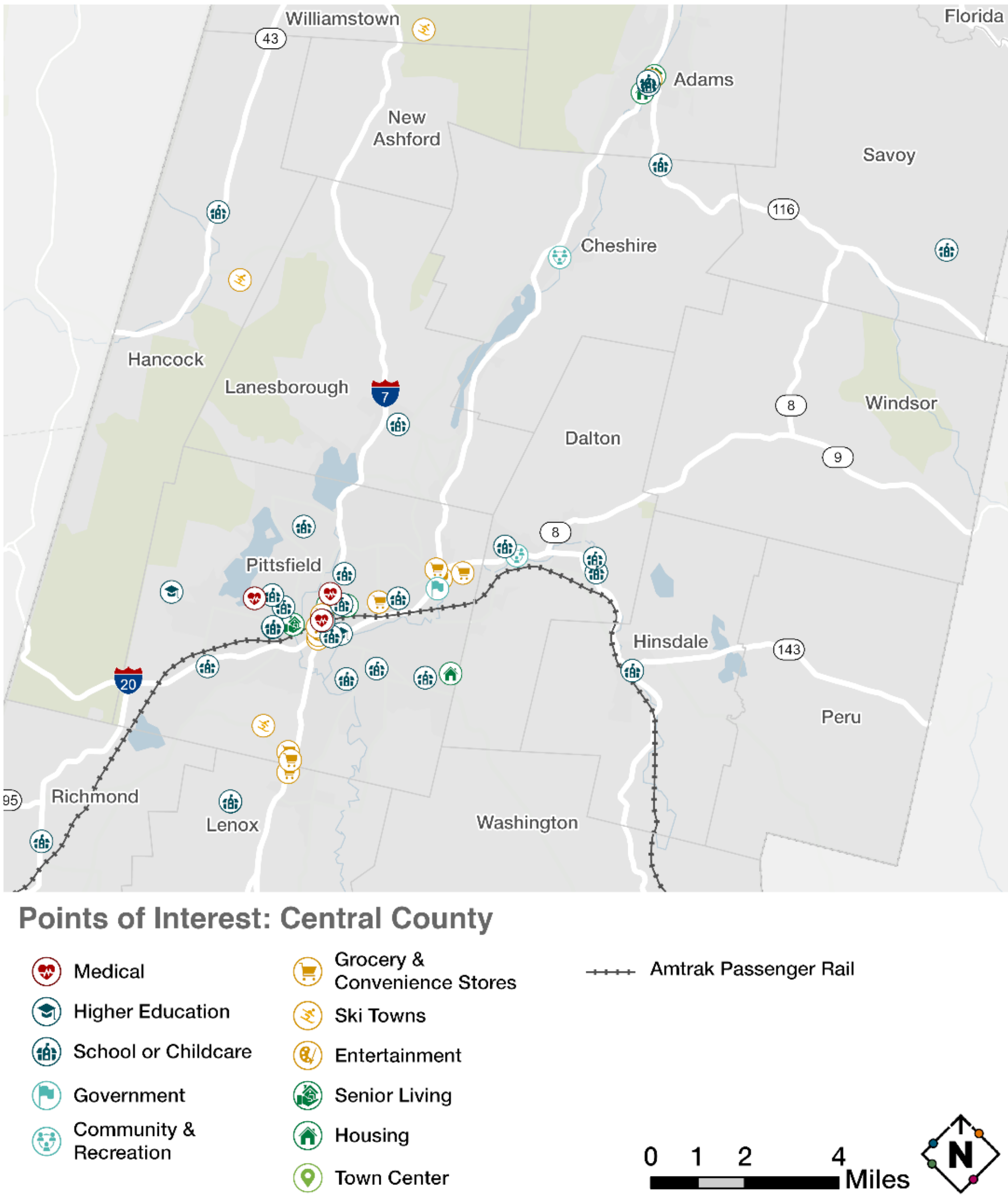
Berkshire County is a predominantly rural county in Western Massachusetts knowns for its arts, entertainment, and cultural destinations. The county has a range of seasonal recreation attractions such as skiing and hiking. Many of these popular destinations, as well as important hubs for day-to-day activity, are shown in **Figure 1** through **Figure 3**. Although most points of interest (POIs) can be found along major corridors and in downtown areas, there are still points of interest that lack transit access, particularly off the main north-south corridors of US 7 and Route 8.

Figure 1: North County Points of Interest



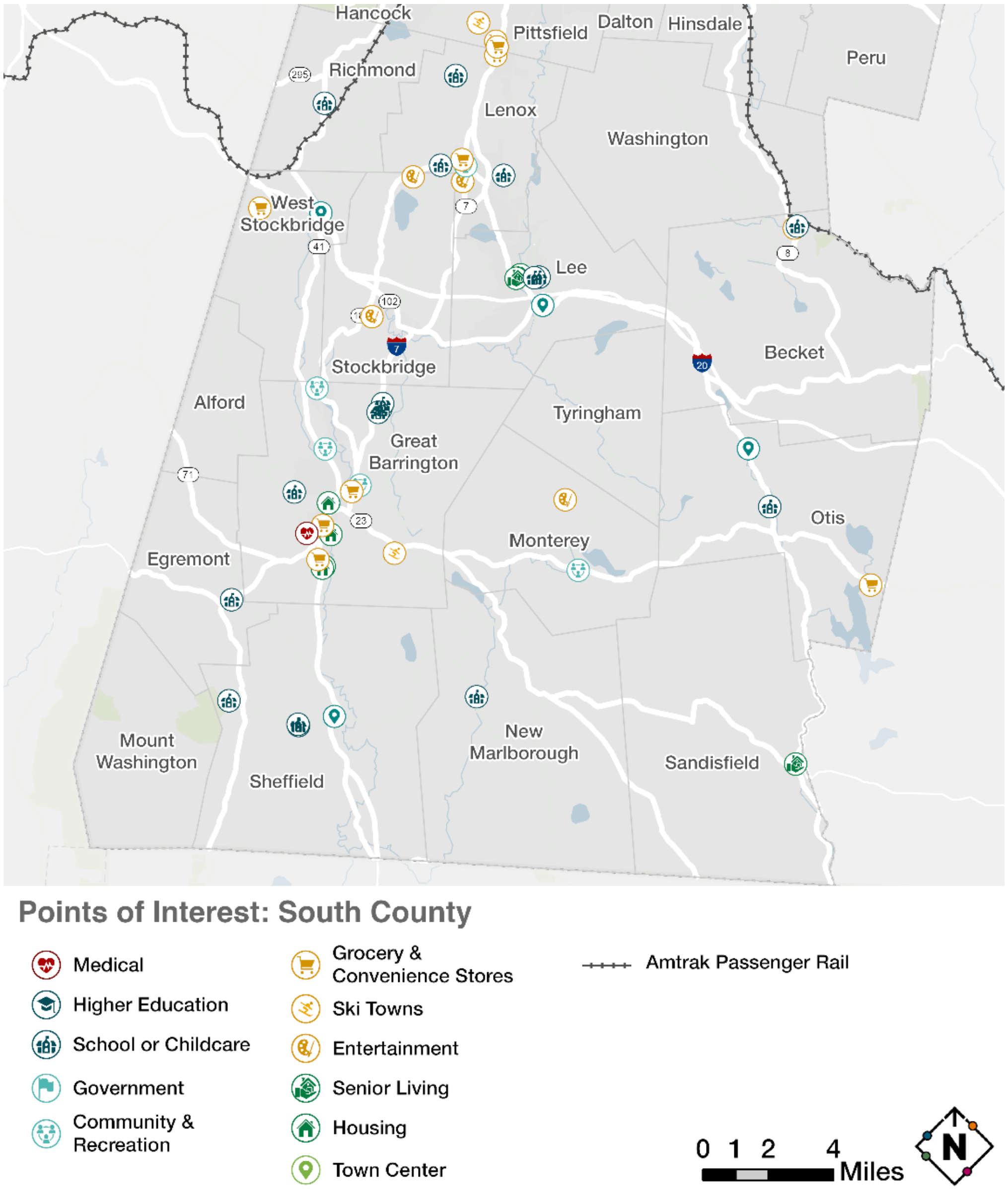
North County is anchored by North Adams and Williamstown, which are home to the educational and arts institutions of Williams College, the Massachusetts College of Liberal Arts, the Clark Art Institute, and the Massachusetts Museum of Contemporary Art (MASS MoCA). Most of North County's POIs lie between these two localities on or nearby Route 2. North Adams is home to a hospital and several public housing developments. Adams also has some pockets of density, especially at the intersection of Routes 8 and 116.

Figure 2: Central County Points of Interest



The county seat of Pittsfield is located in Central County, and with it a high density of POIs, including several hospitals, shopping centers, schools, and theaters. Pittsfield's Intermodal Transportation Center is a stop for most of BRTA's bus services as well as for Amtrak, which offers daily service to Boston to the east and to Albany, Buffalo, and Chicago to the west. (From 2022-24, Amtrak ran a three-year pilot of service that directly connected Pittsfield to New York City, and the County is exploring funding options to maintain that service.) Smaller towns like Dalton, Hinsdale, and Peru radiate out from Pittsfield.

Figure 3: South County Points of Interest



South County, the largest of the county's three sub-regions by area, has multiple nodes including Great Barrington Lenox, Stockbridge, and Lee, which all host a number of key regional POIs. There are shopping centers distributed throughout South County. The early college Simon's Rock is located in Great Barrington, although it is relocating to New York in fall 2025. The music venue Tanglewood draws visitors from around New England and even the world, especially in the summer when it hosts the Boston Symphony Orchestra.

Figure 4 provides an overview of fixed-route transit service in Berkshire County, operated by the BRTA.

BRTA currently operates 13 fixed routes Monday through Saturday that provide connections to destinations, cities, and towns throughout the county. Most routes converge in the City of Pittsfield, which acts as a regional hub for the county, providing out-of-state connections via Amtrak and interstate bus. BRTA Routes 1, 2, and 21 provide regional connections outside of the Pittsfield area, providing access to the City of North Adams in the north and to the Town of Great Barrington in the south.

Local bus trips (within one town plus one connecting town) cost $1.75 with cash or $1.55 with a Charlie Card. Systemwide trips (across three or more towns) cost $4.50 with cash or $4.00 with a Charlie Card. BRTA offers reduced fares for passengers over the age of 60, K-12 students, and passengers with a Massachusetts Access Pass. One-, seven-, and 30-day passes are available at full and reduced fares. BRTA, along with 12 other regional transit authorities in Massachusetts, went fare-free beginning January 1, 2025. The funding for this initiative, provided by the state, currently lasts through September 2025.[1]

Figure 4: Existing Fixed-Route Transit

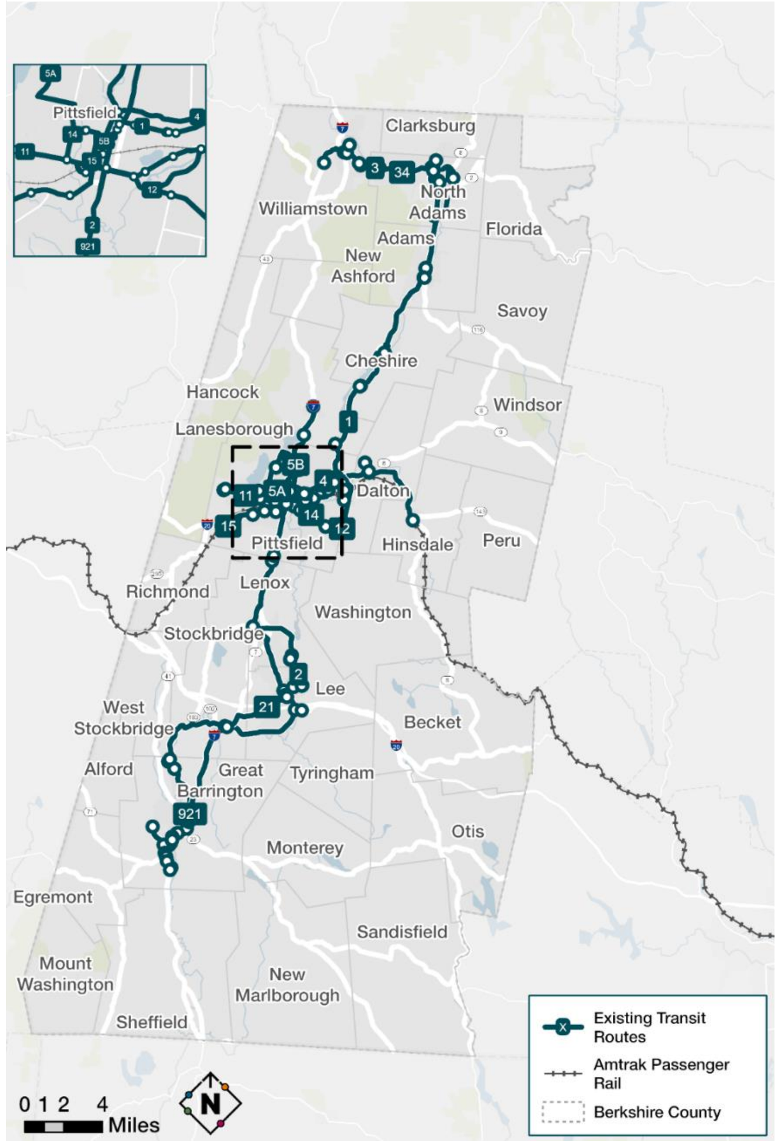
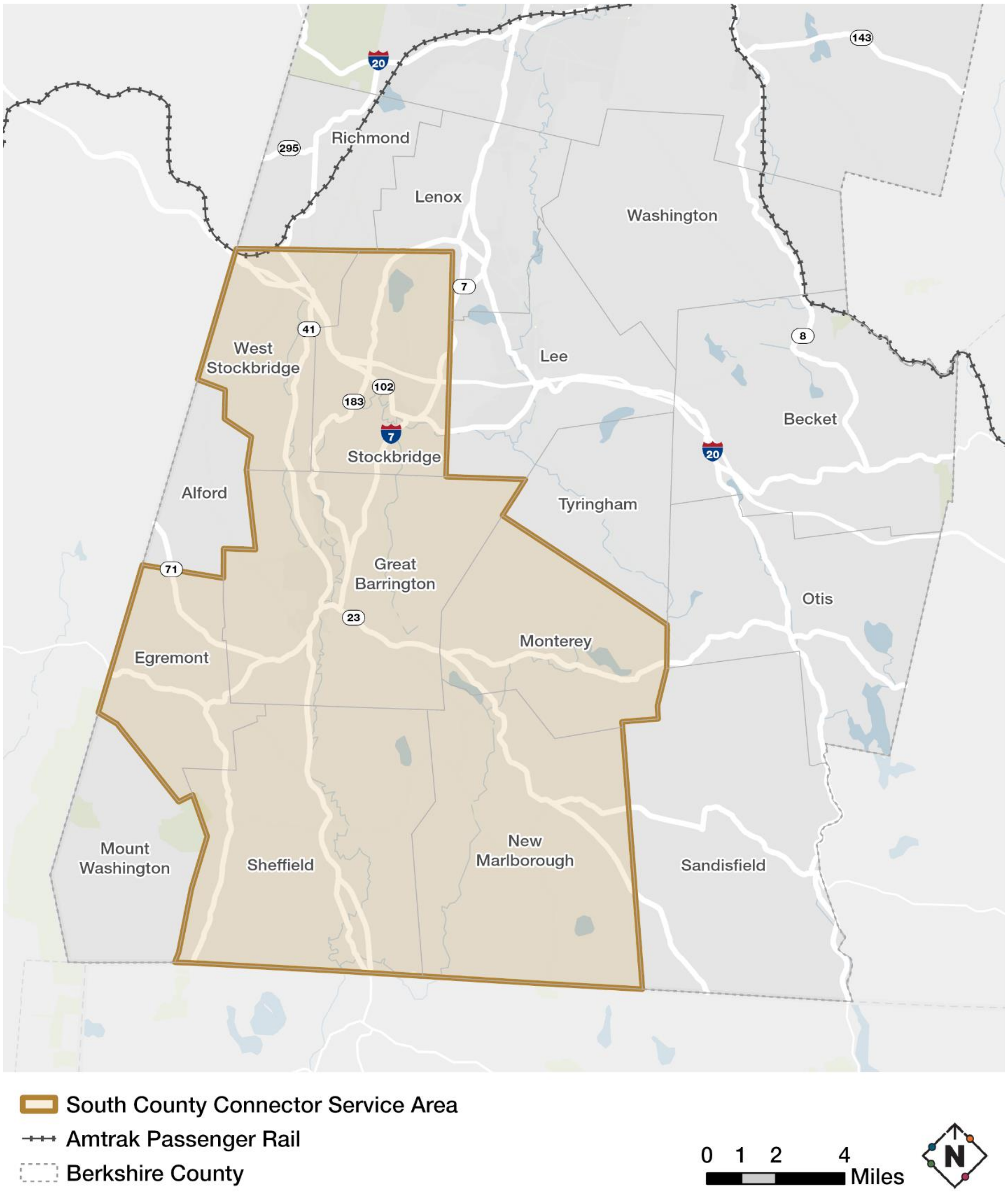


Figure 5 provides an overview of the South County Connector service area. The South County Connector is a demand response service throughout South County, providing trips in and between Egremont, Great Barrington, Monterey, Stockbridge, West Stockbridge, and Sheffield. The hours of operation are 6:00 a.m. to 9:00 p.m. on weekdays and 7:00 a.m. to 9:00 p.m. on weekends. One-way trips within the same town cost $2.00, and one-way trips between towns cost $4.00.

The service also operates in Canaan, Connecticut, for Massachusetts residents between 7:00 a.m. and 7:00 p.m. on Monday through Saturday, and in New Marlborough for seniors and disabled riders only between 7:30 a.m. and 4:00 p.m. on weekdays.

[1] BRTA, "BRTA Announces Free Rides from November 29, 2024 – September 30, 2025," October 24, 2024, https://berkshirerta.com/2024/10/24/brta-announces-free-rides-from-november-29-2024-september-30-2025/.

Figure 5: South County Connector Service Area



While fixed-route service provides connections in key areas throughout the county, there are fixed-route transportation gaps for those who do not live in proximity to a bus route and who may have no or limited access to a personal vehicle. Microtransit can be a bridge for that gap, providing connections to points of interest throughout the county that currently do not have transit access. The South County Connector is filling gaps in the fixed-route network in South County, but gaps remain outside of the South County Connector's service area.

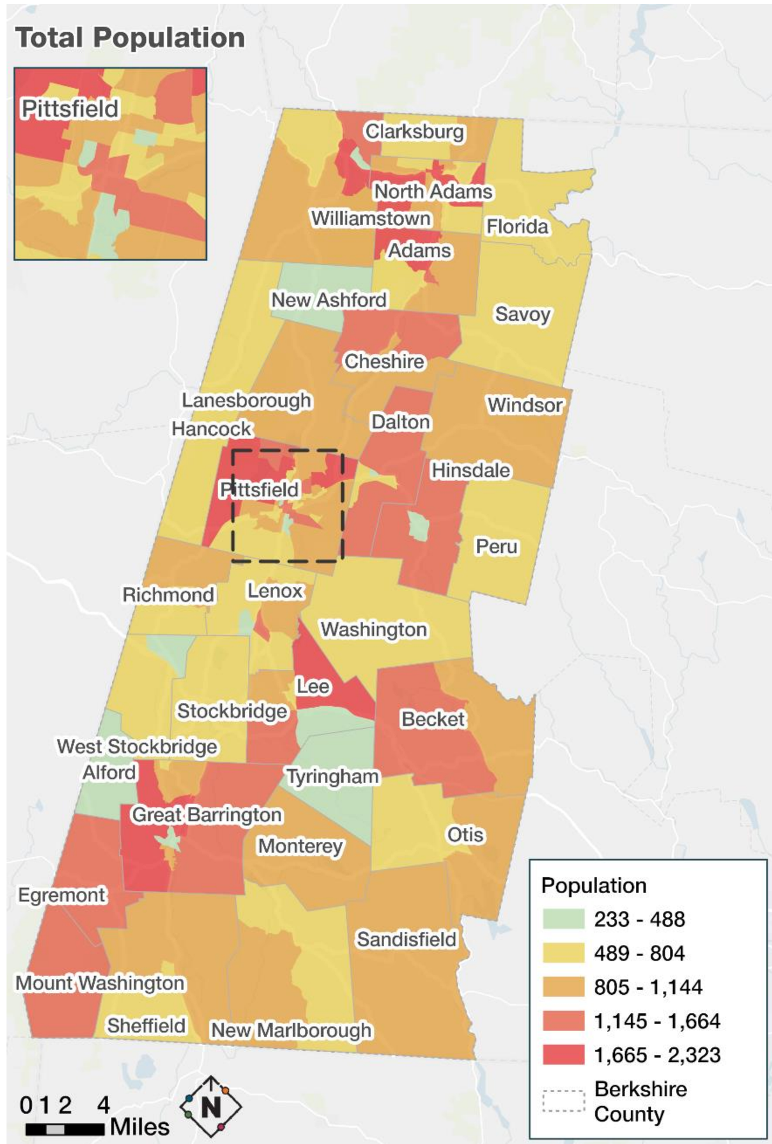
3. Transit Potential and Transit Need

To assess suitability for microtransit service, BRPC first analyzed **transit potential and transit need** in the county. Identifying suitable areas for microtransit relies on an understanding of demographic characteristics and their spatial distribution within the county, as summarized in two metrics:

- **Transit Potential**, which is the total number of jobs and population per acre.
- **Transit Need**, which is represented by demographic factors correlated with transit use, such as income, car availability, and disability status.

Areas characterized by **low** Transit Potential but **high** Transit Need tend to be most suitable for microtransit services; that is, areas where there is a sizeable population who tend to use transit but lacking sufficient density of jobs or population to support traditional bus service.

Figure 6: Total Population



Population and Employment

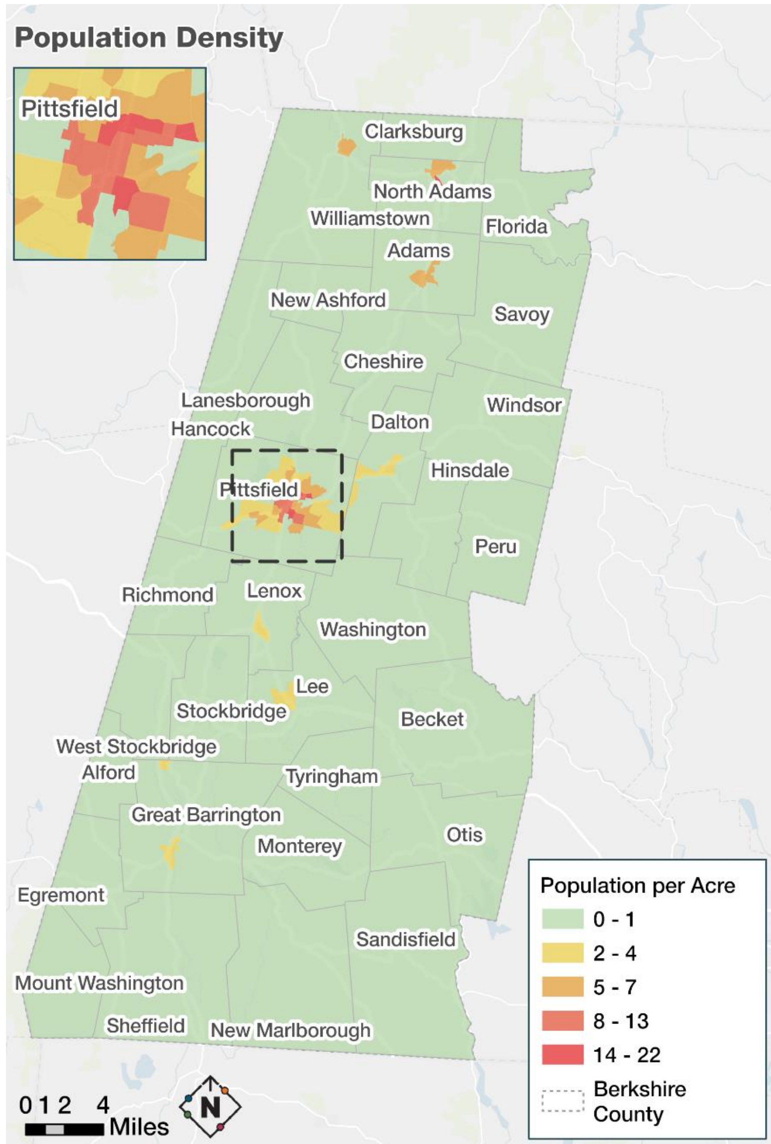
Berkshire County is home to more than 128,000 residents and roughly 55,000 jobs. **Figure 6** indicates population of the county at the Census block group level.[2] The block groups with the highest total population are in Williamstown, North Adams, Adams, Pittsfield, Lee, and Great Barrington.

Figure 7 shows the most densely populated block groups, which are in Pittsfield, North Adams, Williamstown and Adams. Dalton, Lenox, Lee, and Great Barrington have less concentrated but still notable population centers.

Figure 8 indicates the total number of jobs in each census block group. In general, more jobs are located in towns along the Route 7 corridor and west of Route 7, while fewer jobs are located in towns along the county's eastern border. Block groups with the most total jobs are in Williamstown, North Adams, and Pittsfield.

Figure 9 shows the block groups with the highest employment density, which somewhat corresponds with population density. Pittsfield has the highest density of jobs, while North Adams, and Williamstown, offer secondary employment hubs. Adams, Dalton, Lenox, Lee, and Great Barrington have medium-density employment centers relative to the rest of the county.

Figure 7: Population Density



[2] Population and employment data is sourced from the 2023 American Community Survey (ACS) 5-year Estimate and 2022 Longitudinal Employer-Household Dynamics (LEHD).

Figure 8: Total Employment

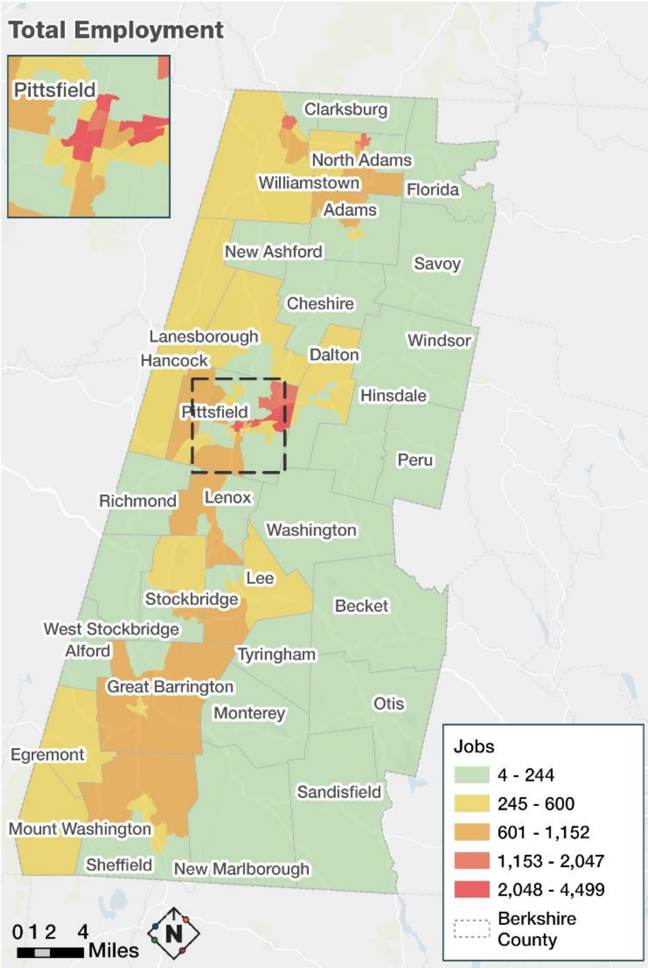
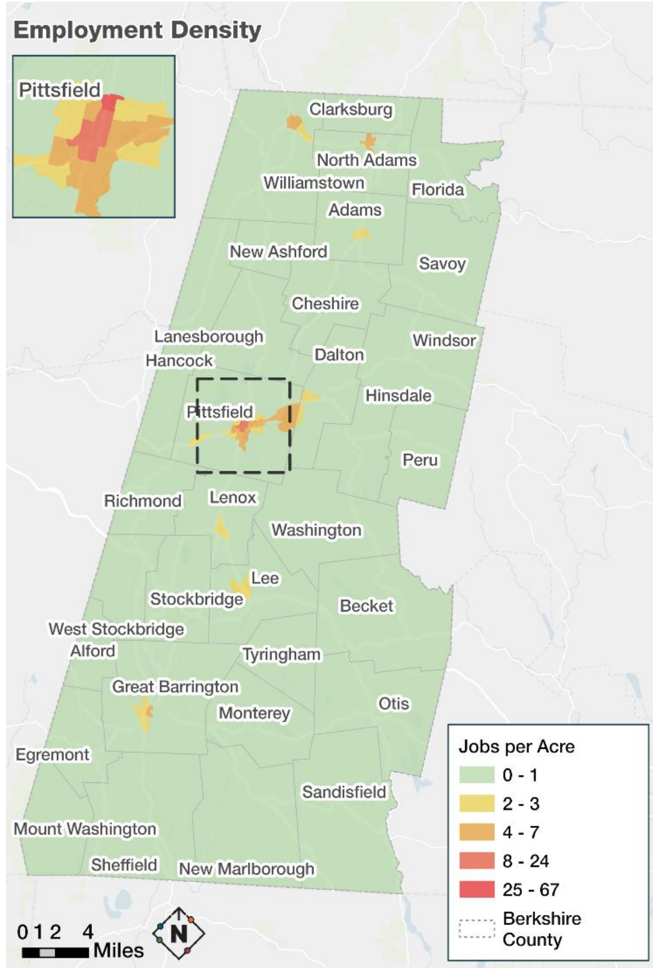


Figure 9: Employment Density

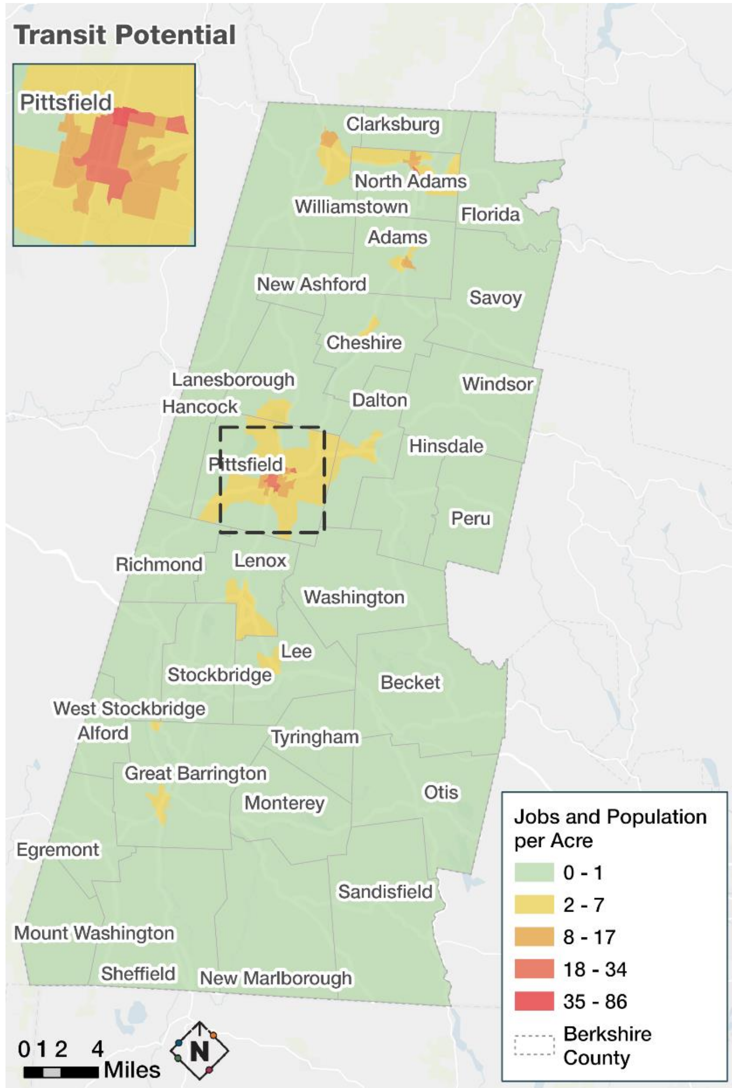


Transit Potential

The need for fixed-route transit service in an area typically correlates with the combined density of population and jobs. Therefore, Transit Potential can be represented by the sum of jobs and population per acre. **Figure 10** indicates the Transit Potential of block groups in the county, where 35 or more jobs and people per acre equates to the highest Transit Potential, and 18-34 jobs and people per acre equates to moderate-high Transit Potential. In general, places with 10 or fewer people and jobs per acre are most suitable microtransit service, while higher density areas are more suitable for fixed-route service.

The majority of the county scores low in Transit Potential. Pittsfield, North Adams, Williamstown and Adams have the highest Transit Potential in the county. Areas west of Downtown Pittsfield along Route 20, as well as areas east of Downtown Pittsfield along Route 9 and extending into Dalton, have medium-low Transit Potential. Small portions of Lenox, Lee, and Great Barrington also have medium-low Transit Potential.

Figure 10: Transit Potential



Transit Need

Some demographic characteristics are closely linked to transit use. A transit-oriented population index assesses concentrations of different populations that are more likely to use transit throughout the day. It uses weighted densities of minority populations, youth populations, senior populations, low-income populations, zero and one-car households, and people with disabilities (**Table 1**). The index is categorized on a scale from Low to High, where a "High" rating represents the highest concentration of transit-oriented demographic groups.

Table 1: Transit-Oriented Population Index

Index	Analysis Factor	Dataset
Transit-Oriented Population	Population	Total Population
		Non-White or Hispanic Population
	Age	Seniors (Age 65+)
		Young Adult Population (Age 18-25)
	Income	Population with Household Income Below 150% of the Federal Poverty Line
	Vehicle Ownership	Zero-Car Households
		One-Car Households
	Disability Status	Population with a Disability

Mapping this index makes it possible to pinpoint block groups with concentrations of population groups who are more inclined to use and rely on transit. The transit-oriented population index for the county is shown in **Figure 11**.

Pittsfield and North Adams have the highest concentrations of transit-oriented populations in the county, followed by Williamstown, central Adams, and southern portions of Lee. Large portions of Pittsfield, North Adams, Adams, Lenox, and Great Barrington have a medium-low concentration of transit-oriented populations, as do smaller, central areas in Williamstown, Cheshire, Dalton, and Stockbridge.

Subsequent maps (**Figure 12** through **Figure 17**) disaggregate this information for a spatial analysis of individual demographic groups.

Figure 11: Transit-Oriented Populations Propensity Index

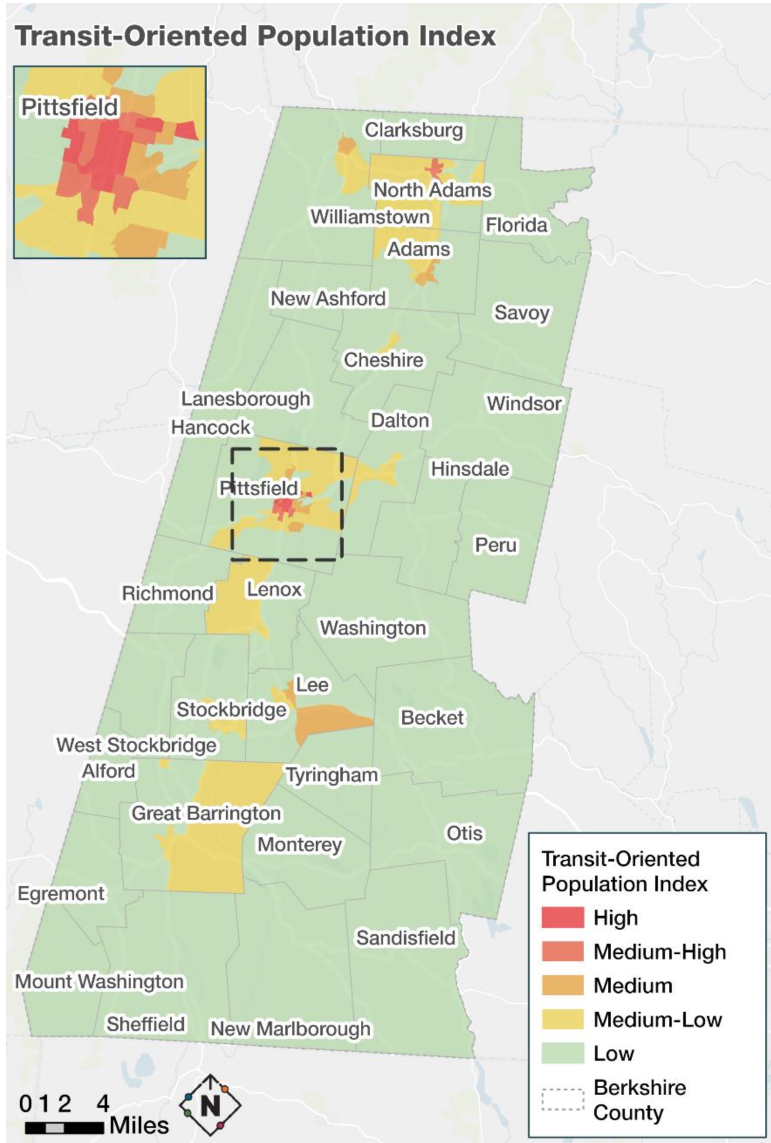


Figure 12: Low-Income Population

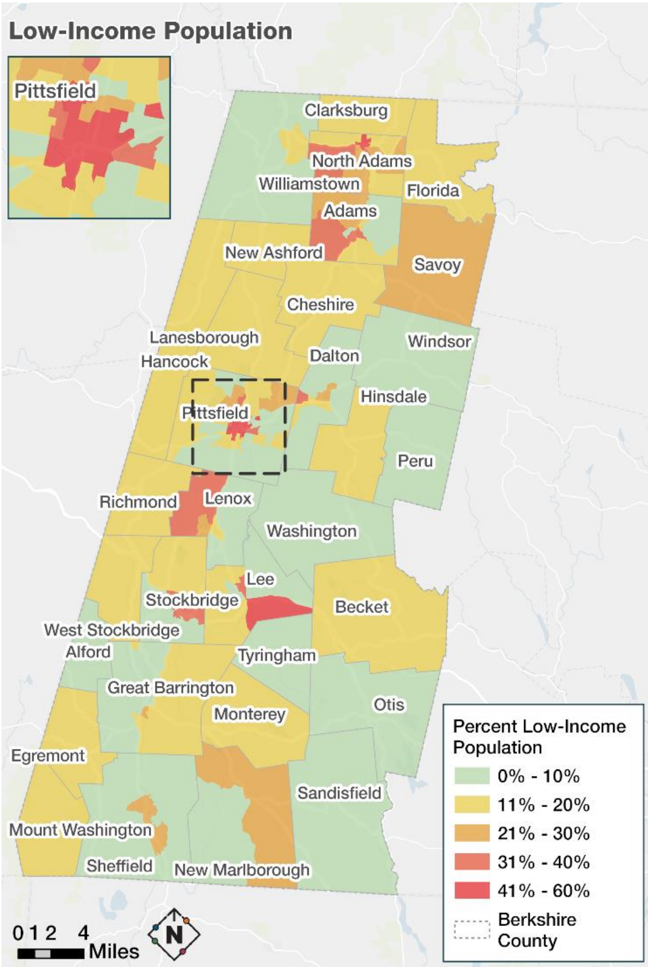


Figure 13: Non-White Population

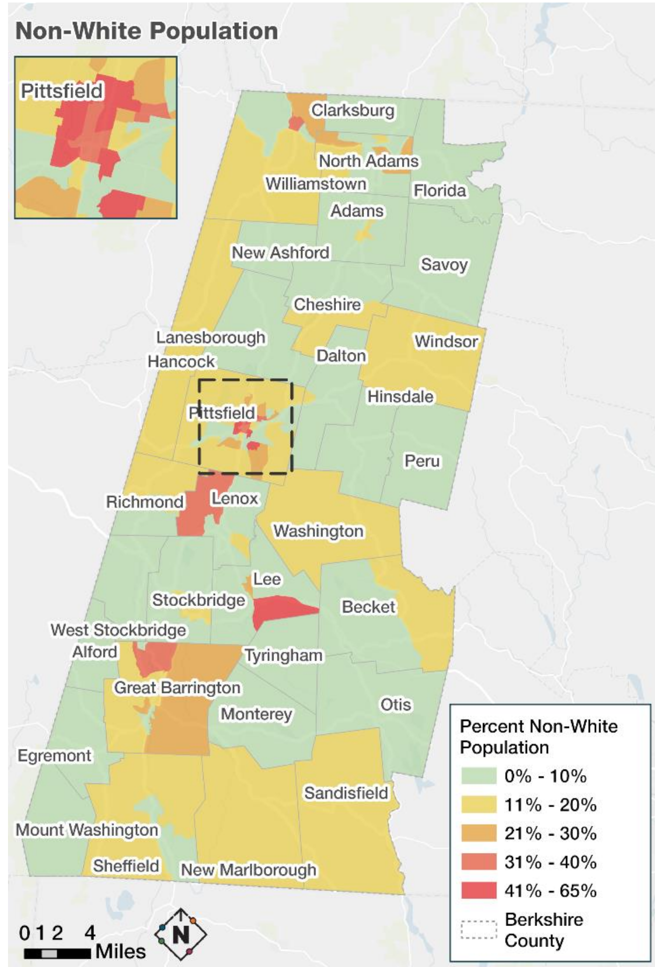


Figure 12 represents low-income populations in the county, which include individuals belonging to households that make below 150 percent of the federal poverty line. Pittsfield, North Adams, Adams, Lenox, Lee, and New Marlborough have the highest concentrations of low-income individuals. In parts of Pittsfield and Lee, low-income individuals represent over 41 percent of the population. In other parts of Pittsfield, North Adams, Adams, as well as Savoy, Stockbridge, Sheffield, and New Marlborough, at least 21 percent of the population live in low-income households.

As indicated in **Figure 13**, Williamstown, North Adams, Pittsfield, and portions of Lenox, Lee, and Great Barrington have the highest concentrations of non-white individuals, with non-white populations as high as 65 percent. Other portions of Williamstown, Pittsfield, and Great Barrington have non-white populations between 21 and 30 percent.

Figure 14: Youth Population

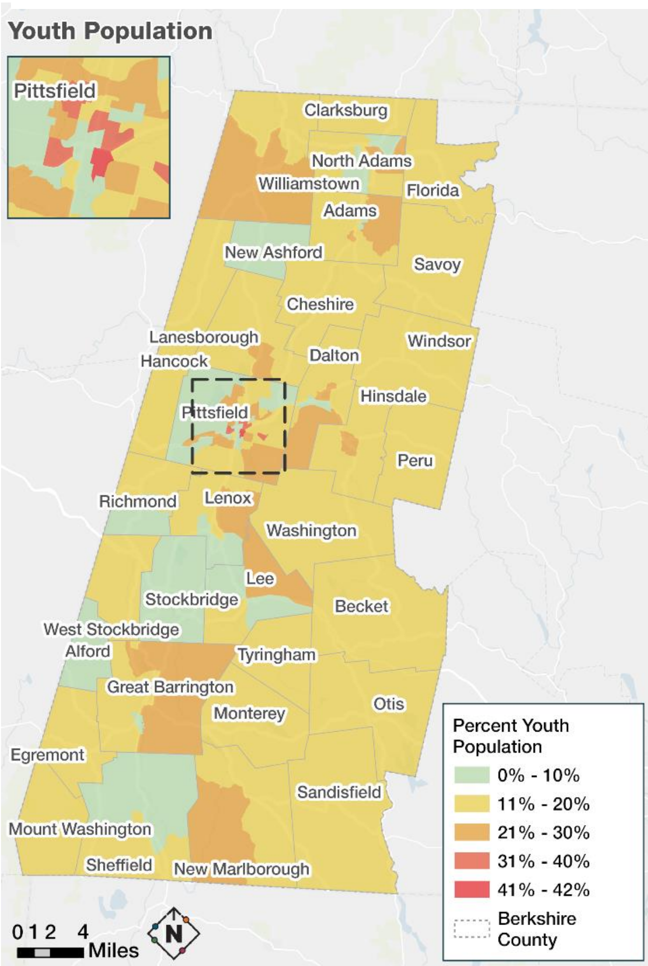
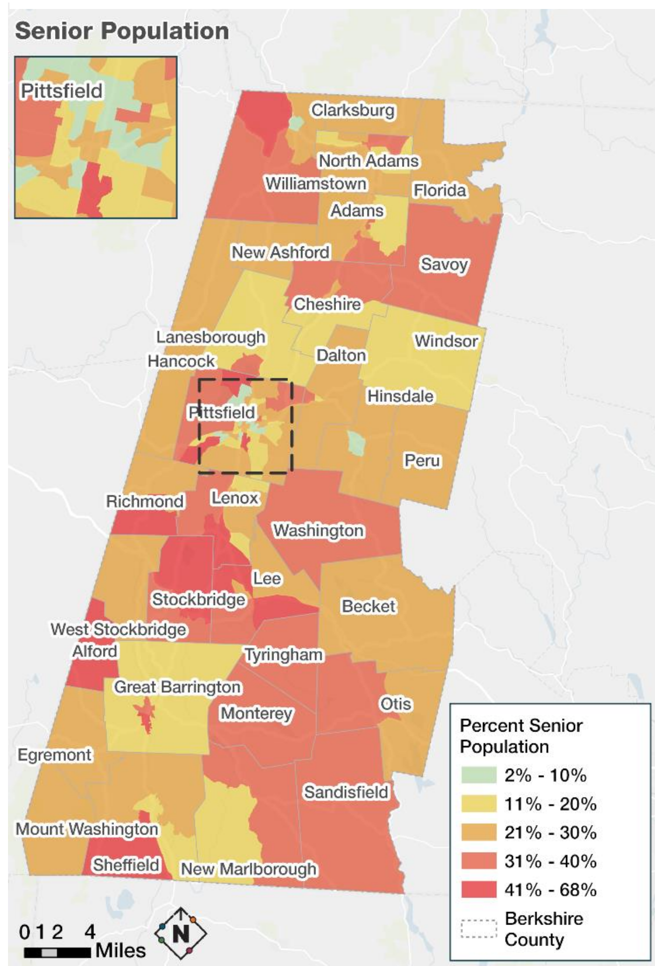


Figure 15: Senior Population



Berkshire County has low to moderate concentrations of youths (under the age of 18) and high concentrations of seniors (65 and older). Youths account for at least 21 percent of the population in large portions of Williamstown, Adams, Pittsfield, Dalton, Lenox, Lee, Great Barrington, and New Marlborough (**Figure 14**). Meanwhile, seniors account for at least 41 percent of the population in parts of Williamstown, Pittsfield, Richmond, Lenox, Lee, Stockbridge, Alford, and Sheffield (**Figure 15**).

Figure 16: Zero- and One-Car Households

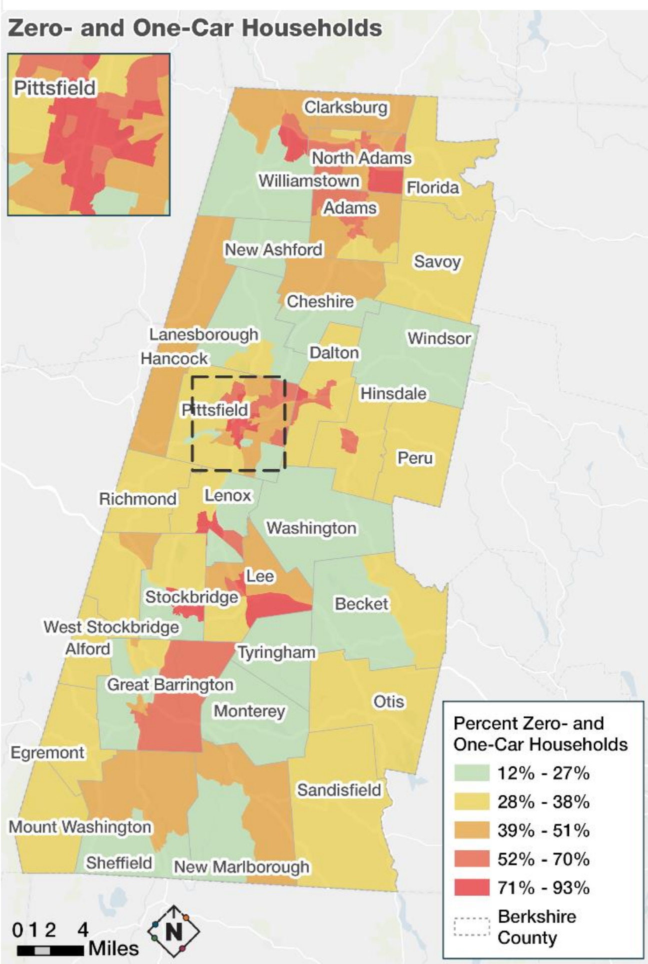
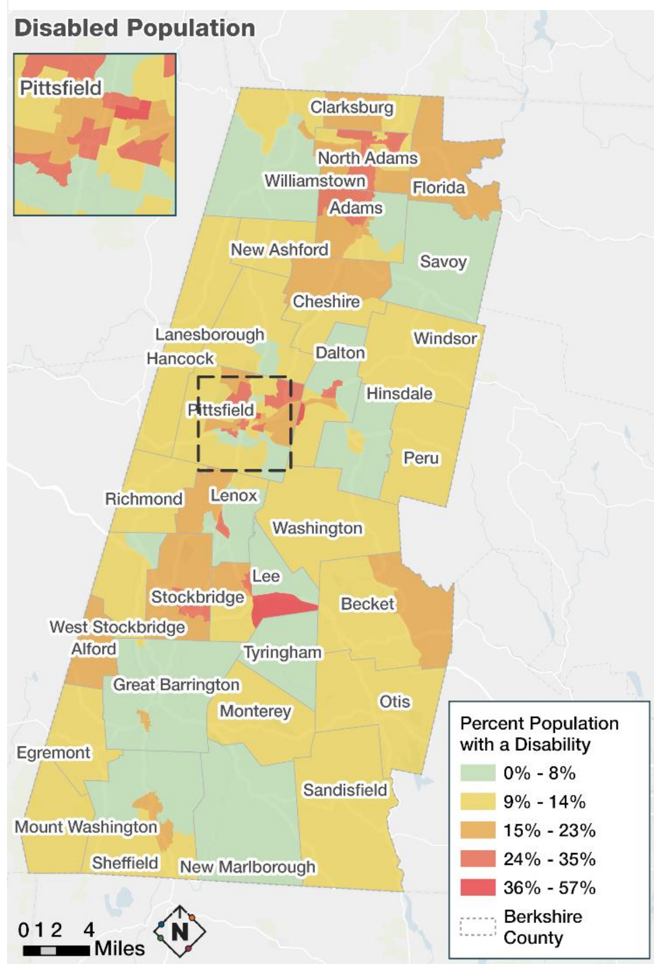


Figure 17: Population with a Disability



As shown in **Figure 16**, access to a car is mixed throughout the county. In many jurisdictions, at least 28 percent of households have no access to a car or access to only one car. The highest concentrations of zero- and one-car households are in Pittsfield (as many as 93 percent of households in some block groups), Williamstown, Adams, North Adams, Dalton, Stockbridge, parts of Lenox, Lee, and the eastern part of Great Barrington.

Figure 17 shows concentrations of persons with a disability. The population with a disability reaches at least 24 percent in portions of Pittsfield, Dalton, North Adams, and Adams, as well as southern Lee and Stockbridge.

Demographic Suitability Areas

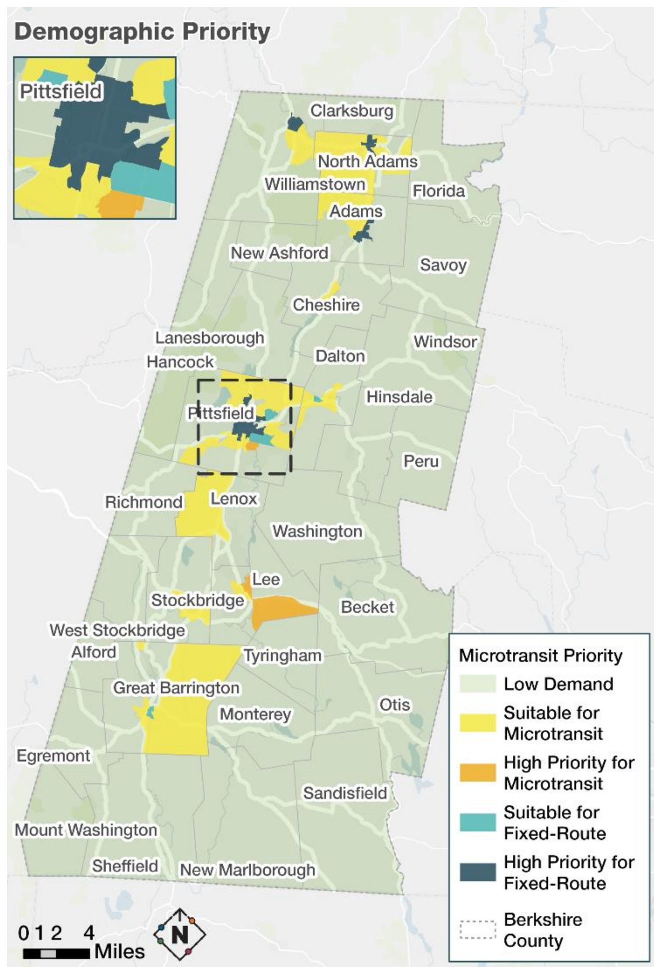
Combining Transit Potential and Transit Need can reveal areas with the highest priority for microtransit service. Microtransit is most suitable in areas with fewer jobs and low population per square mile (i.e., low Transit Potential), but with adequate density and a population that has a higher propensity to utilize transit (i.e., high Transit Need). The matrix in **Table 2** shows how Transit Potential and Transit Need relate to demographic suitability in microtransit planning.

Table 2: Demographic Suitability Matrix

		TRANSIT NEED		
		Low	**Low-Medium**	**Medium to High**
TRANSIT POTENTIAL (POPULATION AND JOBS PER ACRE)	**Less than 5**	Low Demand for Any Transit	Suitable for Microtransit	High Priority for Microtransit
	5 or More	Somewhat Suitable for Fixed-Route	Suitable for Fixed-Route	High Priority for Fixed-Route

Figure 18: Demographic Suitability (Transit Potential + Transit Need) maps each block group in the county according to where it falls within the Demographic Suitability Matrix. While Pittsfield and North Adams are most suitable for fixed-route transit, their immediate surrounding areas are suitable for microtransit. This includes Williamstown, most of North Adams, northern portions of Adams, most of Pittsfield (other than Downtown), Dalton, western Lenox, southern Lee, Stockbridge, and eastern Great Barrington. Of these areas, central areas in Williamstown and Adams, northwestern Pittsfield outside of Downtown, and southern Lee have the highest priority for microtransit service.

Figure 18: Demographic Suitability (Transit Potential + Transit Need)



4. Travel Demand

The second lens through which the County was analyzed for microtransit suitability was **travel demand**. Because microtransit can offer near-instant trip booking and dynamically optimized and shared trips based on passenger demand, it is useful to assess current travel patterns in the County to identify areas where customers would be most likely to benefit from microtransit service. Understanding how people travel in the County today can provide insights into where there are concentrations of trips that could shift to microtransit service in the future.

Countywide Trip Analysis

Three metrics were analyzed to understand overall travel patterns in the County.

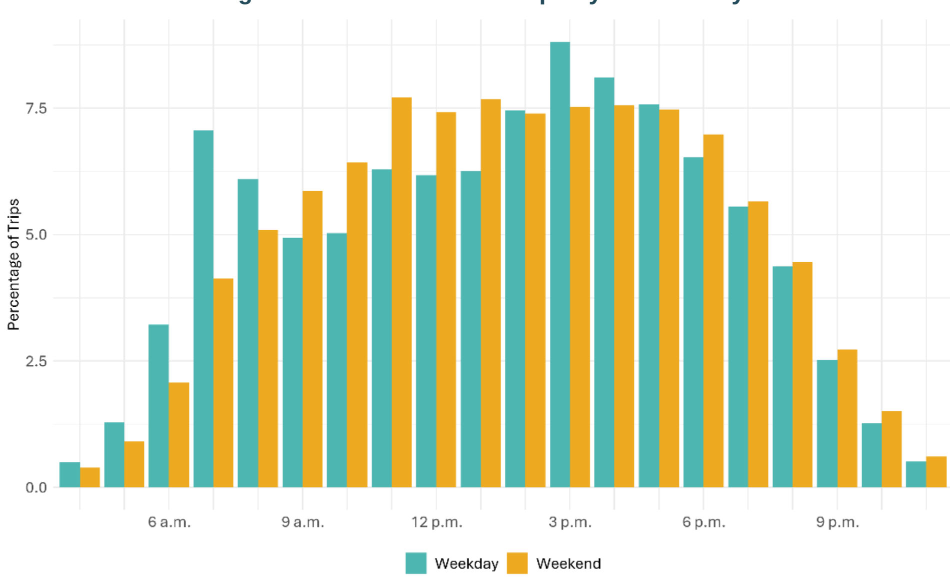
- **Time of day**, which highlights when people travelers are making trips in the county.
- **Duration**, which highlights how long, on average, trips are in the county.
- **Purpose**, which highlights why travelers are taking trips.

This analysis was conducted using Replica's activity-based travel demand model. [3]

TIME OF DAY

Figure 19 shows how all trips are distributed throughout a typical weekday and weekend in Berkshire County. Trips between 11:00 p.m. and 4:00 a.m. make up less the 0.5 percent of all trips and are omitted from the chart. The weekday trip distribution peaks in the morning and afternoon, beginning at 6 a.m. and 3 p.m., respectively. Weekend travel demand is fairly consistent throughout the core of the day with no apparent peaks.

Figure 19: Distribution of Trips by Time of Day

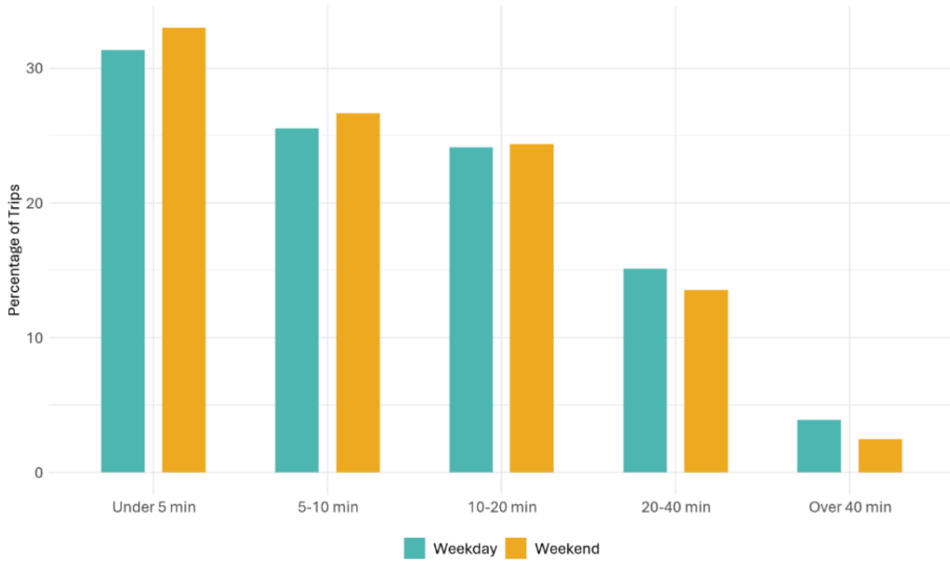


[3] The Replica platform integrates a variety of datasets, including Bluetooth, cellphone, and credit card purchases, to train an activity-based model that replicates travel patterns at a granular level.

DURATION

Microtransit is well suited for shorter trips. Trips taken on rural microtransit services typically range from two to six miles and last between eight and 20 minutes. As seen in **Figure 20**, most trips in Berkshire County are under 10 minutes long. This is true on both weekdays and weekends, with weekend trips skewing slightly shorter. This indicates that across the county, the majority of trips taken are of an appropriate length for microtransit.

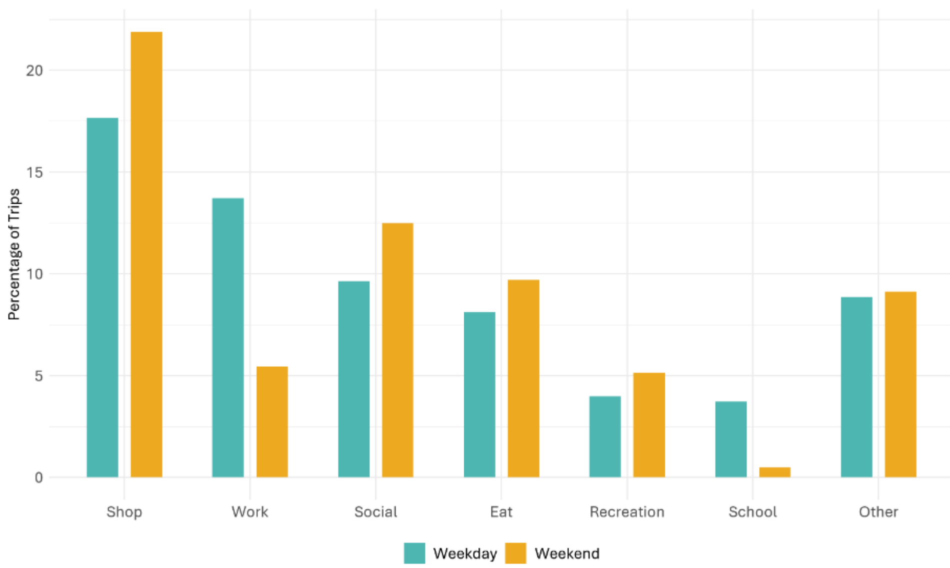
Figure 20: Distribution of Trips by Duration



PURPOSE

Figure 21 shows the distribution of trips by purpose in Berkshire County on weekdays and weekends. Most journeys in the county naturally end with a trip home. As such, all homebound trips were excluded from this analysis. Of the non-homebound trips, shopping is the most common purpose for trips across both weekdays and weekends. Work trips make up less than one out of every seven trips; the county's large proportion of retirees and visitors supports this finding. Increases in teleworking since the COVID-19 Pandemic may also contribute to the low percentage of work trips. The share of trips to work or school drops substantially from weekday to weekend, being replaced by shopping, social, eating, and recreation trips.

Figure 21: Distribution of Trips by Purpose (excluding home-bound trips)



Trip Demand Suitability Analysis

Trip Demand Suitability builds off the overall analysis of travel patterns in the County to assess where travel is most suitable for microtransit. This analysis reveals where travelers whose demographic profile is similar to those outlined in the Transit Need analysis are taking trips suitable for microtransit to highlight where microtransit service could be prioritized. **Figure 22** through **Figure 25** show the areas deemed most suitable for microtransit based on this analysis across four time periods:

- Weekday AM Peak, from 6 a.m. to 9 a.m.,
- Weekday Midday, from 9 a.m. to 3 p.m.,
- Weekday PM Peak, from 3 p.m. to 7 p.m., and
- Saturday, all day.

Microtransit is most effective for trips that exhibit the following characteristics:

- Trips are local (i.e., trips are shorter in length than regular transit trips).
- Trip endpoints are "many-to-many" or "many-to-few" (i.e., trips do not form a recognizable transit corridor).
- Trips are spread throughout the day (i.e., trips do not have predefined peak periods).
- Trips are in areas of lower density that might not support typical fixed-route service.
- Trips are for desirable purpose (i.e., shopping, medical appointments).

The analysis segments the county into regions of ideal, high, and low microtransit demand. Ideal demand areas are where microtransit service is best suited based on the travel demand analysis. These are places where trip characteristics are highly conducive to mode shift towards transit and the volume of these trips can be easily met by a few microtransit vehicles.

High demand areas are places where there are many trips being taken with characteristics conducive to transit but the volume of trip requests would require a microtransit operator to run a large number of vehicles in order to keep wait times at a reasonable level. Microtransit service would likely be in high demand in these areas. These areas are generally better suited to fixed-route transit, where higher capacity vehicles can be run at regular intervals.

Low demand areas are places where microtransit trips are expected to be few. This encompasses most of the county, covering both sparsely populated rural communities where trip volumes are low and towns where most trips are long car rides which are not easily converted to microtransit. Low demand does not mean that microtransit cannot operate in or serve these areas. These areas would still benefit from such a service. However, microtransit will not be as productive here as it would in ideal demand areas.

Across all time periods, the areas that consistently ranked most suitable for microtransit were Great Barrington, Lee, North Adams, and Williamstown. The towns with the highest trip demand suitability are the largest towns in the county with the notable exception of Pittsfield, whose travel demand profile is better suited for fixed-route transit.

Figure 22: Trip Demand Suitability for AM Peak

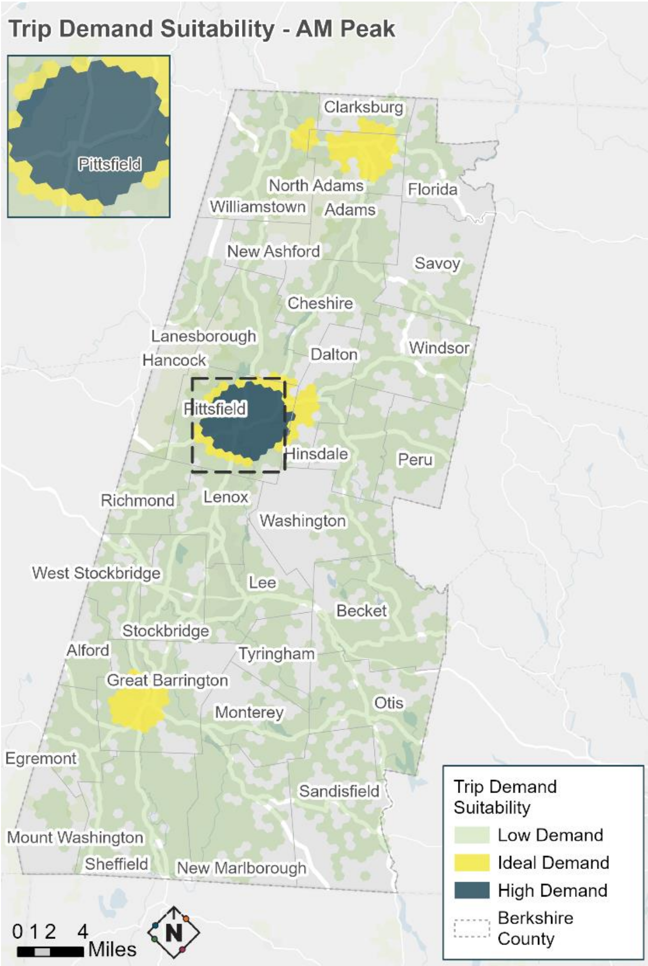
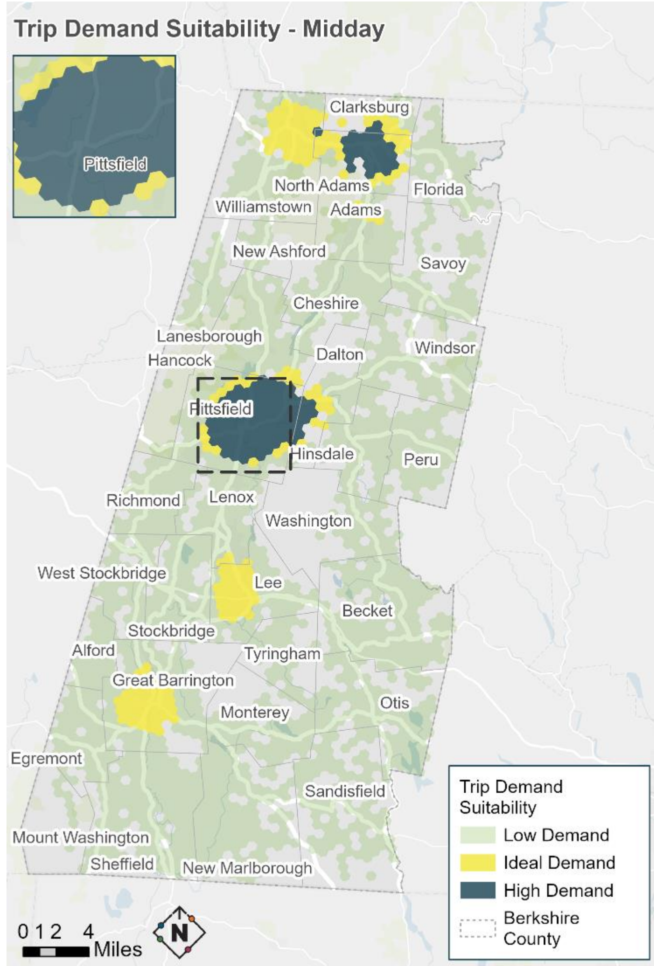


Figure 23: Trip Demand Suitability for Midday Weekday



The AM peak period (**Figure 22**) sees the lowest trip demand of any of the four periods. Only Great Barrington, North Adams, a small portion of Williamstown, and some Pittsfield suburbs have the ideal demand for microtransit. By midday (**Figure 23**), demand picks up, particularly in Lee and Williamstown. In North Adams, trip demand is great enough during the day such that fixed-route transit is likely to be more appropriate than microtransit.

Figure 24: Trip Demand Suitability for PM Peak

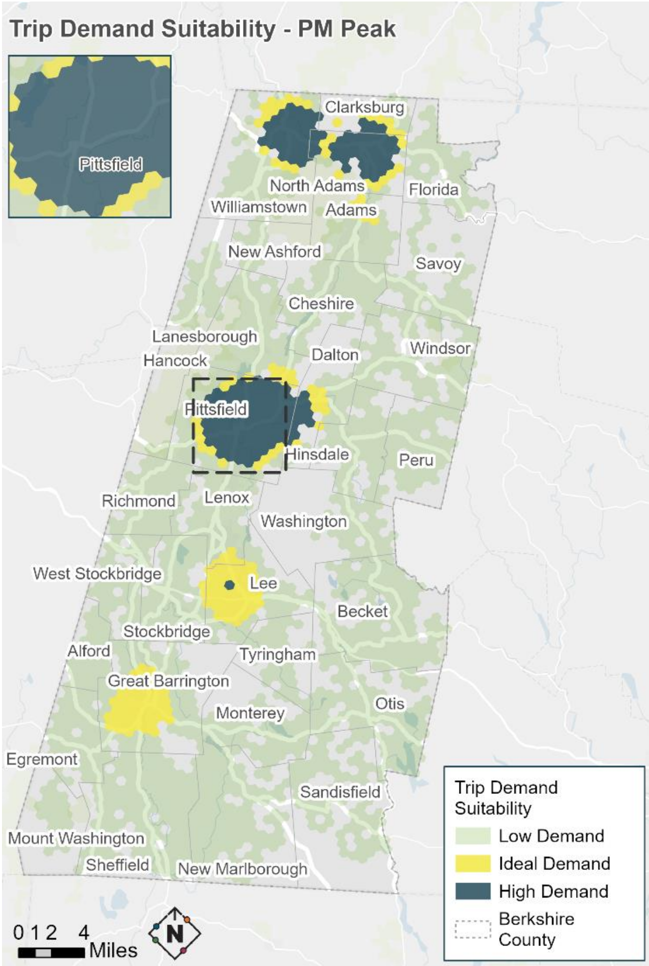
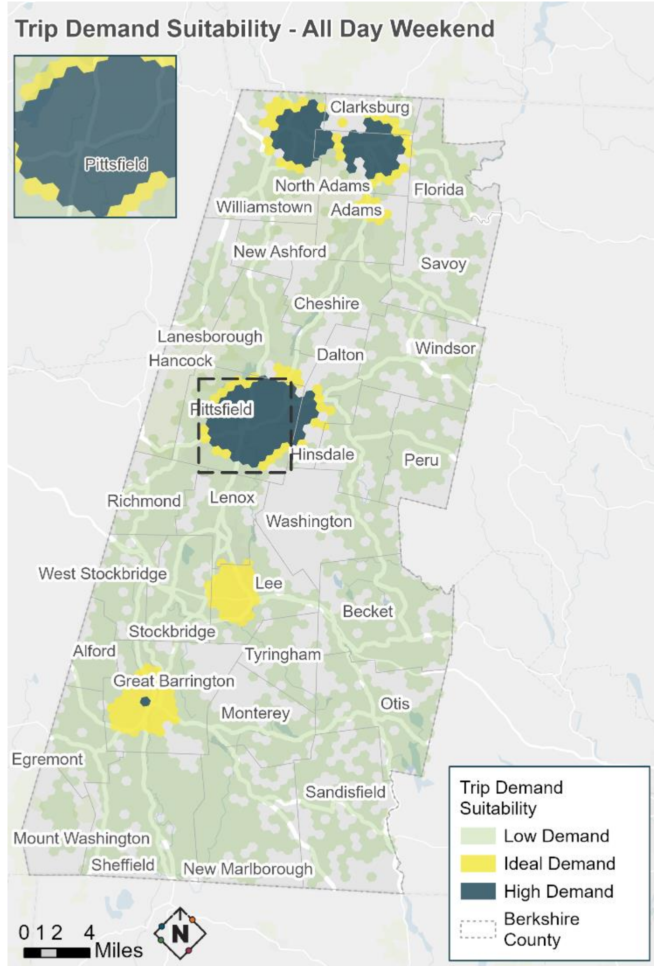


Figure 25: Trip Demand Suitability for All Day Weekend



The PM peak (**Figure 24**) and weekends (**Figure 25**) are times of high travel demand in Berkshire County. In addition to Pittsfield, which sees high travel demand at all times of the day, North Adams and Williamstown also have high demand in these two time periods.

5. Existing Transit Productivity

BRPC conducted an analysis of existing transit productivity in Berkshire County to better understand the potential for microtransit to enhance and expand upon – and not compete with – existing service. This analysis identifies service gaps, places where there is unmet transit demand, and transit ridership patterns, which provide important context for microtransit service design. The analysis also informs where microtransit could be a more efficient and cost-effective alternative to fixed-route bus service.

As mentioned above, existing transit services in the county include BRTA, the countywide fixed-route transit system, and the South County Connector, which provides demand-response service to towns in the southern portion of the county (**Figure 26**).

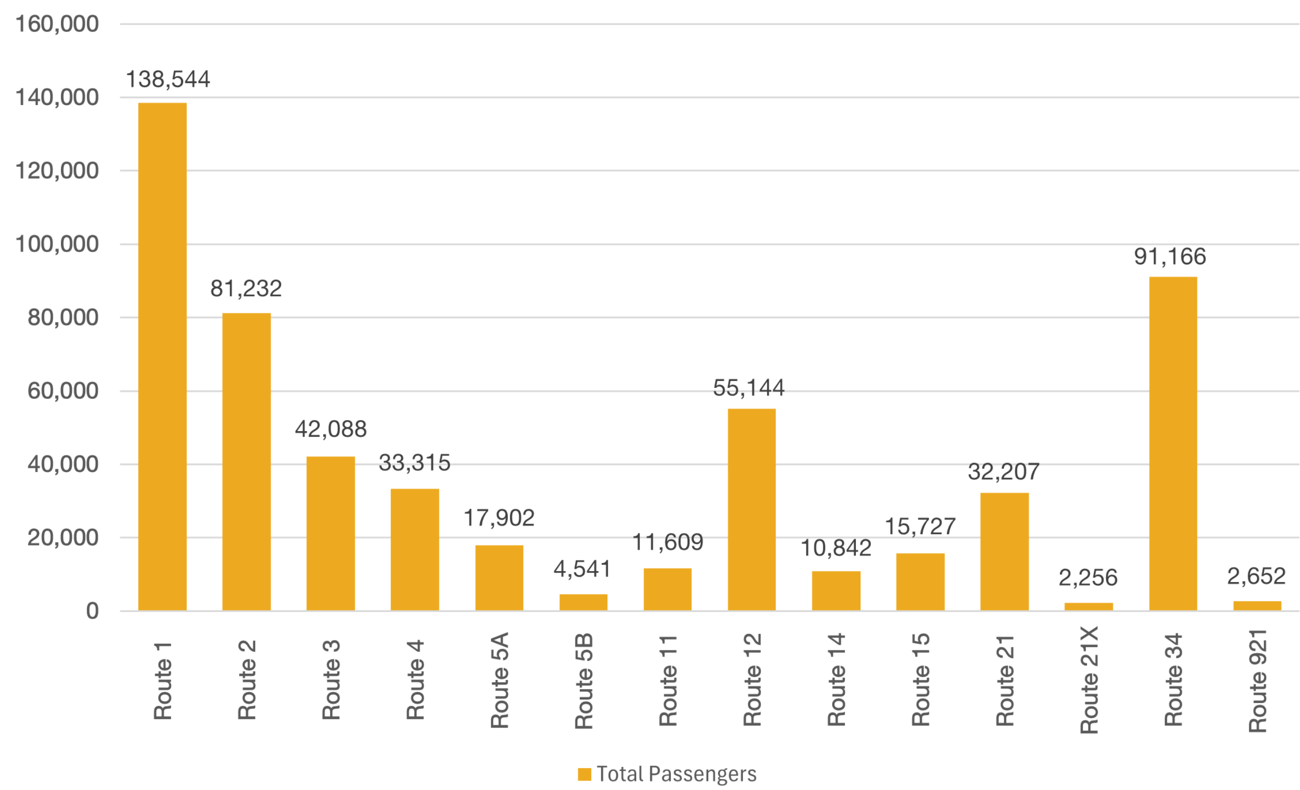
Figure 26: Public Transit Services in Berkshire County

BRTA

Figure 27 shows BRTA's ridership by route for Fiscal Year (FY) 2024. Route 1 stands alone as the only route with more than 100,000 annual passengers, providing connections between Downtown Pittsfield and North Adams, with stops in destinations such as Allendale Plaza and Berkshire Mall.[4] Route 34 and Route 2 also experience high ridership, serving over 91,000 and 81,000 annual riders, respectively. Route 34 provides internal service throughout North Adams and a connection to Route 1, while Route 2 provides service from Downtown Pittsfield south through the town of Lenox and to regional shopping destinations in Lee.

Routes with significantly lower ridership in this time period include Route 21X, Route 921, and Route 5B. While Route 21X and Route 921 had lower ridership in FY 2024, this was partially impacted by their limited service periods in the year; Route 921 began service in February 2024, while Route 21X ended operations at the end of March. Route 5B provides service between Lanesborough and Downtown Pittsfield, serving 4,541 trips in FY 2024.

Figure 27: BRTA Ridership by Route – FY 2024

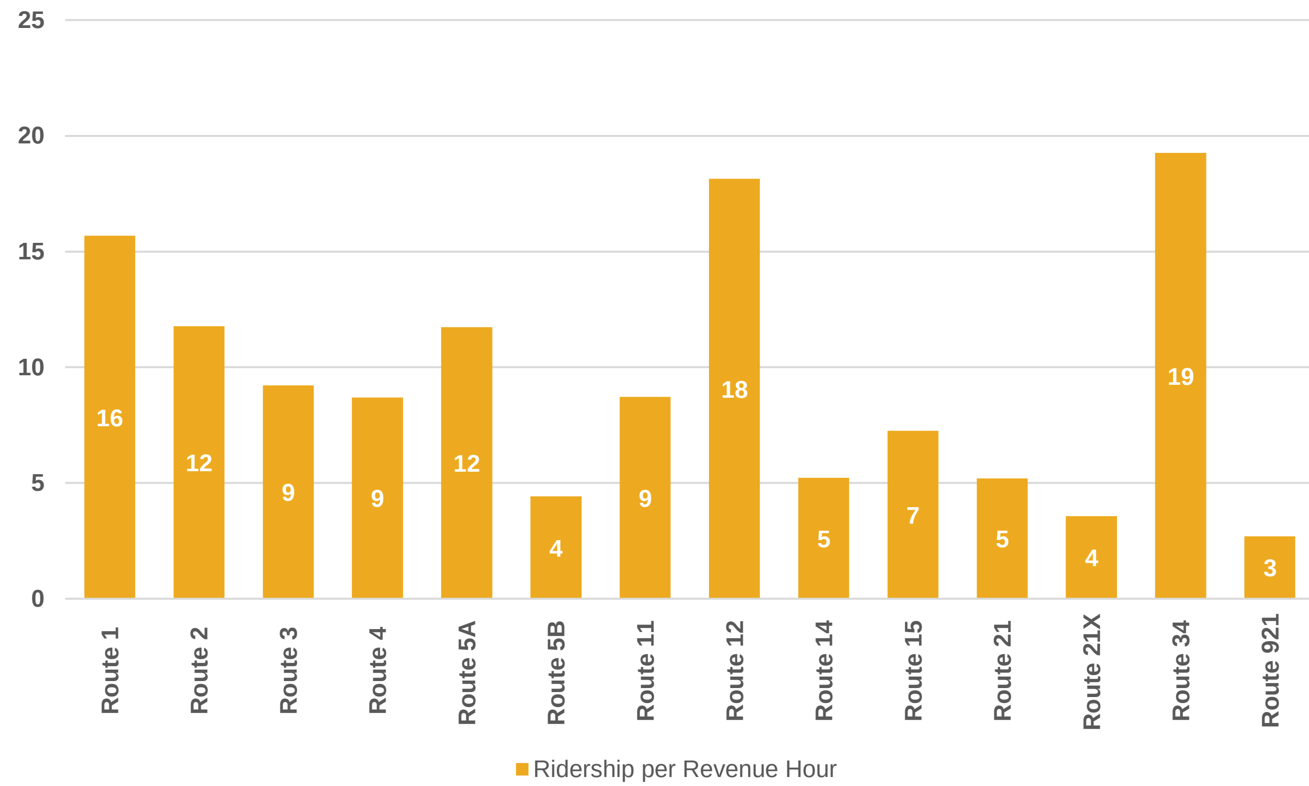


[4] Mentions of "Route" in this section are references to BRTA bus routes, not state or US roads.

Routes were also compared based on passengers per revenue hour, offering more insight into their productivity (**Figure 28**). Route 34 stands out with 19 passengers per revenue hour. Although it has lower total ridership than Route 1, Route 34 operates more efficiently by serving more passengers per hour. Similarly, Route 12 ranks second, serving 18 passenger per revenue hour despite ranking fifth in total ridership. Route 12 provides service from Downtown Pittsfield to destinations in eastern Pittsfield such as Downing Industrial Park, Walmart, and Allendale Plaza.

In contrast, Routes 921, 21X, and 5B served the fewest passenger per revenue hour, between three and four. Although Route 921 is a new route and ridership has been growing, low service per revenue hour indicates that it had yet to achieve high efficiency in FY 2024. Routes 14 and 21, at five passengers per revenue hour, round out the list of routes with the lowest productivity.

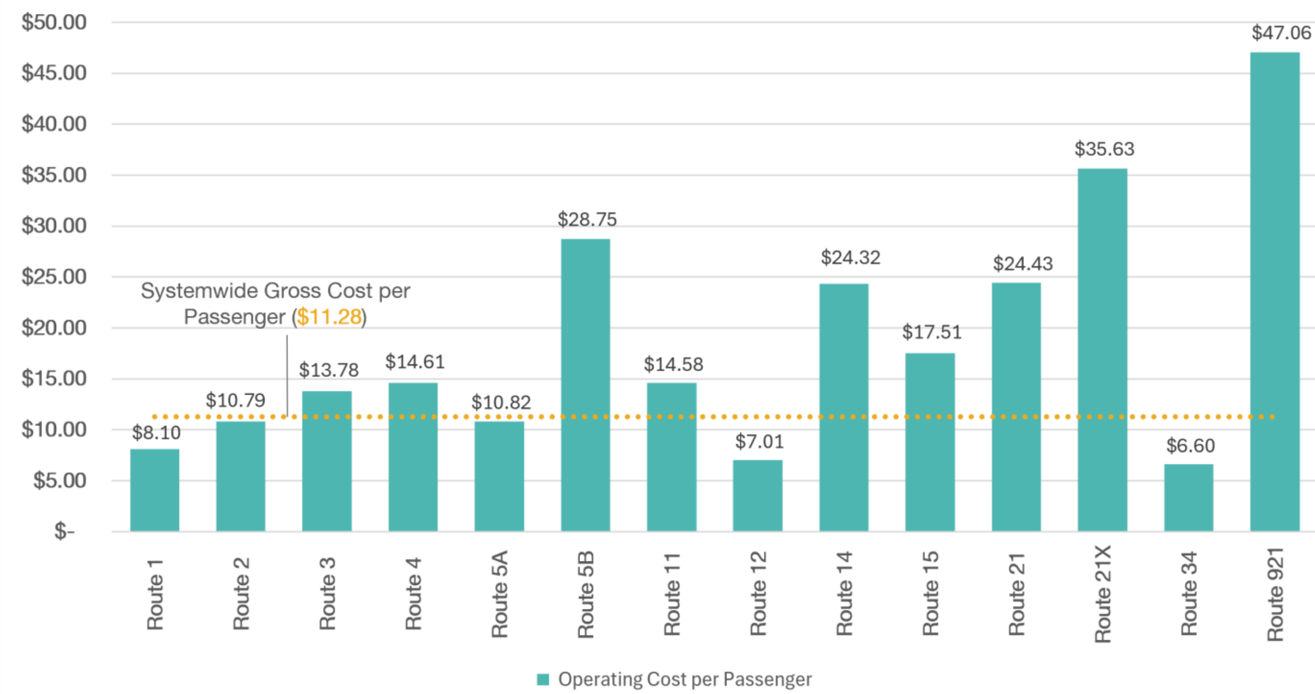
Figure 28: Ridership per Revenue Hour by Route – FY 2024



Alternative measures of route efficiency used in the analysis are gross cost per passenger and subsidy per passenger, which provide an assessment of the financial sustainability of each route by determining the agency cost required to serve each rider broken down by route, excluding and including fare revenue. Cost per passenger was calculated by taking the annual cost per revenue hour, multiplying by the number of revenue hours per each route, and dividing by the number of total annual passengers per route. Subsidy per passenger was calculated by taking the gross operating cost of each route, subtracting the revenue generated by fares for each route, and diving the result by the total annual passengers per route.

The FY 2024 systemwide gross cost per passenger was $11.28, while the net subsidy per passenger was $10.44, meaning that for each rider, the agency covers $10.44 in operating costs beyond fare revenue. **Figure 29** provides an overview of gross cost per revenue hour. Excluding Routes 921 and 21X due to their partial-year service, Routes 5B, 14, and 21 stand out as the routes with the highest gross cost per passenger. These results align with the results from ridership per revenue hour, indicating that routes with lower ridership are operated at a greater cost to the agency.

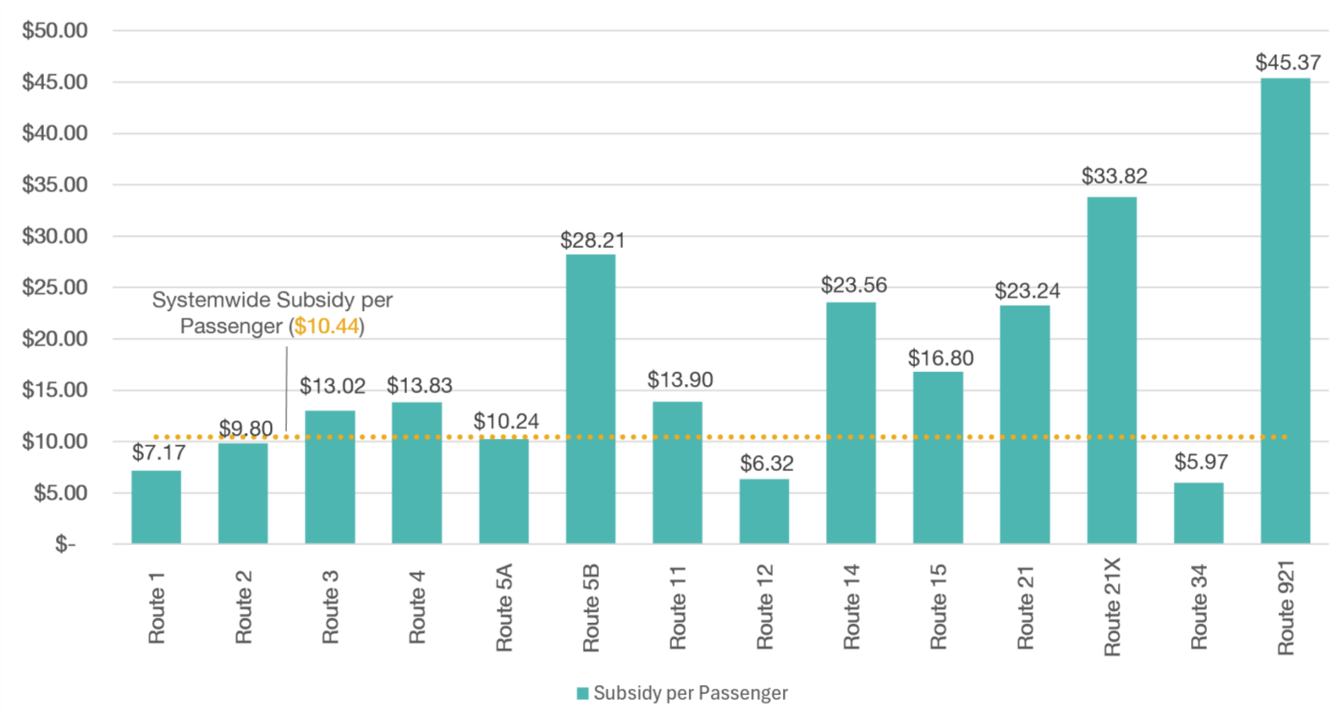
Figure 29: Gross Operating Cost per Passenger - FY 2024



As shown in **Figure 30**, routes with the lowest subsidy per rider are Route 34 ($5.97), Route 12 ($6.32), and Route 1 ($7.17). These routes align with the efficiency results seen in the passengers per revenue hour analysis. This indicates that these routes are not only serving more passengers per hour but are doing so at a lower cost than other routes.

Routes 14, 21, and 5B again stand out due to their lower efficiency, as evidenced by their higher subsidy per rider and fewer passengers served per revenue hour. While Routes 21X and 921 had higher subsidies per passenger in FY 2024, these routes did not operate the full fiscal year, which could have contributed to their performance.

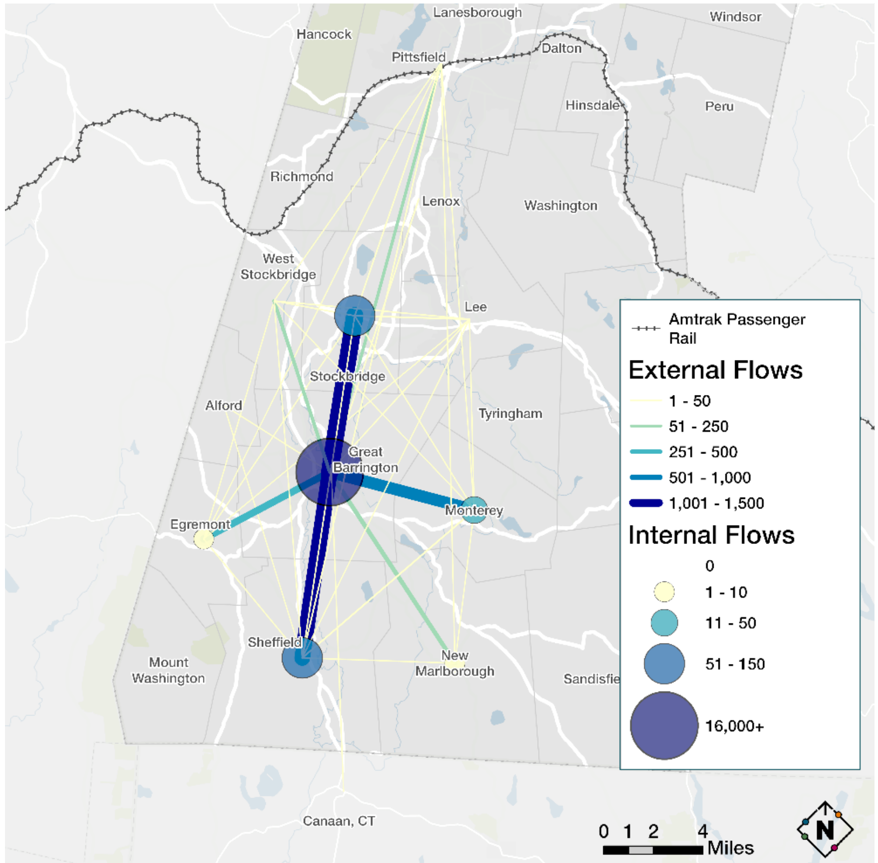
Figure 30: Subsidy per Passenger by Route - FY 2024



South County Connector

The South County Connector provides demand response service across six towns in Berkshire County, with limited service to Pittsfield, New Marlborough, and across state lines to Canaan, Connecticut. **Figure 31** provides an overview of travel flows using the South County Connector in calendar year 2024. Trips were aggregated by town of origin and destination, and the flows between towns, as well as within towns, were quantified to analyze travel patterns and to provide a greater understanding of travel demand throughout the service area.

Figure 31: Internal and External Flows - South County Connector January - December 2024



Nearly 17,000 South County Connector trips—or over 78 percent of its annual total—were taken within Great Barrington, underscoring the town's regional significance and indicating that most travel needs for South County Connector customers are concentrated locally. Trips within Stockbridge and Sheffield take a distant second and third place, with about 100 internal trips each. Although trips within Stockbridge and Sheffield are higher than those of other towns in the service area, internal trips outside of Great Barrington only make up less than 1 percent of annual trips.

Intercity trips between towns demonstrate higher ridership than local trips, representing almost 21 percent of South County Connector trips. Nearly 2,400 trips occurred between Stockbridge or Sheffield and Great Barrington, making up almost twelve percent of all trips in 2024. This further highlights the regional significance of the town of Great Barrington as a major trip generator for the surrounding towns.

Further analysis of trips using the South County Connector were broken down by number of trips per user. Of the 17,200 trips where riders were identified, there were nearly 900 unique riders, indicating that a relatively small group of users accounts for the majority of trips. As shown in **Figure 32**, 4 percent of users, or 39 individuals, made over 100 trips. More than a quarter of passengers made at least 10 trips using the South County Connector, while 30 percent of riders used the service for a single trip.

Figure 33 demonstrates how the 39 most frequent users accounted for 49 percent of all trips throughout the year, highlighting the significant impact a small group of frequent riders can have on overall trip volume. Seven of the nearly 900 unique riders made more than 300 trips using the South County Connector, highlighting its importance as a mobility option for some Berkshire County travelers.

Figure 32: Percentage of Total South County Connector Users by Trip Quantity

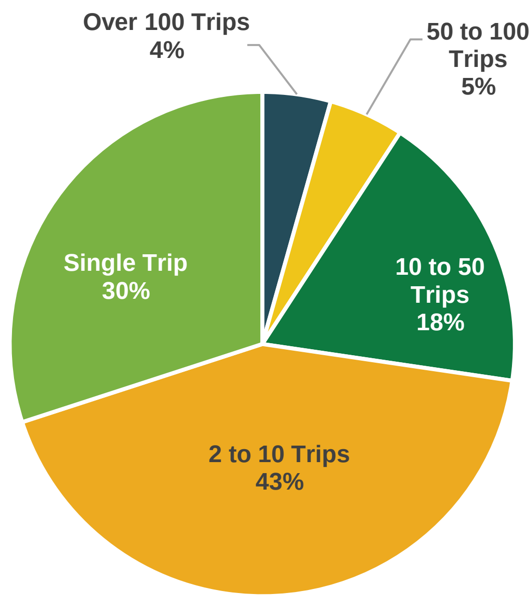
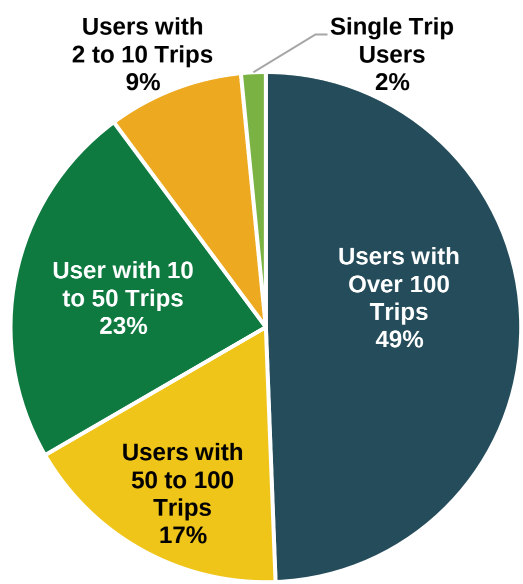


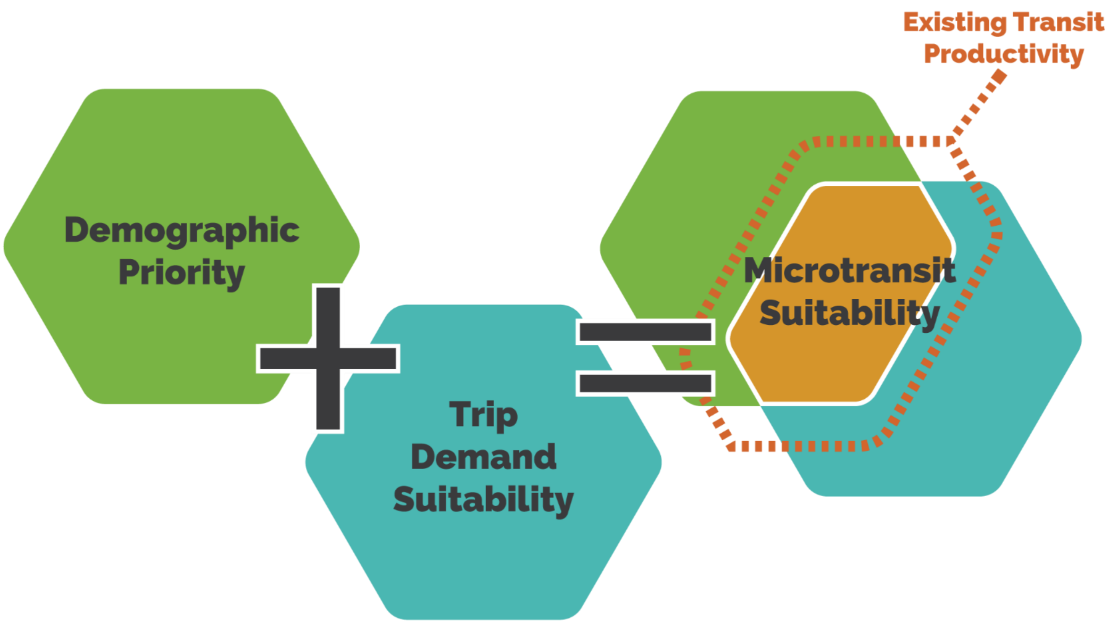
Figure 33: Percentage of Total Trips by User Type



6. Summary

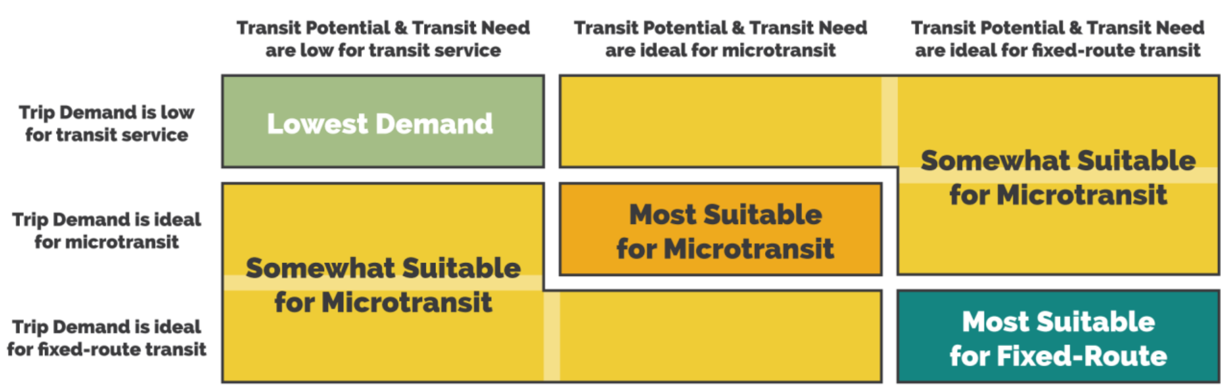
Combining the demographic priority and trip demand suitability analyses into one map highlights where microtransit efforts in the county could be most successful, factoring in transit need, transit potential, and trip demand. Existing transit productivity is also a consideration for determining microtransit suitability. **Figure 34** outlines this evaluation process.

Figure 34: Microtransit Suitability Evaluation Process



The Microtransit Suitability Matrix in **Figure 35** details how different combinations of demographic suitability and trip demand influence microtransit suitability. Orange areas on the maps are most suited for microtransit, while teal areas are suitable for fixed-route transit. Yellow areas have some suitability for microtransit; these are areas in which demographic suitability meets the ideal conditions for microtransit but trip demand does not, or vice versa. The lighter green areas have generally low suitability for transit based on transit potential, transit need, and travel demand. However, these areas could still benefit from microtransit in the long term. A comprehensive transit network is able to meet the needs of all travelers with service that fits the location's profile.

Figure 35: Microtransit Suitability Matrix



The analysis was conducted for both weekday (**Figure 36**) and weekends (**Figure 37**), examining all daytime trips (those occurring from 6:00 a.m. to 7:00 p.m.).

Figure 36: Microtransit Demographic and Trip Demand Suitability for All Day Weekday

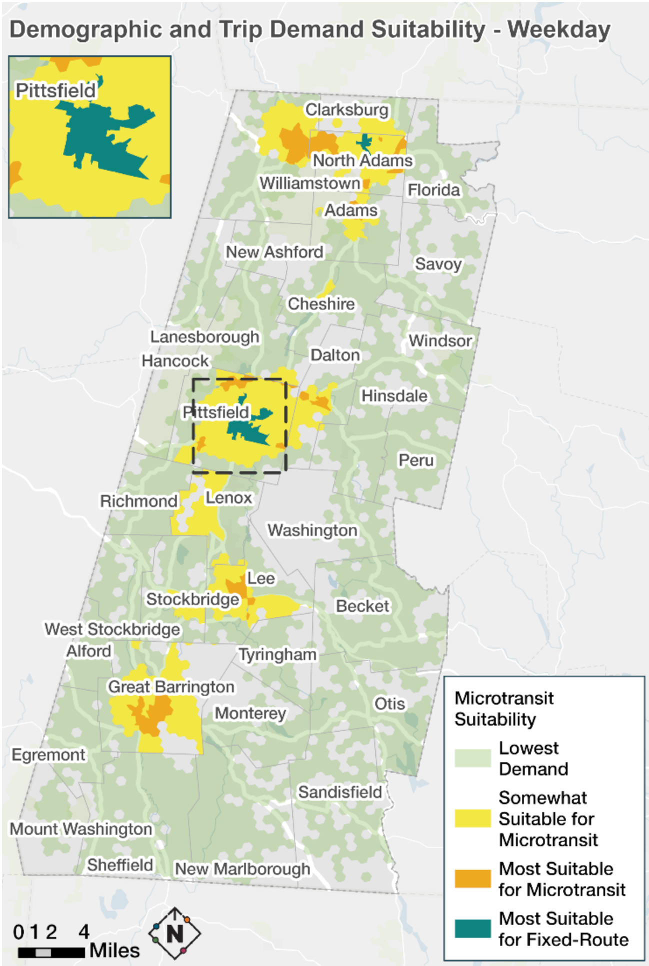
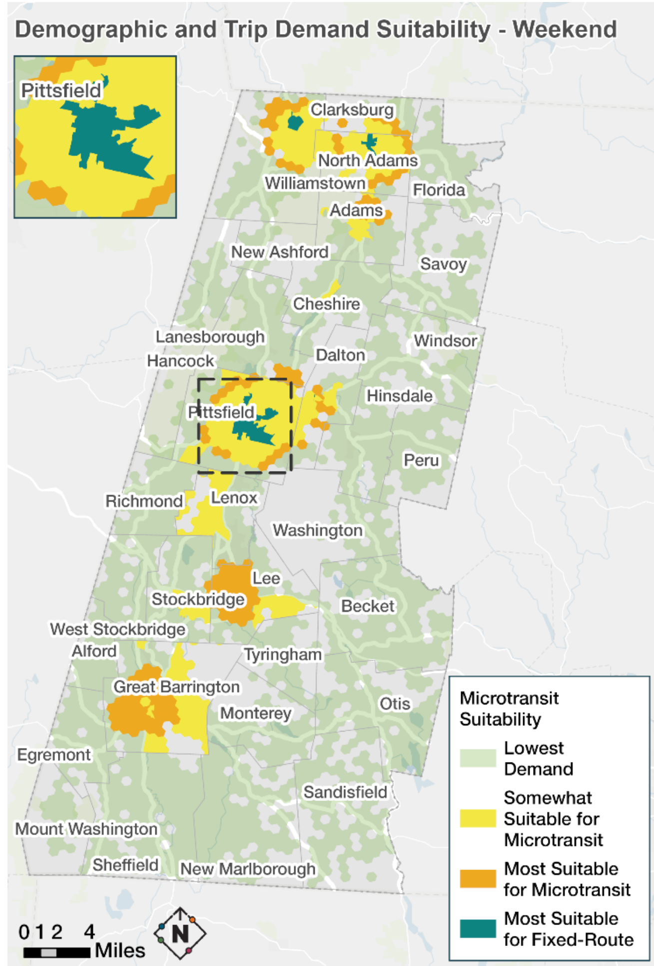


Figure 37: Microtransit Demographic and Trip Demand Suitability for All Day Weekend



Pittsfield, North Adams, and Williamstown stand out as the confluence of many different suitability ratings. As relatively larger towns, the town centers have both the trip density, transit potential, and transit need to warrant fixed-route transit. A significant portion of Pittsfield's and North Adams' population are low income and/or non-white, two demographic groups that are disproportionately likely to be reliant on transit. Microtransit could potentially enhance transit access in high suitability areas to the north and east of Pittsfield, where existing bus routes exhibit low productivity.

Williamstown, home to Williams College, has a large concentration of zero- and one-car households—many of which are presumably students—who are likewise more transit-dependent. Trip demand in Williamstown is notably higher on weekends, which explains its classification as suitable for microtransit on weekdays and fixed-route transit on weekends. Microtransit service in Williamstown and Adams could enhance connections to productive BRTA routes, such as Route 34 in North Adams and Route 1, which connects North Adams to Pittsfield. In Williamstown, microtransit service could also supplement service on BRTA's Route 3, which operates limited service south of the Clark Art Institute.

Outside of these three core towns, there are many places where there is moderate or high transit need yet trip demand likely could not sustain full fixed-route service. This is where microtransit can fill the gap. The towns of Great Barrington and Lee have moderate transit need (green), trip demand (yellow), or both (orange). Both towns have relatively high youth and elderly populations who would benefit greatly from the independent mobility access that microtransit provides. Great Barrington is already served by the South County Connector, which overwhelmingly sees its highest demand for trips within the town.

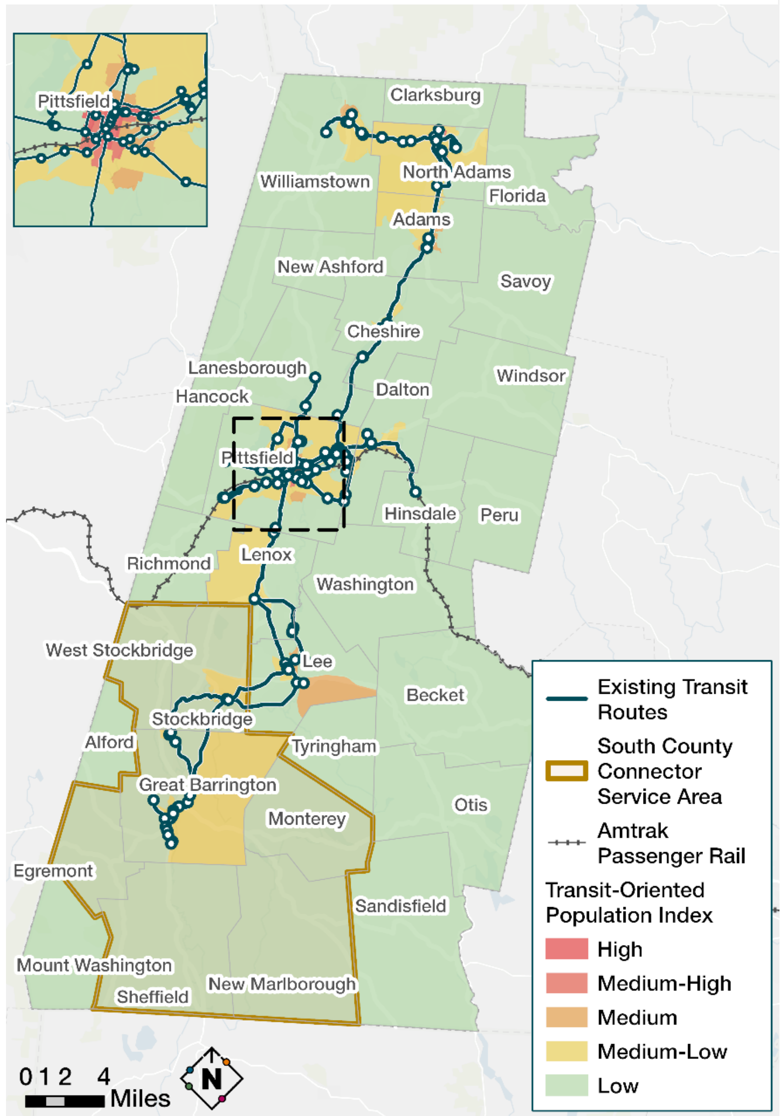
A microtransit service that covers Lee in the south and the North Adams-Williamstown area in the north have equally high ridership potential. Microtransit could also provide help connect customers in this area to BRTA Routes 21, 21X, and 921, which connect Great Barrington to Lenox, Lee, and Pittsfield and which all have among the lowest ridership per hour. Should BRPC plan a microtransit service or pilot program, zones centered around these locations would be ideal places to start.

TRANSIT GAPS ANALYSIS

Further analysis was conducted by overlaying the Transit-Oriented Population propensity index with existing transit service. This revealed areas where residents are likely to use transit but may be underserved because of low population density or other conditions unfavorable to fixed-route service. In these cases, microtransit could offer a flexible solution, bridging transportation gaps and improving access for those who rely most on transit. In South County, for example, the South County Connector is bridging gaps in transit service for likely transit users in Stockbridge and Great Barrington.

Although several areas with medium-low to medium transit propensity have nearby bus routes, many Berkshire County residents still lack convenient access to bus stops as shown in **Figure 38**. In Lenox, for example, there are only three major bus stops, two located at the town's borders and one in the town center, despite a relatively high number of residents who are likely transit users. A similar pattern appears in Adams and North Adams, where significant service is limited to main corridors like State Routes 2 and 8. Residents who live farther from these corridors have limited or no access to reliable public transit.

Figure 38: Transit Gaps



Even in areas with denser fixed-route transit coverage, service gaps can still exist. Pittsfield, while serving as a major hub for fixed-route transit, has suburban pockets with medium to high transit propensity where residents lack convenient access to bus stops. Microtransit could bridge these gaps in service providing options that are easily accessible to all residents.

KEY FINDINGS

- Microtransit suitability was analyzed through two primary lenses:
  - **Demographic Suitability**, which is a combination of Transit Potential (density of jobs and population) and Transit Need (density of populations with a high propensity to use transit, such as low-income people, car-free or car-light households, or the elderly).
  - **Travel Demand Suitability**, which analyzes travel flows in the region to find locations with trips with optimal characteristics for microtransit, such as length, trip purpose, lack of defined peak, and lack of alignment to a single transit corridor.
- Areas that rank neither “low” nor “high” but in the “ideal” medium of both indices are considered to be most suitable for microtransit. Areas may still be somewhat suitable for microtransit if they rank elsewhere on either index, but areas that are “high” in both are likely most suitable for traditional fixed-route bus service, while those that are “low” in both are likely to have the least demand for microtransit.
- In addition, if a BRTA route has lower ridership per hour and/or higher operating cost per passenger, those may be indicators that microtransit could benefit those routes’ catchment area—either as a substitute for or an enhancement to the fixed-route service.
- This analysis revealed the following towns or clusters of towns to have the greatest confluence of areas “most” or “somewhat” suitable for microtransit:
  - Williamstown-North Adams-Adams (especially on weekdays)
  - Pittsfield
  - Lee-Stockbridge (especially on weekends)
  - Great Barrington (especially on weekends)

This Needs Assessment represents only the first step in assessing the feasibility of microtransit service in Berkshire County. While this approach prioritizes demographic, trip demand, and transit productivity data, there are other factors to consider in designing an effective microtransit service, including funding availability and projected cost estimates, operating models, stakeholder and public input, and alignment with BRPC’s stated goals for such a service. The next steps of this study will use the findings of this memo as a foundation to develop practical microtransit scenarios in the County.