

Research Report
KTC -14-01/TA33-12-1F

Intercounty Commuter Public Transit Services and Opportunities in the Central Bluegrass

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**INTERCOUNTY COMMUTER PUBLIC TRANSIT SERVICES AND
OPPORTUNITIES IN THE CENTRAL BLUEGRASS**

by

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16. Abstract This report reviews the current state of available public transportation services in central Kentucky, with a focus on the Lexington-Fayette County commutershed. Within the region, this report identifies the major public transportation providers, describes the transit services available through them, and examines the potential opportunities of intercounty commuter public transportation services. Using intercounty commuting data obtained from the 2006-2008 Census Transportation Planning Products (CTPP), this report estimates the potential need and opportunity for additional transit services. Lastly, this report argues for the viability of vanpools as an efficient and cost-effective strategy for addressing the shortage of intercounty commuter transit services.			
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Executive Summary

This report reviews the current state of available public transportation services in central Kentucky, with a particular emphasis on the Lexington-Fayette County commutershed. The central Bluegrass, encompassing Fayette and the surrounding counties, can be economically and socially included together as a distinct region. From an administrative standpoint, the region is linked together as the Bluegrass Area Development District and the Kentucky Transportation Cabinet District 7. These linkages are especially important as they articulate across the transportation network in numerous and interconnected ways, such as through employment opportunities, manufacturing, access to health care, education, human and social services, retail and other economic activities, and social networks.

This report considers the central Bluegrass regional transportation network in terms of the current state of and potential opportunities for intercounty commuter public transportation services. This report identifies the major public transportation providers and describes the transit services available through them. In Lexington, public transportation is provided by Lextran, the transit authority of the Lexington-Fayette County Urban County Government (LFUCG). Among the services provided by Lextran are 31 fixed route bus lines, a downtown trolley, University of Kentucky campus bus and shuttle services, and door to door paratransit services contracted with Red Cross WHEELS. Because Lextran's funding is tied to a local property tax in Fayette County, Lextran buses are only allowed to operate within the county. Also in Lexington, the LFUCG Mobility Office administers LexVan, the only operating public vanpool system in the region.

In the surrounding counties that comprise the Bluegrass commutershed, public transportation is available through several different agencies. Kentucky River Foothills offers public transportation services in Clark, Madison, Powell and Estill counties. Available services include commuter bus routes from Winchester to Lexington and from Richmond to Lexington; local deviated route bus services in Richmond, Berea, and Winchester; an intercity bus connector route from Berea to Richmond; and demand-response transit services. Federated Transportation Services provides public transportation services in the commutershed counties of Bourbon, Nicholas and Harrison. Public transportation services are generally provided on a demand-response basis. Bluegrass Ultra-Transit Services offers public transportation services in the remaining commutershed counties of Scott, Franklin, Woodford, Anderson, Jessamine, Mercer, Boyle, Lincoln and Garrard. Available services include several intercity bus routes; local deviated route bus services in Danville and a trolley in Frankfort; and demand-response transit services.

Public Transportation funding is structured into three tiers at the federal, state and, where applicable, local levels. At the federal level, the Federal Transit Administration (FTA) administers the apportionment of transit funds to states and local governing agencies through several formula-based funding programs. In urbanized areas of population 200,000 or greater, FTA funding is received directly by the local public transportation authority. In Lexington, Lextran is the authorized public transportation provider. For smaller urbanized and rural areas, FTA formula funding is received and administered by the state.

In Kentucky, the Kentucky Transportation Cabinet/Office of Transportation Delivery (KYTC/OTD) receives and administers these funds. FTA formula funding generally entails a funding match, which may be provided either with state or local funds. For operating expenses, funding is provided at 50% federal and 50% local match; for capital expenses, funding is provided at 80% federal and 20% local match. In Kentucky, state funds are only used as a match for capital projects. Additionally, Kentucky sometimes applies toll credits in lieu of actual state funds to match FTA funding programs.

At the local level, limited funding support is provided for the public transportation providers of the central Bluegrass commutershed. In Lexington, Lextran is supported by a .06/\$100.00 tax on assessed property values in Fayette County that was passed by voter referendum in 2004. Lexington-Fayette County is the only place in the study area that has dedicated local funding for public transportation. Two other counties, Clark and Madison, as well as the cities of Winchester, Richmond, and Berea located within these two counties, provide funding to Kentucky River Foothills toward the provision of public transportation in these areas. These funds are authorized as part of the localities' annual budgets. No other localities within the study area – county or city - provide any funding for public transportation services.

This report examines available intercounty commuting data within the study area to estimate the potential need and opportunity for additional commuter transit services. Data used was acquired from the 2006-2008 Census Transportation Planning Products. For each county of population 20,000 or greater, a comprehensive analysis of intercounty commuting patterns is provided for daily commutes either originating or ending within the county. Additionally, for each of these counties a comprehensive review of available public transportation services is provided to discern where existing intercounty commuter public transit services are sufficient as well as to indicate where not-yet-existing intercounty services could be successfully implemented. The table below shows the ten highest intercounty commuter corridors within the study area and lists the available public transportation along these corridors. The single largest intercounty commuter corridor is Jessamine County to Fayette County; there are currently no public transportation commuter services available on this route. Indeed, of the top ten intercounty commuter corridors, only two (Madison to Fayette and Clark to Fayette) have sufficient commuter transit services available. Two others (Fayette to Scott and Fayette to Franklin) have limited commuter transit services available through the LexVan program. The remaining six corridors have no current transit services available.

Rank	Origin	Destination	Daily Commuters	Available Public Transportation Commuter Services
1	Jessamine	Fayette	9610	None
2	Madison	Fayette	7495	KY River Foothills Commuter Bus
3	Scott	Fayette	5840	None
4	Clark	Fayette	5500	KY River Foothills Commuter Bus
5	Fayette	Scott	5180	LexVan
6	Fayette	Jessamine	3580	None
7	Anderson	Franklin	3510	None
8	Lincoln	Boyle	3150	None
9	Fayette	Franklin	2945	LexVan
10	Fayette	Woodford	2055	None

It is no coincidence that the only two commuter routes originating in the surrounding counties around Lexington that have existing public transportation services available operate in the same two localities that contribute local funding for public transit. Kentucky River Foothills, the public transit provider for Clark and Madison counties, is able to leverage local funding provided by the county and city governing agencies to increase FTA funding, which is distributed on a federal and local match basis. Increased funding leads to more services available, lower fare structures for riders, increased ridership, and a resulting increase in public value of public transportation services. Outside of these two counties, there is currently minimal local political support in the surrounding counties to fund transit. Only with local matching funds can transit providers reduce fares to reasonably affordable levels.

Lastly, this report argues for the viability of vanpools as an efficient and cost-effective strategy for addressing the shortage of intercounty commuter transit services. FTA allows for funding of vanpools in both urban and non-urban areas. In Lexington, LexVan is a popular and successful vanpool program, but with limited funding available, the services available are not sufficient to meet demand. Lexington could potentially increase its FTA funding apportionment by including vanpool statistics into the § 5307 urbanized area formula program. For small and non-urban transit agencies, FTA also makes funding available toward the contracting of vanpool services in partnership with private entities. Because of such funding arrangements, vanpool fleets throughout the country have grown steadily over the last decade. As a low-cost strategy that capitalizes on the capabilities of the users, vanpool programs may offer an inexpensive ‘first step for rural communities to establish commuter services in place.

I. Introduction

Regional transportation planning requires accounting for the interconnectivity of central business districts, surrounding suburban areas, and outlying satellite cities. Such regions are intrinsically connected in a number of ways, including housing, employment, and economic development. Transportation is the key to promoting this interconnectedness.

An important component of a regional transportation plan is the availability, extent, and connectedness of the public transportation network. Public transportation is valued for its contributions to the economic vitality and social well being of communities. It increases the overall mobility of citizens and promotes connectivity among the different transportation modes. For low-income and mobility restricted Americans, public transportation provides a way to get to work, to access health care, to go shopping, and to get around town. Effective public transportation systems reduce vehicle miles traveled (VMT) in automobiles, alleviate congestion, and reduce the overall environmental impact of the transportation network.

Public transportation providers come in all shapes and sizes and may offer different types of services depending on the agency type. Oftentimes across a region, different public transportation agencies may be authorized to provide services only in particular areas of the region. This creates a separation of transit agencies and transit types across region: big city transit, small city transit, rural transit, and medical and human service transit. With these different types and sizes of transit agencies comes a host of different challenges for each. Smaller transit systems, in particular, face considerable funding issues; more often than not small town and rural transit agencies do not have a dedicated local funding source. As Burkhardt notes, “across the U.S., transportation dollars spent per capita in rural areas are a fraction of the same dollars spent per capita in urban and suburban areas. Thus, most rural residents have fewer transportation options than their urban or suburban counterparts.”¹

Additionally, not all small town and rural transit systems are created equally. The Federal Highway Administration (FHWA)² divides rural systems into three types:

- Basic Rural – dispersed counties or regions with few or no major population centers of 5,000 or more.
- Developed Rural – fundamentally dispersed counties or regions with one or more population center(s) of 5,000 or more.
- Urban Boundary Rural – counties or regions that border metropolitan areas and are highly developed. Economic growth, population growth, and transportation are tied to the urban center. Many of these areas have experienced high levels of growth in recent years.

¹ Burkhardt, “Successful Coordinated Transportation Services in Rural Communities,” 54.

² FHWA, *Planning for Transportation in Rural Areas*.

Because this report is an investigation of the public transportation network for the Lexington-Fayette commutershed, it mainly addresses the relationship between the third type of rural transit systems, urban boundary rural, and the larger urban transit system at the center of the transportation network.

Federal Transit Administration (FTA) funding programs assist public transportation agencies in providing services in rural areas to promote access to jobs, education, medical care, human and social services, and other services. Across the U.S. over 77 percent of U.S. counties have access to at least some form of rural public transportation.³ The 2007 passage of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: a Legacy for Users (SAFETEA-LU) included new requirements for transportation funding recipients. For FTA programs §5310 (Elderly Individuals and Individuals with Disabilities), §5316 (Jobs Access and Reverse Commute), and §5317 (New Freedoms), recipients are required to develop a coordinated public transit and human services transportation plan. Coordinated planning includes⁴:

- Assessing the human service transportation needs across the area
- Inventorying existing transportation services to identify where services are duplicated, as well as where services are inadequate
- Developing strategies to meet the gaps in service
- Identifying how services can be coordinated to eliminate duplicated services
- Prioritizing the implementation of such efforts

Multiple challenges and barriers are possible when implementing a successful coordinated transportation plan across a region. Central to this problem is the presence of multiple agencies limited to offering services within strictly and legally defined areas of the region. The presence of multiple agencies results in varying funding mechanisms, problems of turf, and logistical challenges such as fare structures, transfers, scheduling mismatches, and ridership eligibility requirements.⁵ City public transportation most often operates on fixed routes, while rural, medical and human service transit most often operates on demand response.

However, the benefits to successful public transit and human service transportation coordination may include increased mobility and access to jobs, medical services, social and human services, and education; increased efficiency and elimination of duplicated services; and a decrease in traffic congestion.⁶ Coordinated transportation planning across a region is a more sustainable approach toward allocating public resources for public transit and human service transportation.

³ Schwager, "Rural Transit Achievements: Assessing the Outcomes of Increased Funding for Rural Passenger Services Under SAFETEA-LU."

⁴ Hensley-Quinn, *Writing a Coordinated Human Service Transportation Plan*.

⁵ Lewis et al., *Public Transportation Solutions for Regional Travel: Technical Report*.

⁶ Lewis et al., *Public Transportation Solutions for Regional Travel: Technical Report*.

An important component of regional transportation is the availability and accessibility of intercity public transportation. In recent years, the intercity bus as a mode of transport has experienced consistent growth after years of declining ridership.⁷ By the end of 2007, the mode was experiencing its largest ridership growth in nearly forty years, and this growth is forecasted to continue. Its growth is being driven by improvements in service and increased demand. The increase in demand is related to the sharp rise in the price of gasoline; the economic rebound of central business districts within cities; consumer disenchantment with airline travel related to long lines, security, and air traffic delays; and increased fares and fees, especially relevant for short and medium length routes.

Intercity transportation is often divided into two types: commuter and non-commuter. These distinctions have particular meaning in terms of FTA funding. Under Section §5311(f), FTA designates funding for rural transit agencies toward the provision of intercity public transportation routes. The purpose of the funding program is to help assist agencies in providing intercity bus services in rural areas where commercial bus lines, such as Greyhound and others, no longer offer bus routes. This funding, however, is not for use toward commuter routes.⁸

Compared to the research on intercity transit for non-commuting purposes, there is a dearth of studies considering the need for and viability of intercity commuter transit. For large cities, this type of commuter transit may be provided in the form of some type of passenger rail connecting outlying areas to the central core. For the many cities without passenger rail, including Lexington, there is a lack of public transportation services available for intercity commutes. The need and demand for this form of transit is likely to increase as gasoline prices continue to rise, and populations of suburban and satellite towns continue to increase. Meanwhile city central business districts remain vital as economic and employment centers.

This report is designed to provide a coherent picture of the urban-rural commutershed conditions for the Central Bluegrass of Kentucky. Lexington, Frankfort, and Georgetown constitute significant employment destinations, amid a system of smaller county seats which largely serve as bedroom communities. This report will provide an overview of the existing pattern of commuting between and among the implicated counties, an overview of current urban-rural commuter services, and preliminary estimates of the potential for further public sector commuting services within the region. It is hoped that this information can support larger regional transportation planning activities within the Central Bluegrass.

⁷ Schwieterman and Fischer, *The Intercity Bus: America's Fastest Growing Transportation Mode*.

⁸ Lindly, *Intercity Bus Service Study 2007*.

II. Public Transportation Agencies

In Kentucky, public transit and human service transportation coordinated planning is divided into five statewide plans. This includes one each for the four metropolitan areas of population 200,000 or greater: Louisville, Lexington, Cincinnati (OH-KY-IN), and Evansville, IN (including Henderson, KY); and one encompassing the remaining small urban and rural areas of the state. This fifth plan is comprised of five local plans for small urban areas of population 50,000 – 199,999 (Ashland, Owensboro, Bowling Green, Elizabethtown/Radcliff, and Clarksville, TN/Fort Campbell) and fourteen local plans for rural areas of population less than 50,000.

The public transit and human service transportation coordinated planning regions in Kentucky are defined as required by FTA. However these designations do not necessarily translate well across urban/suburban/rural commutersheds. In central Kentucky, the Lexington-Fayette commutershed includes a number of surrounding counties which are divided into several different public transportation regions. For the purposes of this study, the Lexington-Fayette commutershed includes all the counties that are either a part of the Kentucky Transportation Cabinet District 7 or the Bluegrass Area Development District. Including these counties results in a study area of eighteen counties.

For central Kentucky, this results in four public transportation agencies offering services in different parts of the Lexington commutershed (Figure 1).

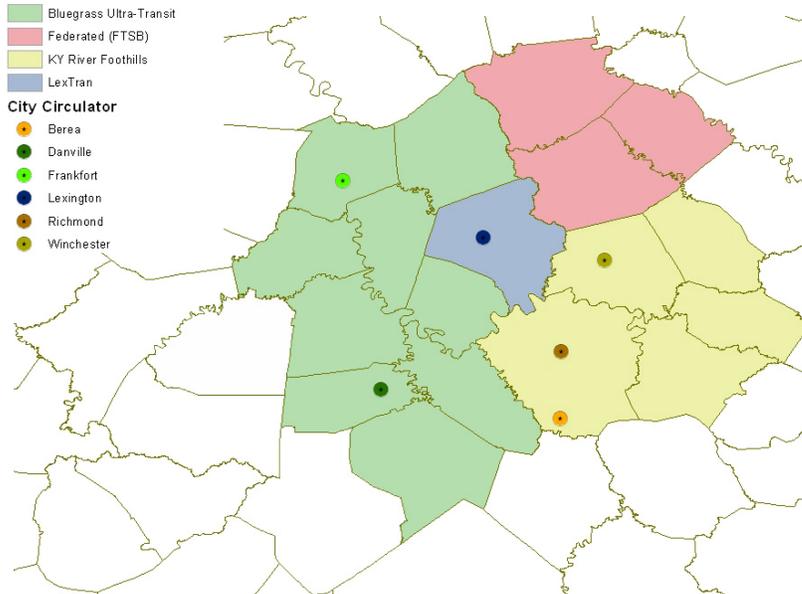


Figure 1 Public transportation agencies in study area

LexTran

Lextran began operations in 1973 after being incorporated under KRS 96A as the Transit Authority of the Lexington-Fayette Urban County Government (LFUCG). Lextran is supported by a .06/\$100.00 tax on assessed property values in Fayette County that was passed by voter referendum in 2004. Before 2004, Lextran received funding assistance directly from LFUCG general revenue funds.

Lextran operates 31 fixed route bus lines. In fiscal year 2010/11, these bus services accounted for over 6.4 million unlinked passenger trips.⁹ Lextran also operates a campus shuttle service for the University of Kentucky which is free of charge to UK students. For downtown Lexington, Lextran operates the COLT trolley free of charge to riders; this trolley service also connects the UK campus and Transylvania University campus to downtown. When Keeneland is in session, the trolley also provides service to the race track; in FY 2010/11, 1843 riders utilized this service. Finally, Lextran coordinates with Red Cross WHEELS to provide door to door paratransit services for eligible recipients; in FY 2010/11, WHEELS provided 165,638 paratransit trips.

LexVan

In 1997, the Lexington-Fayette Urban County Government (LFUCG) established the Lexington Bluegrass Mobility Office in an effort to address a number of transportation related issues, including air pollution, traffic, limited parking, gasoline consumption, and restricted mobility. The Mobility Office works to increase access to and awareness of opportunities for carpooling, vanpooling, biking, telecommuting or transit to and from work. A program offered is LexVan, a work commute vanpool leasing program. Vans used in this program are owned by LFUCG and leased to user-organized vanpools that commute to a common work destination. Riders split the costs associated with insurance, fuel, and upkeep; the only associated costs for LFUCG are the initial purchase of the van and administration of the program. Vans are purchased using federal grants from the FHWA Congestion Mitigation and Air Quality Improvement (CMAQ) program. Grant money from this program can only be used to add additional vans to the pool, not replace existing ones.

Because of the high demand and high success of this program, LFUCG officials continue to work to expand the program. This could potentially be aided through a dedicated source of funding from the Kentucky Transportation Cabinet (KYTC), the federal government, or some combination thereof. Because the current LexVan funding comes from LFUCG and vans are purchased through the Metropolitan Planning Organization (MPO), all routes must either originate or end in Fayette County; this results in little flexibility in terms of available services. The Mobility Office reports frequently receiving mobility-related inquiries from area residents that are unable to be met with the current state of transit in the region.

⁹ Lextran, *Annual Report 2010-2011*.

Kentucky River Foothills

The Kentucky River Foothills Development Council, Inc. has been serving central Kentucky as a community action agency for nearly 50 years, and part of its mission is to provide public transportation services for residents within the area. KY River Foothills provides public transportation services in four counties: Madison, Clark, Powell and Estill. Since 2004, the agency has been a public transit provider only; it does not receive state money to provide Medicaid transportation.

KY River Foothills receives approximately 50 percent of its transportation funding from the FTA. This federal money is administered and distributed within the state by the Kentucky Transportation Cabinet - Office of Transportation Delivery (KYTC/OTD). The other 50 percent of Foothills funding is subsidized by local county and city budget allocations as well as fare box recovery. There is considerable political support for transit in these counties, and local officials have even been active in gathering public feedback toward the establishment of commuter transit routes. Examples include the distribution of surveys to residents and the holding of public meetings to inform route details, such as origins, destinations, and schedules. Overall, public transportation services are widely used and popular among a significant portion of the population.

During the fiscal year July 2009-2010, Foothills provided a total of 110,000 trips along its routes. For fiscal year 2010-2011, Foothills was on pace to surpass the previous year's total. Officials report that their transit ridership continues to increase each year.

Federated Transportation Services

Federated Transportation Services of the Bluegrass (FTSB), Inc. is a nonprofit public and Medicaid transportation provider in Kentucky since 1981. FTSP provides public transportation services in four counties, three of which are within the study area (Bourbon, Harrison, Nicholas) and one which is just east of the study area (Rowan). FTSP provides Medicaid brokerage services for eight counties, one within the study area (Fayette) and seven to the west of the study area (Jefferson, Shelby, Spencer, Oldham, Bullitt, Henry and Trimble). In addition, FTSB provides a transportation route in Lewis County (northeast of the study area) funded through FTA Section §5316: Jobs Access and Reverse Commute (JARC) program. This program subsidizes transit services connecting low income areas within inner cities or rural areas to job centers.

In total, FTSB provides several thousand public transportation trips per month in the service area. As a Medicaid broker for two regions in Kentucky, FTSB provides approximately 80,000 monthly Medicaid trips. Within the urbanized areas of Fayette and Jefferson counties, FTSB only accepts the Medicaid trips that "no one else wants," such as those characterized by long commutes or inconvenient schedules.

Ridership on FTSB public transportation routes continues to increase each year. Nonetheless, FTSB receives no local funding from county or city budget allocations to provide public transportation, and there is very little political support in the four counties to fund public transit.

Bluegrass Ultra-Transit Service

Bluegrass Ultra-Transit Service (BUS) is a nonprofit public transportation service provided by the Blue Grass Community Action Partnership (BGCAP) since 1976. The agency offers public transportation services in eleven counties in central Kentucky, including Scott, Franklin, Woodford, Anderson, Jessamine, Mercer, Boyle, Lincoln, Garrard, Washington and Casey. In addition to public transit, BUS also provides human service transportation for the eleven counties through the state brokerage system, which includes such programs as Medicaid, JARC, New Freedoms, and Vocational Rehabilitation. Of all the transportation services BUS provides, Medicaid transport is by far the most significant, accounting for approximately 80 percent of the agency's ridership. In total, BUS provides approximately 30,000 trips a year for its public transportation services.

BUS encounters multiple barriers to providing rural public transit for the eleven counties, though inadequate funding lies at the root of all. The majority of its funding comes from federal grants and state support distributed through the Office of Transportation Delivery. BUS receives no local funding from any of the counties or towns it serves. In addition, BUS suffers from low political support and poor public perception of public transit. Though it is believed that there is more demand for transit in the region than is currently being provided, there are inadequate resources to specifically identify and/or address this demand. Demand for new routes is primarily identified by word of mouth. Because of the funding situation, the one dollar per mile fare for public transit is often cited as a reason why more residents do not use the services. Issues of operating authority and "turf" complicate the situation, as BUS may only provide service to riders whose trip origin begins within their eleven counties. Additionally, BUS is not allowed to provide charter bus services, of which there is some demand. This prevents BUS from capturing an additional revenue stream to help fund other public transit services.

BUS has several established intercounty transit routes; trip purposes on these routes are primarily for shopping, medical visits, or connecting to other transportation modes, such as LexTran or the Blue Grass Airport. BUS does not provide any intercounty commuter routes. Commuter transit services in general are currently unviable, due to the lack of local funding support and the subsequent elevated fare structures which effectively make riding the bus cost prohibitive on a daily basis. BUS does not currently operate any fixed JARC routes or other social service routes, though such eligible riders may use the existing routes through the social service agencies.

Demand for transit is likely to increase as gas prices do. The last time gasoline reached four dollars per gallon, the city of Versailles (Woodford County) contacted BUS about establishing and helping fund a commuter route to Lexington. BUS put together a proposal and schedule for the route; however before any serious discussions were had, gasoline prices dropped and Versailles lost interest in funding the route.

Observations

Across the central Bluegrass, then, public transportation is provided by a number of agencies operating within differing institutional frameworks, including funding mechanisms, services provided, and local support. In general, there exists the basic institutional framework for providing new or enhanced public transportation services within the Bluegrass Region. However, the examples of successful services demonstrate that local political and financial support is a necessary, if not sufficient, condition for such services to exist. Perceived limitations on local public sector resources tend to discourage localities from providing the additional portion of support needed to fully cover the costs of provision. Further, only certain kinds of public transportation services are funded by specific FTA or social service sources, while others (such as vanpool programs) are only currently (partially) funded by Congestion Mitigation Funds provided by the Federal Highway Administration.

III. Public Transportation Funding

Public transportation agencies may receive funding from a number of different sources depending on the type of agency and the types of transit services provided. The federal government, through a host of FTA funding programs, is a significant source of funding. However these FTA funding programs require some form of local funding match which may be met either by state government, city or county governing bodies, or some combination thereof.

Federal Funding

In 1964 the Federal Urban Mass Transportation Act established federal funding for urban public transportation systems in the form of matching funds to states and cities, and the Urban Mass Transportation Administration was created (later becoming the Federal Transit Administration). The 1964 Act was amended in 1978 by the Surface Transportation Assistance Act which authorized federal funding for rural and small urban public transportation systems.

Current federal funding for public transportation funding is authorized by the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The Federal Transit Administration (FTA) is responsible for distributing these federal funds. Every state receives FTA dollars through formula-based funding programs. Additionally FTA has several discretionary competitive grant programs which provide project-specific funding. All FTA funding programs require a local match in funds. Capital cost funding is generally provided at 80 percent federal and 20 percent local, while operating cost funding is provided at 50 percent federal and 50 percent local. Nearly every state contributes state dollars to help supply the local match for one or more FTA programs. Doing so enables states to leverage federal funding and maximize the financial impact toward the provision of public transportation. Listed and described below are all the formula-based FTA funding programs as well as the most common discretionary grant FTA programs in which the state of Kentucky participates.

- Metropolitan and Statewide Planning (49 U.S.C. §5303, §5304): Provides funding to support cooperative, continuous, and comprehensive planning for communities at the metropolitan and state level. Funds are ultimately distributed to Metropolitan Planning Organizations (MPOs) that administer urban and transportation planning for urbanized areas of population 50,000 or greater.
- Urbanized Area Formula Program (49 U.S.C. §5307): Provides funding for transit capital investments, operating assistance, and transportation related planning for public transportation providers in urbanized areas of population 50,000 or more. The formula for allocating these funds accounts for bus revenue vehicle miles, bus passenger miles, fixed guideway revenue vehicle miles, and fixed guideway route miles, as well as population and population density.
- Capital Investment Program (49 U.S.C §5309): This discretionary competitive program provides funding assistance for three types of transit activities: new and replacement

buses and bus facilities, modernization of existing rail systems, and new fixed guideway systems.

- Transportation for Elderly Persons and Persons with Disabilities (49 U.S.C. §5310): This formula program provides funding assistance toward the provision of public transportation for older adults and individuals with disabilities in areas where the transportation service provided is unavailable, insufficient, or inappropriate to meeting the needs.
- Formula Grants for Other than Urbanized Areas (49 U.S.C. §5311): This program provides funding assistance for the provision of public transportation services in rural areas (population less than 50,000). Funds are allocated by statutory formula that accounts for the non-urbanized population of each state (80 percent) and land area (20 percent) - though no individual state may receive more than five percent of the amount apportioned for land area. FTA regulations require that fifteen percent of Section §5311 funds be dedicated toward Intercity Bus Transportation - Section §5311(f). Emphasis is placed on providing public transportation from rural areas to nearby urbanized areas, as well as connecting rural areas to other modes of transportation, such as passenger rail, bus, and air transportation.
- Job Access and Reverse Commute Program (49 U.S.C. §5316): This formula program provides funding assistance for projects that assist low-income individuals in accessing work and work-related opportunities. §5316 funds are apportioned by formula: 60 percent to large urbanized areas; 20 percent to small urbanized areas; and 20 percent to non-urban areas. Among recipients, funds are apportioned based on the ratio of eligible low-income and welfare recipients for each area compared to the total of such residents in all areas.
- New Freedoms Program (49 U.S.C. §5317): This formula program provides funding assistance toward the provision of public transportation services for Americans with disabilities beyond those required by the Americans with Disabilities Act (ADA) of 1990. Allocation of Section §5317 funds is the same as those for Section §5316 in terms of eligible recipients, formula used for distribution, and federal share and local matching requirements.

Outside of these FTA funding programs, there are a number of other federal programs which provide funding and/or project financing. Public transportation providers in urbanized areas can apply for flexible funds such as Congestion Mitigation and Air Quality (CMAQ) grants and Surface Transportation Program (STP) funds. Since passage of the American Recovery and Reinvestment Act (ARRA) in 2009, FTA has approved over a thousand grants totaling over eight billion dollars in funding through this program.¹⁰ A number of innovative financing programs are also available on a competitive basis through the federal government, including Grant Anticipation Notes (GANS), and Transportation Infrastructure Finance and Innovation Act (TIFIA) program loans.

¹⁰ FTA, *The American Recovery and Reinvestment Act (ARRA)*.

State Funding

At the state level, funding for public transportation in Kentucky is generally leveraged to boost the acquisition of federal funds. Kentucky is bound by a constitutional dedication of fuel taxes for highway purposes only; public transportation funds largely come from the state's general revenue funds. Within Kentucky's Biennial Budget for 2010-2012, total state general revenue funds enacted for allocation to public transportation in 2011 were \$4.57 million dollars.¹¹ However, subtracted from this sum were \$2.95 million dollars assigned to the Nonpublic School Transportation program. After this subtraction, public transportation systems in Kentucky were left with less than half - \$1.62 million - the total sum enacted for allocation.¹²

Since 1976, Kentucky's primary funding program for public transportation has been the Kentucky Public Transportation Capital Improvement Program. As part of the annual state budgeting process, general revenue funds are appropriated by the Kentucky General Assembly and made available to the Kentucky Transportation Cabinet and the Office of Transportation Delivery (KYTC/OTD) as a match to FTA capital grants. All public transportation systems in Kentucky are requested to review their capital equipment needs for the coming three-year period and submit them to the state as part of a Transportation Improvement Program.¹³ To date, KYTC/OTD has not made available state funds for operating costs.¹⁴

Kentucky primarily avails state funds for public transportation in the form of a state match up to ten percent of capital expenditures under FTA funding programs Sections §5307, §5308, §5309, §5310, §5311, §5316, §5317. These programs also generally require an additional local match in funds. The source of local matching funds for subrecipients may arise from unrestricted federal funds, county and city allocations, service contracts, dedicated tax revenues, private donations, and net income generated from advertising, concessions, and incidental charter service income. A subrecipient may also request a toll credit match up to 20 percent for capital expenditures. Toll credits are credits earned by states that have constructed state roads with state dollars to federal interstate specifications. Since 2002, Kentucky has been using toll credits in lieu of actual state dollars to match federal dollars for some eligible programs, including FTA funding programs for public transportation. Toll credits enable the state to leverage federal dollars without actually contributing funds to the programs. Recipients, however, do not receive the full value of the funding programs. For example, the recipient of a grant that is 80 percent federal dollars and 20 percent state toll credits only receives the 80 percent federal share in actual dollars; the 20 percent is a credit only and no actual dollars are contributed to the project. According to KYTC/OTD, Kentucky's allotment of toll credits is rapidly being applied to match federal funding for transportation projects throughout the state. It is anticipated that they will be used up within two to three years.

¹¹ Commonwealth of Kentucky, *2010-2012 Budget of the Commonwealth*.

¹² Crabtree et al., *Identifying State Initiatives to Support Non-Highway Modes of Transportation*.

¹³ KIPDA, *FY 2011 - FY 2015 Transportation Improvement Program*.

¹⁴ KYTC/OTD, *Kentucky State Management Plan*.

State funds are distributed on a discretionary basis and are to be used for capital expenses. In distributing the funds, KYTC/OTD is assisted by regional transportation coordinators. Priority in funding is given in the following order: elderly and handicapped program, rural program, small urban systems, and large urban areas.

Local Funding

In addition to federal and state funding programs, public transportation systems may receive local funding. In 1970, the Kentucky General Assembly enacted KRS Chapter 96A, which authorized the formation of Mass Transit Authorities by local governing bodies for the purpose of providing public transportation services for the communities.¹⁵ The legislation authorized and defined how mass transit authorities could be municipally funded. As defined by KRS Chapter 96A, Mass Transit Authorities are authorized to issue bonds for capital expenses. They are also authorized to receive tax revenue from municipalities to support their services, but only if approved by voter referendum.

For public transportation systems not established as transit authorities, local contributions may be acquired from general revenue funds of counties or cities, though such funding arrangements are the exception rather than the norm. For small operators, especially those that primarily focus on transportation services for elderly or disabled persons, local funding may be in the form of specific grants or charitable contributions.

Observations

A common theme found among all public transportation providers in the central Bluegrass is the lack of adequate funding to provide needed services. A comparative review of state contributions toward the provision of public transportation services demonstrates this problem. Kentucky lags significantly behind all its neighboring states in funding public transportation both in terms of total dollars and per capita dollars (Figures 2, 3).

¹⁵ Commonwealth of Kentucky, *Kentucky Revised Statute 96A.330*.

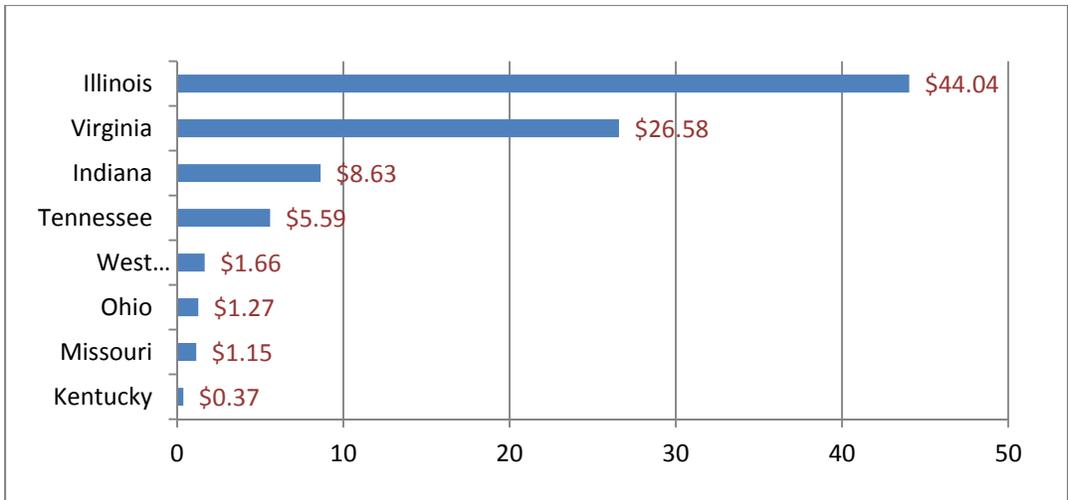


Figure 2 2009 per capita state funding for public transportation

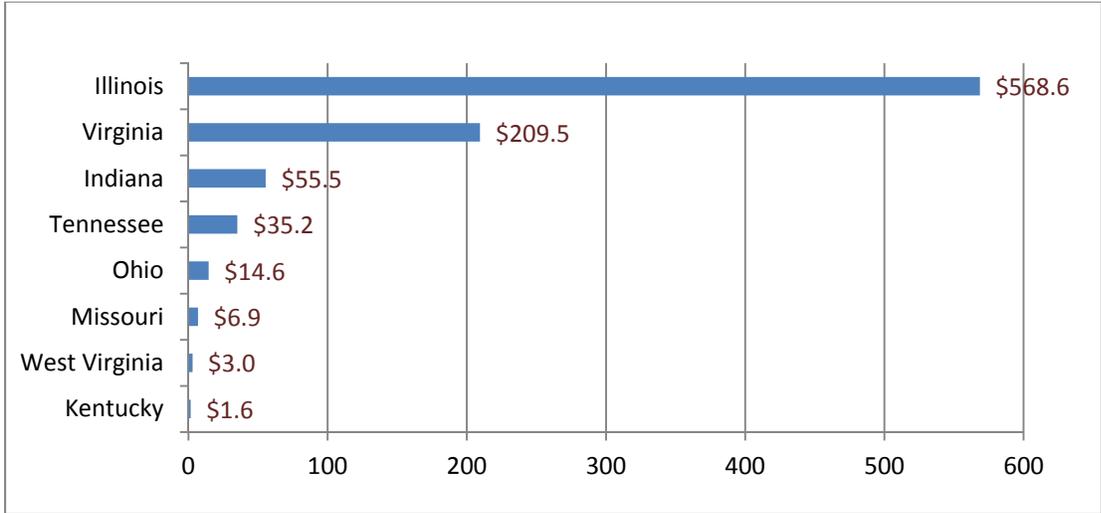


Figure 3 2009 total state funding for public transportation (in millions)

Compounding this problem, few local governing agencies currently provide any funding for public transportation services. In Fayette County, LexTran is supported by a dedicated property tax that passed by voter referendum in 2003. Only two other counties in the study area, Clark County and Madison County, provide funding for public transportation. In the counties that do provide funding for public transportation, more transit services are available for residents to utilize at more affordable rates, and ridership is correspondingly higher.

IV. County By County Summary

Identifying demand for intercity public transit for commuting purposes involves accounting for a variety of variables that may fluctuate over time. These factors can be divided into two categories: external and internal.¹⁶ External factors are those beyond the control of individual transit agencies. These include such things as the price of gasoline; socioeconomic factors such as employment level, income level, and automobile ownership; spatial factors such as availability and price of parking, residential and employment densities; and public funding factors. Internal factors affecting ridership are those that can be controlled by transit agencies. These include fare levels, service quality, and service quantity.

In a study on rural intercity transportation services, Mattson et al¹⁷ considered different factors affecting mode choice for long distance trips. These factors were broken down into three categories: characteristics of the transportation mode, such as cost, travel time, comfort and convenience, service frequency, need for transfer, and access; characteristics of the individual making the trip, such as income, age, gender, car ownership, ability to drive, and preferences and attitudes; and characteristics of the trip, such as trip purpose, trip length, and size of travelling party. Mattson et al focused specifically on intercity bus originating in smaller towns and rural areas, and their survey results indicate the potential for a 4 percent modal share by bus for intercity travel.

The research by Mattson et al is helpful in illuminating the many factors associated with understanding and estimating potential demand for intercity bus transit. However their survey results do not translate directly onto the objectives of this report. Their analysis included all types of intercity travel, including personal and business travel, whereas this study focuses exclusively on intercity travel for commuting purposes. Indeed, within the existing literature on intercity bus travel, there is scant attention paid to intercity commuting by bus. As Mattson et al note “most of the literature concerning intercity buses deals with long-distance travel between major cities.”¹⁸

In this report, estimates of potential diversion of existing commuting traffic to public transportation are based on the experiences of those operators in the region that have had the most success with implementing and maintaining commuter services. Two existing intercity bus commuter routes currently exist within the Lexington commutershed: Winchester to Lexington and Richmond to Lexington (both operated by Kentucky River Foothills). As the data presented in the following sections will demonstrate, each of these commuter routes capture just below 1 percent of the total commuter traffic along these corridors. Their ridership could be seen as the middle range of potential, given that usage of the successful systems continues to grow. By this

¹⁶ Taylor and Fink, “The Factors Influencing Transit Ridership: A Review and Analysis of the Ridership Literature.”

¹⁷ Mattson et al., “An Assessment of Demand for Rural Intercity Transportation Services in a Changing Environment.”

¹⁸ Ibid., 108.

standard, an estimate of 1 percent of total daily intercounty commuters could be captured through reliable, cost-effective, and accessible intercounty commuter transit services.

The following section provides a county-by-county breakdown of the commuting patterns for the Lexington commutershed region. Data for this section was collected from the Census Transportation Planning Products (CTPP).¹⁹ The CTPP contains data based on surveyed commuting patterns collected between the years of 2006 and 2008. Because the CTPP 2006-2008 only includes geographic areas of population 20,000 or greater, data for several counties in the study region is not included. Of the eighteen county region identified for this study, ten counties have populations greater than the 20,000 threshold. These include, Anderson, Boyle, Clark, Fayette, Franklin, Jessamine, Madison, Mercer, Scott, and Woodford. Eight counties within the study area do not reach the 20,000 population threshold of the CTPP 2006-2008. These include Bourbon, Estill, Garrard, Harrison, Lincoln, Montgomery, Nicholas, and Powell.

For each of the ten counties included above the 20,000 population threshold, this section provides a snapshot of intercounty commuting patterns both originating and ending in the selected county. For routes of over 1,000 daily commuters, an estimate of demand for public transportation is also provided. To put demand for commuter transportation services in perspective, a list of major employers by county is included. Employment data was obtained from the Lexington Chamber of Commerce, the Kentucky Cabinet for Economic Development, or where available, individual institutions. Additionally, for each county an overview of currently available public transportation services is provided.

Anderson County

Located west of Lexington-Fayette County, Anderson County has a population of 21,421. The largest city in Anderson County is Lawrenceburg. Public transportation is provided by Bluegrass Ultra-Transit Services. Available services include:

- Demand response paratransit: \$1 per mile with a \$3 minimum per trip.
- §5316 JARC
- §5317 New Freedoms.

Anderson County does not currently have any fixed-route bus systems or any regularly scheduled intercity public transportation routes.

Because of its close proximity to Franklin County and easy access along US 127, Anderson County serves as a bedroom community to Frankfort and the many state government agencies there. CTPP data reveals 3510 commuters per day traveling from Anderson County to Franklin County (Figure 4). This constitutes the eighth largest county-to-county commute in the Bluegrass region. Also of significance is the Anderson-to-Fayette commute, consisting of 1360 daily travelers (Figure 4). Based on the standard of a 1 percent capture of daily commuters

¹⁹ FHWA, *Census Transportation Planning Products*.

through public transportation, Anderson County shows some demand for a form of intercity public transportation. The estimate suggests a demand of 35 commuters traveling to Frankfort using public transportation, and a demand of fourteen commuters to Lexington.

As a destination, Anderson County is not significant in terms of total daily commuters from out of county (Figure 5). The two largest business and industry employers in Anderson County are General Cable (307) and Florida Tile (205).²⁰

²⁰ Kentucky Cabinet for Economic Development, "Community Profiles."

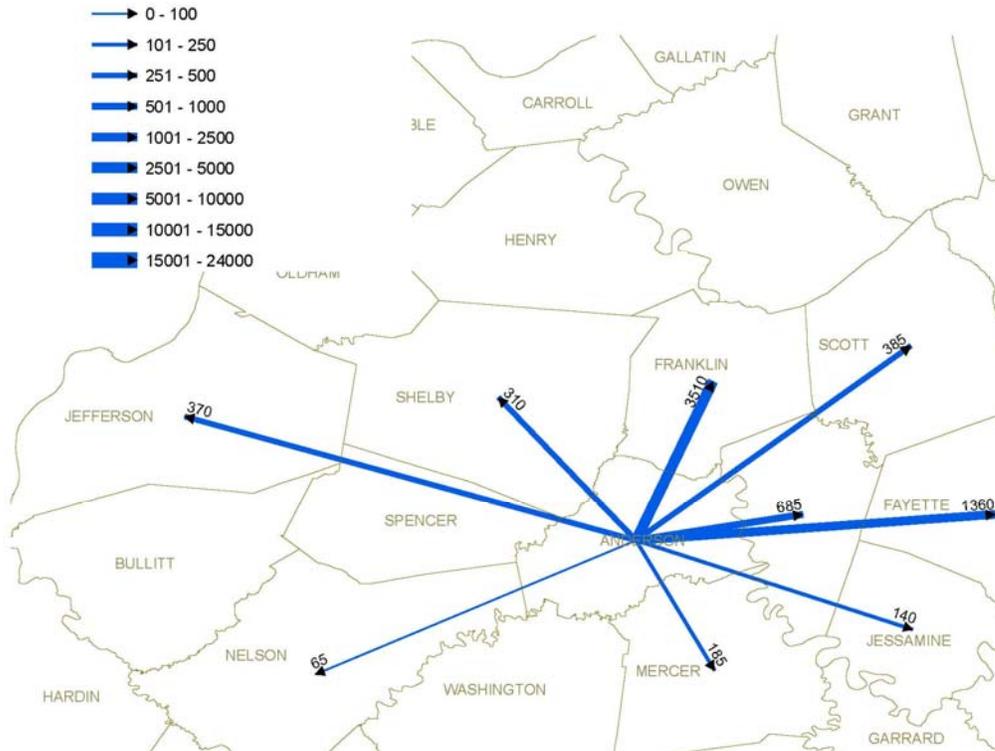


Figure 4 Daily commute trips from Anderson County (CTPP 2006-2008)

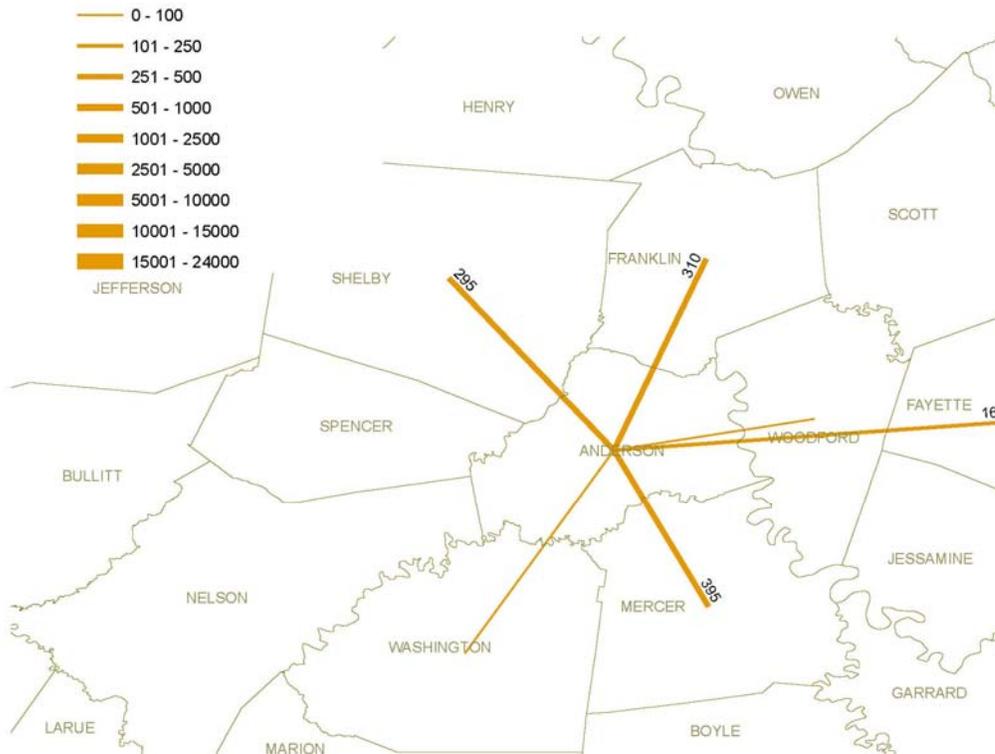


Figure 5 Daily commute trips to Anderson County (CTPP 2006-2008)

Boyle County

Located southwest of Lexington-Fayette County, Boyle County has a population of 28,432. The largest city in Boyle County is Danville. Public transportation is provided by Bluegrass Ultra-Transit Services. Available services include:

- Intercity transit route between Danville and Lexington. The route originates in Danville and stops at the Bluegrass Airport and the LexTran downtown transit hub. The route operates Monday through Friday, up to four times a day. Fare is \$5 per trip, and the route may also deviate in Lexington for an additional \$1 per mile. This intercity route is not a commuter route; it carries on average about 20 to 30 riders per month.
- Wilderness Trace Route, an intercity transit route between Lancaster (Garrard County), Stanford (Lincoln County) and Danville. The route originates in Lancaster at the City Hall, includes stops at the Lancaster Housing Authority office, the Wal-Mart Supercenter in Stanford, and ends in Danville at the transit facility. The route operates Monday through Friday, up to five times a day. Fare varies from \$1 to \$4 per trip, depending on the trip length. This intercity route is not a commuter route; it averages about 25 passengers per month, the majority of which are non-emergency medical trips to the Ephraim McDowell Regional Medical Center in Danville.
- Stanford-Junction City-Danville intercity transit route. This route runs up to five times a day, Monday through Friday. Fare is \$1-\$4 each way depending on the length of the trip. Because this route only averages around two or three riders per month, its continuance is unlikely.
- DAN-TRAN, a deviated fixed-route bus system in Danville. Established in 2008, DAN-TRAN operates Monday through Friday from 8am to 5pm and on Saturday from 8am to 1pm. Fare is \$1 per trip. DAN-TRAN averages approximately 150-200 passengers per month. The system does not receive any local funding contributions.
- Demand response paratransit: \$1 per mile with a \$3 minimum per trip.
- §5316 JARC
- §5317 New Freedoms

The largest county-to-county commute originating in Boyle County is to Mercer County (whose largest city is Harrodsburg). CTPP data shows 1110 commuters on this route each day (Figure 6). Boyle County also includes 985 daily commuters to Fayette County, a distance of 34 miles (to downtown Lexington). Based on the 1 percent estimate, the demand for transit on each route is approximately ten to eleven commuters per day.

As a destination, Boyle County receives the largest number of inter-county commuters from Lincoln County, a total of 3150 (Figure 7). The demand for this route is estimated at about 31 commuters per day. Boyle County also receives 1150 daily commuters from Mercer County. The demand for this route is estimated at eleven to twelve commuters per day. Major employers

in Boyle County include the Ephraim McDowell Regional Medical Center (1231), American Greetings (715), and R R Donnelly (705).²¹

²¹ Ibid.; Ephraim McDowell, *Ephraim McDowell 2010 Report to the Community*.

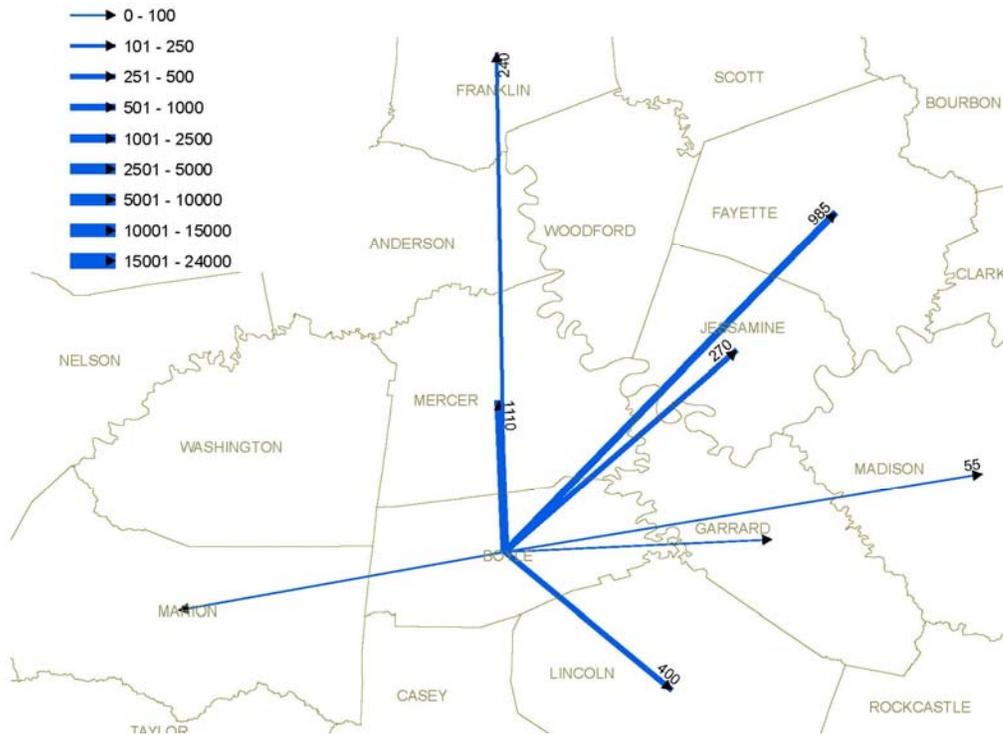


Figure 6 Daily commute trips from Boyle County (CTPP 2006-2008)

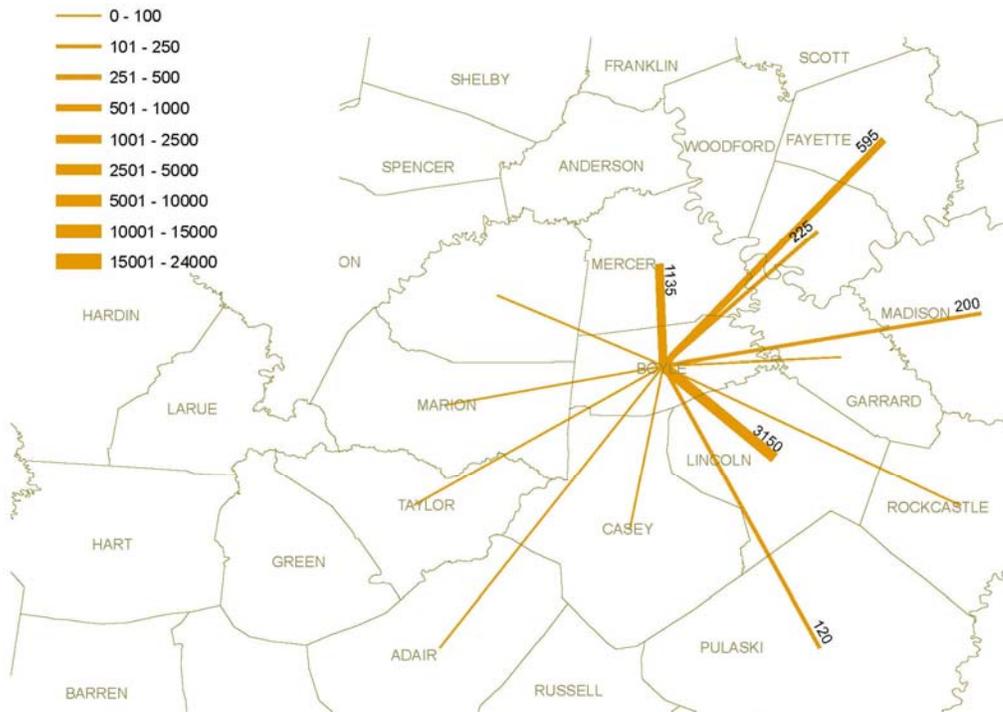


Figure 7 Daily commute trips to Boyle County (CTPP 2006-2008)

Clark County

Located east of Lexington-Fayette County, Clark County has a population of 35,613. The largest city in Clark County is Winchester. Public transportation is provided by Kentucky River Foothills. Available services include:

- Intercity commuter transit from Winchester to Lexington. The route begins at park-and-ride lot of 65 spots at the Winchester Wal-Mart. The bus transports commuters to and from several destinations in Lexington, including the VA hospital, the University of Kentucky hospital and campus, two locations downtown, Lexmark, and Cardinal Hill Rehabilitation Hospital. The route includes two buses departing in the morning and two buses returning in the afternoon; it currently has about 45 passengers daily. Monthly passes are sold for \$40. Clark County contributes local funding for this route.
- Winchester/Clark Transit (Deviated Fixed Route): A bus system has been in service since 2008. Fare is \$1 per day. This bus route is also supported by local funding.
- Demand response paratransit. Fare is \$4 roundtrip, within four miles of pickup.
- §5316 JARC
- §5317 New Freedoms

In terms of daily commuters, the Clark County to Fayette County route is the fourth largest in the Bluegrass region, at 5500 daily commuters (Figure 8). Demand for public transportation along this route is already met by the intercity route provided by Kentucky River Foothills. The current ridership of 45 daily commuters is just below the 1 percent estimate.

As a destination, Clark County receives 1165 daily commuters from Fayette County and 1055 daily commuters from Montgomery County (Figure 9). These daily totals translate to an intercounty transit demand of approximately eleven to twelve commuters per day. Significant employers in Clark County include Clark Regional Medical Center (500), Niles America Wintech (410), Leggett and Platt (345), and International Processing Corp. (333).²²

²² Commerce Lexington, *Bluegrass Region Major Employers*; Clark Regional Medical Center, “About Clark Regional Medical Center.”

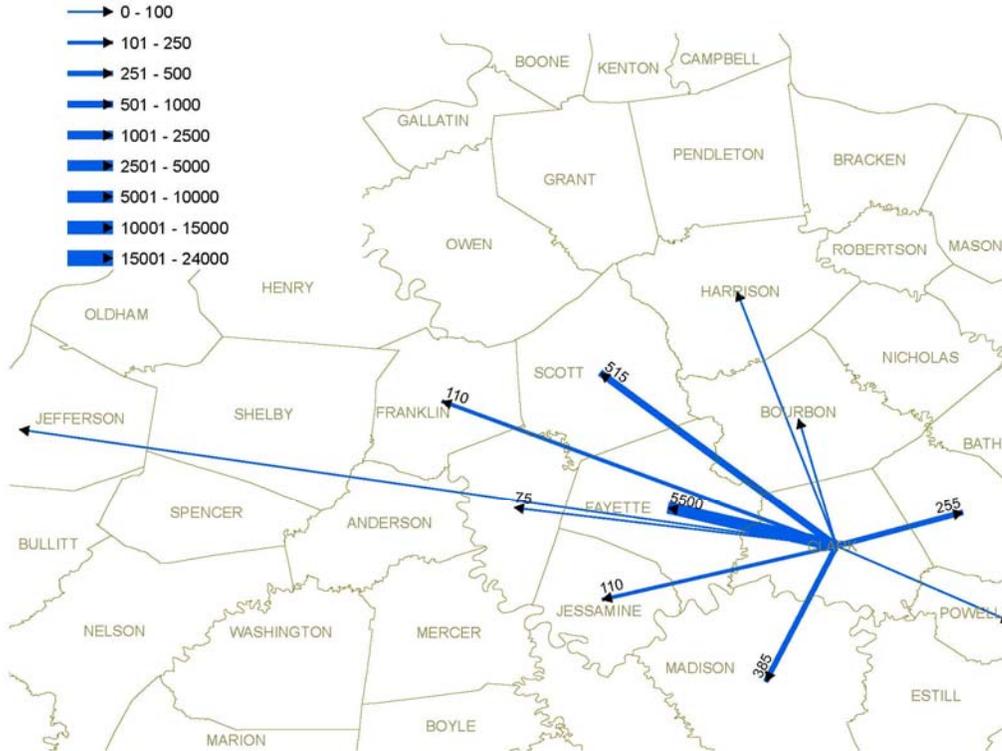


Figure 8 Daily commute trips from Clark County (CTPP 2006-2008)

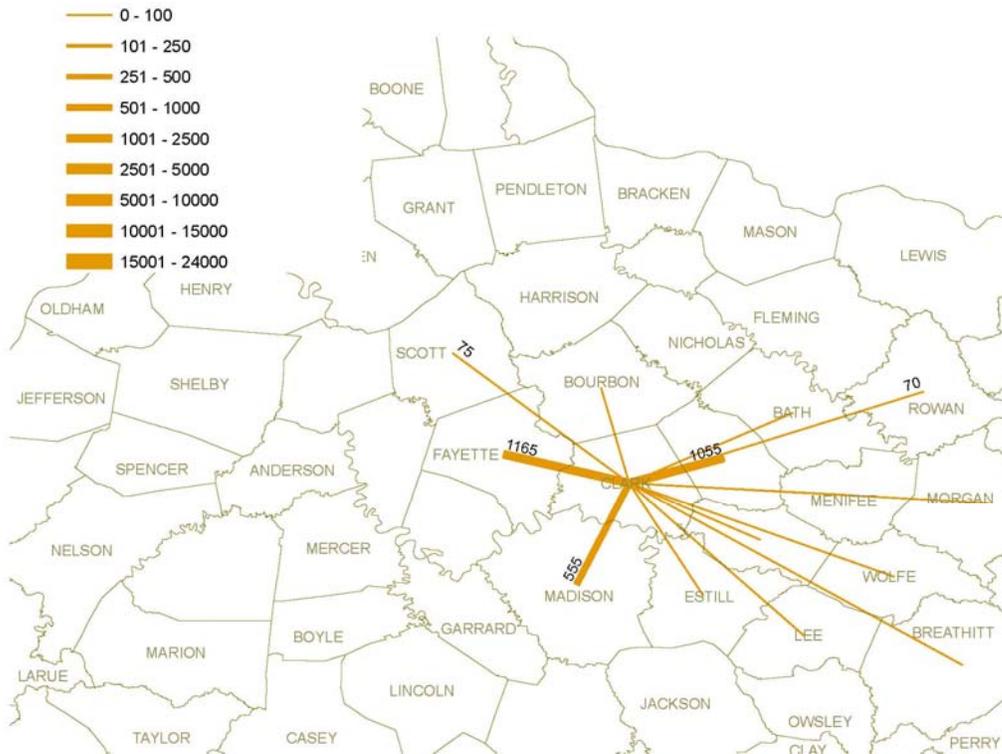


Figure 9 Daily commute trips to Clark County (CTPP 2006-2008)

Fayette County

Fayette County is home to Lexington, the largest city in the central Bluegrass (population 295,803). Public transportation is provided by LexTran, the Transit Authority of the Lexington-Fayette Urban County Government (LFUCG). LexTran fare is \$1 per trip, with discounted fares available for children, senior citizens, persons with disabilities, and Medicare cardholders. LexTran also offers discounted daily, monthly, and yearly passes as well as semester-long passes for students. Mainline bus services run every day from 5:30 am to 12:30 am, and include unlimited transfers for one-way trips. LexTran provides services on 31 bus routes throughout Lexington, including a campus shuttle service for the University of Kentucky that is available free to students. Door to door paratransit services are also available; these services are subcontracted by LexTran to Red Cross WHEELS. Because LexTran's municipal funding is tied to property tax rates in Fayette County, Lextran is only able to operate bus routes within the Lexington-Fayette County limits. All bus routes converge at the downtown Lexington Transit Center.

Limited public transportation services are also available through a LFUCG administered vanpool program called LexVan. As of February 2011, LexVan had sixteen vanpools in operation, with a total of 21 vans overall (several vans are held in reserve for when operating vans need mechanical maintenance). The Mobility Office maintains a waiting list for additional vanpools when vans become available, which is infrequent. There are currently eighteen vanpool routes on the waiting list (to be included, an organizer must have secured at least six passengers for the potential vanpool). With the recent purchase of several new vans, current routes for the existing LexVan vanpools are in flux. However, these vanpools previously included:

- Five vans going from Lexington to Frankfort (all state government employees)
- Two vans going to Lexington from Madison County (Berea and Richmond)
- Two vans going to Lexington (Trane Heating and Cooling plant) from Estill and Powell Counties
- One van going to Lexington from Bourbon County (Paris)
- Three vans operated by Employment Solutions

Because LexTran is publicly funded through a Fayette County property tax, it is only able to provide services within the county. LexTran cannot provide intercounty or intercity public transportation unless some kind of funding agreement is arranged with another county or city agency. LFUCG's LexVan program helps meet some of the transit demand for intercity commuting, but because of limited funding, only limited services are available. Within the study area, Greyhound Bus also has stops in Lexington, Frankfort, and Berea.

Of the ten highest volume daily intercounty commutes, eight either originate or end in Fayette County. All of the notable intercounty commutes either originating or ending in Fayette County, as well as the associated estimation of demand for transit, are listed below:

Table 1 Originating in Fayette County:

County Destination	Daily Commuters	Estimated Transit Demand
Scott	5180	52
Jessamine	3580	36
Franklin	2945	30
Woodford	2055	21
Clark	1165	12
Total Outbound Estimated		151

Table 2 Ending in Fayette County:

County Origin	Daily Commuters	Estimated Transit Demand
Jessamine	9610	96
Madison	7495	75
Scott	5840	58
Clark	5500	55
Woodford	4380	44
Franklin	1975	20
Montgomery	1630	16
Anderson	1360	14
Mercer	1160	12
Total Inbound Estimated		390

Several of these commuter routes are serviced with public transportation. Kentucky River Foothills provides daily commuter transit from Clark County to Fayette County as well as from Madison County to Fayette County. LexVan has several vanpools from Fayette County to Franklin County. This data suggests, however, that the demand for intercounty commuter transit is greater than the currently available services.

As Lexington/Fayette County is the regional center for the central Bluegrass, it serves as either an origin or destination for the majority of daily inter-county commutes. Fayette County has a several establishments that support a significant number of employees, including educational institutions such as the University of Kentucky (12,000); medical centers such as Central Baptist Hospital (3500), St. Joseph's Hospital (3300), Veterans Medical Center (1565) and the Lexington Clinic (1017); and business establishments such as Lexmark International headquarters (3130), ACS (2050), L3 Communications (1750), Lockheed Martin (1705) and Trane Heating and Cooling (1300).²³

²³ Commerce Lexington, *Bluegrass Region Major Employers*.

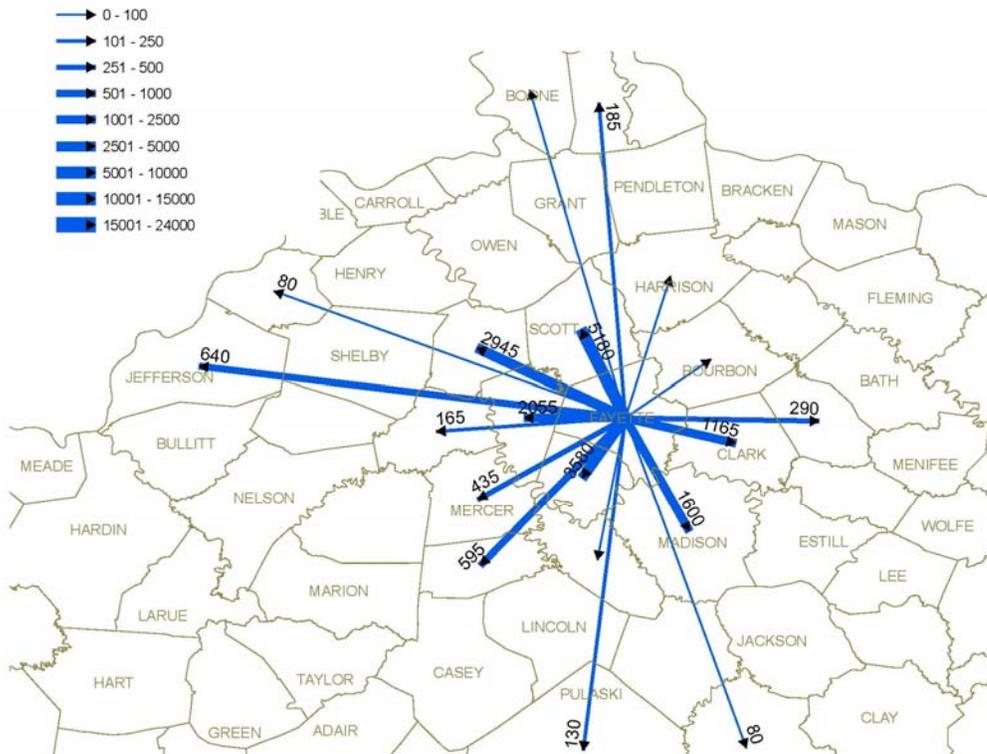


Figure 10 Daily commute trips from Fayette County (CTPP 2006-2008)

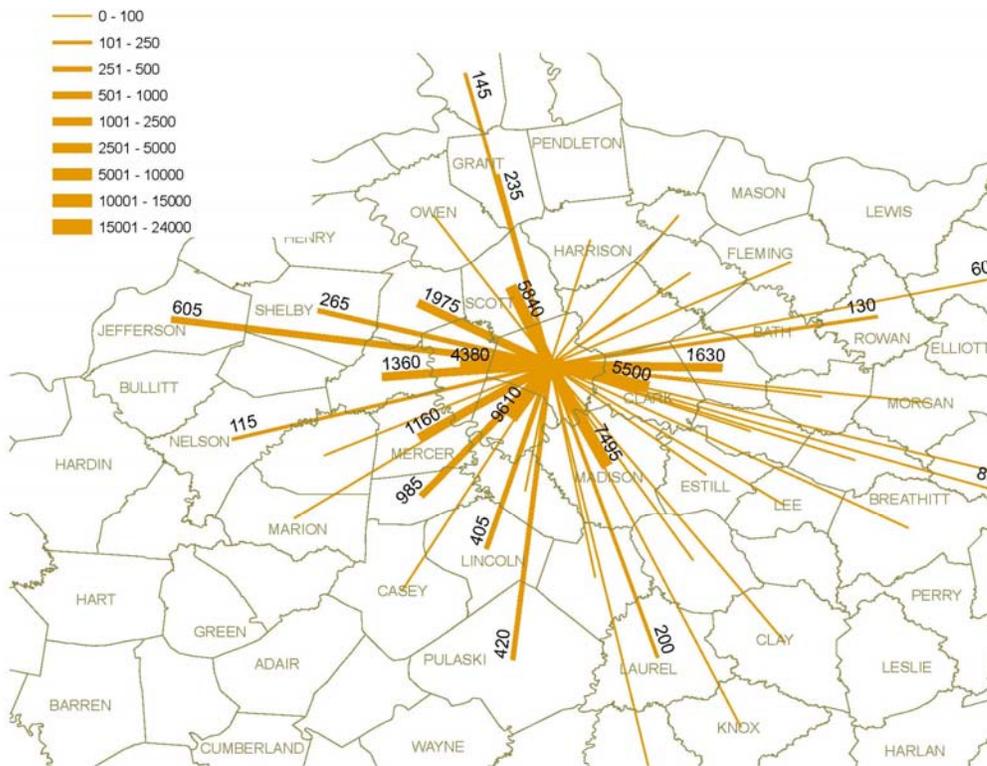


Figure 11 Daily commute trips to Fayette County (CTPP 2006-2008)

Franklin County

Franklin County has a population of 47,687, and is located west of Fayette County and is home to Frankfort, the Kentucky state capitol. As many of the Kentucky state government agencies are located in Franklin County, it is the employment destination for thousands of Kentuckians, many of whom commute from out-of-county. These state government agencies are, however, not always centrally located or clustered together, but rather are spread out across the Frankfort vicinity. This situation creates additional barriers for Frankfort as a potentially viable destination for intercity transit services.

Public transportation in Franklin County is available through Bluegrass Ultra-Transit Services. Within the city of Frankfort, public transportation is also available through Frankfort Transit. Available services include:

- Three deviated-fixed bus routes within Frankfort. Service runs Monday through Friday from 6:45 am to 6:30 pm, and on Saturday from 9:00 am to 2:30 pm. Fare is \$.50 for adults each way, free for children 12 and under, and \$.25 each way for senior citizens age 55 and up.
- Downtown Frankfort trolley service. This service is free for tourists visiting downtown historic sites, restaurants and shops.
- Derby City Route: intercity bus route connecting Frankfort to Louisville. Fare is \$8 each way. The route runs Monday through Friday, twice a day, once in the morning and once in the afternoon. The route stops at two locations in Frankfort and two locations in Louisville, including the airport and the downtown TARC bus terminal.
- Big Blue Connector Route: intercity bus route connecting Frankfort to Lexington. Fare is \$5 each way. The route runs Monday through Friday, three times a day, once in the morning and twice in the afternoon. The route stops at two locations in Frankfort and two locations in Lexington, including the airport and downtown LexTran bus terminal.
- Demand response paratransit: \$1 per mile with a \$3 minimum per trip.
- §5316 JARC
- §5317 New Freedoms.

The largest intercounty commute originating in Franklin County is to Fayette County. CTPP data reveals that 1975 commuters travel daily from Franklin County to Fayette County (Figure 12). This translates to an intercounty transit demand of about 20 daily commuters.

As a destination, Franklin County receives a large number of inter-county commuters from counties both within and beyond the study area; from Anderson County, a total of 3510 daily commuters (Figure 13); from Fayette County, a total of 2945 daily commuters; and from Scott County a total of 1110 daily commuters. The demand for public transportation along these routes is estimated at 35 from Anderson County, 29 from Fayette County, and eleven from Scott County.

Franklin County is significant as a destination primarily because of the location of Kentucky state government agencies within the state capitol of Frankfort. Of these agencies, the largest in terms of total employees are the Kentucky Cabinet for Health & Family Services (3610), the Kentucky Transportation Cabinet (2000), the Kentucky Department for Workforce Development (1000), the Kentucky General Government Cabinet (800), and the Kentucky Department of Education (600). Other significant employers include the Frankfort Regional Medical Center (600) and Montplast of North America (620).²⁴

²⁴ Ibid.

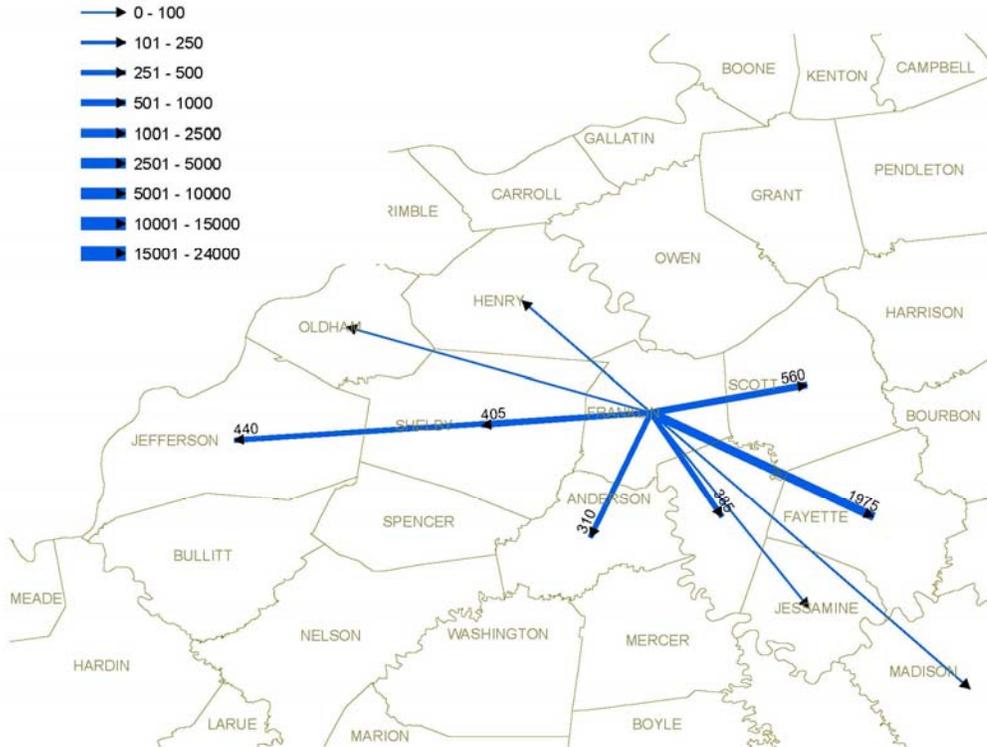


Figure 12 Daily commute trips from Franklin County (CTPP 2006-2008)

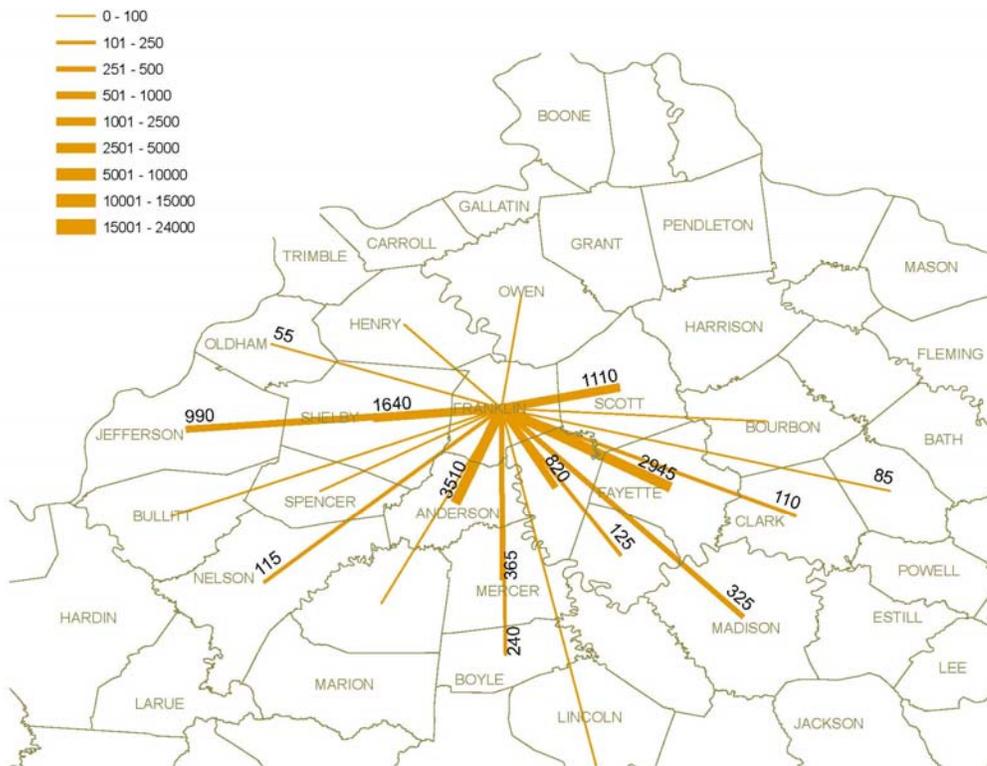


Figure 13 Daily commute trips to Franklin County (CTPP 2006-2008)

Jessamine County

Located southwest of Lexington-Fayette County, Jessamine County has a population of 48,586. Jessamine County is the only county outside of Fayette County to be included within the Lexington Area Metropolitan Planning Organization (MPO). The largest city in Jessamine County is Nicholasville. Public transportation is provided by Bluegrass Ultra-Transit Services. Available services include:

- Demand response paratransit: \$1 per mile with a \$3 minimum per trip.
- §5316 JARC
- §5317 New Freedoms.

Jessamine County does not currently have any fixed-route bus systems or any regularly scheduled inter-city public transportation routes.

The largest county-to-county commute originating in Jessamine County is to Fayette County. CTPP data shows 9610 commuters on this route each day (Figure 14). This route is the largest inter-county commuter route in the central Bluegrass region. Based on the 1 percent estimate, the demand for public transit on this route is nearly 100 commuters per day.

As a destination, Jessamine County receives the largest number of inter-county commuters from Fayette County, a total of 3580 (Figure 15). This is the seventh largest inter-county commuter route in central Kentucky. The demand for this route is estimated at about 36 commuters per day. In terms of significant employers, Jessamine County includes McLane Cumberland (526), Trim Masters (340), Alltech (300), and RJ Corman Railroad Group (300).²⁵

²⁵ Ibid.; Kentucky Cabinet for Economic Development, "Community Profiles."

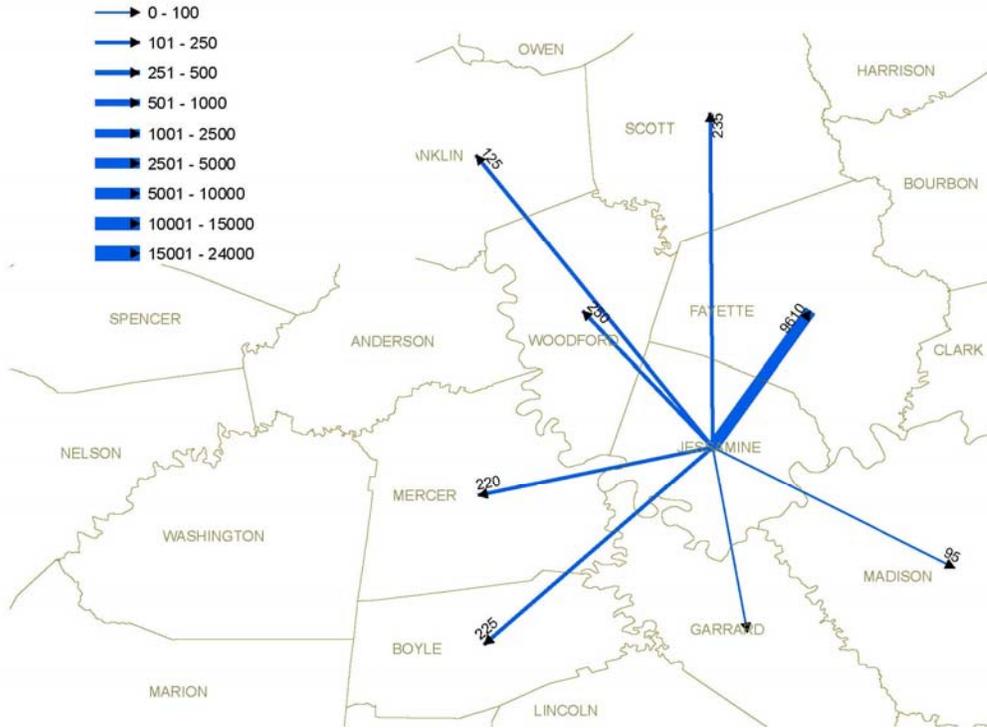


Figure 14 Daily commute trips from Jessamine County (CTPP 2006-2008)

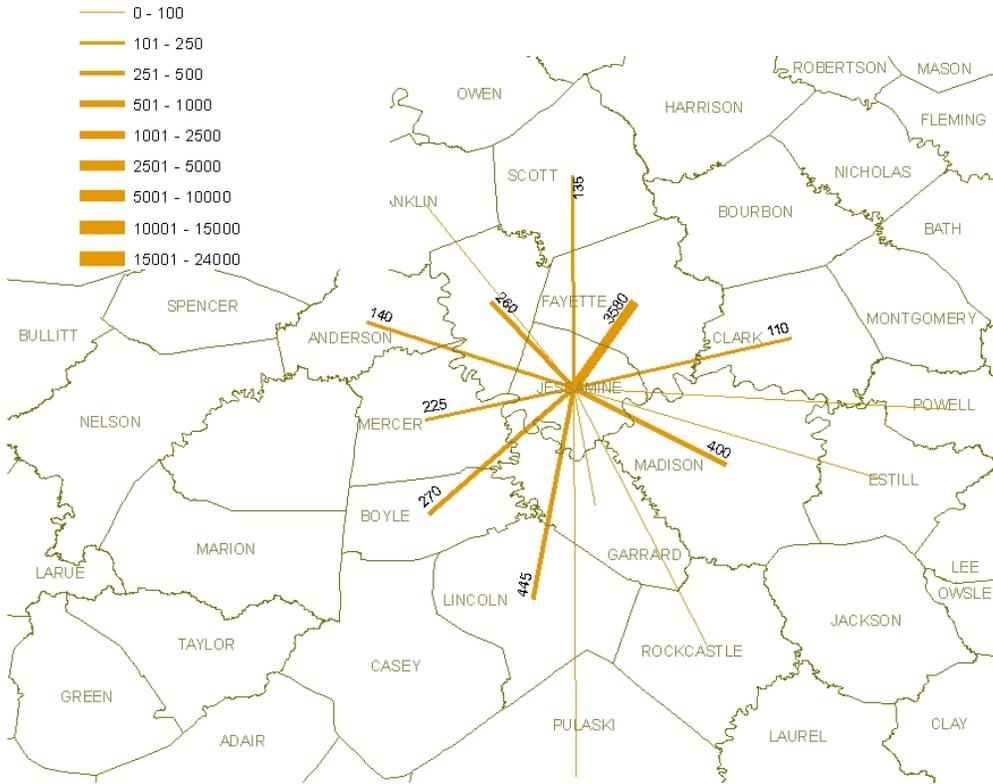


Figure 15 Daily commute trips to Jessamine County (CTPP 2006-2008)

Madison County

Located southeast of Lexington-Fayette County, Madison County has a population of 82,292. The two largest cities in Madison County are Richmond and Berea. Public transportation is provided by the Kentucky River Foothills. Available services include:

- Deviated-fixed route circulator bus service for the cities of Berea (since 2006) and Richmond (since 2007). Bus fare for this service is \$1 per day.
- An intercity bus connector route from Berea to Richmond for \$2 roundtrip. This route runs Monday through Friday approximately every couple of hours between the two cities.
- Intercity commuter transit from Richmond to Lexington. Route begins at park-and-ride lot at Richmond Meijer parking lot. The bus transports commuters to and from several destinations in Lexington, including the Industry Road, VA hospital, the University of Kentucky hospital and campus, and the LexTran bus terminal downtown. The route leaves Richmond each morning at 6:30 am and returns around 5:45 pm. Monthly passes are sold for \$50. This route was established in September of 2011, and after about six months of service was averaging 22 passengers per day.
- Demand response paratransit. Fare is \$4 roundtrip, within four miles of pickup.
- Intercity demand-response transport in the central Kentucky region for \$20 roundtrip.
- §5316 JARC
- §5317 New Freedoms

The largest county-to-county commute originating in Madison County is to Fayette County. CTPP data shows 7495 commuters on this route each day (Figure 16). This route is the second largest inter-county commuter route in the central Bluegrass region. Based on the 1 percent estimate, the demand for public transit on this route is about 75 commuters per day. This route is currently serviced by an intercounty commuter bus line from Richmond to Lexington operated by Kentucky River Foothills.

As a destination, Madison County receives the largest number of inter-county commuters from Fayette County, a total of 1600 (Figure 17). The demand for public transit on this route is estimated at about sixteen commuters per day. Madison County has several significant employers, including Eastern Kentucky University (3700), Tokico (859), Bluegrass Chemical Agent Destruction Plant (750), Pattie A. Clay Hospital (650), NACCO Materials Handling Group (490), and Enersys Corporation (400).²⁶

²⁶ Commerce Lexington, *Bluegrass Region Major Employers*; Kentucky Cabinet for Economic Development, "Community Profiles."

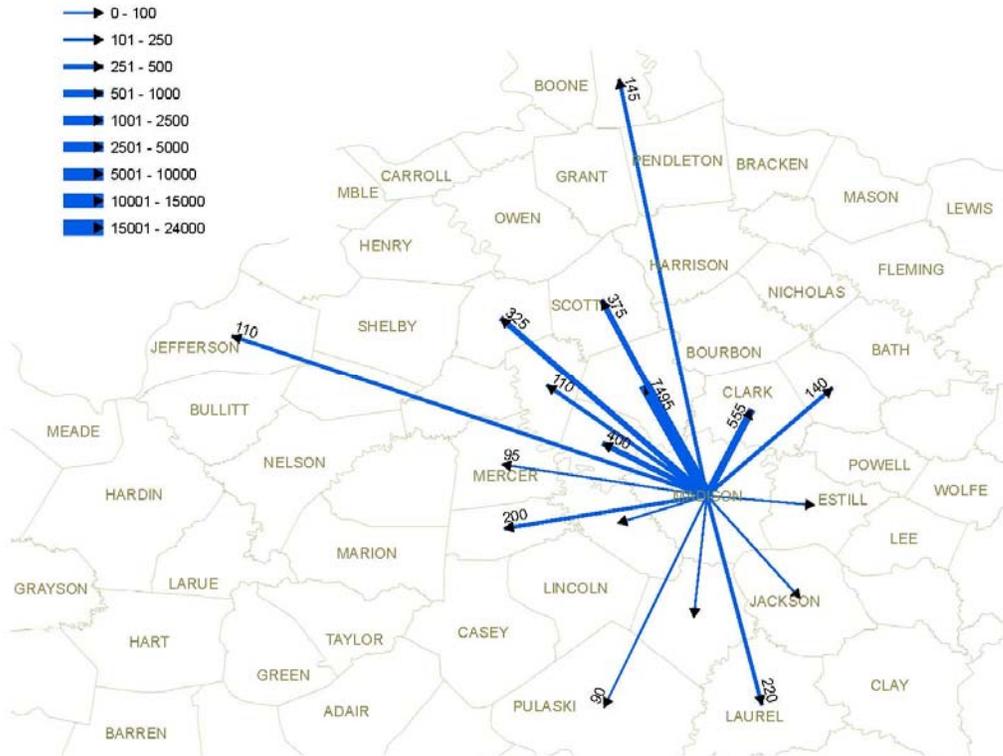


Figure 16 Daily commute trips from Madison County (CTPP 2006-2008)

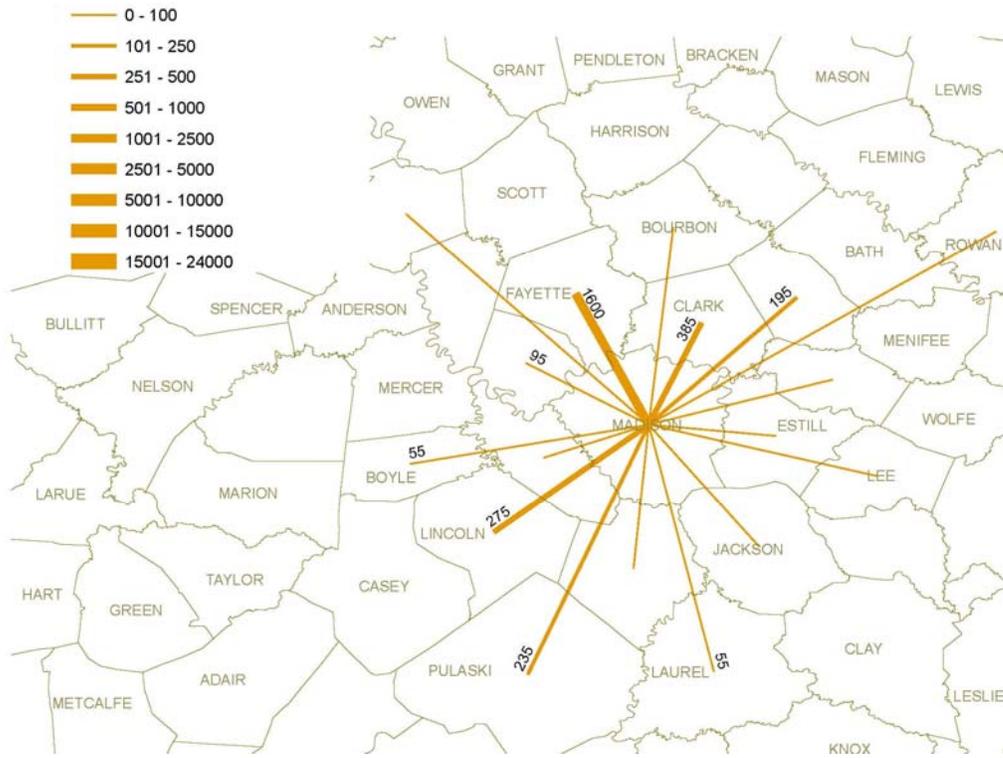


Figure 17 Daily commute trips to Madison County (CTPP 2006-2008)

Mercer County

Located southwest of Lexington-Fayette County, Mercer County has a population of 20,817. The largest city in Mercer County is Harrodsburg. Public transportation is provided by Bluegrass Ultra-Transit Services. Available services include:

- Demand response paratransit: \$1 per mile with a \$3 minimum per trip.
- §5316 JARC
- §5317 New Freedoms.

Mercer County does not currently have any fixed-route bus systems or any regularly scheduled inter-city public transportation routes.

The largest county-to-county commute originating in Mercer County is to Fayette County. CTPP data shows 1160 commuters on this route each day (Figure 18). The route from Mercer County to Boyle County also includes approximately 1135 commuters each day. Based on the 1 percent estimate, the demand for public transit on each of these routes is about eleven or twelve commuters per day.

As a destination, Mercer County receives the largest number of inter-county commuters from Boyle County, a total of 1100 (Figure 19). The demand for public transit on this route is estimated at about eleven commuters per day. In terms of significant employers, Mercer County includes Hitachi Automotive Systems (629), Corning Inc. (420), and Wausau Paper (329).²⁷

²⁷ Kentucky Cabinet for Economic Development, "Community Profiles."

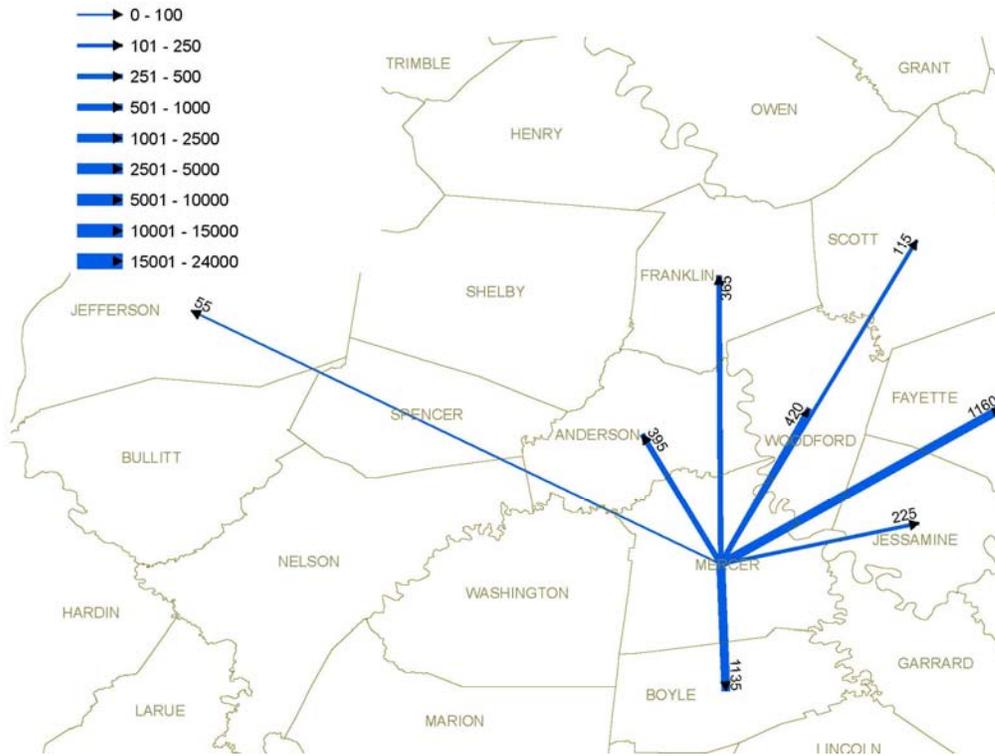


Figure 18 Daily commute trips from Mercer County (CTPP 2006-2008)

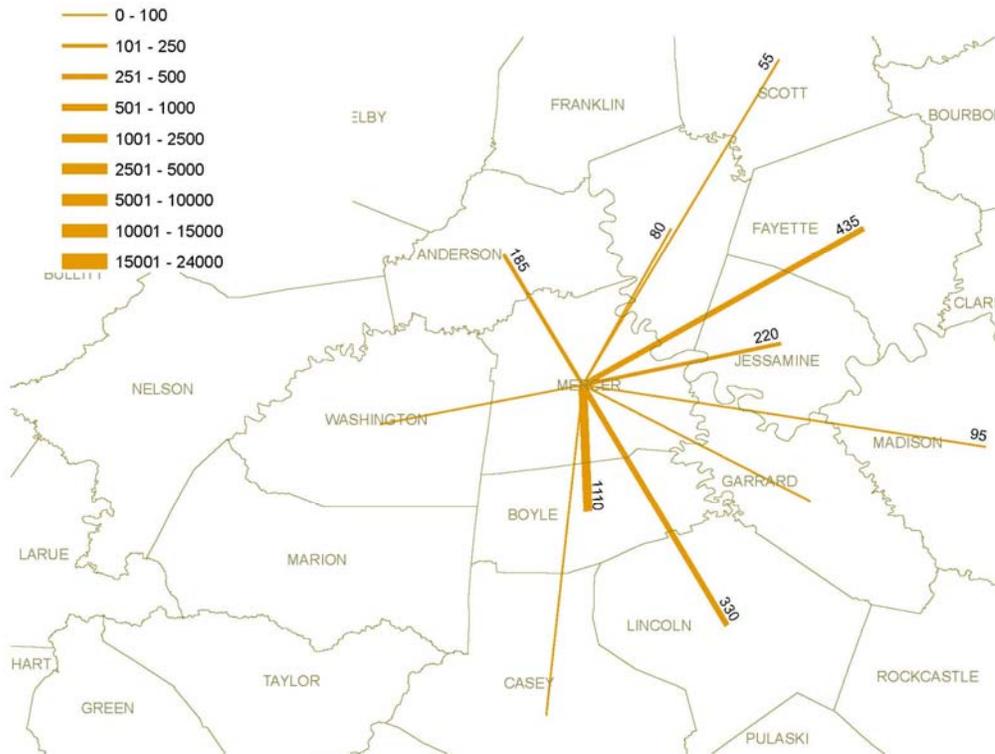


Figure 19 Daily commute trips to Mercer County (CTPP 2006-2008)

Scott County

Located north of Lexington-Fayette County, Scott County has a population of 47,173. The largest city in Scott County is Georgetown. Public transportation is provided by Bluegrass Ultra-Transit Services. Available services include:

- Demand response paratransit: \$1 per mile with a \$3 minimum per trip.
- §5316 JARC
- §5317 New Freedoms.

Scott County does not currently have any fixed-route bus systems or any regularly scheduled inter-city public transportation routes.

The largest county-to-county commute originating in Scott County is to Fayette County. CTPP data shows 5840 commuters on this route each day (Figure 20). This inter-county commute is the third largest in the study region of central Kentucky, and demand for public transportation on this route is approximately 58 commuters per day. The route from Scott County to Franklin County also includes approximately 1110 commuters each day. Based on the 1 percent estimate, the demand for public transit on this route is about eleven commuters per day.

As a destination, Scott County receives a large number of inter-county commuters from all over central Kentucky, but the largest and most significant inter-county commute is from Fayette County. CTPP data shows a total of 5180 commuters on this route each day (Figure 21). This is the fifth largest inter-county commuter route in the region. The demand for public transit on this route is estimated at about 52 commuters per day. Scott County has the second largest employer in central Kentucky in Toyota, which employs 7900 at its Georgetown manufacturing plant. Scott County also has Johnson Controls (431), Toyoto Tsusho American (351), and Georgetown Community Hospital (350).²⁸

²⁸ Commerce Lexington, *Bluegrass Region Major Employers*; Kentucky Cabinet for Economic Development, “Community Profiles”; Georgetown Community Hospital, “Community Benefits.”

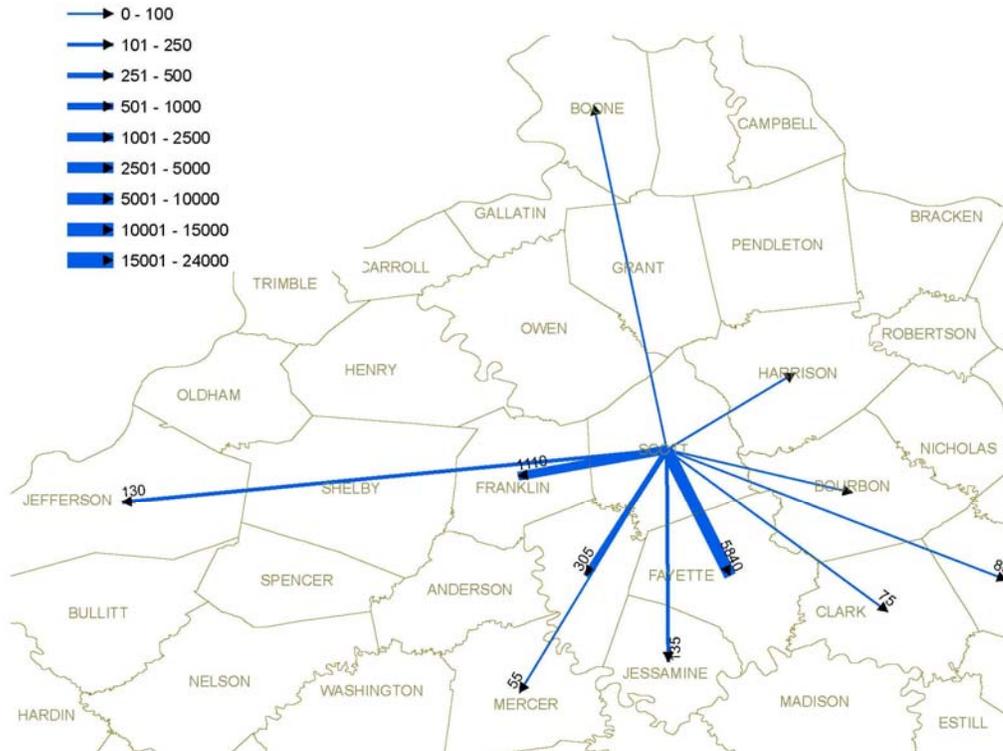


Figure 20 Daily commute trips from Scott County (CTPP 2006-2008)

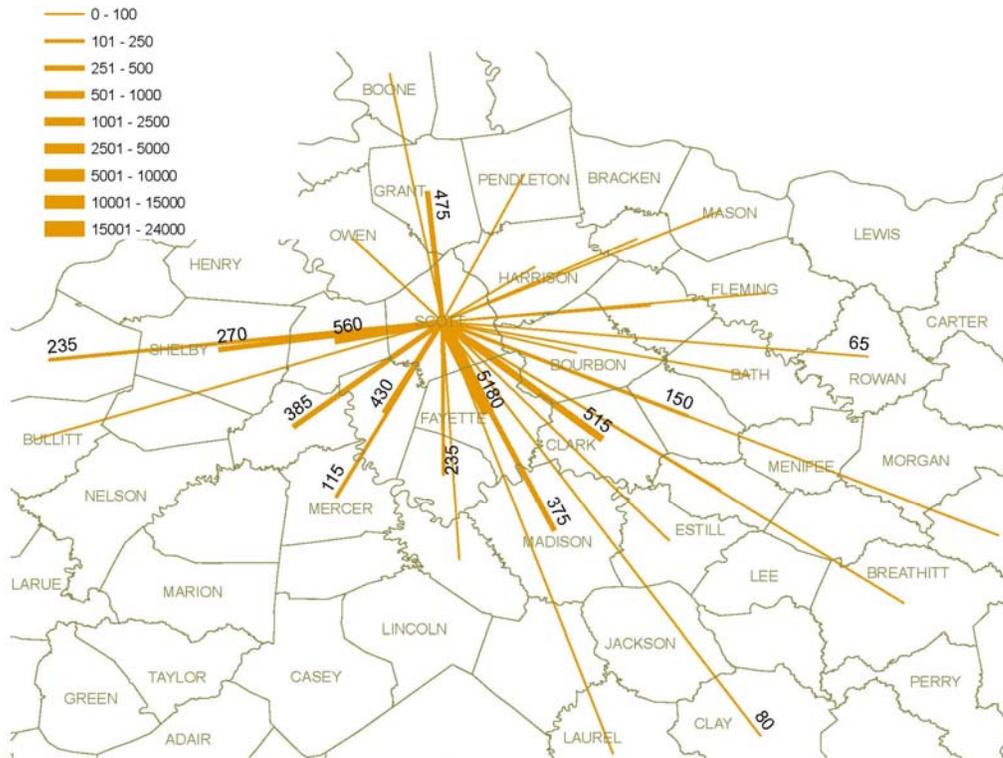


Figure 21 Daily commute trips to Scott County (CTPP 2006-2008)

Woodford County

Located west of Lexington-Fayette County, Woodford County has a population of 23,208. The largest city in Woodford County is Versailles. Public transportation is provided by Bluegrass Ultra-Transit Services. Available services include:

- Demand response paratransit: \$1 per mile with a \$3 minimum per trip.
- §5316 JARC
- §5317 New Freedoms.

Woodford County does not currently have any fixed-route bus systems or any regularly scheduled inter-city public transportation routes.

The largest county-to-county commute originating in Woodford County is to Fayette County. CTPP data shows 4380 commuters on this route each day (Figure 22). This inter-county commute is the sixth largest in the study region of central Kentucky, and demand for public transportation on this route is approximately 44 commuters per day.

As a destination, Woodford County receives the largest number of inter-county commuters from Fayette County, CTPP data shows a total of 2055 commuters on this route each day (Figure 23). The demand for public transit on this route is estimated at about 21 commuters per day. In terms of significant employers, Woodford County includes Osram Sylvania (700), QuadGraphics (500), and Pilkington (345).²⁹

²⁹ Commerce Lexington, *Bluegrass Region Major Employers*; Kentucky Cabinet for Economic Development, "Community Profiles."

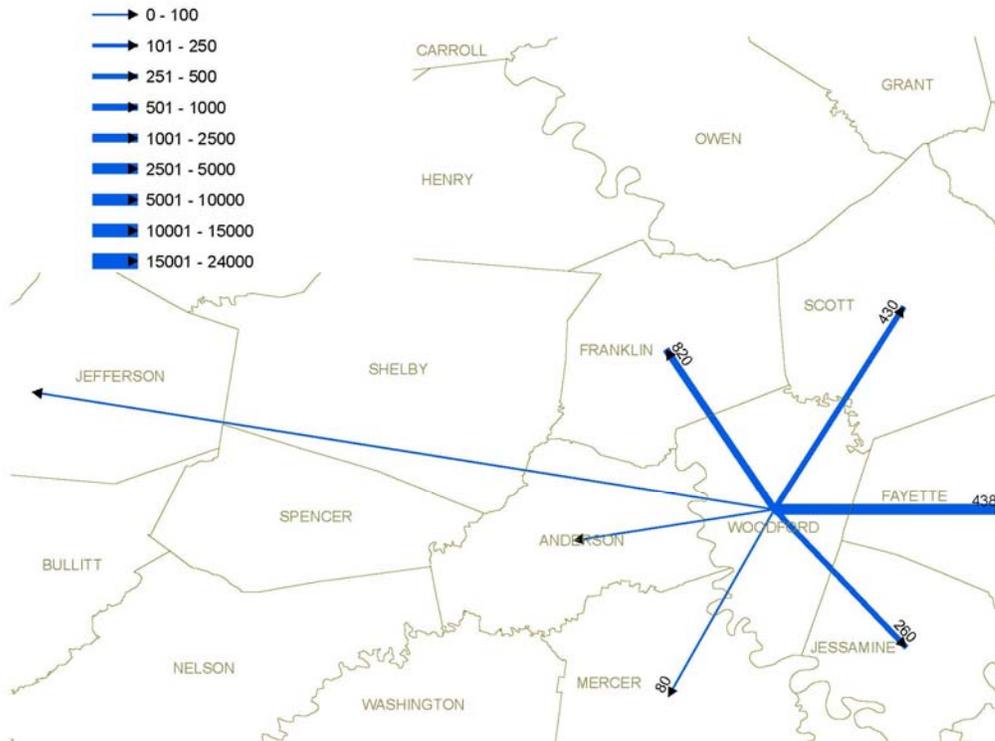


Figure 22 Daily commute trips from Woodford County (CTPP 2006-2008)

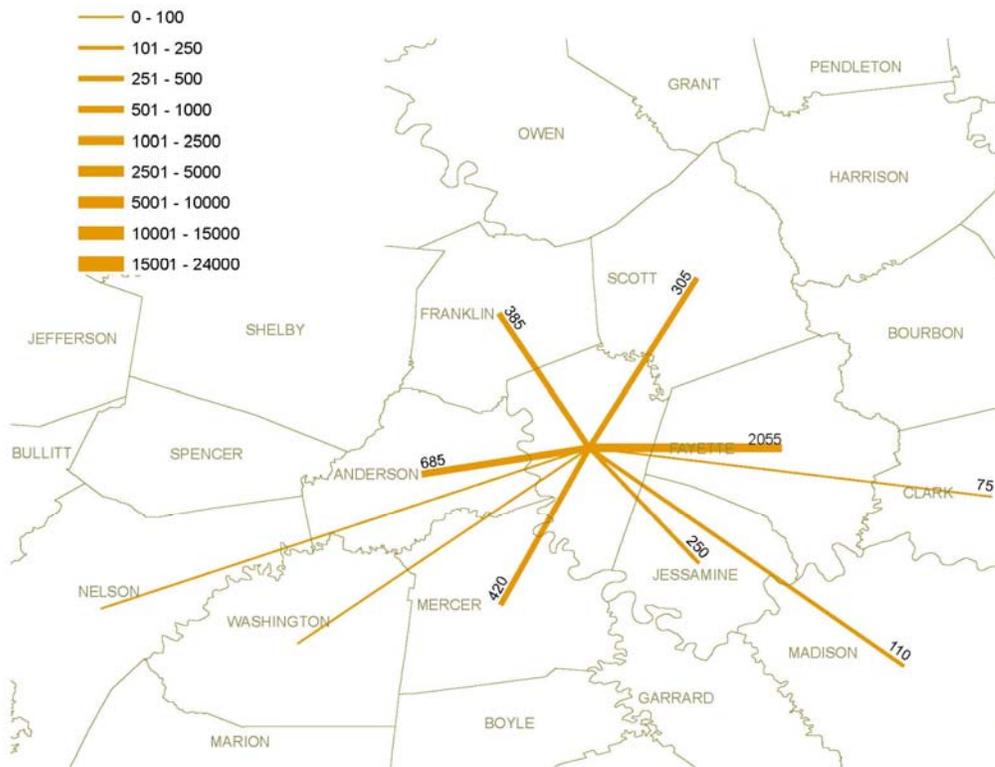


Figure 23 Daily commute trips to Woodford County (CTPP 2006-2008)

V. Observations

Table 3 lists the ten highest daily commuter corridors ranked in order, along with the status of public transportation along the corridor. Figure 24 displays these commuter corridors in map form. Fayette County is implicated as either an origin or destination for the majority of the intercounty commutes in the central Bluegrass. This is not surprising given that Fayette County has the largest number of residents as well as the largest number of employees. Franklin County, as the seat of the Kentucky state government, also receives a high volume of daily commuters from out of county, particularly from Anderson County. Scott County receives over 5,000 daily commuters from Fayette County, many of these undoubtedly due to the location of the Toyota manufacturing plant in Georgetown. Perhaps most surprising is the high number of commuters between Lincoln and Boyle counties. This is likely a result of the presence of several large employers in Boyle County compared to few, if any, large employers in Lincoln County.

Table 3 Ten highest intercounty commuter routes in central Kentucky

Rank	Origin	Destination	Daily Commuters	Available Public Transportation Commuter Services
1	Jessamine	Fayette	9610	None
2	Madison	Fayette	7495	KY River Foothills Commuter Bus
3	Scott	Fayette	5840	None
4	Clark	Fayette	5500	KY River Foothills Commuter Bus
5	Fayette	Scott	5180	LexVan
6	Fayette	Jessamine	3580	None
7	Anderson	Franklin	3510	None
8	Lincoln	Boyle	3150	None
9	Fayette	Franklin	2945	LexVan
10	Fayette	Woodford	2055	None

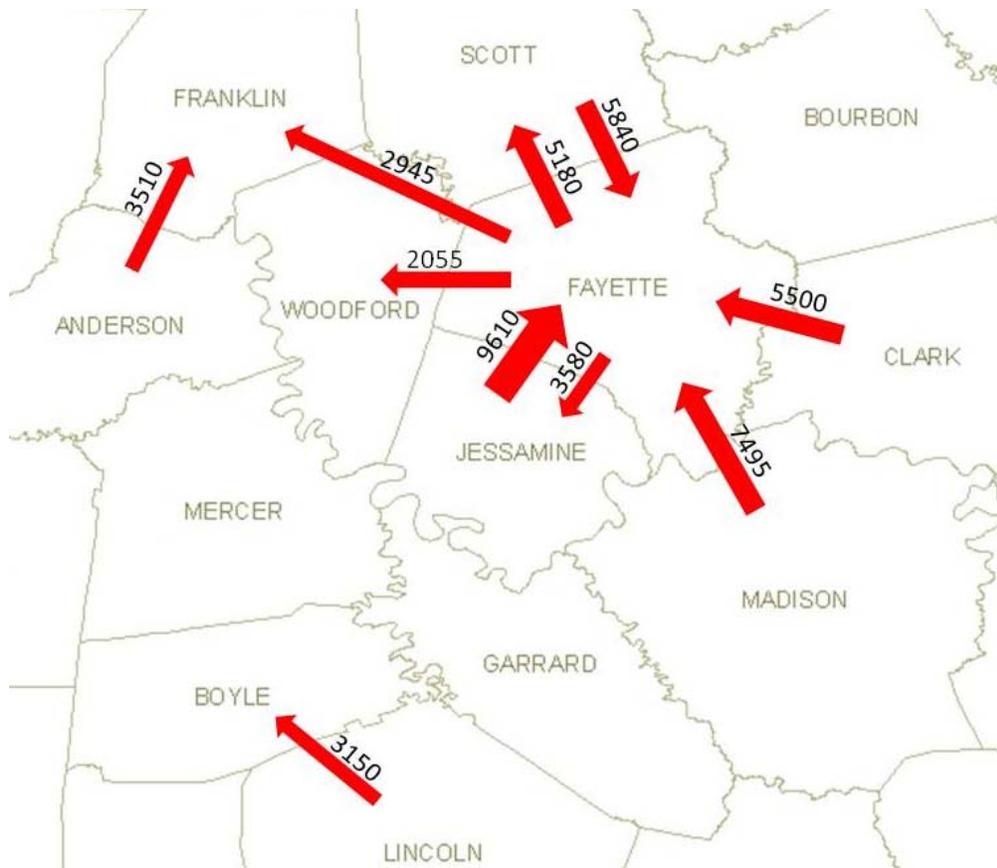


Figure 24 Ten highest volume intercounty commuter routes in central Kentucky (CTPP 2006-2008)

On the majority of these corridors, available public transportation services are insufficient to meet demand. Indeed, on many, public transportation services for commuting purposes are nonexistent, including the highest volume commuter corridor of Jessamine County to Fayette County. Several commuter corridors are partially served by Lexington/Fayette County’s LexVan program. While this program helps address the transit shortage, it would need to be expanded considerably in order to fully meet demand on these corridors.

On only two of the high volume corridors are available public transportation services sufficient to meet demand: Madison County to Fayette County (second largest) and Clark County to Fayette County (fourth largest). On both of these corridors, a commuter bus line is provided by Kentucky River Foothills. This is made possible in part by local funding contributions made toward the provision of public transportation in these areas. Table 4 shows the yearly allocations from the local governing agencies for these and other related transit services.

Table 4 Annual allocations for public transportation from local governing agencies (numbers provided by Bluegrass Area Development District)

Madison County	KY River Foothills	\$44,000
City of Richmond	KY River Foothills	\$55,000
City of Berea	KY River Foothills	\$55,000
Clark County	KY River Foothills	\$28,500
City of Winchester	KY River Foothills	\$28,500

With these local funding contributions, KY River Foothills is able to match the sum with FTA funding (FTA matches operating costs at 50 percent federal and 50 percent local). Because of these funding contributions, KY River Foothills is able to provide daily commuter bus services from both Winchester and Richmond to Lexington at affordable fares. The funding additionally supports deviated-fixed route bus circulators within the cities of Richmond, Berea, and Winchester.

Vanpools

Vanpools as a mode of commuter transit in the Lexington commutershed are currently underutilized. The only currently operating public vanpool system is the LexVan program administered by Lexington/Fayette Urban County Government (LFUCG). Vans for this program are purchased by LFUCG using federal Congestion Mitigation and Air Quality (CMAQ) grants; all other costs associated with this program are divided equally among vanpool users.

Research has demonstrated that vanpools can serve as an important and efficient component of a region’s public transportation system, especially for the purpose of meeting commuter transit demand. According to National Transit Database figures from 2007, vanpools on average have the lowest operating expenses, the highest farebox recovery rates, the lowest passenger fare per mile and the lowest subsidy per mile as compared to other forms of public transportation, such as commuter bus and commuter rail.³⁰ Vanpool sponsoring agencies may either own the vans or lease them from private vanpool agencies, such as VPSI Inc. or Enterprise Rideshare.

Urbanized areas of population greater than 50,000 receive formula-based funding assistance from the Federal Transit Administration (FTA) through §5307 to support the administration, operation and maintenance of public transportation systems. For urbanized areas of population greater than 200,000 FTA funding assistance flows directly to the designated recipient. In Lexington/Fayette County, the designated recipient is LexTran. The formula-based assistance is distributed by accounting for bus revenuevehicle miles, bus passenger miles, fixed guideway revenuevehicle miles, and fixed guideway route miles as well as population and population density. Administrative and capital costs are covered at 80 percent federal and 20 percent local match.

³⁰ NVTC, *FTA § 5307 Formula Earnings Potential from Vanpools in the DC Metropolitan Region*.

Vanpools may also be incorporated into the §5307 formula. To do so, sponsoring agencies must report vanpool vehicle miles and passenger miles to the National Transit Database. Doing so can increase an urbanized area's apportionment of FTA funds. As of 2009, 45 urbanized areas across the U.S. increased their §5307 apportionment by including vanpool statistics, including San Diego, CA, which reported over 100,000 passenger miles for 2007.³¹ If a vanpool sponsoring agency is not the designated recipient of §5307 funds, as is the case in Lexington/Fayette County, they can arrange a sharing agreement according to federal requirements. Lexington/Fayette County does not currently include vanpool usage into its §5307 formula reporting.

For rural areas, FTA funding for vanpools is available through two different funding programs: §5311 (formula funding for other than urbanized areas) and §5316 (Jobs Access and Reverse Commute). The funding structure for both is similar in terms of requiring a local match in funds: for operating costs, funding is provided at 50 percent federal and 50 percent local; for capital and administrative costs, funding is provided at 80 percent federal and 20 percent local.

FTA also offers funding assistance for agencies that choose to contract with a private entity for the purposes of providing transit services, including vanpools. FTA Capital Cost of Contracting outlines the funding structures available depending on the type of services provided by the third party. These are explained below:³²

Type of Contract: Percent of Contract Eligible for 80 Percent Federal Share

1. Service Contract (contractor provides maintenance and transit service; recipient provides vehicles) 40 percent.
2. Service Contract (contractor provides transit service only; recipient provides vehicles and maintenance) 0 percent.
3. Vehicle Maintenance Contract (contractor provides maintenance; recipient provides vehicles and transit service) 100 percent.
4. Vehicle Lease Contract (contractor provides vehicles; recipient provides maintenance and transit service) 100 percent.
5. Maintenance/Lease Contract (contractor provides vehicles and maintenance; recipient provides transit service) 100 percent.
6. Turnkey Contract (contractor provides vehicles, maintenance, and transit service) 50 percent.
7. Vehicle/Service Contract (contractor provides vehicles and transit service; recipient provides maintenance) 10 percent.

³¹ Ibid.

³² FTA, "Capital Cost of Contracting."

A succinct example of how this funding might be applied is provided by VPSI, Inc. and is demonstrated in Figure 25.³³

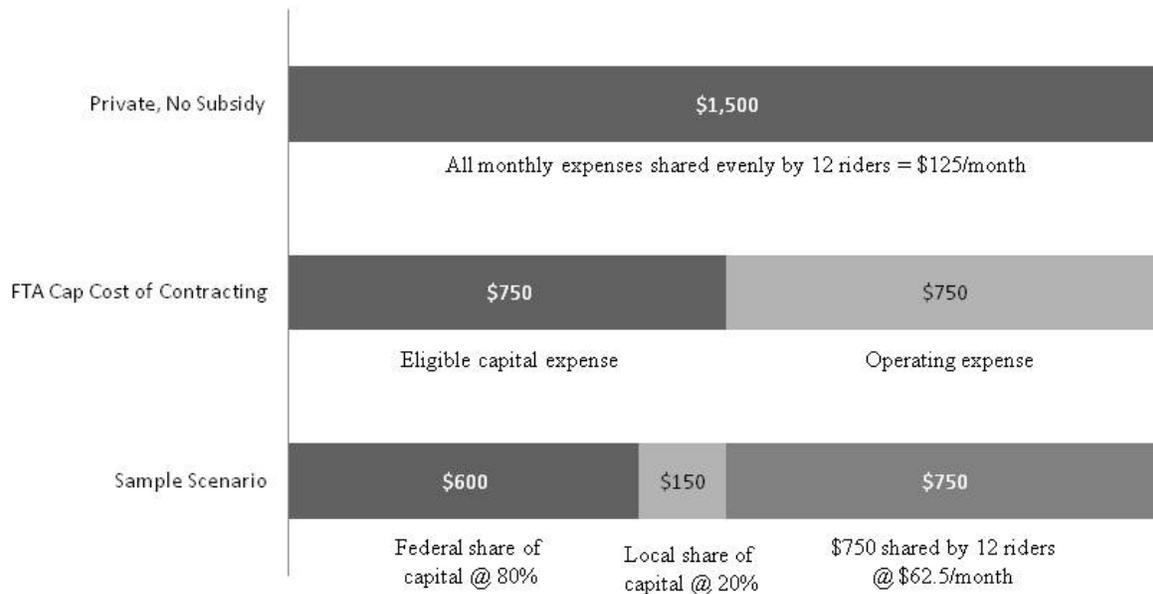


Figure 25 Example of #6 Turnkey Contract. Under this program, FTA would provide 80 percent of 50 percent of the total cost of contracting

The first bar shows the contracting cost of a hypothetical vanpool. The second bar breaks the total down into halves according to the formula for #6 Turnkey Contract (which entails the contractor providing vehicles, maintenance, and transit service). The Turnkey Contract results in 50 percent of the total contracting costs being eligible for FTA funding, at an 80 percent federal and 20 percent local match. The third bar shows the final breakdown, with 50 percent of the total funds recouped from vanpool users, 40 percent funded by FTA, and ten percent funded by local contributions. In all, this breakdown demonstrates how with minimal local funding (\$150 per month), transit agencies can contract with private entities to provide vanpool services at affordable fares for users. Indeed, as VPSI notes, since FTA subsidies for vanpools became available in 2002, vanpool fleets have grown by as much as 24 percent per year between 2002 and 2009.³⁴

³³ VPSI, Inc., *Starting and Growing Rural Vanpool Programs: From Financing to Vehicle Procurement*.

³⁴ *Ibid.*

VI. Summary and Conclusions

The potential demand for intercounty commuter transit is greater than the currently available services, based on the experiences of counties where such service is provided with support from the localities. The factors affecting the success of rural transit systems include: need and demand; funding; citizen participation and support; political support; expert or technical help; fare box recovery rate; and connectivity to other modes of transportation.³⁵ Many of these factors are in play in the central Bluegrass.

Funding: Available services are limited largely due to inadequate funding, both at the state and local level. At the state level, Kentucky ranks last among adjacent states at funding public transportation, both in terms of per capita dollars as well as total dollars (Figures 2, 3). At the local level, few governing agencies currently provide any funding for public transportation services. In Fayette County, LexTran is supported by a dedicated property tax that passed by voter referendum in 2003. Only two other counties in the study area, Clark County and Madison County, provide funding for public transportation. Agencies that receive local funding are able to provide more transit services at reduced fares. Commuters in these counties are able to purchase round trips to Lexington and back for \$50 or less per month, or about \$2.50 per working day. This is possible because the localities provide funding support in addition to the Federal and farebox dollars. This support constitutes approximately 1/3 of the total cost of the service, but allows fares to be significantly reduced (by more than half) from what would otherwise be necessary to fully cover the operating costs. In these cases, the reduced fares mean that ridership is significantly higher than in other areas, and growing.

Citizen Participation and Political Support: There appears to be widespread ideological aversion to funding public transit among the residents and politicians in the region localities they would serve. Residents may not see the transit service as part of 'their' transportation system and so do not understand the direct benefits to them. The most likely way to overcome this aversion is to demonstrate the benefits of transit, including better access to jobs and city transportation services (LexTran, airport, Greyhound). Also, towns that have colleges/universities or sizable medical centers located are better suited to support circulator bus routes.

Need and Demand/ Farebox Recovery Rate: Fluctuations in gasoline prices affect political and personal assessment of the value acceptance of transit. Local public transportation agencies could potentially benefit from this by having a transit plan in place for local officials to review and potentially approve when gas prices go up, as they periodically do and are forecasted to continue doing so. Securing funding is the critical factor here. Once routes are established and fares can be reduced, ridership will likely increase regardless of the gasoline prices. At this point public awareness of, and opinion toward, transit is likely to improve (as has been demonstrated in Fayette, Clark and Madison counties).

³⁵ Moise and Kelly, *Critical Factors in the Development of Transit Systems in Rural Arizona*.

It would also be beneficial for officials in the surrounding towns to explore LexVan's model of providing transit. LexVan secures federal CMAQ funding to purchase the vans, but once purchased, all remaining operating costs are assumed by the vanpool users (gas, insurance, maintenance). LexVan's service is popular and successful for Lexington commuters. Because the commuters provide their own drivers, the labor cost of operating a van pool is eliminated, thus lowering the overall cost of the service.

Thus, these are the most important issues to be dealt with in considering improved service for the Central Bluegrass commutershed:

- Demand for intercity transit has been steadily increasing since 2006.³⁶ It is reasonable to assume that this trend will continue, as impacted by rising energy prices.
- Only with local matching funds can transit providers reduce fares to reasonable levels. All urban public transit services operate on a combination of Federal, farebox, and local support. Commuter services are no different.
- There is currently variable local political support in the surrounding counties to fund transit. A culture of rural car ownership will require a sustained engagement with good service and good fares to slowly win over potential commuters. Individuals make long term decisions about auto ownership. They must be able to make similar long term decisions about relying on a commuter service.
- Intercity bus routes eligible for partial funding from FTA; also require local matches for price structure to be feasible. At current energy prices, an acceptable fare requires ~30% support from sources other than farebox or the FTA.
- Vanpools not currently receiving FTA funding; van purchases typically paid for with CMAQ grants; no other local matches required. As a low-cost strategy that capitalizes on the capabilities of the users, vanpool programs may offer an inexpensive 'first step' for rural communities to get commuter services in place.

³⁶ Schwieterman and Fischer, *The Intercity Bus: America's Fastest Growing Transportation Mode*.

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