



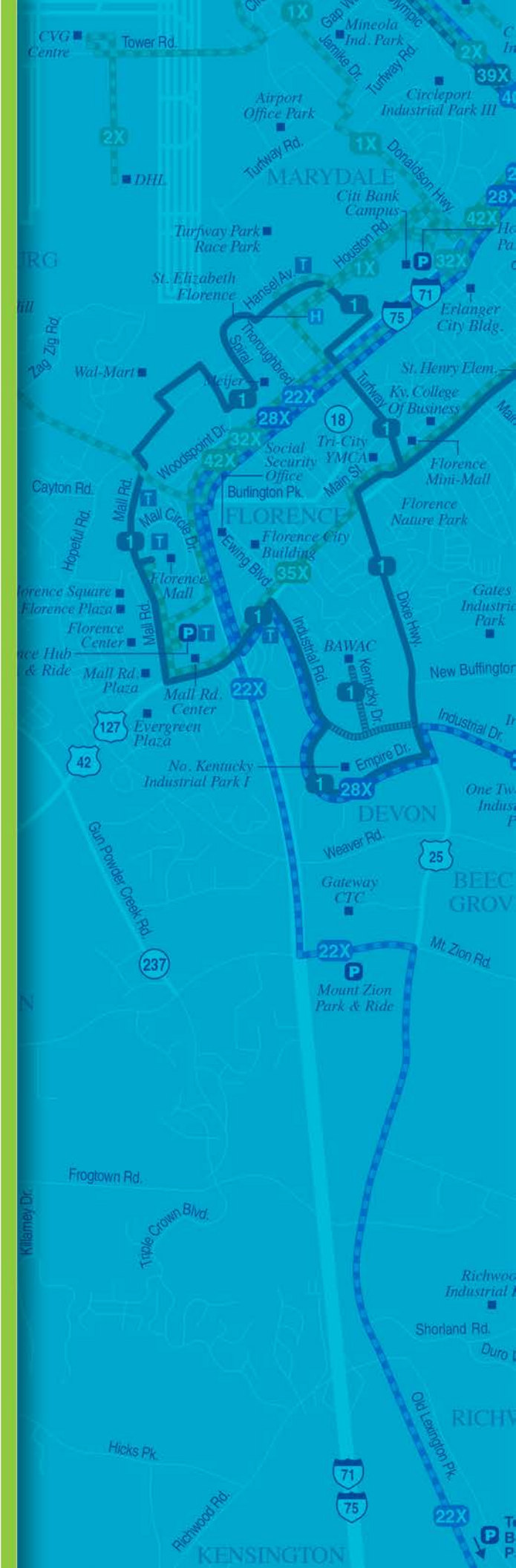
# System Redesign Study

May 2020

Prepared for



Prepared by





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## SECTION 1: INTRODUCTION

The Transit Authority of Northern Kentucky (TANK) has undertaken a System Redesign Study to help re-imagine the agency’s current network structure. The expectation for the System Redesign Study is that a newly modified and enhanced system and service structure for TANK will have a near-term beneficial effect on service productivity and efficiency, while also impacting transit ridership in a positive fashion by improving transit operability and providing better mobility options for residents and visitors in the Northern Kentucky region.

This document highlights the process used to analyze TANK’s services and determine where improvements in productivity and efficiency of transit operations are most reasonable.

The following sections of this document detail the various aspects of the System Redesign Study:

- Current Operating Environment Conditions
- Plans and Studies Review
- Latent Demand Analysis
- Gap Analysis
- Activity Centers Analysis
- Existing Ridership in Study Area
- System-level Operating and Performance Statistics
- Fare Structure and Farebox Data
- Prior Study Survey Results, Prior Recommendations, and Operator Input Findings
- Transit Infrastructure
- Route Profiles
- Key Input Needs, Goals, and Strategies
- Public Outreach Efforts
- Initial Site Visit and Field Review
- Summary of Outreach Workshops and Meetings
- Summary of Bus Operator Input
- Key Input Guidance from Public and Staff
- Transit Needs Assessment
- Transit Routing Recommendations
- Phased Implementation Plan
- Financial and Operating Plan



## SECTION 2: CURRENT OPERATING ENVIRONMENT CONDITIONS

With support from TANK staff and numerous other resources, data were compiled to document and assess the pertinent conditions within the surrounding counties and communities that make up the TANK service area. This analysis is useful in assessing the environment in which services currently operate and documenting base-level data that are beneficial for completing subsequent tasks. This section includes tables, maps, and graphics that describe and illustrate the operating environment within and around the TANK service area. This baseline conditions analysis is subdivided into the following sections:

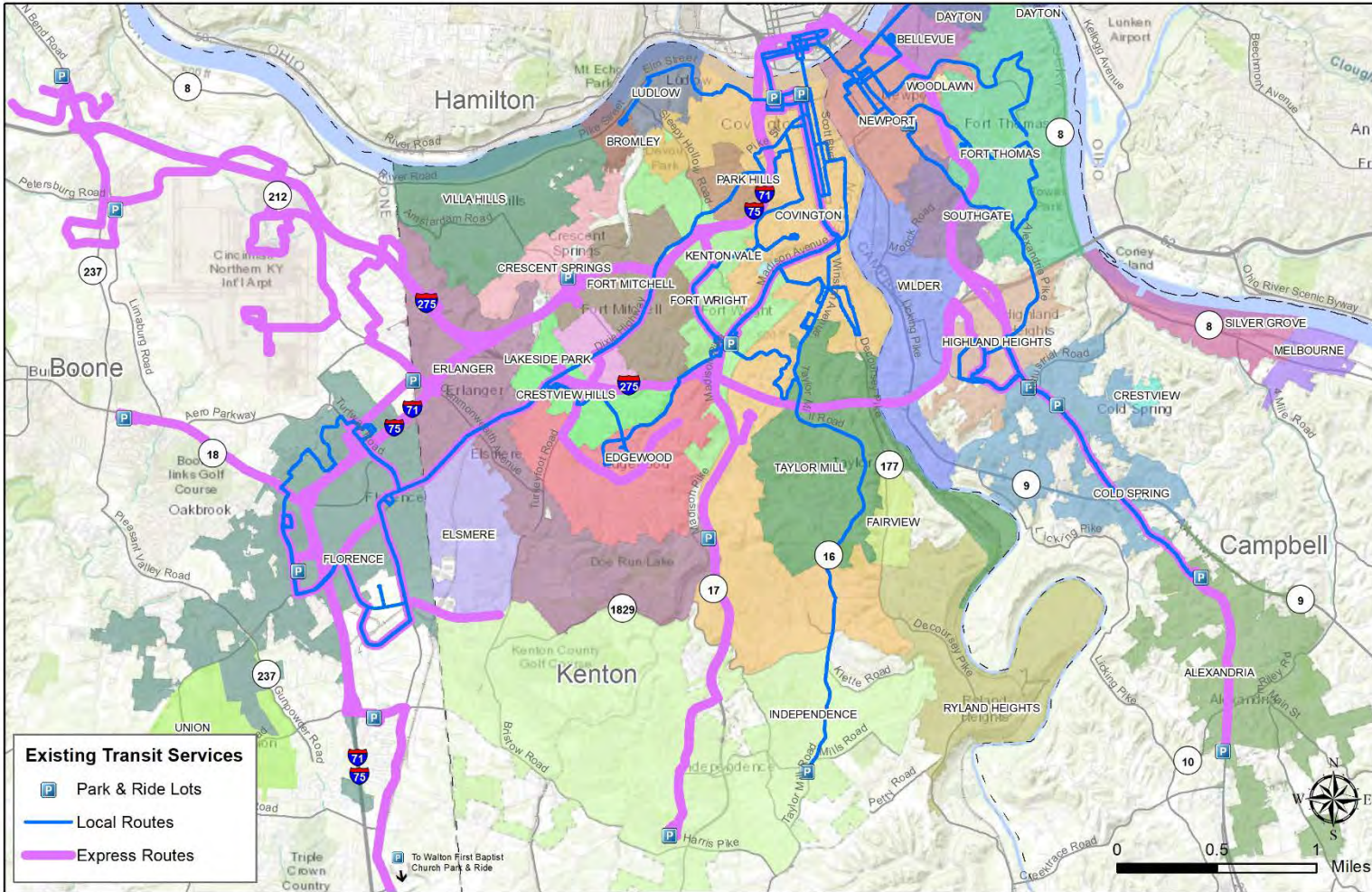
- Physical Description of Service Area
- Population Characteristics and Trends
- Demographic Characteristics and Trends
- Housing, Employment, and Related Densities
- Major Activity Centers and Trip Generators
- Current and Future Land Use and Densities
- Travel Behavior and Commuting Trends and Traffic Conditions

### 2.1 Physical Description of Service Area

TANK operates in Northern Kentucky and connects to Cincinnati, Ohio, primarily serving the Kentucky counties of Kenton, Boone, and Campbell, as shown in the transit services maps, Maps 2-1 and 2-2, on the following pages. The whole service area is bisected by the Ohio River, which separates TANK’s primary tri-county Kentucky service area from Cincinnati. Numerous bridges provide pedestrian and vehicular access across the river. Cincinnati is a large employment center, putting TANK in an excellent position to serve workers on both sides of the Ohio River and to play an active role in the economic development of the region. In addition to connecting workers to jobs, TANK aims to provide connectivity within its many residential suburbs and serve as a means of access to the region’s major cultural, sports, civic, and economic activities.



Map 2-1: Existing Transit Services

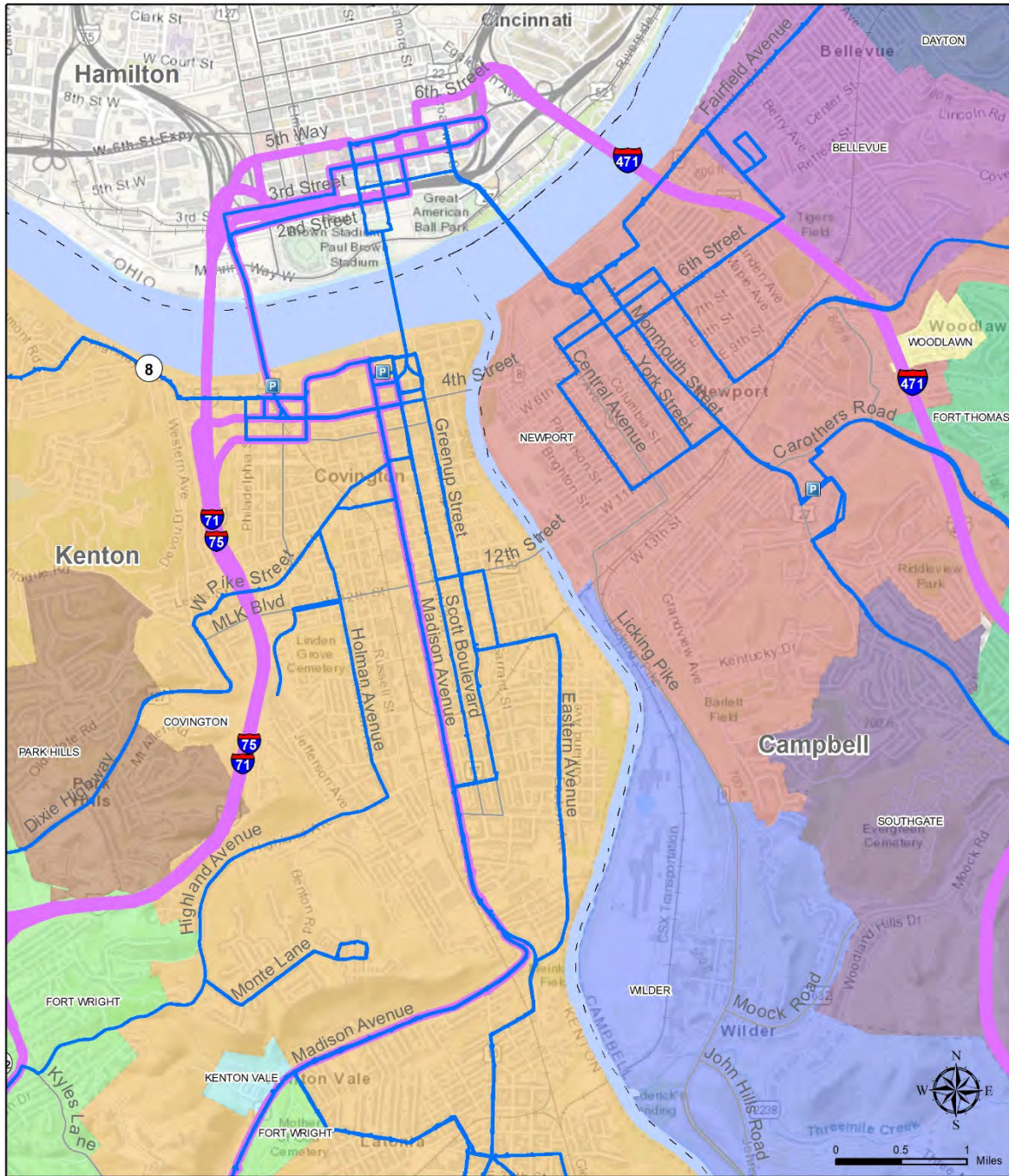


City Boundaries			
Alexandria	Crescent Springs	Elsmere	Fort Thomas
Bellevue	Crestview	Erlanger	Fort Wright
Bromley	Crestview Hills	Fairview	Highland Heights
Cold Spring	Dayton	Florence	Independence
Covington	Edgewood	Fort Mitchell	Kenton Vale
Lakeside Park	Ludlow	Ryland Heights	Villa Hills
Melbourne	Newport	Southgate	Wilder
Park Hills	Taylor Mill	Union	Woodlawn

Existing Transit Service



**Map 2-2: Existing Transit Services Inset**



<b>Existing Transit Services</b>		<b>City Boundaries</b>				Existing Transit Service Inset 



## 2.2 Population Characteristics and Trends

Socioeconomic trends within Boone, Campbell, and Kenton counties and the City of Cincinnati are shown in Table 2-1 through Table 2-4. As indicated in the tables, all areas of Northern Kentucky have experienced moderate population growth and job growth since 2010. During this time period, Cincinnati reflects a slight decline in population but an increase in workers. The number of workers and households increased in all geographic areas except Cincinnati. Overall, Boone County has shown the most growth in population and number of workers over the 7-year period from 2010 to 2017. It is likely that this growth can be largely attributed to an increase in industrial uses/entities in the region, such as Amazon and DHL, which are both located near the Cincinnati/Northern Kentucky International Airport (CVG) in Boone County.

**Table 2-1: Population Characteristics, 2010-2017 – Boone County**

Characteristic	2010	2017	% Change 2010-2017
<b>Persons</b>	118,811	127,682	7.47%
<b>Households</b>	43,216	46,095	6.66%
<b>Number of Workers</b>	59,510	64,527	8.43%
<b>Land Area (sq. mi.)</b>	246	246	0.00%
<b>Water Area (sq. mi.)</b>	10	10	0.00%
<b>Person per Household</b>	2.75	2.77	0.75%
<b>Persons per Square Mile of Land Area</b>	482.97	519.03	7.47%
<b>Workers per Square Mile of Land Area</b>	241.91	262.30	8.43%

Source: 2010 Census, 2017 ACS

**Table 2-2: Population Characteristics, 2010-2017 – Campbell County**

Characteristic	2010	2017	% Change 2010-2017
<b>Persons</b>	90,336	91,804	1.63%
<b>Households</b>	35,300	35,870	1.61%
<b>Number of Workers</b>	44,793	46,154	3.04%
<b>Land Area (sq. mi.)</b>	151.31	151.31	0.00%
<b>Water Area (sq. mi.)</b>	8.1	8.1	0.00%
<b>Person per Household</b>	2.56	2.56	0.01%
<b>Persons per Square Mile of Land Area</b>	597.03	606.73	1.63%
<b>Workers per Square Mile of Land Area</b>	296.03	305.03	3.04%

Source: 2010 Census, 2017 ACS



**Table 2-3: Population Characteristics, 2010-2017 – Kenton County**

Characteristic	2010	2017	% Change 2010-2017
Persons	158,034	163,987	3.77%
Households	61,912	62,929	1.64%
Number of Workers	79,683	82,552	3.60%
Land Area (sq. mi.)	160	160	0.00%
Water Area (sq. mi.)	4.1	4.1	0.00%
Person per Household	2.55	2.61	2.09%
Persons per Square Mile of Land Area	987.71	1,024.92	3.77%
Workers per Square Mile of Land Area	498.02	515.95	3.60

Source: 2010 Census, 2017 ACS

**Table 2-4: Population Characteristics, 2010-2017 – City of Cincinnati**

Characteristic	2010	2017	% Change 2010-2017
Persons	300,165	298,957	-0.40%
Households	133,420	136,180	2.07%
Number of Workers	135,845	141,111	3.88%
Land Area (sq. mi.)	77.94	77.94	0.00%
Water Area (sq. mi.)	1.6	1.6	0.00%
Person per Household	2.25	2.20	-2.42%
Persons per Square Mile of Land Area	3,851.23	3,835.73	-0.40%
Workers per Square Mile of Land Area	1,742.94	1,810.51	3.88%

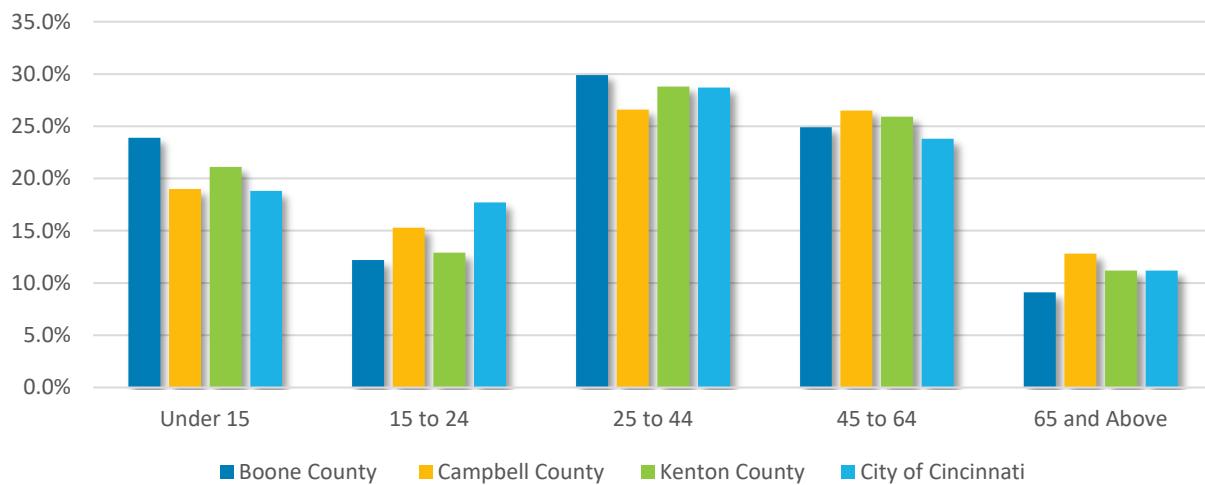
Source: 2010 Census, 2017 ACS



### 2.3 Demographic Characteristics and Trends

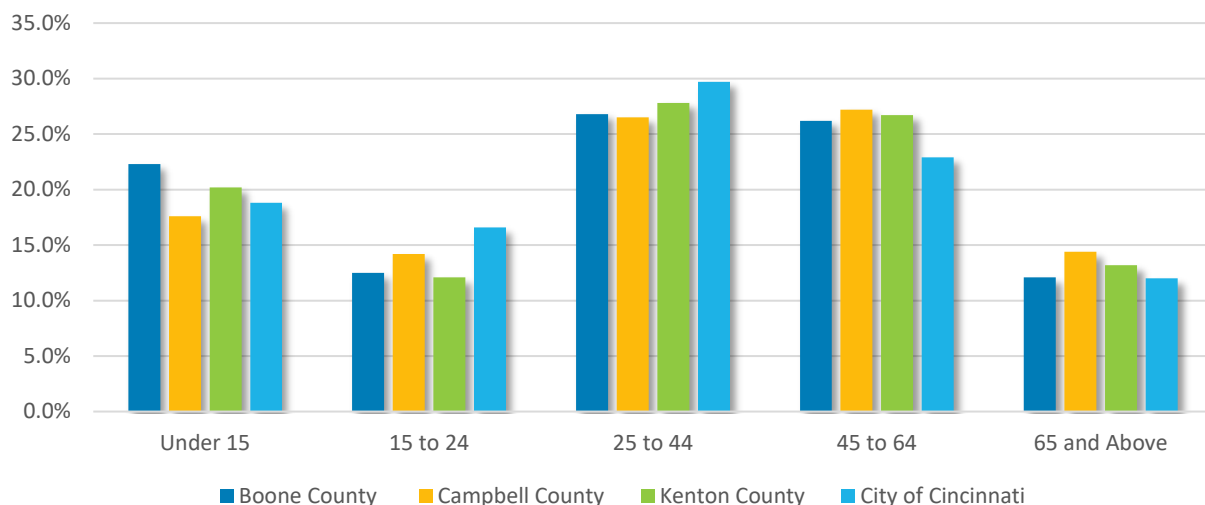
As shown in the following figures, the 25-44 age group is the largest cohort in TANK’s service area, with ages 45 to 64 being the next-largest cohort. Although the working-age adult population is the clear majority in the service area, there also is a strong presence of youth below the age of 15. Between 2010 and 2017, a noticeable increase is shown for the share of the population over 65; this is consistent with the national trends resulting from the aging of the Baby Boom generation and it portends potential greater demand for paratransit services in succeeding years. Age distributions for 2010 and 2017 are shown in Figure 2-1 and Figure 2-2.

**Figure 2-1: Age Distribution, TANK Service Area, 2010**



Source: 2010 Census

**Figure 2-2: Age Distribution, TANK Service Area, 2017**



Source: 2017 American Community Survey (ACS)



Table 2-5 lists the median income for each municipal entity in TANK’s service area. Boone County has the highest median income of the four service areas, while Cincinnati reports the lowest income. In addition, Campbell County reports the highest growth (11%) in median income between 2010 and 2017, while Cincinnati reports the lowest (8%) growth in median income during this same period.

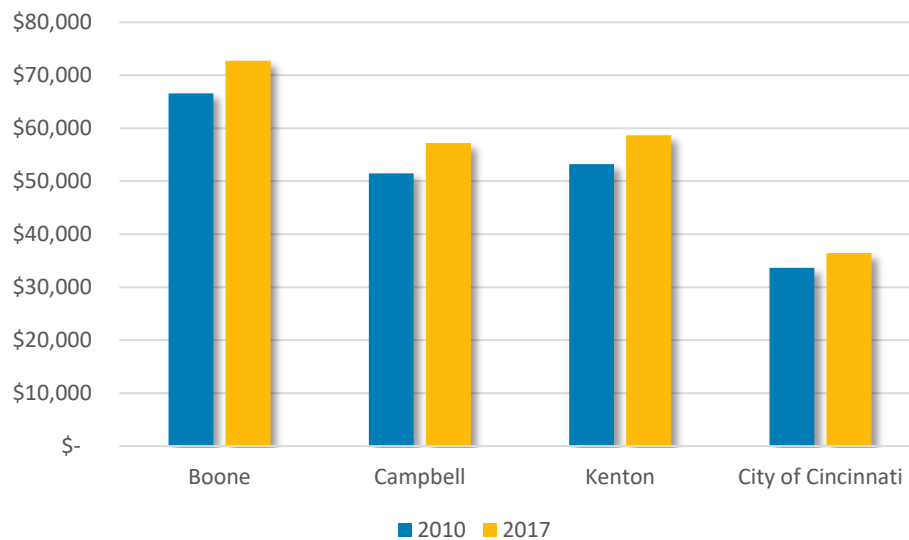
**Table 2-5: Median Income by County and City of Cincinnati, 2010 and 2017**

Location	2010	2017	% Change 2010-2017
Boone	\$ 66,549	\$ 72,731	9.29%
Campbell	\$ 51,482	\$ 57,208	11.12%
Kenton	\$ 53,213	\$ 58,674	10.26%
City of Cincinnati	\$ 33,681	\$ 36,429	8.16%

Source: 2010 Census, 2017 ACS

Figure 2-3 graphically depicts the information from the previous table. In the graphic, it is easier to see that all service areas have shown an increase in median income between 2010 and 2017, further highlighting how the region is growing economically.

**Figure 2-3: Median Household Income Distribution**



Source: 2010 Census, 2017 ACS



## 2.4 Housing, Employment, and Related Densities

The greater the density of an area, as measured by household or employment, the greater the likelihood that transit service can offer an attractive alternative to single-occupant vehicle travel and vehicle travel, in general, due to the proportional increase in congestion that typically occurs with greater levels of density. Furthermore, as the number of potential transit users rises in a given geographic area, the economic attractiveness of supplying transit service also increases.

### 2.4.1 Housing

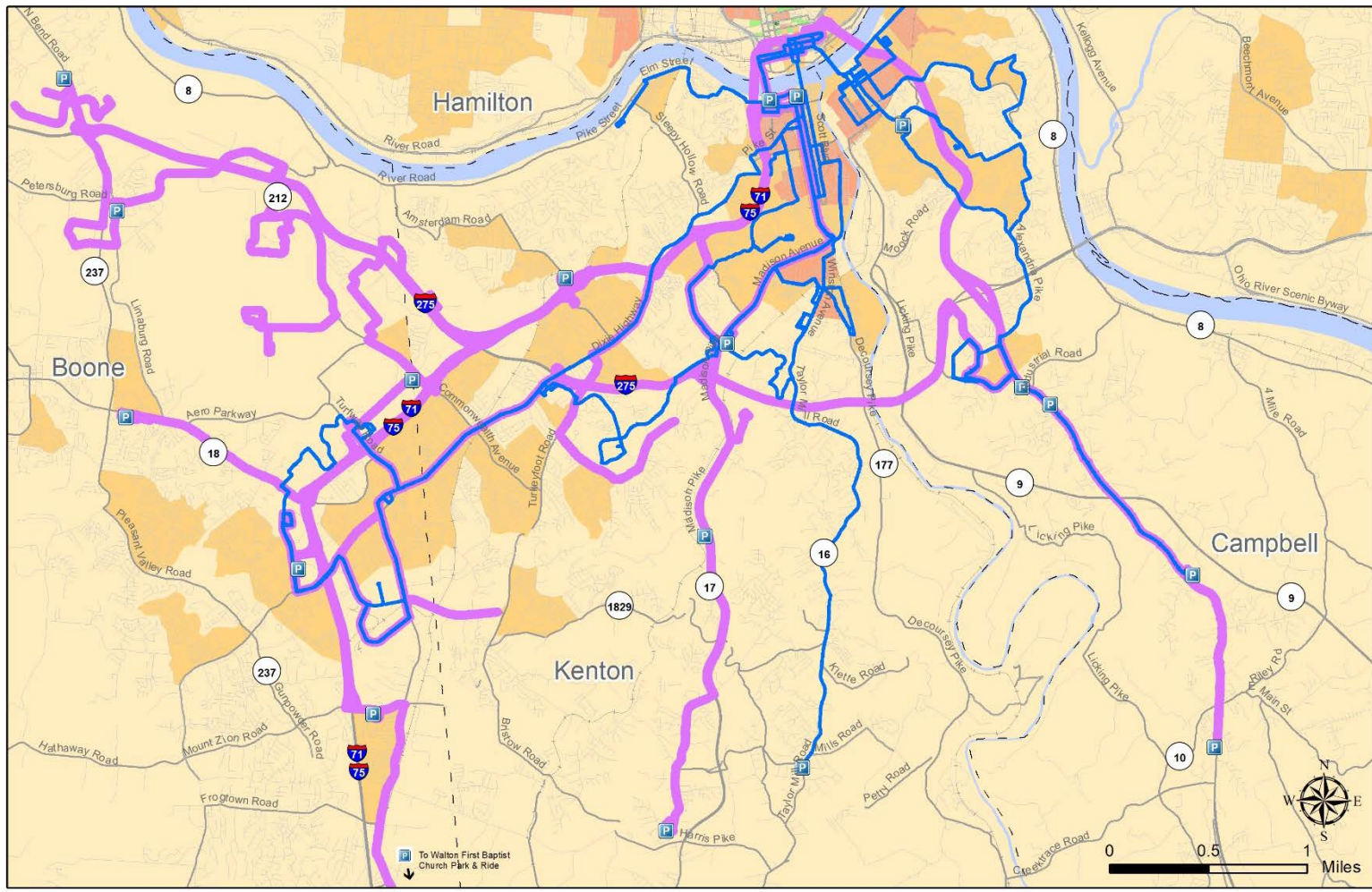
Map 2-3 through Map 2-6 display the 2020 and 2040 estimated households per acre from the Ohio Kentucky Indiana Regional Council of Governments (OKI) socioeconomic data projections. Projected household densities for 2040 are similar to those in 2020, with the exception of growth in the outlying western suburbs that are expected to increase in density as a result of the growth in the number and scale of the industrial uses surrounding CVG, such as Amazon, DHL, Wayfair, and other similar high tech distribution companies located near the airport. Currently, the area around CVG is being served by TANK express routes that provide service to Cincinnati via I-275 and I-71/I-75. However, there is limited transit service provided in the western suburbs where growth is most likely to occur.

### 2.4.2 Employment

Map 2-7 through Map 2-10 show employment per acre for 2020 and 2040, per OKI socioeconomic data estimates. Slight shifts in employment can be seen on either side of the Ohio River, with the Cincinnati side showing increases and the South Bank region showing some projected declines. In addition, the Northern Kentucky employee maps (Maps 2-7 and 2-9) show increased employment density in some of the suburban areas south of CVG in both Boone and Kenton counties, but primarily in the region north of Mount Zion Road and west of I-71/I-75 in Boone County and north of Bristow Road in Kenton County. Currently, the areas that are experiencing the most employment growth in Boone and Kenton counties are not directly served by transit.



Map 2-3: 2020 Households per Acre

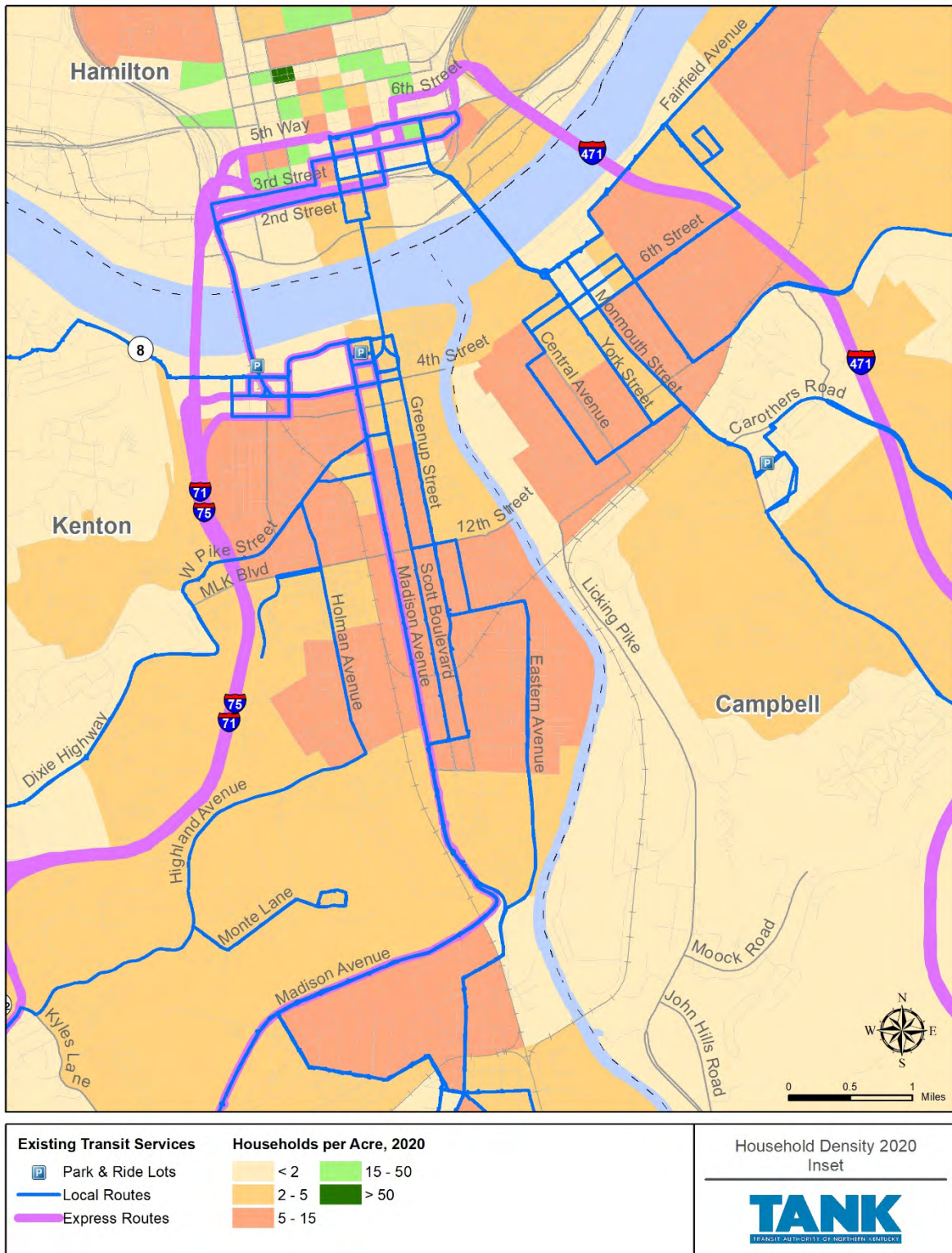


<b>Existing Transit Services</b>		<b>Households per Acre, 2020</b>			<b>Household Density 2020</b> 
Park & Ride Lots	Local Routes	< 2	5 - 15	> 50	
Express Routes		2 - 5	15 - 50		



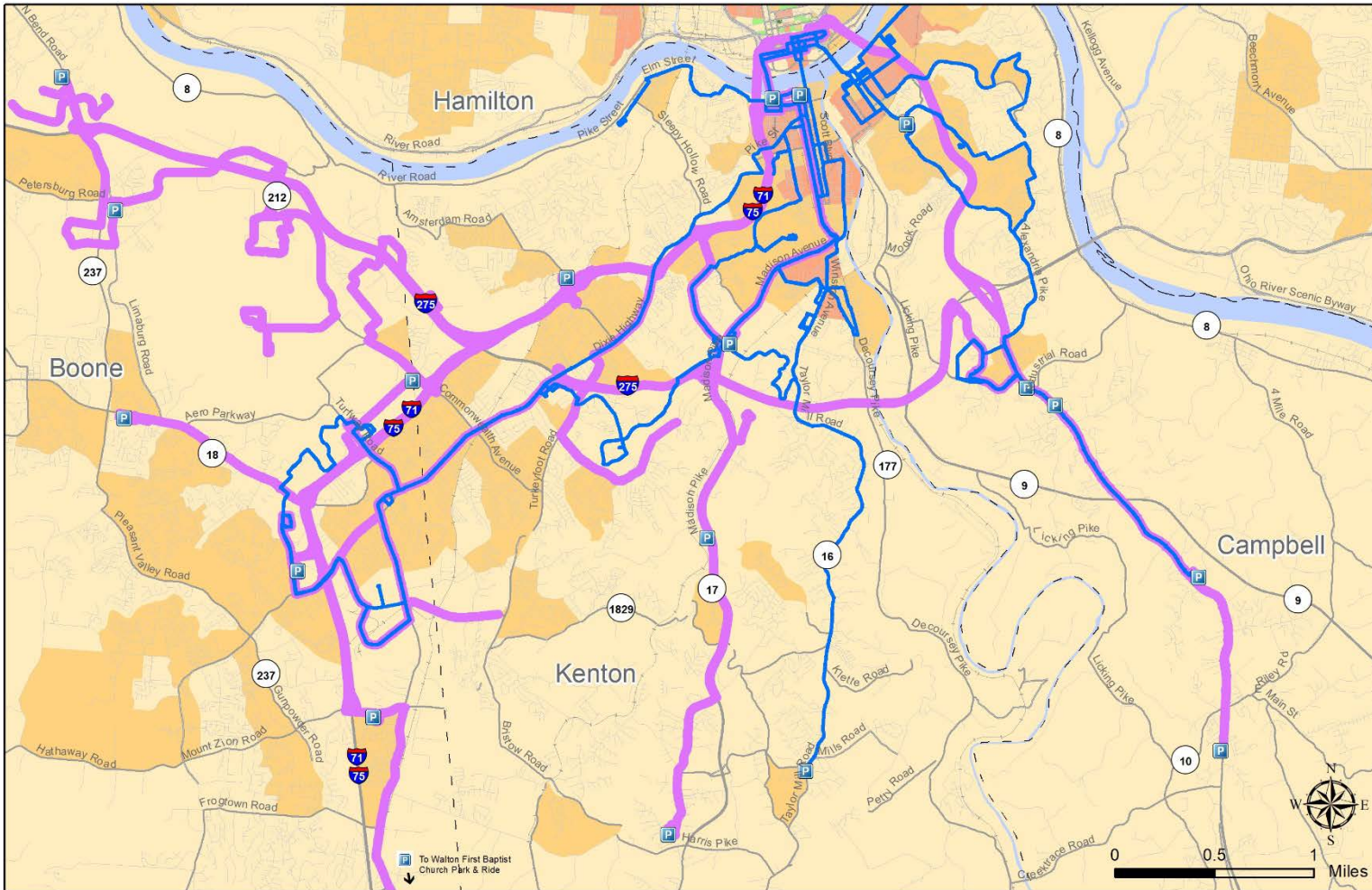


Map 2-4: 2020 Households per Acre Inset





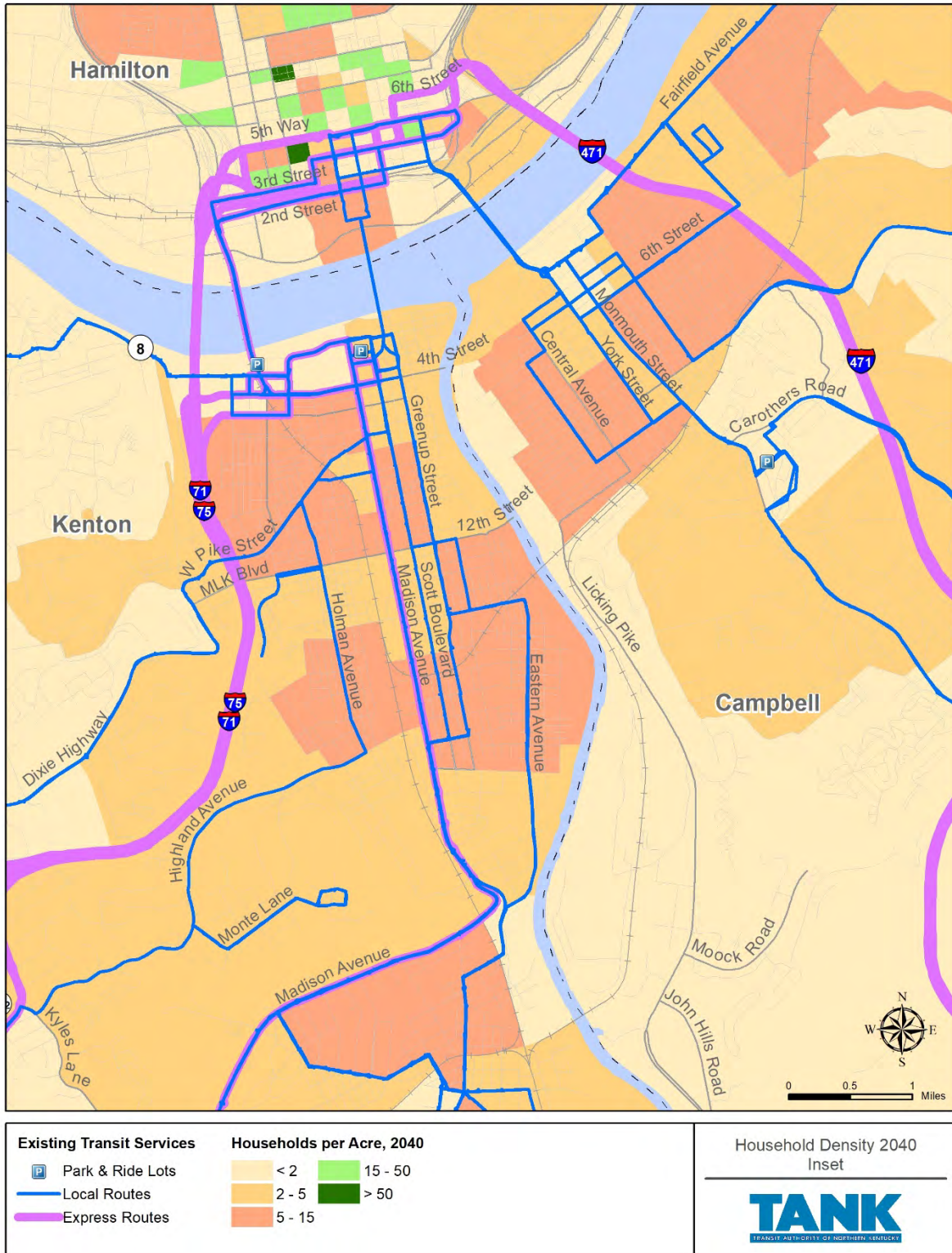
Map 2-5: 2040 Households per Acre



<b>Existing Transit Services</b>		<b>Households per Acre, 2040</b>			<b>Household Density 2040</b> 
Park & Ride Lots	< 2	5 - 15	> 50		
Local Routes	2 - 5	15 - 50			
Express Routes					

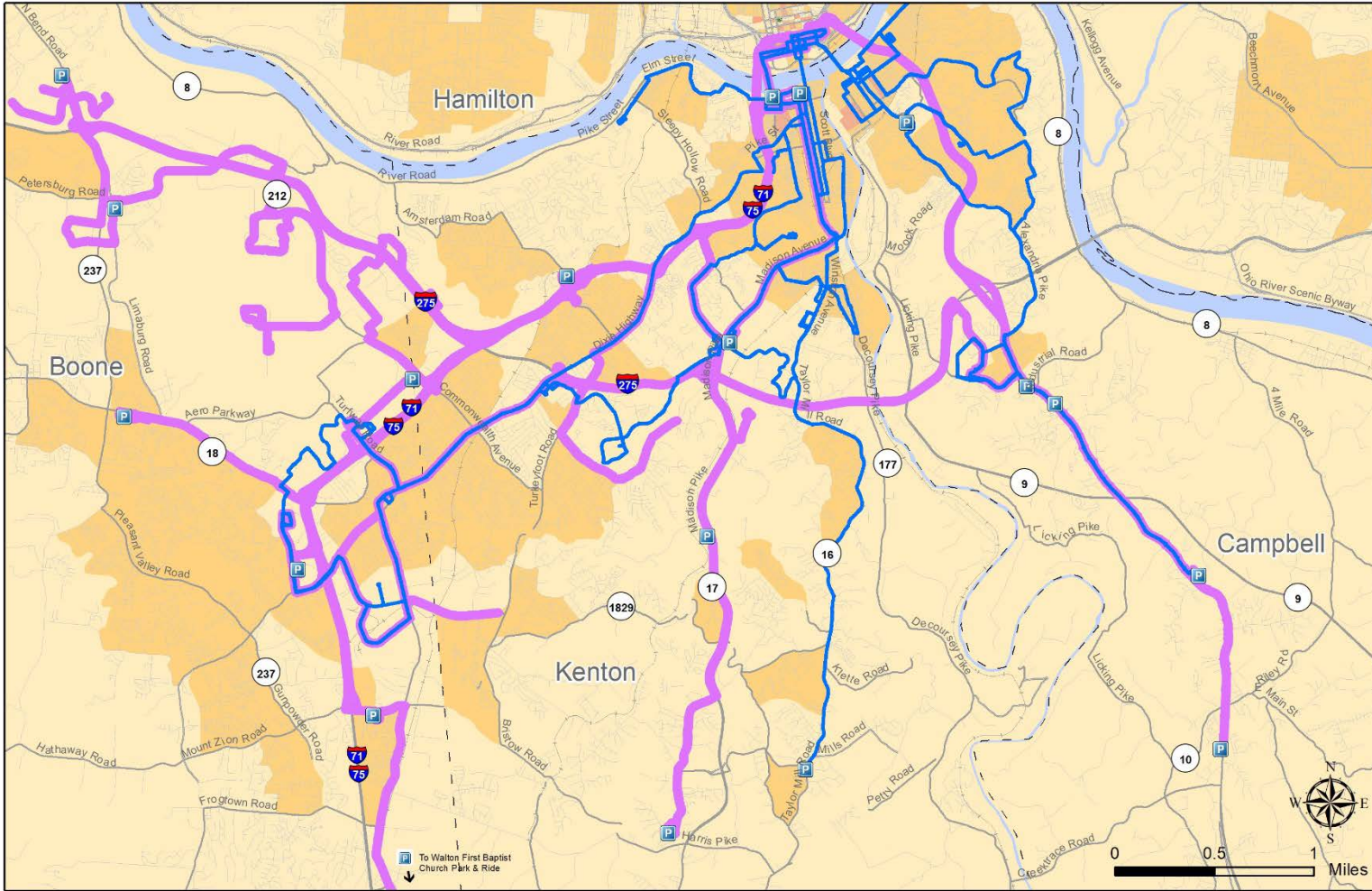


Map 2-6: 2040 Households per Acre Inset





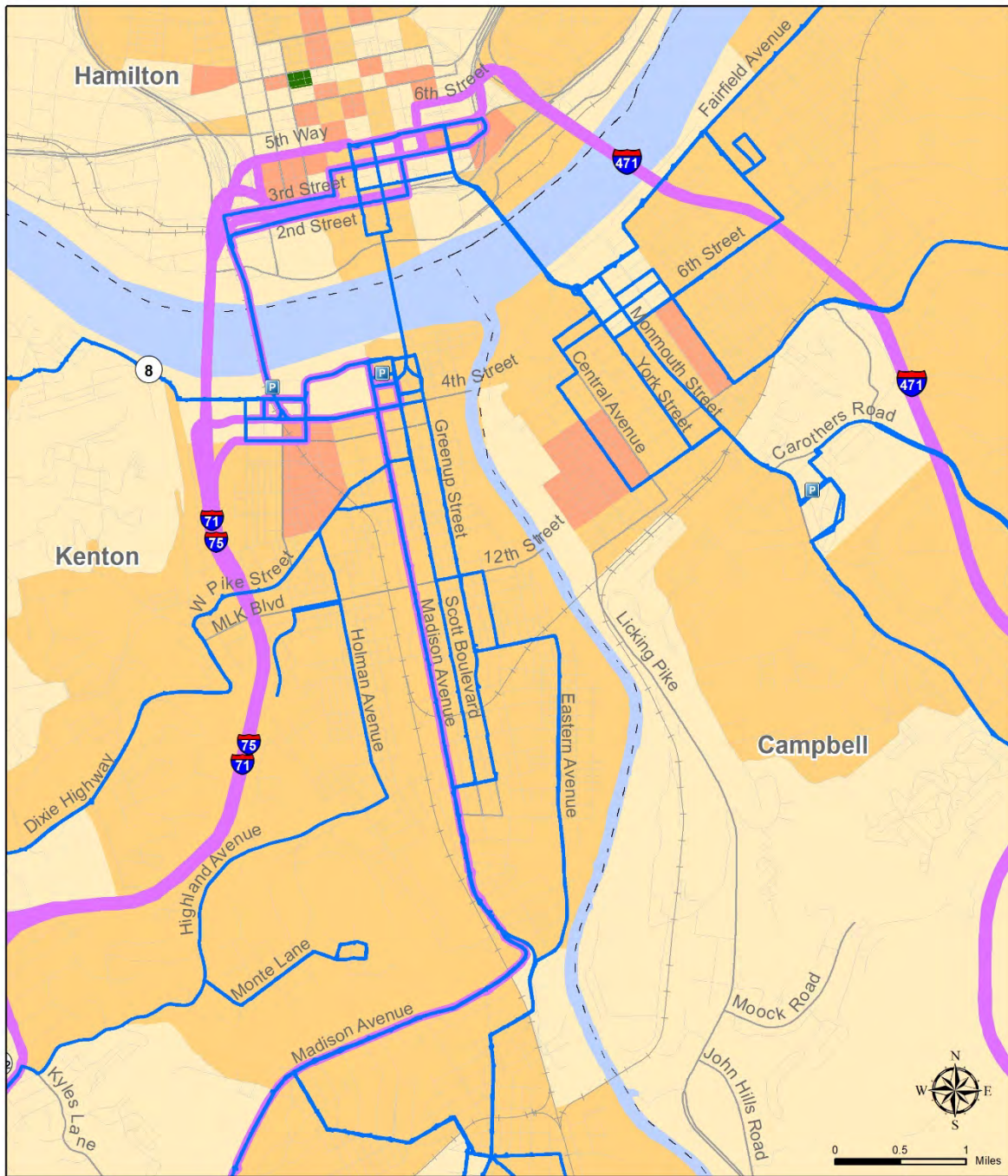
Map 2-7: 2020 Employees per Acre



<b>Existing Transit Services</b>		<b>Employees per Acre, 2020</b>			<b>Employment Density 2020</b> 
<ul style="list-style-type: none"> <li> Park &amp; Ride Lots</li> <li> Local Routes</li> <li> Express Routes</li> </ul>	<ul style="list-style-type: none"> <li> &lt; 2</li> <li> 2 - 10</li> <li> 10 - 40</li> <li> 40 - 100</li> <li> &gt; 100</li> </ul>				



Map 2-8: 2020 Employees per Acre Inset

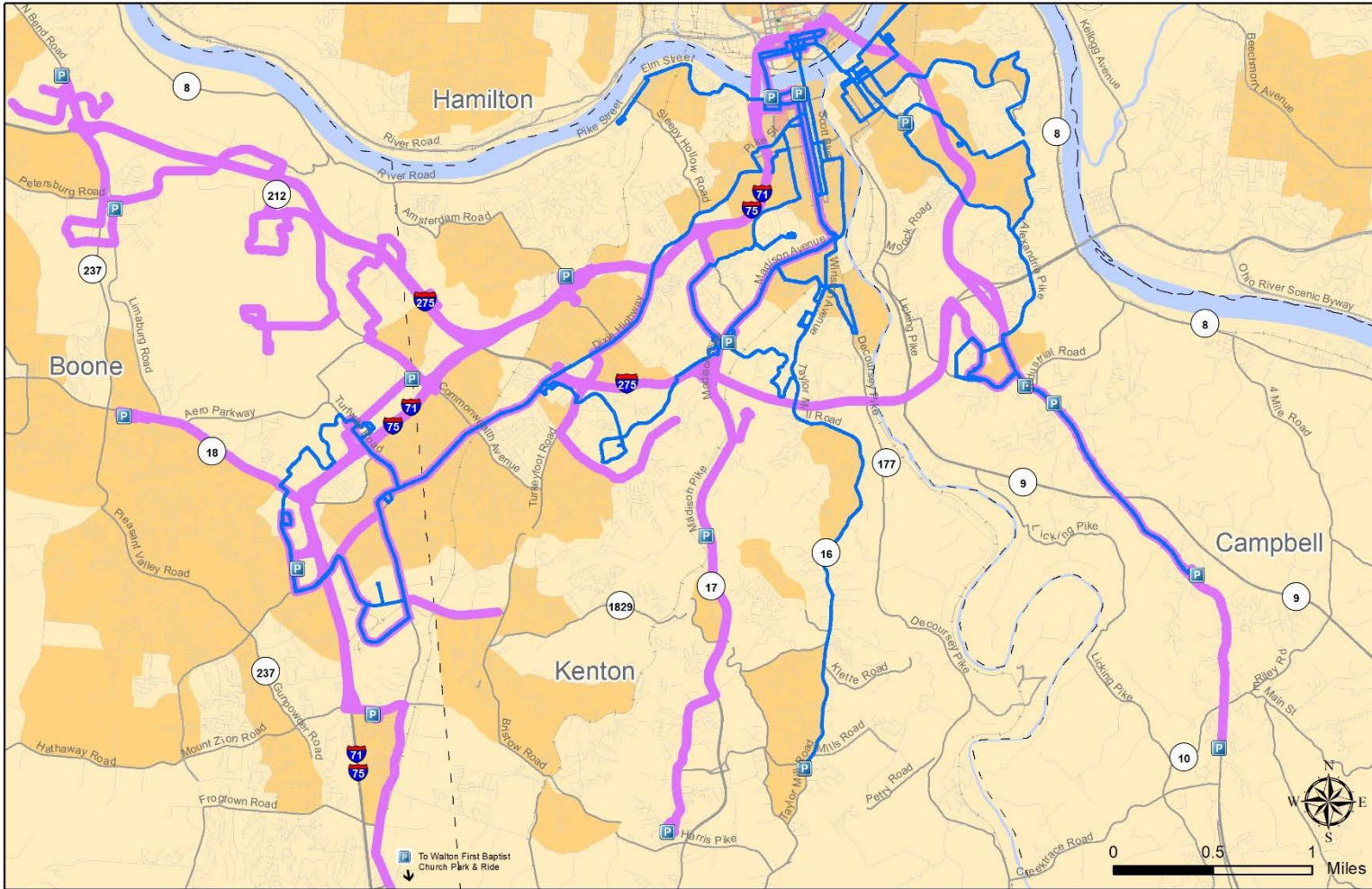


<b>Existing Transit Services</b>		<b>Employees per Acre, 2020</b>	
Park & Ride Lots	< 2	40 - 100	
Local Routes	2 - 10	> 100	
Express Routes	10 - 40		

Employment Density 2020 Inset



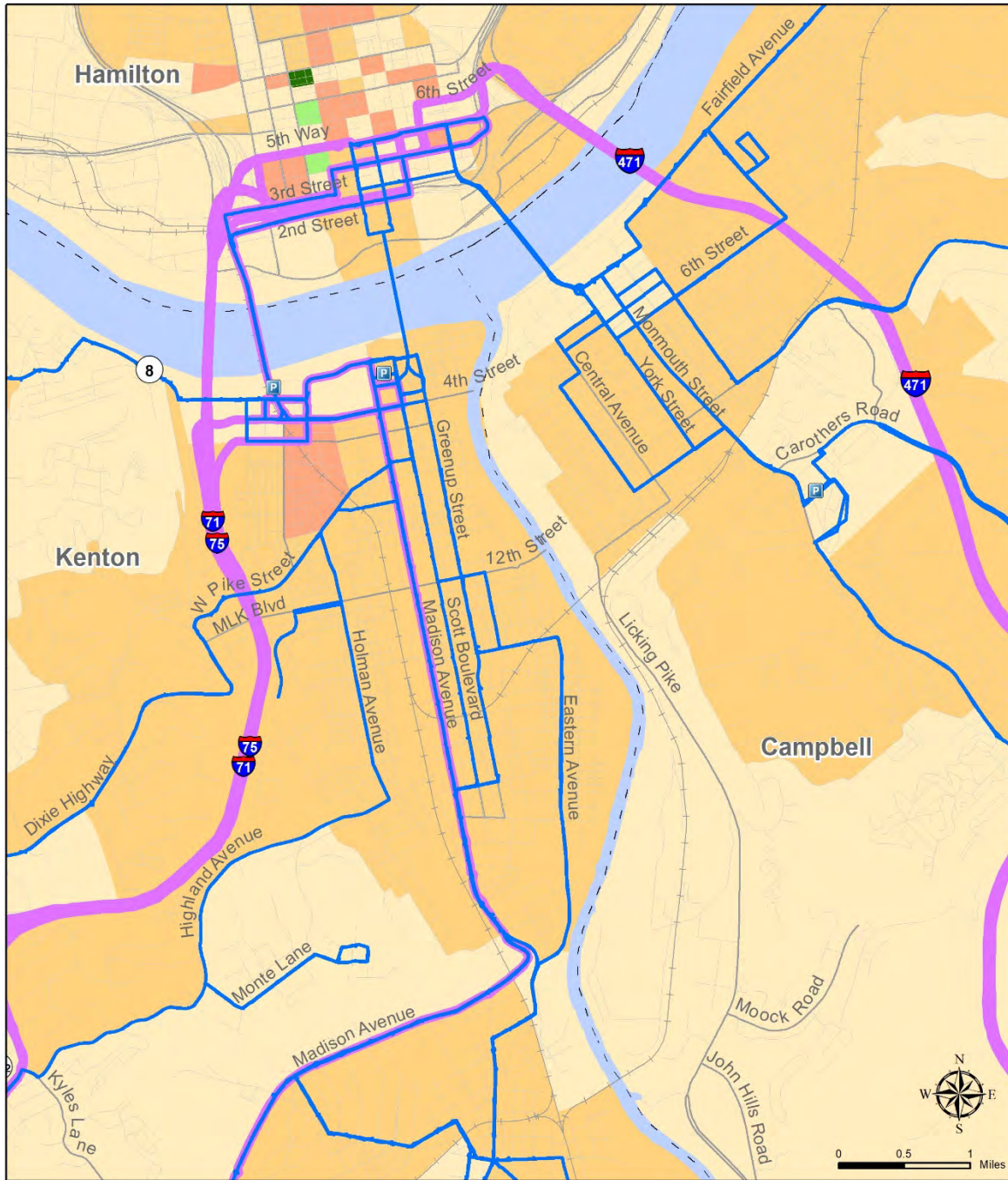
Map 2-9: 2040 Employees per Acre



<b>Existing Transit Services</b>		<b>Employees per Acre, 2040</b>			<b>Employment Density 2040</b> 
Park & Ride Lots	< 2	10 - 40	> 100		
Local Routes	2 - 10	40 - 100			
Express Routes					



Map 2-10: 2040 Employees per Acre Inset



<b>Existing Transit Services</b>		<b>Employees per Acre, 2040</b>	
Park & Ride Lots	< 2	40 - 100	
Local Routes	2 - 10	> 100	
Express Routes	10 - 40		

Employment Density 2040  
Inset



## 2.5 Major Activity Centers and Trip Generators

A geographic assessment of where major trip generators are located in a transit agency’s service area in comparison to its route network is typically conducted to determine how potentially effective the existing transit service is at serving the key places that people in the community want and/or need to access. New developments also can affect where and how transit should be operated in the service area in the future. Since major employers often can be large transit trip generators (depending on the nature of the business or activity there), it also is informative to determine where they are located in relation to existing fixed-route service. To help support such an analysis, Table 2-6 displays the largest employers in Northern Kentucky.

**Table 2-6: Northern Kentucky's Largest Employers**

Employers	Employment Levels
<b>Cincinnati/Northern Kentucky International Airport</b>	<b>&gt; 3,000</b>
<b>St. Elizabeth Healthcare</b>	
<b>Fidelity Investments</b>	
<b>Kroger Company</b>	
<b>Boone County Schools*</b>	
<b>Amazon.com</b>	
<b>Citi</b>	<b>1,000 - 2,999</b>
<b>Northern Kentucky University</b>	
<b>Kenton County Schools*</b>	
<b>Castellini Group of Companies</b>	
<b>Mubea NA</b>	
<b>Robert Bosch Automotive Steering</b>	
<b>Schwan’s Global Supply Chain Inc.</b>	<b>500 - 1,000</b>
<b>Novolex</b>	
<b>Campbell County Schools*</b>	
<b>Tyson Foods</b>	
<b>Mazak Corp.</b>	
<b>US Postal Service</b>	
<b>Frisch’s Restaurants Inc.</b>	
<b>Pomeroy</b>	
<b>Remke Markets</b>	
<b>Zumbiel Packaging</b>	<b>&lt; 500</b>
<b>BlueStar</b>	
<b>Corporex Companies</b>	

Source: 2017-18 Business Courier Book of Lists

\*These employers include all teachers employed by the county board of education. This information is not included on Maps 2-11 and 2-12.





The largest employer in Northern Kentucky is CVG, which employs 12,682 workers. The airport is DHL’s North American hub and eventually will be Amazon’s Prime Air cargo hub, which is located in the northern portion of Boone County. The second largest employer in the region is St. Elizabeth Healthcare, followed by Fidelity Investments. Other significant industries in the region include education, manufacturing, logistics, and food, due to the region’s central location and proximity to a top international airport.

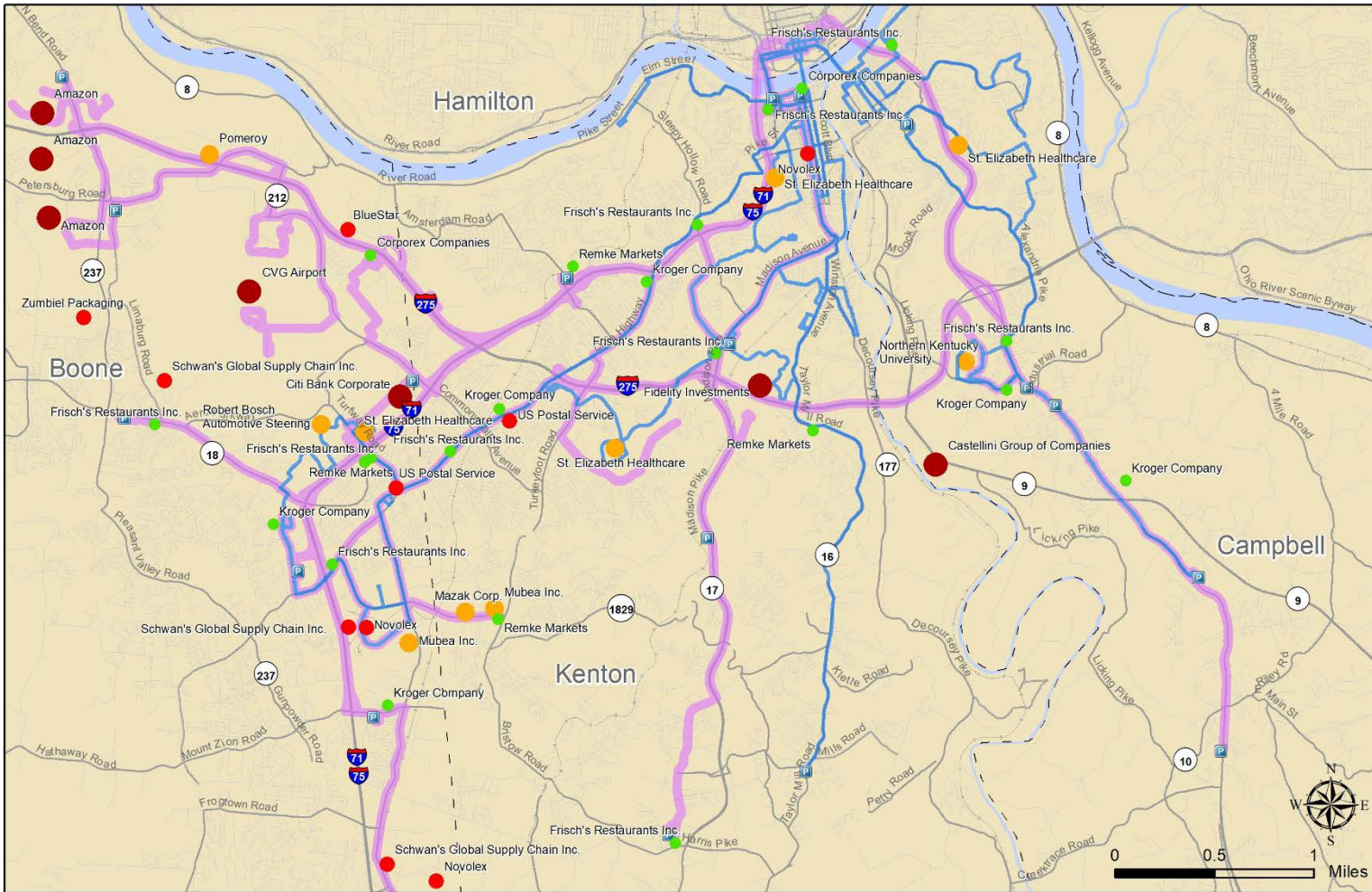
Maps 2-11 and 2-12 present the geographic analysis of major trip generators, including major employers, in relation to TANK’s existing fixed-route network. It should be noted that the board of education includes all teachers in the county, which is why it is not presented on the map. Instead, this data is separated by county, as shown in Table 2-6.

As mentioned previously, CVG is a major attractor for industries. This is reinforced in Map 2-13 as numerous industrial and corporate interests have located themselves in the immediate vicinity of the airport. Along I-275 is a cluster of industrial parks, like Circleport, Parkwest, Southpark, and Mineola, as well as corporations like Convergys, DHL, and Amazon. The heavily anticipated introduction of CVG as an Amazon hub has created speculation of potential job growth in the thousands. In addition to growth in cargo flights, passenger trips at CVG also are following a positive trend, indicating that overall flight activity growth is based on travelers, as well, which can have their own impact on the local economy because of the dollars they spend during their stays. These areas seem well-served by TANK express service with numerous routes (1X, 2X, 39X, and 40X) taking I-275 to the industrial areas north of CVG from Cincinnati. Another area with many activity centers is Kenton, where the County’s Industrial Road is home to One Twenty and Northern Kentucky Industrial Parks served by TANK Route 28X. Just south is the Richwood Industrial Park off of US 25.

Shopping centers are scattered throughout TANK’s service area; however, they are located close to main highways such as I-75 or I-275. One of the most noticeable shopping clusters is in Florence and includes the Mall Road Shopping Center, Florence Square, Florence Mall, Florence Mini Mall, and a nearby Walmart Supercenter. Other shopping centers serve smaller neighborhood markets far off the main thoroughfares, such as the Cherokee Shopping Center near Independence and Ryland Heights.

Public service facilities like libraries, courthouses, schools, learning centers, parks, and more are distributed across the service area. As one might expect, the distribution of these facilities generally matches population densities in the given areas, such as colleges and universities located near I-71/I-75 and I-275. Thomas More College and Gateway Community College are in Edgewood, while Northern Kentucky University (NKU) is adjacent to I-275 by Highland Heights in Campbell County. As a part of the TANK System Redesign Study, colleges, university areas, and other key transit attractors will be examined for more improved local and regional interconnectedness by TANK transit services.

Map 2-11: Northern Kentucky's Major Employers

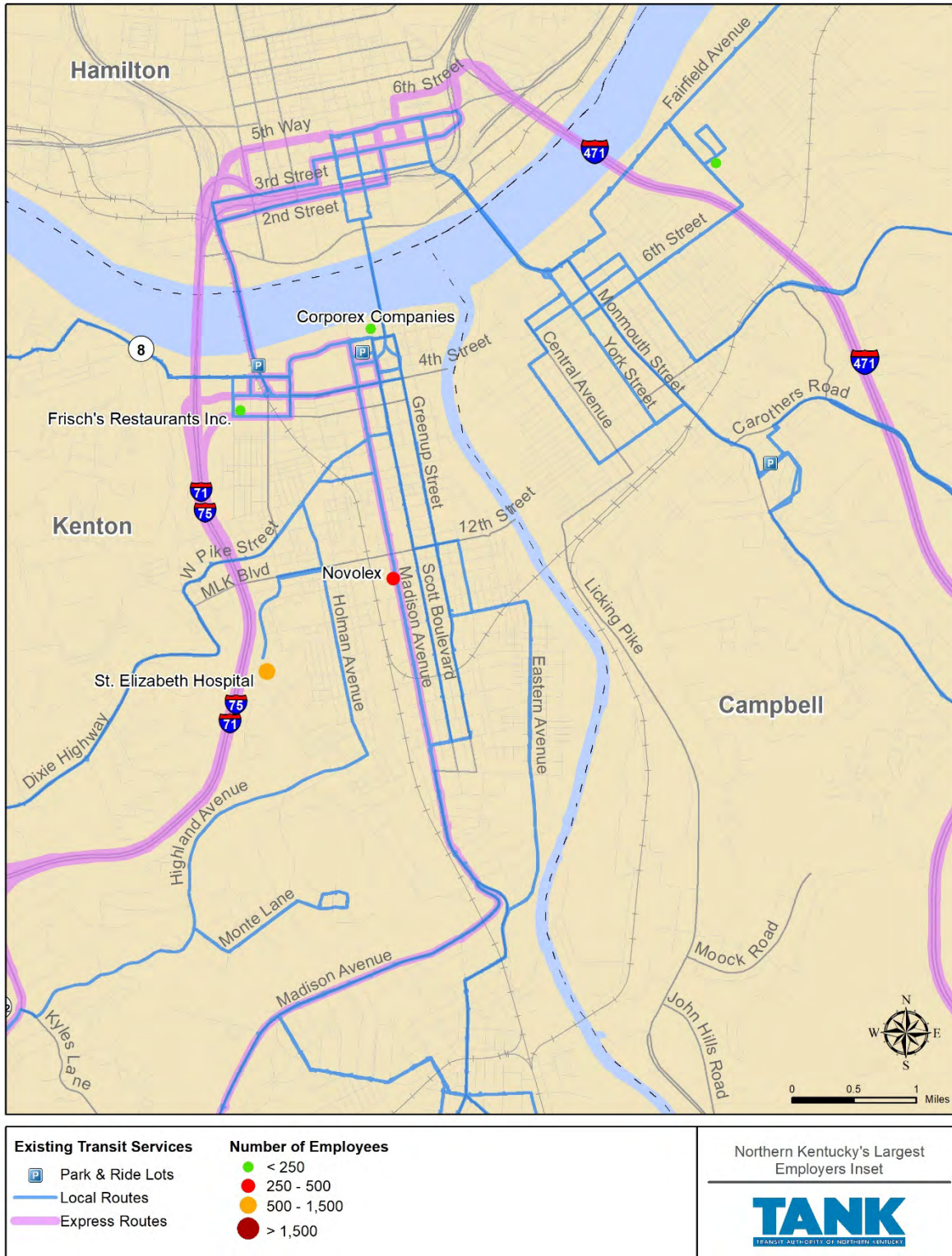


Existing Transit Services	Number of Employees
Park & Ride Lots	< 250
Local Routes	250 - 500
Express Routes	500 - 1,500
	> 1,500

Northern Kentucky's Largest Employers

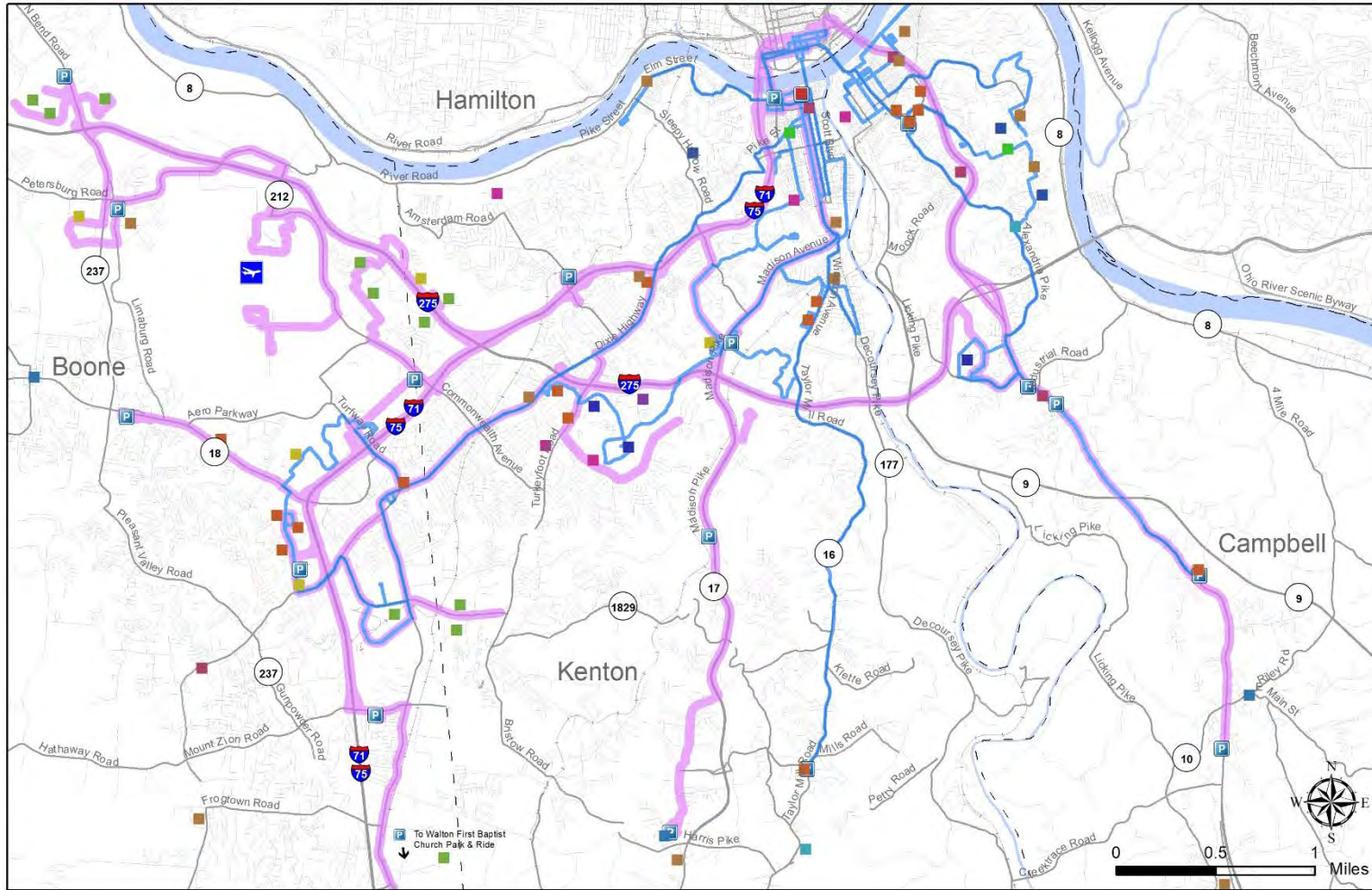


**Map 2-12: Northern Kentucky's Major Employers Inset**





Map 2-13: Northern Kentucky's Activity Centers

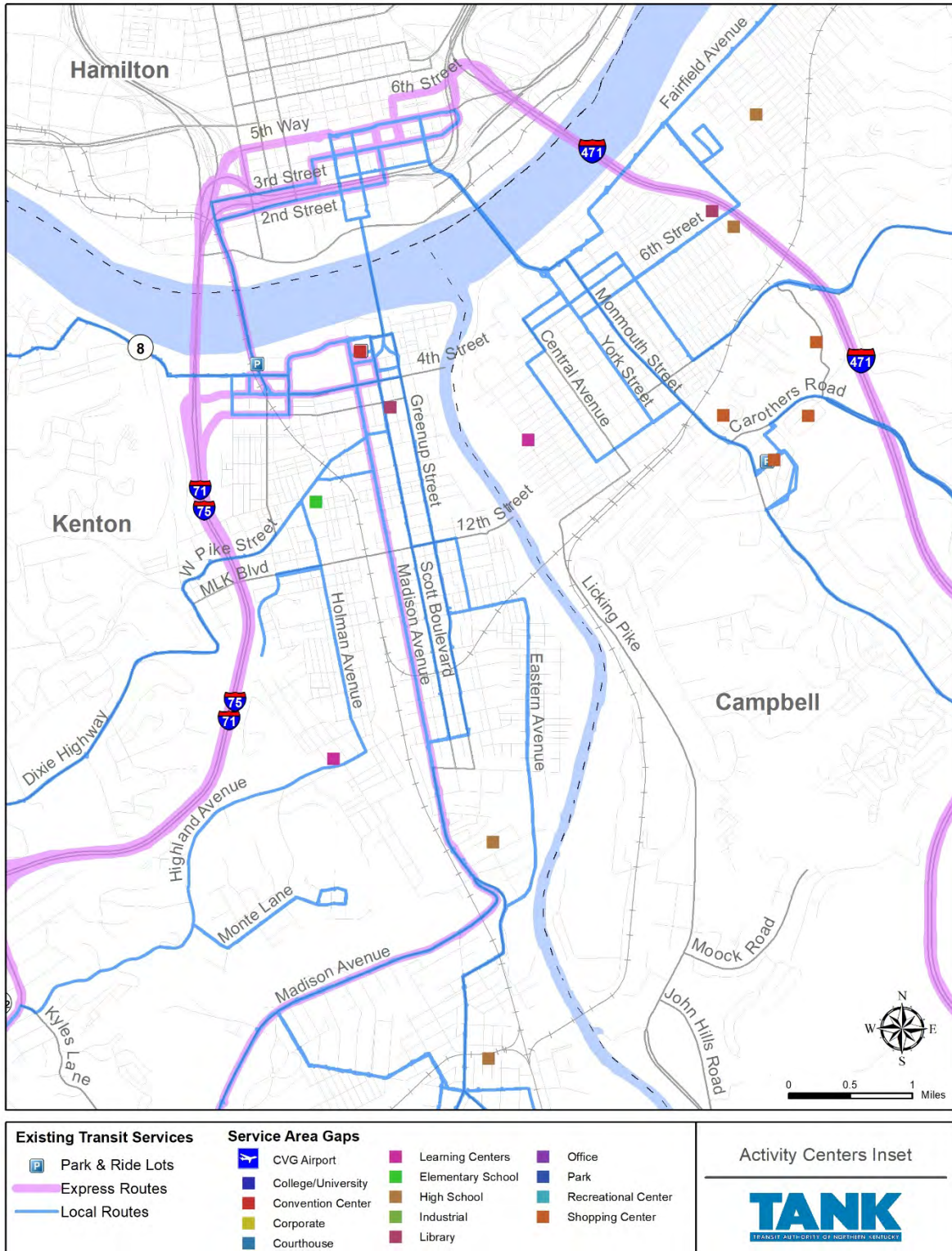


<b>Existing Transit Services</b>		<b>Activity Centers</b>			
Park & Ride Lots	CVG Airport	Courthouse	Industrial	Recreational Center	
Express Routes	College/University	Learning Centers	Library	Shopping Center	
Local Routes	Convention Center	Elementary School	Office		
	Corporate	High School	Park		

Activity Centers



**Map 2-14: Northern Kentucky's Activity Centers**





## 2.6 Land Use and Zoning

Land use and zoning are instrumental in determining whether and to what degree complementary development would occur around transit services and facilities. In addition, this section helps to identify transit supportive land uses that work to provide residents and workers a range of mobility choices, access to daily needs, commercial services, and recreational opportunities, as well as access to key destinations, like work and school, within a short distance from home. A review of current and emerging land use was conducted for the TANK service area. A summary of the land uses that were reviewed is described below in more detail.

### 2.6.1 Boone County

Boone County’s current land use is largely agricultural (28%) and woodland (36%), with few residential areas not immediately adjacent to major roads, as shown in Map 2-15. The most diverse land uses occur in the Burlington and Florence areas to the east of the county, including commercial, industrial, high density suburban residential, and public/institutional uses. Residential areas tend to be wedged between US 42 and I-75 towards the east central portion of the county. CVG represents a major transportation land use, and Boone’s most intensive commercial land uses occur to its southern edge, with significant industrial land uses surrounding the airport on all sides. Aside from small towns, rural density residential follows main roads throughout the western and southern edges of the county.

Boone County’s future land use map shows a vision for increased residential and commercial business uses in its outlying areas of the eastern half of the county that are currently rural. A higher density of industrial uses and business parks are depicted surrounding the airport and along I-275, as shown in Map 2-16. Suburban density residences are located in areas that are agricultural or woodland in the current land use map. More commercial uses are envisioned to develop along highways like US 42, and a higher density of industrial uses are projected to occur along I-71/I-75 on the eastern edge of the county.

### 2.6.2 Campbell County

Campbell County’s current land use map is depicted in Map 2-17. As shown, the most intense and diverse land uses are in the northern half of the county. In the southern portion, the land uses are primarily residential (single family and undeveloped), agricultural, recreational, and wooded/open space. In the northern half, residential, commercial, and open space uses dominate with some pockets of industrial and institutional. The only break in this pattern is the line of commercial uses that follow the I-471/Alexandria Pike/US 27 corridor south of its intersection with the AA Highway.

Campbell County is in the process of updating its future land use map, which should be completed by the end of 2019.



### 2.6.3 Kenton County

Like its neighboring counties, Kenton County is also largely rural, as shown in Map 2-18. Its southern half is mostly agricultural, single family residential, or undesignated. Diverse land uses are generally along and north of the I-275 corridor. In the north, commercial and office uses are clustered near the Covington waterfront, while industrial uses follow the Ohio River west of the Brent Spence Bridge. The majority of the public, industrial, and commercial (i.e., retail/service) uses in the county follow along major corridors like I-71/I-75, I-275, Dixie Highway, and Madison Pike, among others. The predominant residential type in the county is single-family.

Kenton County’s Recommended Land Use Map shows the northern half of the county as a focus area, whereas the southern portion is almost completely designated as agricultural or rural uses, as shown in Map 2-19.

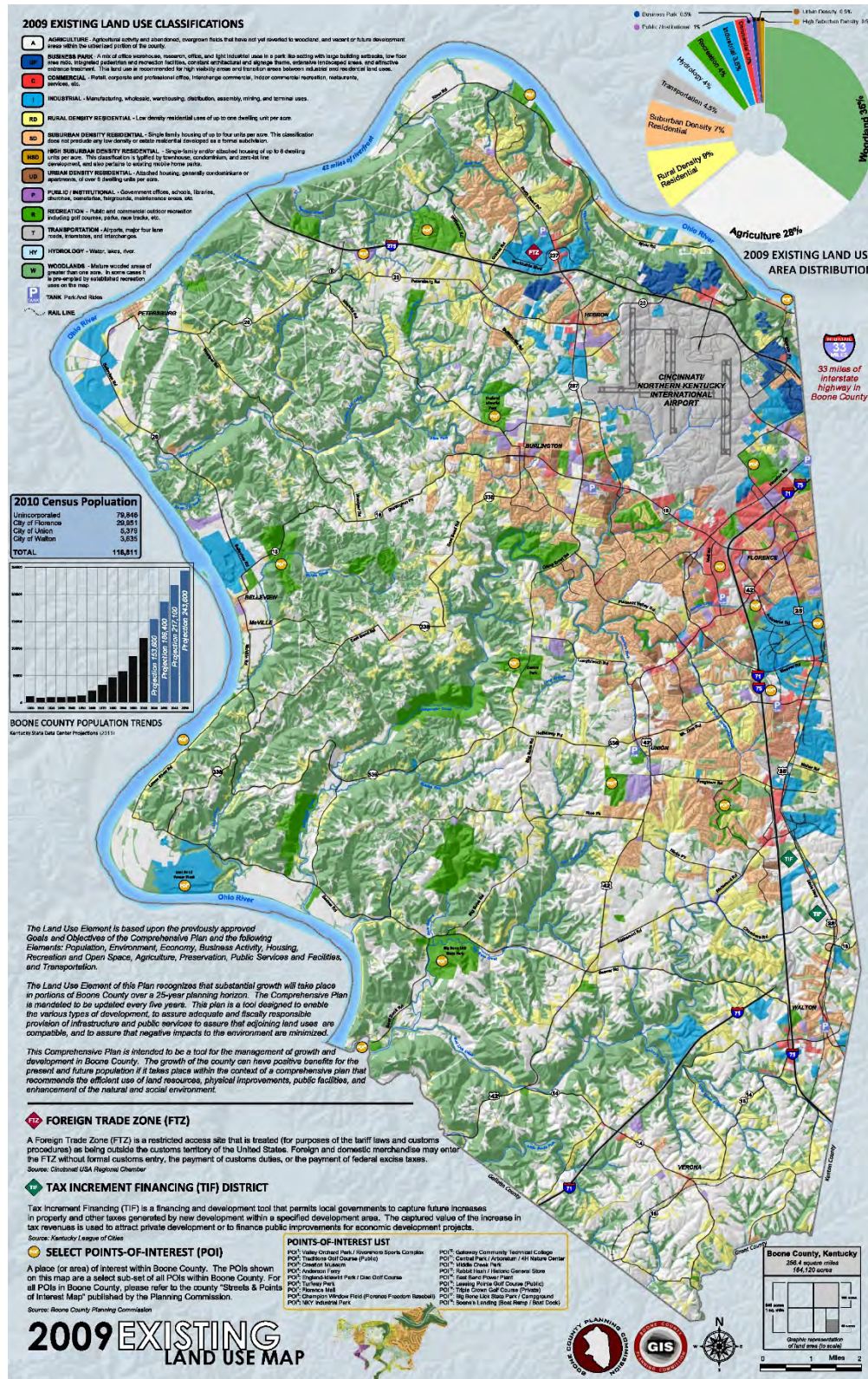
### 2.6.4 City of Cincinnati

Cincinnati is the northernmost portion of the TANK service area; buses mostly operate downtown before looping back to the south via one of the bridges across the Ohio River. Land uses in Cincinnati are typical for an urban environment: commercial, office, mixed use, and institutional, as shown in Map 2-20.

Cincinnati’s Conceptual Land Use Plan includes generalized land use categories that closely mirror the current character of the downtown, as shown in Map 2-21. One of the most popular conceptual land uses in Cincinnati is compact walkable space.



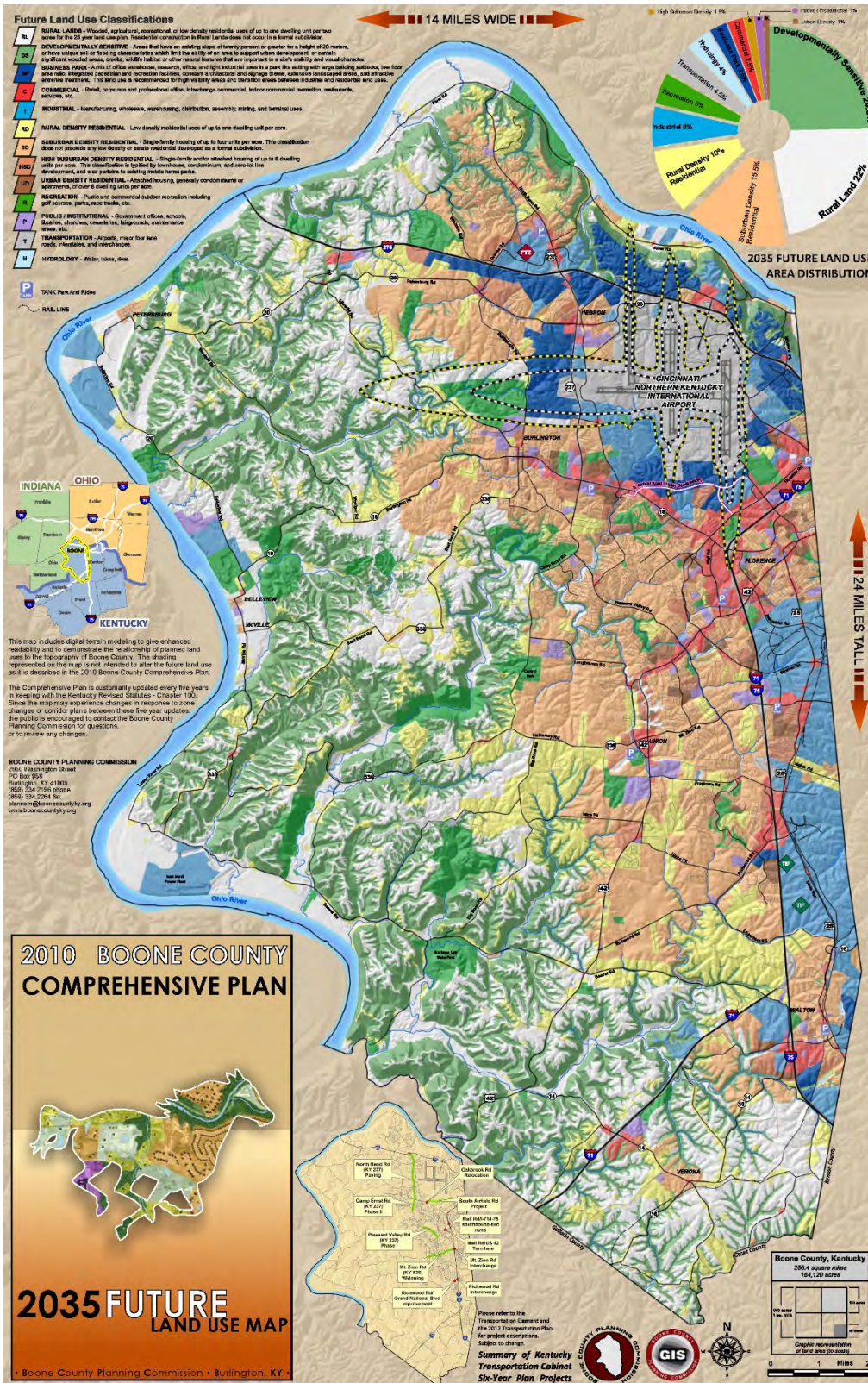
Map 2-15: Boone County Existing Land Use







Map 2-16: Boone County Future Land Use Map





Map 2-17: Campbell County Existing Land Use Map

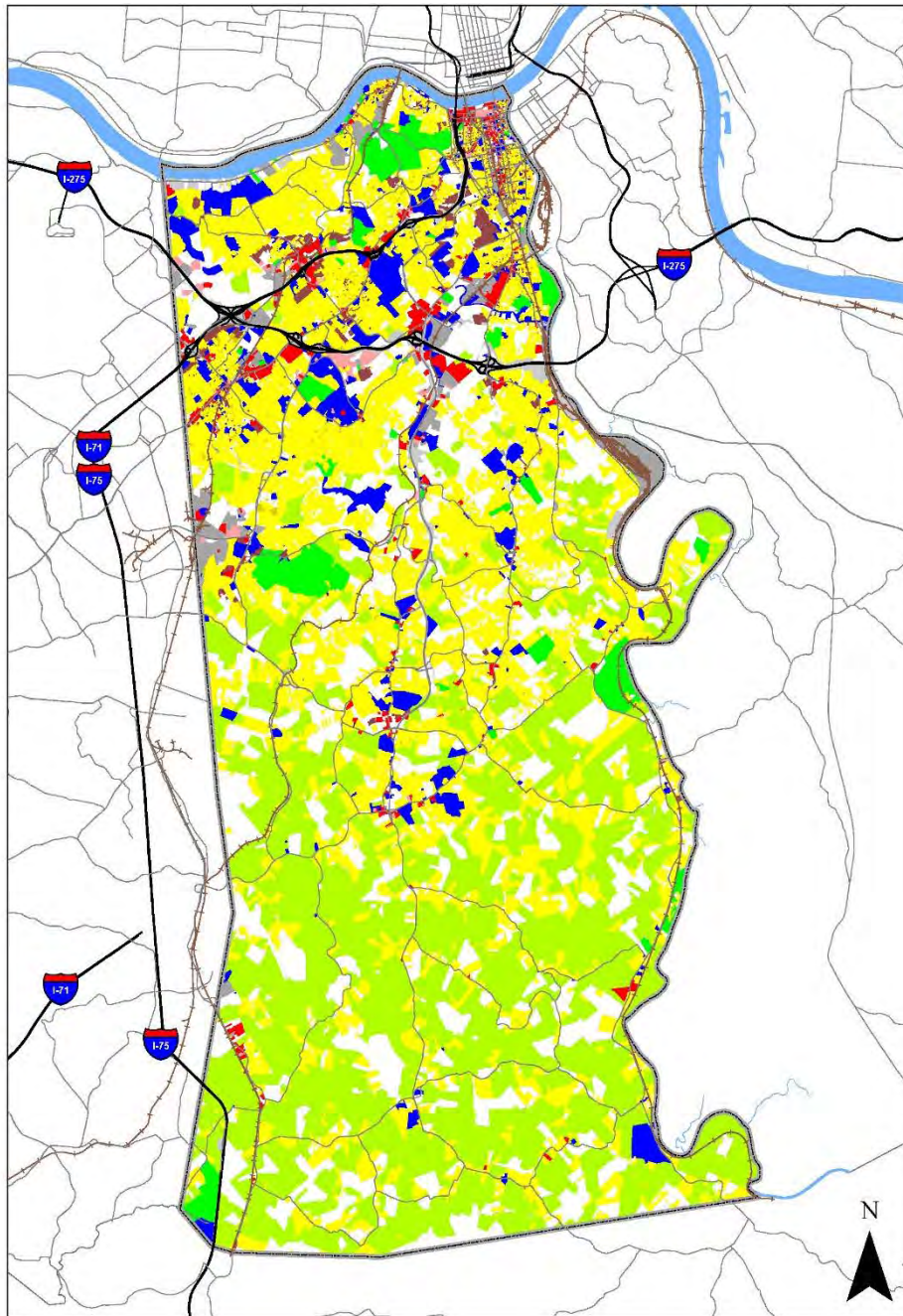
# Comprehensive Plan Update

## Campbell County, Kentucky





**Map 2-18: Kenton County Existing Land Use Map**



**Legend**

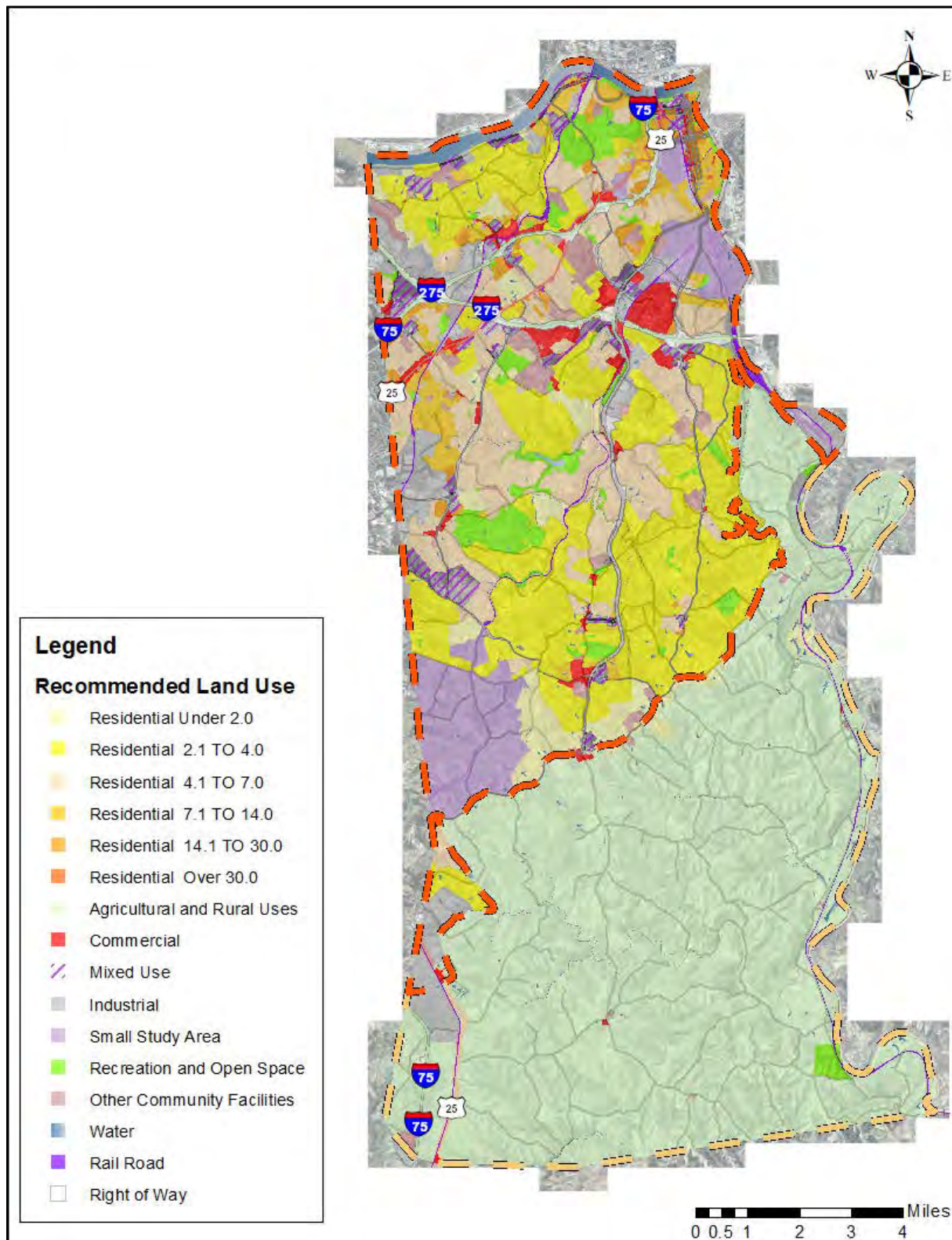
- |                 |                |                    |                           |
|-----------------|----------------|--------------------|---------------------------|
| agricultural    | two-family     | office             | recreation and open space |
| hoa common area | multi-family   | industrial         | not coded                 |
| single-family   | retail/service | public/semi-public | right-of-way              |
|                 |                |                    | vacant                    |

The information in this product is accurate for planning purposes only

Source: Kenton County Comprehensive Plan, 2010



**Map 2-19: Kenton County Recommended Land Use Map**

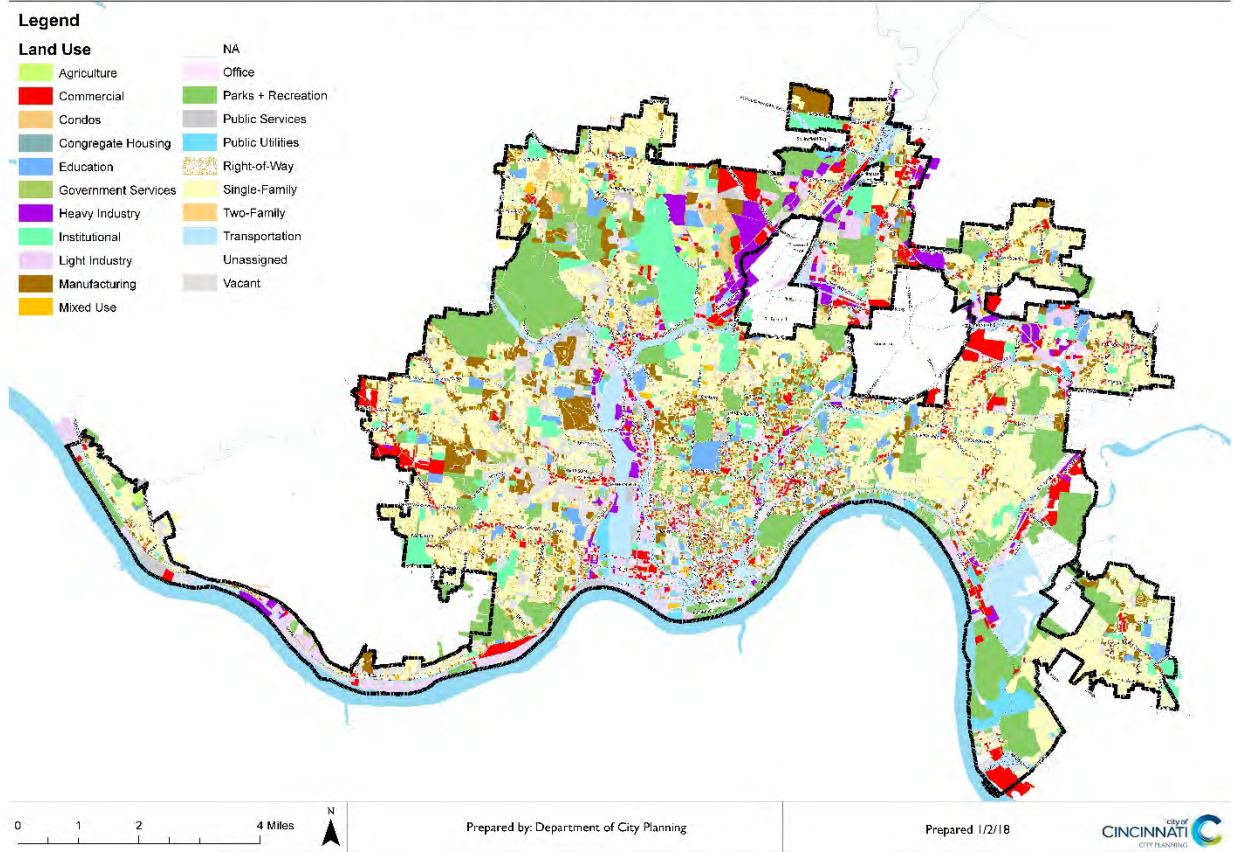


Source: Kenton County, Direction 2030



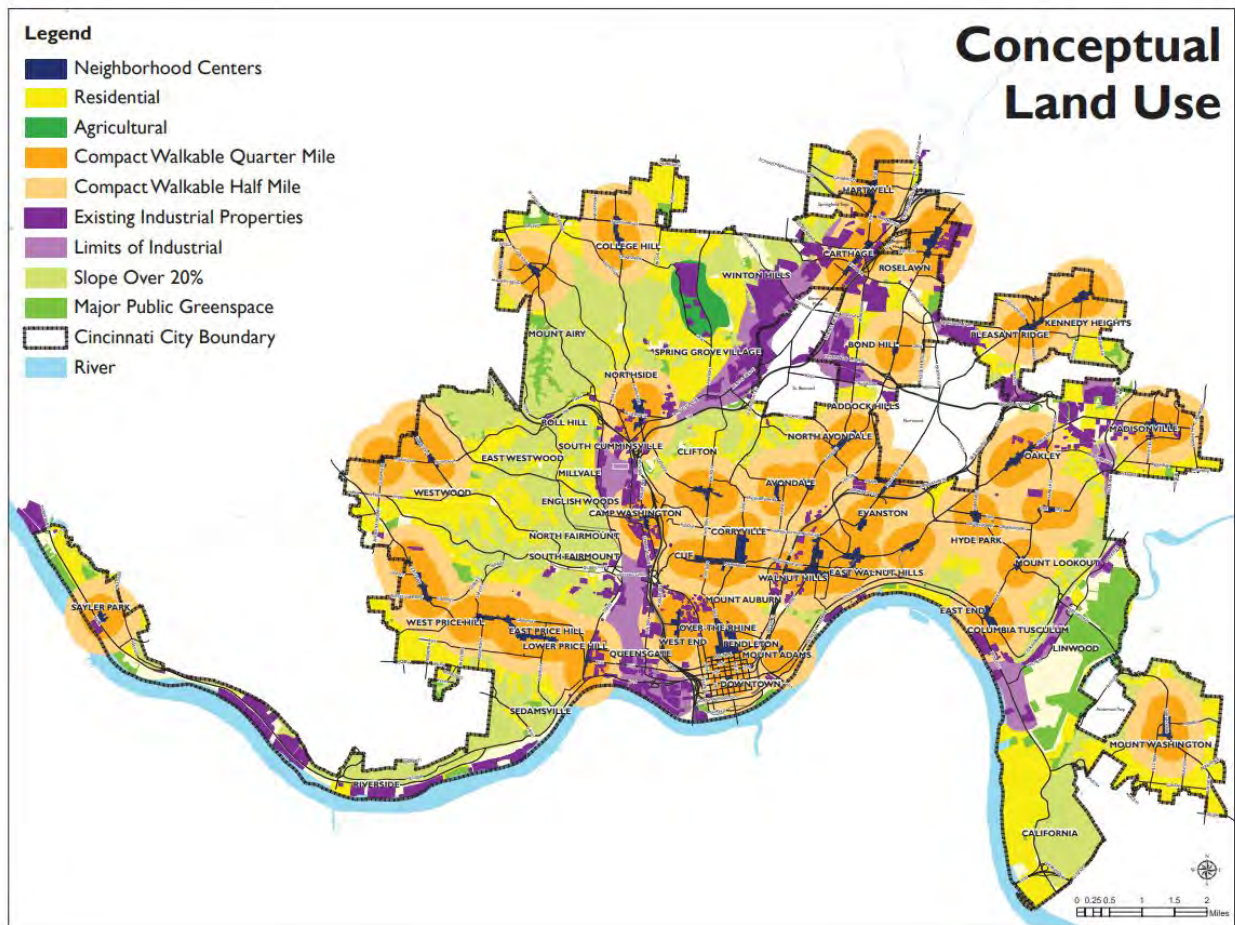
Map 2-20: City of Cincinnati Existing Land Use

# Cincinnati Land Use





Map 2-21: City of Cincinnati Existing Land Use





## 2.7 Travel Behavior and Commuting Trends

This section evaluates the typical travel behavior for persons within the TANK service area, as well as the commuting trends occurring within and between each county. Tables 2-7 and 2-8 display the commuting trends of Boone, Kenton, and Campbell counties and the City of Cincinnati. On average, over three-quarters of the service area population drive alone to work. Transportation to work trends among the three Northern Kentucky counties are very similar, whereas the City of Cincinnati has a more diverse mode share, with more transit use and pedestrian activity. Specifically, the use of public transit is over three times higher in Cincinnati than any of the counties in the service area and the rate of walking is, on average, over twice as high. The higher walking and transit use in Cincinnati are consistent with a major central business district with higher urban densities. Between 2010 and 2017, mode shares did not change drastically. Working from home saw a modest increase in all areas, while public transit use and driving alone experienced a slight decline in the Northern Kentucky counties.

**Table 2-7: Primary Means of Transportation for Employed Persons, 2010**

Area	Total	Drove Alone	Carpooled	Public Transit	Walked	Taxi/Motorcycle/Bike	Worked at Home
<b>Boone</b>	58,585	85.66%	8.38%	1.19%	0.87%	1.07%	2.83%
<b>Kenton</b>	77,973	83.04%	9.55%	2.54%	1.75%	0.71%	2.68%
<b>Campbell</b>	43,870	81.52%	9.61%	2.22%	3.15%	0.59%	2.91%
<b>City of Cincinnati</b>	132,605	71.09%	9.51%	9.67%	5.29%	0.85%	3.60%

Source: 2017 ACS

**Table 2-8: Primary Means of Transportation for Employed Persons, 2017**

Area	Total	Drove Alone	Carpooled	Public Transit	Walked	Taxi/Motorcycle/Bike	Worked at Home
<b>Boone</b>	63,781	84.84%	8.12%	0.83%	0.90%	0.94%	4.36%
<b>Kenton</b>	80,798	82.16%	9.06%	2.44%	1.76%	1.25%	3.33%
<b>Campbell</b>	45,398	80.94%	9.13%	2.08%	3.08%	1.17%	3.60%
<b>City of Cincinnati</b>	138,064	72.19%	8.12%	8.00%	5.69%	1.60%	4.42%

Source: 2017 ACS



Boone County has a majority (54.9%) of workers who stay within the county for work. It should also be noted that 2-person carpool occurrence increased by 12 percent over the 7-year period, while carpools carrying three or more people declined more than 25 percent. In addition, travel times increased for all groups with majority of workers having a commute of 20 minutes or more.

Table 2-9 through Table 2-12 show journey-to-work characteristics for the counties of Boone, Kenton, and Campbell, and the City of Cincinnati. The table values show travel time to work, departure time to work, private vehicle occupancy, and place of work for workers over the age of 16, based on US Census Journey to Work information. Except for Campbell County, the proportion of commuters traveling to work during the traditional morning peak has declined. This suggests that an increase in non-traditional work times may be influencing commutes or that some flexing of work hours is occurring to avoid the congested conditions of the traditional peak commute period. This further suggests a need to make sure that TANK services are meeting the shift in demand for commuters outside the traditional morning peak.

**Table 2-9: Journey-to-Work Characteristics: Boone County, 2017**

Characteristic	2010	2017	% Change 2010-2017
Place of Work			
<b>Worked inside the county</b>	52.0%	54.9%	5.58%
<b>Worked outside the county</b>	23.4%	23.4%	0.00%
Travel Time to Work			
<b>&lt; 10 Minutes</b>	6,328	6,453	1.98%
<b>10 – 19 Minutes</b>	18,874	20,261	7.35%
<b>20 – 29 Minutes</b>	14,035	15,446	10.05%
<b>30 – 44 Minutes</b>	10,684	11,522	7.84%
<b>45+ Minutes</b>	7,005	7,317	4.45%
Departure Time to Work			
<b>6-9 AM</b>	62.7%	62.3%	-0.64%
<b>Other Times</b>	37.3%	37.7%	1.07%
Private Vehicle Occupancy			
<b>2 – Person Carpool</b>	4,027	4,517	12.17%
<b>3 – Person Carpool</b>	648	437	-32.56%
<b>4+ Person Carpool</b>	234	224	-4.27%

Source: 2010 Census, 2017 ACS





Kenton County trends show workers migrating outside of the county more frequently from 2010 to 2017. Similarly, the number of persons experiencing travel times to work of 30-minutes or longer is increasing. Campbell County also shows a slight trend toward longer commute times and persons going to jobs outside of the county. In addition, carpools with 4 or more occupants increased nearly 90 percent over the 7-year period, while 3-person carpools declined nearly 43 percent.

**Table 2-10: Journey-to-Work Characteristics: Kenton County, 2017**

Characteristic	2010	2017	% Change 2010 - 2017
<b>Place of Work</b>			
<b>Worked inside the county</b>	40.7%	38.4%	-5.65%
<b>Worked outside the county</b>	29.7%	31.1%	4.71%
<b>Travel Time to Work</b>			
<b>&lt; 10 Minutes</b>	8,583	8,092	-5.72%
<b>10 – 19 Minutes</b>	27,376	26,432	-3.45%
<b>20 – 29 Minutes</b>	20,560	20,435	-0.61%
<b>30 – 44 Minutes</b>	13,137	15,393	17.17%
<b>45+ Minutes</b>	6,225	7,753	24.55%
<b>Departure Time to Work</b>			
<b>6-9 AM</b>	64.5%	61.1%	-5.27%
<b>Other Times</b>	35.5%	38.9%	9.58%
<b>Private Vehicle Occupancy</b>			
<b>2 – Person Carpool</b>	5,906	6,090	3.12%
<b>3 – Person Carpool</b>	1,155	798	-30.91%
<b>4+ Person Carpool</b>	383	435	13.58%

Source: 2010 Census, 2017 ACS

**Table 2-11: Journey-to-Work Characteristics: Campbell County, 2017**

Characteristic	2010	2017	% Change 2010-2017
<b>Place of Work</b>			
<b>Worked inside the county</b>	36.5%	35.3%	-3.29%
<b>Worked outside the county</b>	25.0%	26.0%	4.00%
<b>Travel Time to Work</b>			
<b>&lt; 10 Minutes</b>	5,699	5,561	-2.42%
<b>10 – 19 Minutes</b>	13,892	12,789	-7.94%
<b>20 – 29 Minutes</b>	11,060	12,257	10.82%
<b>30 – 44 Minutes</b>	8,373	9,345	11.61%
<b>45+ Minutes</b>	3,571	3,811	6.72%
<b>Departure Time to Work</b>			
<b>6-9 AM</b>	63.8%	65.6%	2.82%
<b>Other Times</b>	36.2%	34.4%	-4.97%
<b>Private Vehicle Occupancy</b>			
<b>2 – Person Carpool</b>	3,517	3,485	-0.91%
<b>3 – Person Carpool</b>	506	290	-42.69%
<b>4+ Person Carpool</b>	194	368	89.69%

Source: 2010 Census, 2017 ACS



Cincinnati workers overwhelmingly stay within their home county for their jobs and tend to have a shorter commute time than persons in the Northern Kentucky counties in TANK’s service area. This is a logical finding given the high levels of employment in the central business district of Cincinnati and the modal options that residents may choose from to access the city core.

Interestingly, travel time to work seems to be trending longer. This could suggest that congestion is increasing travel times, workers are commuting farther from home, or some other phenomena is occurring. Regardless, commutes shorter than 20 minutes are decisively decreasing, meanwhile commutes 20 minutes or longer are growing.

**Table 2-12: Journey-to-Work Characteristics: City of Cincinnati, 2017**

Characteristic	2010	2017	% Change 2010-2017
<b>Place of Work</b>			
<b>Worked inside the county</b>	84.9%	83.9%	-1.18%
<b>Worked outside the county</b>	8.2%	8.1%	-1.22%
<b>Travel Time to Work</b>			
<b>&lt; 10 Minutes</b>	15,987	14,725	-7.89%
<b>10 – 19 Minutes</b>	45,658	44,689	-2.12%
<b>20 – 29 Minutes</b>	33,548	36,182	7.85%
<b>30 – 44 Minutes</b>	22,214	25,126	13.11%
<b>45+ Minutes</b>	10,425	11,246	7.88%
<b>Departure Time to Work</b>			
<b>6-9 AM</b>	61.5%	59.2%	-3.73%
<b>Other Times</b>	38.5%	40.7%	5.71%
<b>Private Vehicle Occupancy</b>			
<b>2 – Person Carpool</b>	10,300	9,233	-10.36%
<b>3 – Person Carpool</b>	1,373	1,287	-6.26%
<b>4+ Person Carpool</b>	936	697	-25.53%

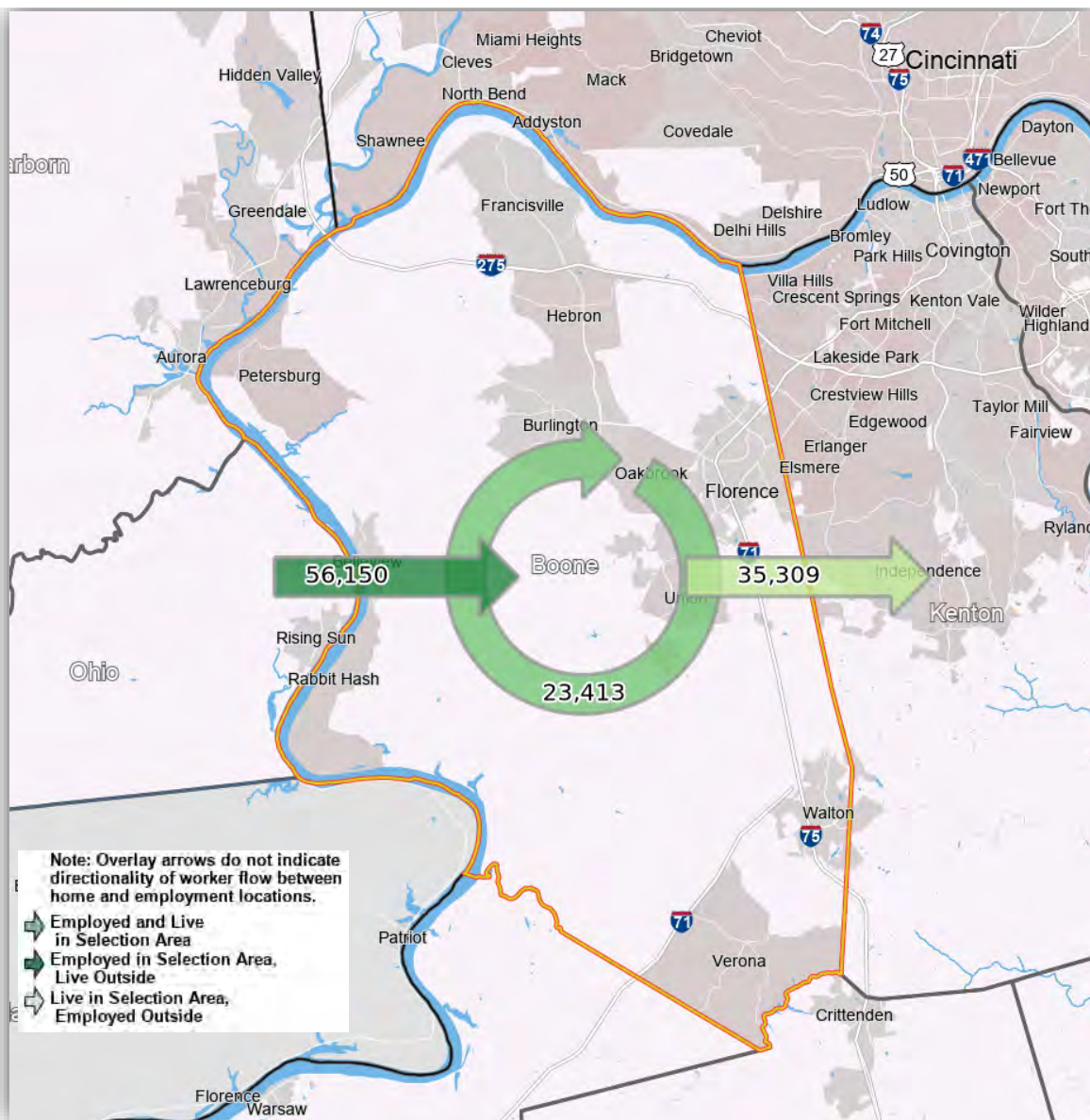
Source: 2010 Census, 2017 ACS



Map 2-22 through Map 2-25 graphically depict data from the Longitudinal Employer-Household Dynamics database, specifically origin-destination employment statistics. (Note that the graphics do not indicate the specific directionality of the worker flows within each county.)

Of the nearly 115,000 employees working there, about half of Boone County’s workers come from outside of the county, according to the US Census. This finding speaks to the significant employment draw of CVG and its surrounding industrial uses. Campbell and Kenton counties each have a more significant proportion of outflow commuters. Meanwhile, Cincinnati has the largest influx of workers among the four municipal entities in the TANK service area.

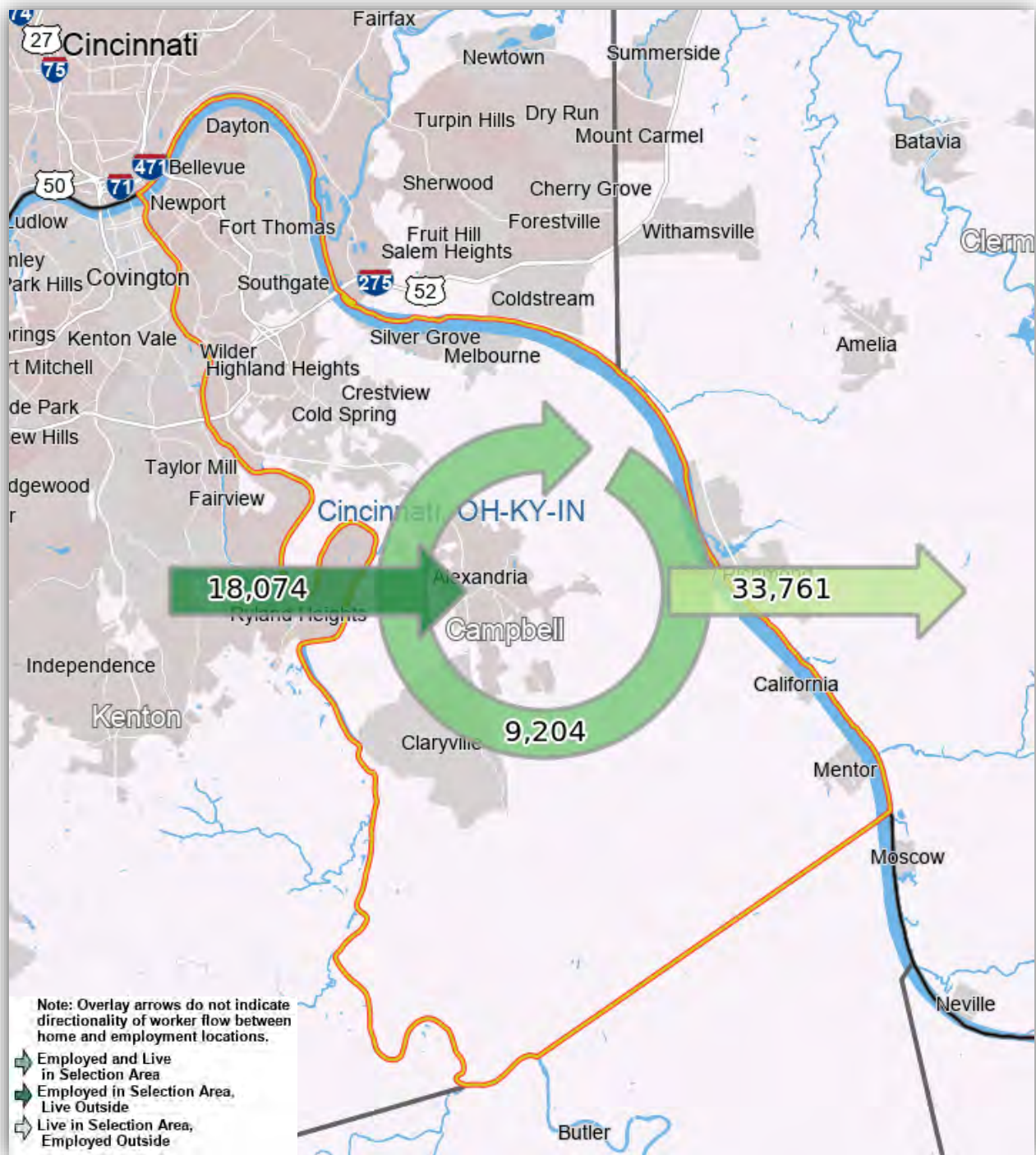
**Map 2-22: Boone County LEHD**



Source: US Census, OnTheMap



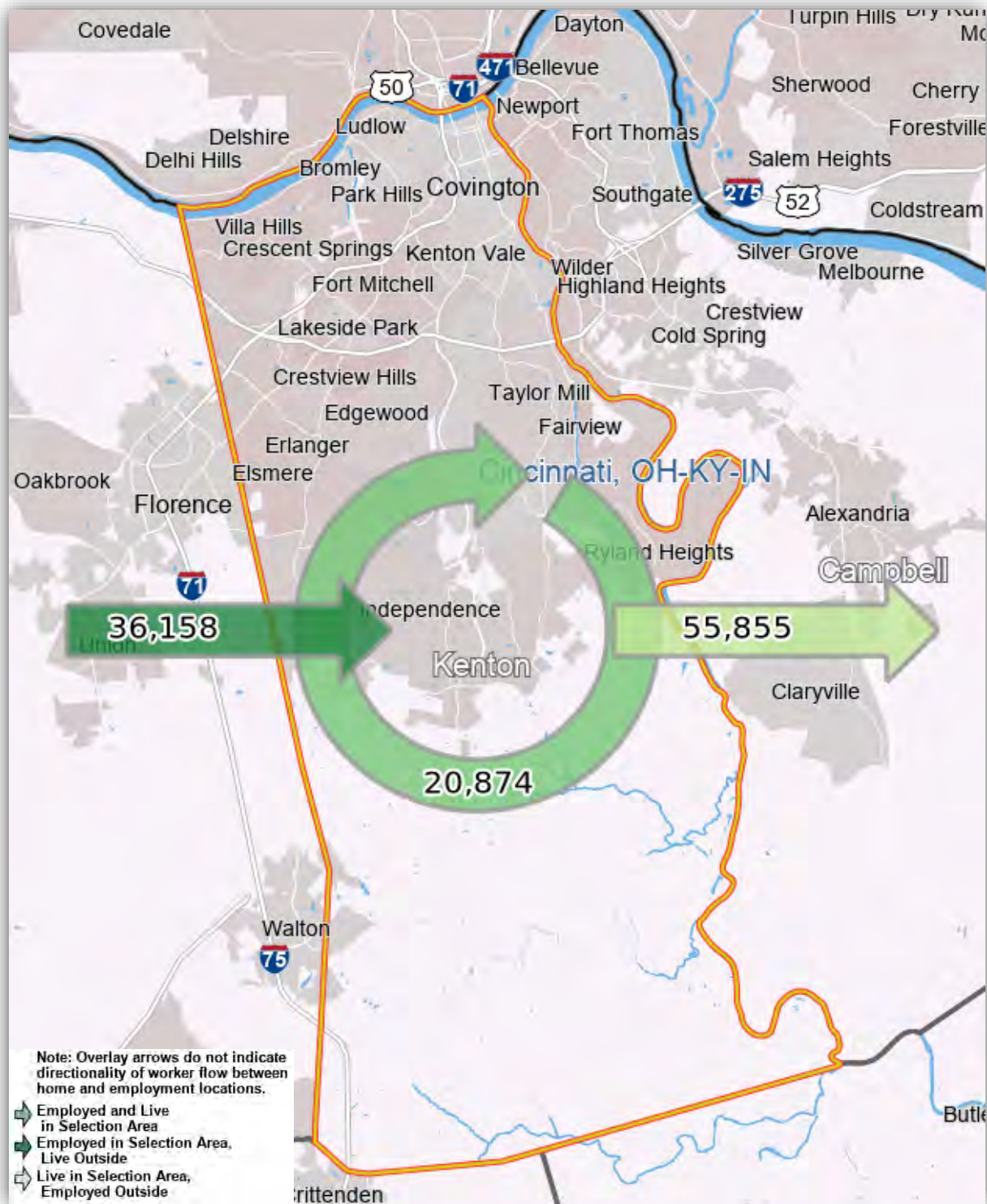
**Map 2-23: Campbell County LEHD**



Source: US Census, OnTheMap



**Map 2-24: Kenton County LEHD**



Source: US Census, OnTheMap



**Map 2-25: Cincinnati LEHD**



Source: US Census, OnTheMap



## SECTION 3: PLANS AND STUDIES REVIEW

The key mobility-related plans and studies from the region were identified and reviewed to help inform the TANK System Redesign Study. The primary objective of this effort is to document existing plans and policies relating to mobility needs and services in the region to better understand the policy context in which TANK operates its services, as well as identify any prior needs or recommendations related to service modifications and/or enhancements. Based on our review, the following summary identifies key findings and recommendations from these plans and studies to be considered within the TANK System Redesign Study effort.

### 3.1 Review of Local Policies and Plans

The following local and regional plans and studies were reviewed to understand current transit policies and plans with potential implications for the System Redesign Study. The transportation planning documents reviewed are summarized by their geographic applicability, type of plan, responsible agency, overview of the plan/program, and key considerations. Below is a summary of the key findings and considerations from each plan or study reviewed as part of this effort, which include:

- TANK Transit Network Study – 2013
- Boone County Transportation Plan – 2040
- Campbell County Transportation Plan – 2003
- Kenton County Transportation Plan – 2014
- 2040 OKI Regional Transportation Plan Update
- Campbell County Comprehensive Plan – 2008
- Kenton County Comprehensive Plan – 2019
- Boone County Comprehensive Plan – 2012

#### 3.1.1 TANK Transit Network Study (2013)

This study summarizes TANK’s existing transit service and provides short-term and long-term recommendations to improve transit service in Northern Kentucky. The short-term recommendations include providing more frequency on corridors where market demand exists. In addition, TANK recommended tailoring the service to specific market areas and provide more connections to the intra-Kentucky markets.

The long-term recommendations include adding more service to the NKU transit hub, as well as providing more service to the CVG transit hub. Another long-term recommendation includes upgrading the amenities at the Newport Park-and-Ride and incorporating park-and-rides as minor hubs.



### 3.1.2 Boone County Transportation Plan (2040)

The transportation plan recognizes the critical role Boone County plays in the eight-county OKI region. The plan considers the impacts of growth in and around the I-71/I-75 corridor and CVG, which provide vital linkages to other areas in the region.

Key considerations and implications from this plan address existing and projected capacity needs based on anticipated volumes through the 2040 planning year. Other implications include improving travel time reliability and providing a minimum level of service (LOS) C on public roadways and intersections. In addition, it is recommended to use transit, sidewalks/multi-use paths, and bike lanes as capacity solution options. This plan also considered the application of advanced technologies to maximize the performance of the future network.

### 3.1.3 Campbell County Transportation Plan (2003)

The purpose of this plan was to assure that all modes of transportation are considered as the area prepares to meet future transportation and land use growth needs. This plan is quite dated but is included for key considerations/implications as a part of the System Redesign Study. Key considerations related to transit include development of additional park-and-ride lots throughout the TANK service area, as well as the development of the Newport Transit Center. Other recommendations include continuing the Southbank Shuttle Daytripper and Regional Area Mobility Program (RAMP) paratransit services. It was also recommended to partner with Southwest Ohio Regional Transit Authority (SORTA, Cincinnati’s transit agency) on transit initiatives related to light rail.

### 3.1.4 Kenton County Transportation Plan (2014)

This plan was prepared to evaluate the current and future transportation needs in Kenton County and evaluate how they interact with adjoining land uses.

Regional recommendations related to transit include creating a high frequency bus transit corridor with painted shared lane markings on Madison Avenue/KY 17, providing specialized branding and operational treatments on Dixie Highway and improved bus stop design and amenities, and creating a high-frequency enhanced bus transit corridor. Other recommendations include bus on shoulder operations on I-71/I-75. In addition, this plan recommended constructing an Edgewood Park-and-Ride facility with shelter or waiting areas. This plan mentioned that approximately 11 miles of ROW and rail infrastructure were to be acquired for the implementation of premium transit services.

### 3.1.5 2040 OKI Regional Transportation Plan Update (2016)

This plan serves as the metropolitan transportation plan for OKI to define the policies, programs, and projects to be implemented over the next 20+ years to create a multimodal and coordinated regional roadmap for guiding transportation improvements through 2040.





This plan recommended a high-frequency, enhanced bus transit corridor with improved bus stop/station design and amenities on Dixie Highway. It also was noted that this corridor should include bicycle and pedestrian facilities for multimodal safety, mobility, and connectivity. It was also recommended that Boone County collaborate with regional partners to establish innovative public/private pilot projects using Connected and Automated Vehicles (CAV), ridesharing, carsharing, alternative fuels, smart device apps, and other transportation technology advancements to provide vital “first/last mile” connections. The regional plan discussed the potential construction of a new transit station at CVG to service multiple, future TANK transit route expansions connecting this vital transportation node with the region. Hub features include a sheltered waiting/transfer area and bus bay with storage capacity for up to three 40-foot buses. OKI also plans to provide operating funds for TANK for a pilot service program that leverages private contributions and connects industrial parks and major employers with high volume TANK fixed-route service and park-and-ride lots.

### 3.1.6 Campbell County Comprehensive Plan (2008)

This plan describes the fundamental planning process in Campbell County and identifies the overall development trends as the county continues to grow. To achieve the county vision, a set of goals and objectives were created. The list below presents the transportation goals and objectives from this plan.

- Develop a balanced transportation system that incorporates rail, mass transit, and pedestrian/bicycle facilities.
- Work in conjunction with TANK to identify future public mass transit needs.
- Utilize TANK’s Transit Study Master Plan.
- Examine ways to provide non-vehicular connections between existing and future developments.

### 3.1.7 Kenton County Comprehensive Plan (2019)

The Kenton County Comprehensive Plan provides the broad policy basis for Kenton County’s land use planning and ultimately guides all actions relating to the use of land in the county. In addition, the plan acts as a guide that coordinates actions with local jurisdictions and state and federal agencies that may have a stake in the County’s land use policies and implementation. A list of the goals and objectives from this plan are listed below in more detail.

- Enhance and expand the transportation system by promoting multimodal approaches.
- Encourage strategic locations that support transit to enhance efficiency.
- Increase the convenience and efficiency of using multiple modes of transportation including driving, transit, walking, or biking.



### 3.1.8 Boone County Comprehensive Plan (2012)

This Boone County Comprehensive Plan is a community-led planning effort that creates goals, guides decision-making, and provides the County with opportunities to succeed over a 10-year period. In addition, to achieve the goals of the comprehensive plan, a set of goals and objectives were established to generate countywide buy-in. A list of the goals and objectives from this plan are listed below in more detail.

- Planning for mass transit opportunities should be encouraged (i.e.: bus service, rail, and shuttles).
- Fuel consumption should be minimized while transit ridership should be encouraged.
- Multimodal interfaces (park-and-rides) on mass transit should be promoted.
- Transportation disadvantaged people should be supported through transit and proper ADA compliant facilities.
- Mixed use, higher density neighborhoods shall be designed to accommodate pedestrian access to transit.
- All transit corridors shall be recognized as attractors for new economic development opportunities.

## 3.2 Implications of Local Policies and Plans

The following bullets briefly summarize the potential implications for TANK and regional transit services based on the review of plans and policies.

- Cincinnati continues to be the focal point for transportation and commuting needs.
- The airport is a critical employment activity center and requires investment in both transit facilities and services to meet the growing demand for transportation to and from CVG, as well as circulation in its surrounding area to serve the needs growing needs of the expanding industrial uses.
- Inter-county transit connectivity is important for economic and social needs.
- Multimodal strategies should be emphasized in new developments along with accessible transportation infrastructure, especially along corridors that serve commercial and residential uses.
- Higher densities and mixed-use developments are encouraged, especially along major travel corridors.
- TANK should work with partners – jurisdictions and major employers – to create a network of line-haul routes with transfer hubs to support the connectivity of local routes and commuter services to major activity centers.
- Key transit corridors to be enhanced include Dixie Highway and Madison Pike.
- Investment in technology to support improved transit services is a critical consideration for the near future.



- The growing demand for transportation within the age cohort of 65 years and over and the shift in demand during non-traditional peak travel times must be accommodated in the evolution of local fixed-route transit and paratransit services.



## SECTION 4: LATENT DEMAND ANALYSIS

This section presents an evaluation of the demographic profile of the TANK service area, including graphical representations of common indicators for transit dependency, including younger adult and older adult populations, households in poverty, and zero-vehicle households.

### 4.1 Discretionary Market Assessment

The discretionary market refers to the potential riders living in higher-density areas of the service area who may choose to use transit as a commute or transportation alternative though they have other options with which to meet their mobility needs. The Density Threshold Assessment (DTA) conducted for TANK uses industry-standard thresholds to identify areas within the TANK service area that experience transit-supportive residential and employee density levels. Data developed from the 2010-2040 Ohio-Kentucky-Indiana (OKI) Regional Council of Governments Socioeconomic Database were used to conduct the existing and future DTA using 2020 and 2040 values. This includes data derived from the US Census Bureau (2010), Bureau of Labor Statistics (Quarterly Census of Employment and Wages, 2010), and population projections by the Ohio Development Services Agency (2013), Kentucky State Data Center (2011), and Indiana Business Research Center (2012). In addition, as dwelling unit data are not available in the OKI socioeconomic dataset, household unit data are the closest comparable metric. Hence, housing unit and employment data provided by OKI from Year 2020 of the 2010-2040 OKI Socioeconomic Database were used to conduct the DTA.

Three density thresholds were developed to indicate whether an area has sufficient density to sustain a level of fixed-route transit operations. The analysis assesses an area's ability to support Minimum, High, or Very High transit service level investments:

- **Minimum Investment** – reflects minimum dwelling unit or employment densities to consider basic fixed-route transit services (i.e., local fixed-route bus service).
- **High Investment** – reflects increased dwelling unit or employment densities that may be able to support higher levels of transit investment (i.e., increased frequencies, express bus) than areas meeting only the minimum density threshold.
- **Very High Investment** – reflects very high dwelling unit or employment densities that may be able to support higher levels of transit investment (i.e., premium transit services) than areas meeting the minimum or high-density thresholds.



Table 4-1 presents the dwelling unit and employment density thresholds associated with each threshold of transit investment (note that households are used in lieu of dwelling units for the TANK service area).

**Table 4-1: Transit Service Density Thresholds**

Level of Transit Investment	Dwelling Unit Density Threshold <sup>1</sup>	Employment Density Threshold <sup>2</sup>
Minimum Investment	4.5-5 dwelling units/acre	4 employees/acre
High Investment	6-7 dwelling units/acre	5-6 employees/acre
Very High Investment	≥8 dwelling units/acre	≥7 employees/acre

1 Transportation Research Board (TRB) National Research Council, TCRP Report 16, Volume 1 (1996), "Transit and Land Use Form," November 2002, Metropolitan Transportation Commission (MTC) Resolution 3434 Transit Oriented Development (TOD) Policy for Regional Transit Expansion Projects.  
 2 Based on a review of research on the relationship between transit technology and employment densities.

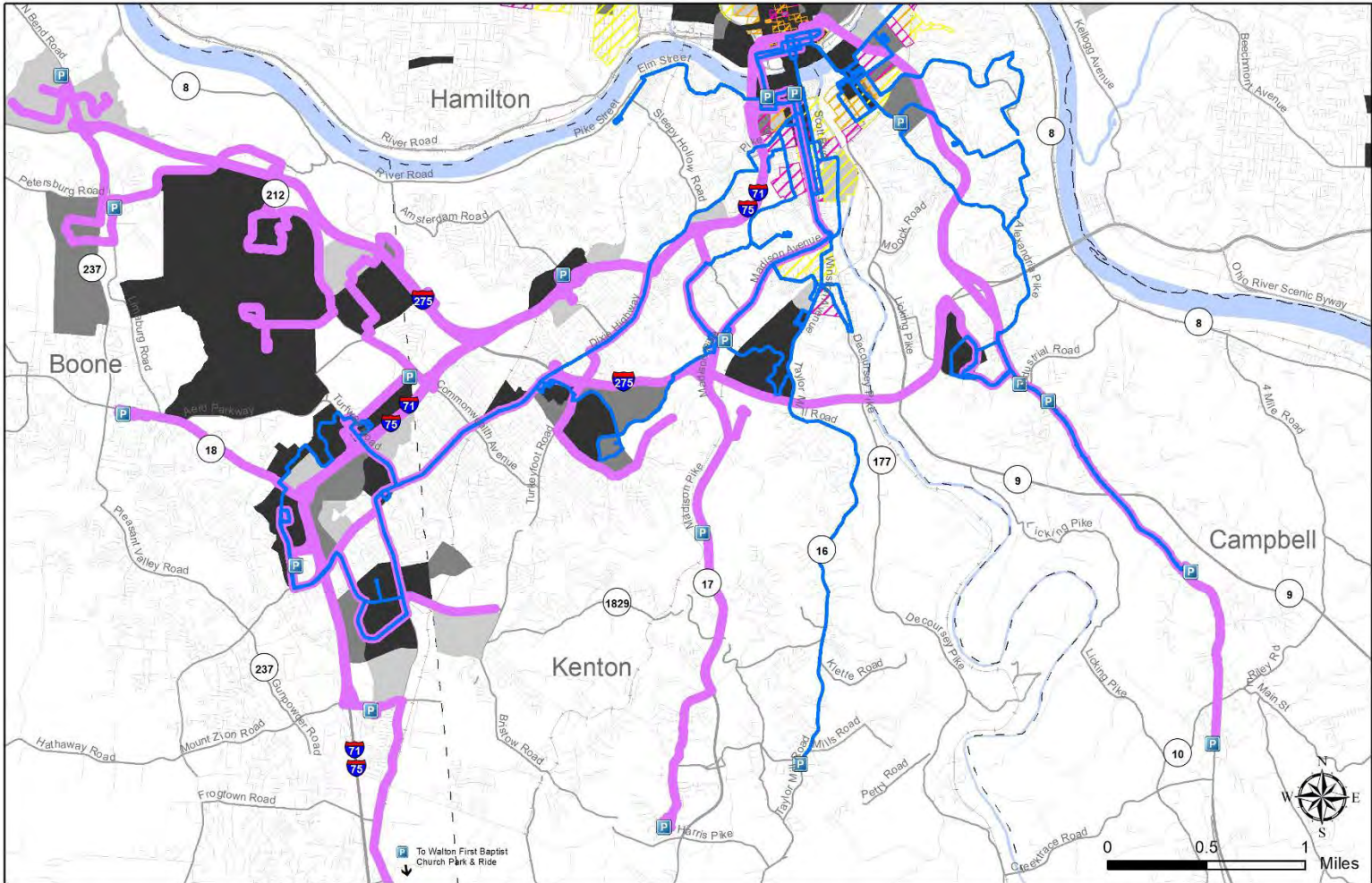
Maps 4-1 and 4-2 illustrate the results of the 2020 DTA analysis and identify areas that support different levels of transit investment based on existing household and employment densities. The analysis indicates that the employment-based discretionary transit market is concentrated in areas throughout the TANK service area. Major concentrations of employment-related transit investments are located in Covington and Newport. Corridors such as Pike Street, Madison Avenue, and Scott Boulevard consistently score "high" to "very high" as employment-related transit investment areas. In addition, other areas of the TANK service area that score "high" to "very high" as employment-related transit investment are located west of Taylor Mill Road, as well as areas surrounding Crestview Hills, the Florence Mall, and major industrial locations surrounding CVG. NKU and the areas surrounding Industrial Road also score "high" to "very high" as employment-related transit investment areas.

Household unit-based discretionary areas with transit investment opportunities are fewer but follow the same densities as employment-based discretionary areas. The areas that meet or surpass the "high" threshold are located along Madison Avenue in Covington, in Newport and Bellevue, and in a sub-area of Fort Thomas south of Highland Avenue. Other areas with "high" to "very high" thresholds include portions of Cincinnati and portions of Latonia. Again, due to absence of dwelling unit data, household data were used. This metric differs slightly from the intended analysis metric but is a comparable alternative dataset.

Maps 4-3 and 4-4 illustrate the results of the 2040 DTA analysis, which are similar to the 2020 discretionary transit markets; however, there is noticeable employment growth along Pleasant Valley Road and north of I-275 in Boone County. This is a direct result of existing and future industrial growth located around CVG and new retail developments west of Mall Road. Another area with "high" to "very high" employment and household-related transit investment is Newport. Specifically, areas east and west of I-471 and along Fairfield Avenue.



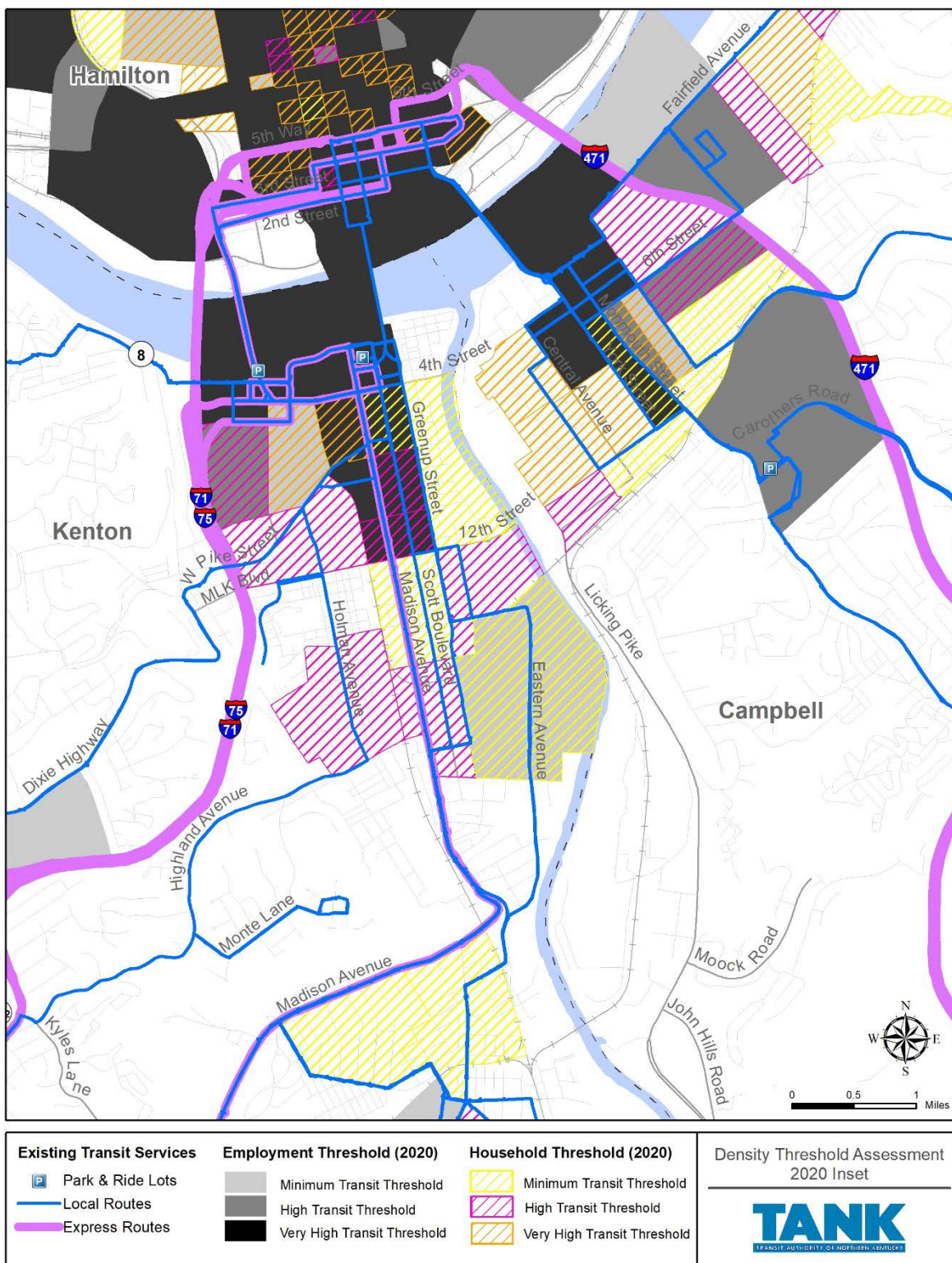
Map 4-1: 2020 Density Threshold Assessment



<p><b>Existing Transit Services</b></p> <ul style="list-style-type: none"> <li> Park &amp; Ride Lots</li> <li> Local Routes</li> <li> Express Routes</li> </ul>	<p><b>Employment Threshold (2020)</b></p> <ul style="list-style-type: none"> <li> Minimum Transit Threshold</li> <li> High Transit Threshold</li> <li> Very High Transit Threshold</li> </ul>	<p><b>Household Threshold (2020)</b></p> <ul style="list-style-type: none"> <li> Minimum Transit Threshold</li> <li> High Transit Threshold</li> <li> Very High Transit Threshold</li> </ul>	<p>Density Threshold Assessment 2020</p>
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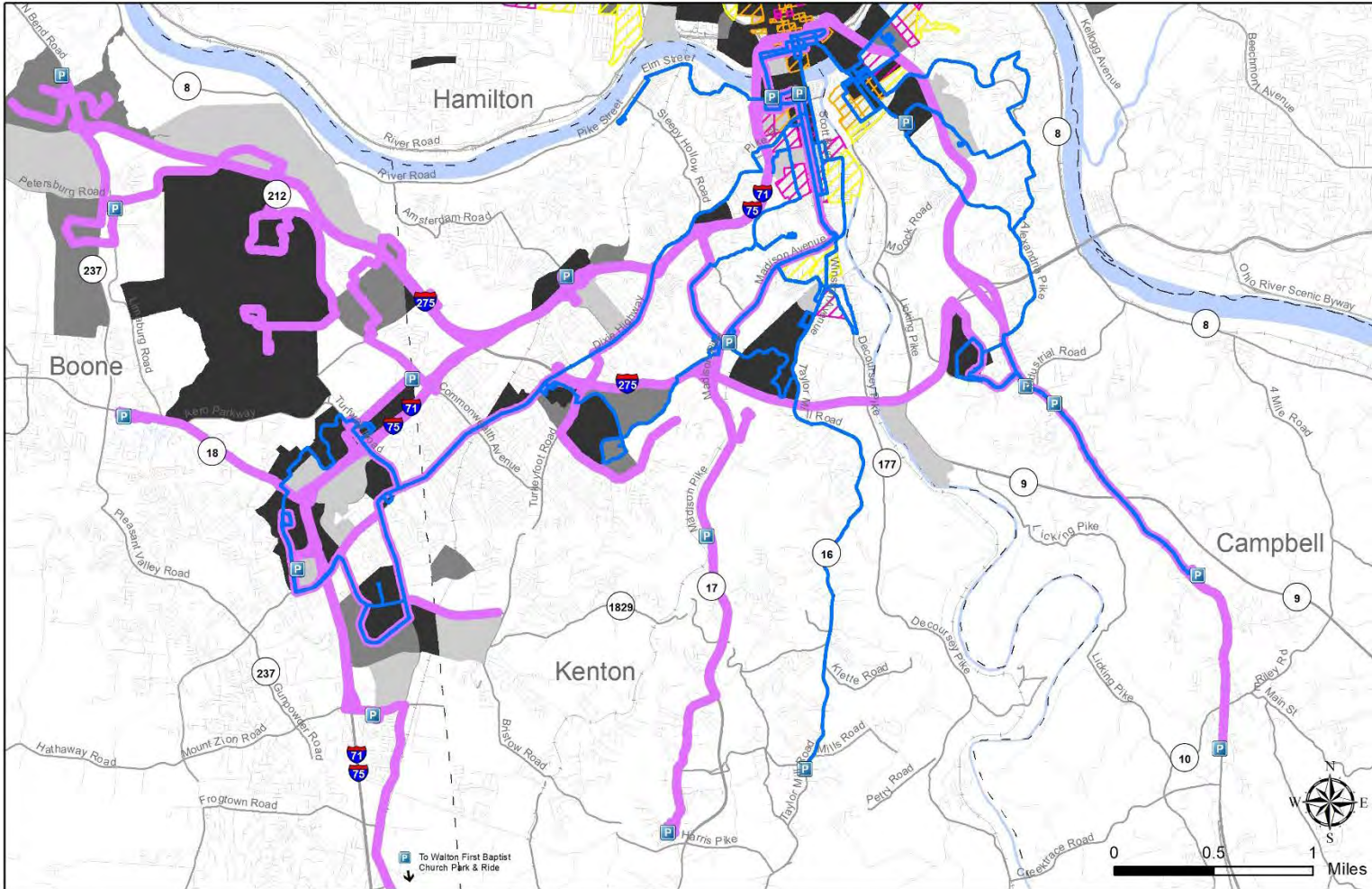


Map 4-2: 2020 Density Threshold Assessment Inset





Map 4-3: 2040 Density Threshold Assessment

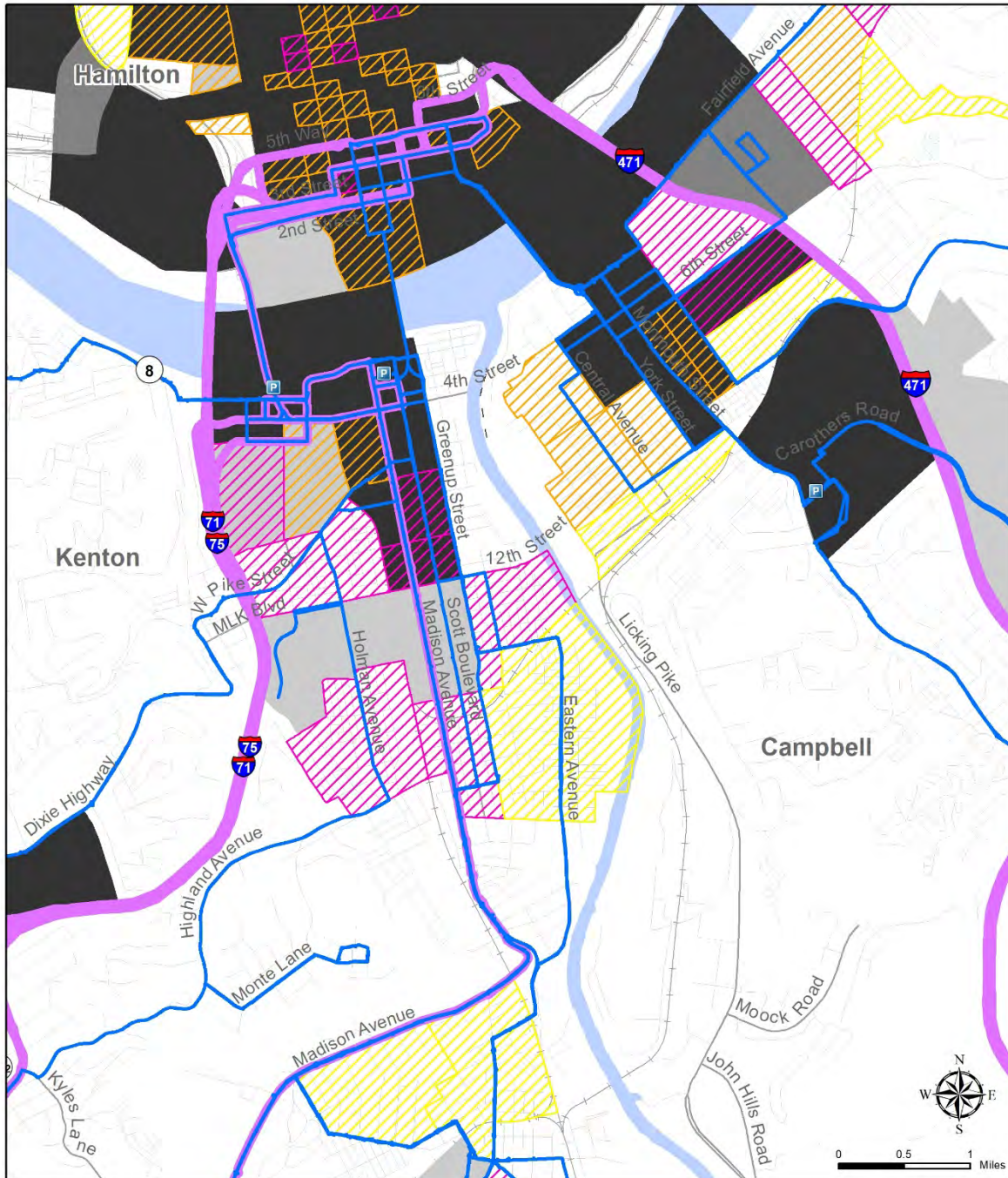


<p><b>Existing Transit Services</b></p> <ul style="list-style-type: none"> <li> Park &amp; Ride Lots</li> <li> Local Routes</li> <li> Express Routes</li> </ul>	<p><b>Employment Threshold (2040)</b></p> <ul style="list-style-type: none"> <li> Minimum Transit Threshold</li> <li> High Transit Threshold</li> <li> Very High Transit Threshold</li> </ul>	<p><b>Household Threshold (2040)</b></p> <ul style="list-style-type: none"> <li> Minimum Transit Threshold</li> <li> High Transit Threshold</li> <li> Very High Transit Threshold</li> </ul>	<p>Density Threshold Assessment 2040</p>
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Map 4-4: 2040 Density Threshold Assessment Inset



Existing Transit Services	Employment Threshold (2040)	Household Threshold (2040)	Density Threshold Assessment 2040 Inset
Park & Ride Lots	Minimum Transit Threshold	Minimum Transit Threshold	
Local Routes	High Transit Threshold	High Transit Threshold	
Express Routes	Very High Transit Threshold	Very High Transit Threshold	



## 4.2 Traditional Market Assessment

A traditional transit market refers to population segments that historically have had a higher propensity to use transit and be dependent on public transit for their transportation needs. Traditional transit users typically include older adults, youth, and households that are low-income and/or have zero vehicles. A Transit Orientation Index (TOI) assessment assists in identifying areas of a service area where a traditional transit market exists. To create the TOI for this analysis, demographic 2017 ACS 5-Year Estimates were compiled at the census block group level and categorized according to each block group's relative ability to support transit based on the prevalence of specific demographic characteristics. Four socioeconomic and demographic characteristics traditionally associated with the propensity to use transit were used to develop the TOI and include:

- Proportion of population ages 15-24 (younger adults)
- Proportion of population age 65 and over (older adults)
- Proportion of population below poverty level (\$25,000 for family of 4)
- Proportion of households with no vehicles (zero-vehicle households)

### 4.2.1 Youth and Younger Adult Population

As anticipated, the greatest concentration of youth and younger adult populations are particularly evident around Northern Kentucky University, as well as Bellevue and portions of Newport, as shown in Map 4-5 and Map 4-6. In addition, other portions of the TANK service area that have higher concentrations of younger adult populations include Crescent Springs, Florence, Elsmere, and Covington.

### 4.2.2 Older Adult Population

The older adult population varies throughout the TANK service area, but the highest concentrations are located in Covington (south of 4<sup>th</sup> Street and west of Greenup Street) and Newport (near Central Avenue and south of 6<sup>th</sup> Street and northeast of Washington Street). The older adult population is also evident south of Amsterdam Road in the Villa Hills area and north of Commonwealth Avenue in Erlanger, as shown in Map 4-7 and Map 4-8. Other areas with higher concentrations of older adult populations are in more suburban settings, such as south of Turfway Road and north of Mount Zion Road, which include many assisted living complexes such as Elmcroft of Florence, Aspen Community Living, Story Point Union, and Dominion Senior Living, among others.

Note, the occurrence of concentrations of older adult population, especially in more suburban settings, creates a demand for transit and paratransit services within an area typically ill-suited for traditional fixed route service. These concentrations of older adults may provide a market for mobility-on-demand services available to the general public and which may augment more costly ADA paratransit services.

### 4.2.3 Households Below Poverty

Households below poverty are more dominant in Covington and areas of Newport and Bellevue. In Covington, the highest concentration of households in poverty are located primarily along Madison



Avenue between I-75 and the Licking River, as shown in Map 4-9 and Map 4-10. In addition, another large concentration of households below poverty is located south of Highland Avenue and generally centering on the community of City Heights, which is managed by the Housing Authority of Covington and the Housing Choice Voucher Program. In Newport, the greatest concentration of households below poverty are located between Licking River and I-471. It should also be noted that areas south of Commonwealth Avenue and Mount Zion Road also have high concentrations of households in poverty. Neighborhoods south of Mount Zion Road include Greenlawn Estates Mobile Home Park, White Pine Village, Old Lexington Pike Villas, and Deer Trace Communities.

#### 4.2.4 Zero-Vehicle Households

This dataset identifies areas in Northern Kentucky that are carless households, either because they do not have access to a vehicle or because they choose to not own a vehicle. High concentrations of zero-vehicle households matches that of households below poverty. However, zero-vehicle households are particularly evident in Covington, Fort Wright, Newport, Latonia, around Turfway Road, and east of Hopeful Church Road, which is west of the Florence Mall, as shown in Map 4-11 and Map 4-12. Other areas that have a higher concentration of zero-vehicle households are located near Ludlow and West Covington along the Ohio River. It should be noted that the lowest concentrations of zero-vehicle households are located in the more rural areas of the tri-county region, which are currently served by Routes 9, 22X, 25, 25X, and 30X.

#### 4.2.5 Transit Orientation Index

As previously mentioned, four socioeconomic and demographic characteristics that are traditionally associated with the propensity to use transit were used to develop the TOI. The ACS data layers were overlaid to develop a composite ranking for each census block group of “Very High,” “High,” “Medium,” and “Low,” with respect to the level of transit orientation. The areas that ranked “Very High” reflect a very high transit orientation, i.e., a high proportion of transit-dependent populations, and those ranked “Low” indicate much lower proportions of transit-dependent populations. Map 4-13 and Map 4-14 illustrate the TOI, reflecting areas throughout the TANK service area with varying traditional market potential. Also shown is the existing transit route network to exhibit how well TANK routes currently cover those areas.

The TANK service area includes Census block groups with significant transit dependent populations. The southwestern portion of the service area south of Mount Zion Road show high and very high TOI scores due to higher concentrations of older adult, youth, younger adult, and households in poverty. In addition, block groups in the southwestern portion of Kenton County also show high to very high TOI scores, with data indicating high concentrations of zero-vehicle households, older adults, youth, and younger adult populations. Block groups surrounding NKU show high and very high TOI scores, indicating youth, younger adult populations, households in poverty, and zero-vehicle households. Southern portions of Campbell County have very high TOI scores, indicating older adults, youth, and younger adult

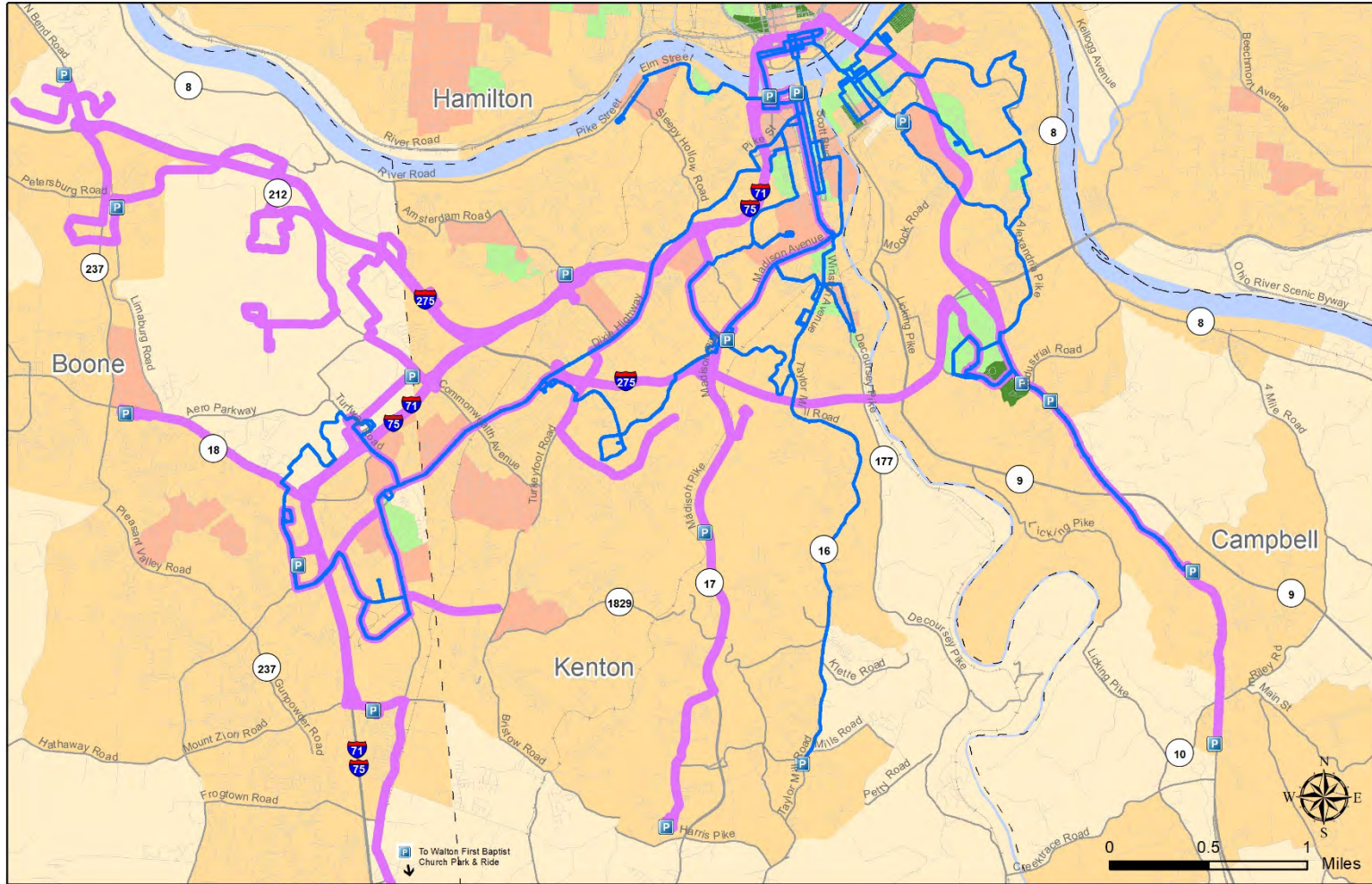


populations. However, this area of Campbell County also has some of the lowest concentrations of households in poverty and households with zero-car availability.

As noted above for older adult, youth and younger adult populations, the areas with a high TOI score, especially suburban and lower density settings, tend to trigger the “very high” TOI thresholds which does not necessarily indicate a higher need for traditional fixed-route transit service. These areas may be better suited for mobility-on-demand services rather than traditional fixed-route bus. These areas include suburban settings south of I-275 and east of Alexandria Pike in Campbell County. Ultimately, the strategic use of the TOI is beneficial to filling in service gaps as discussed in the following section.



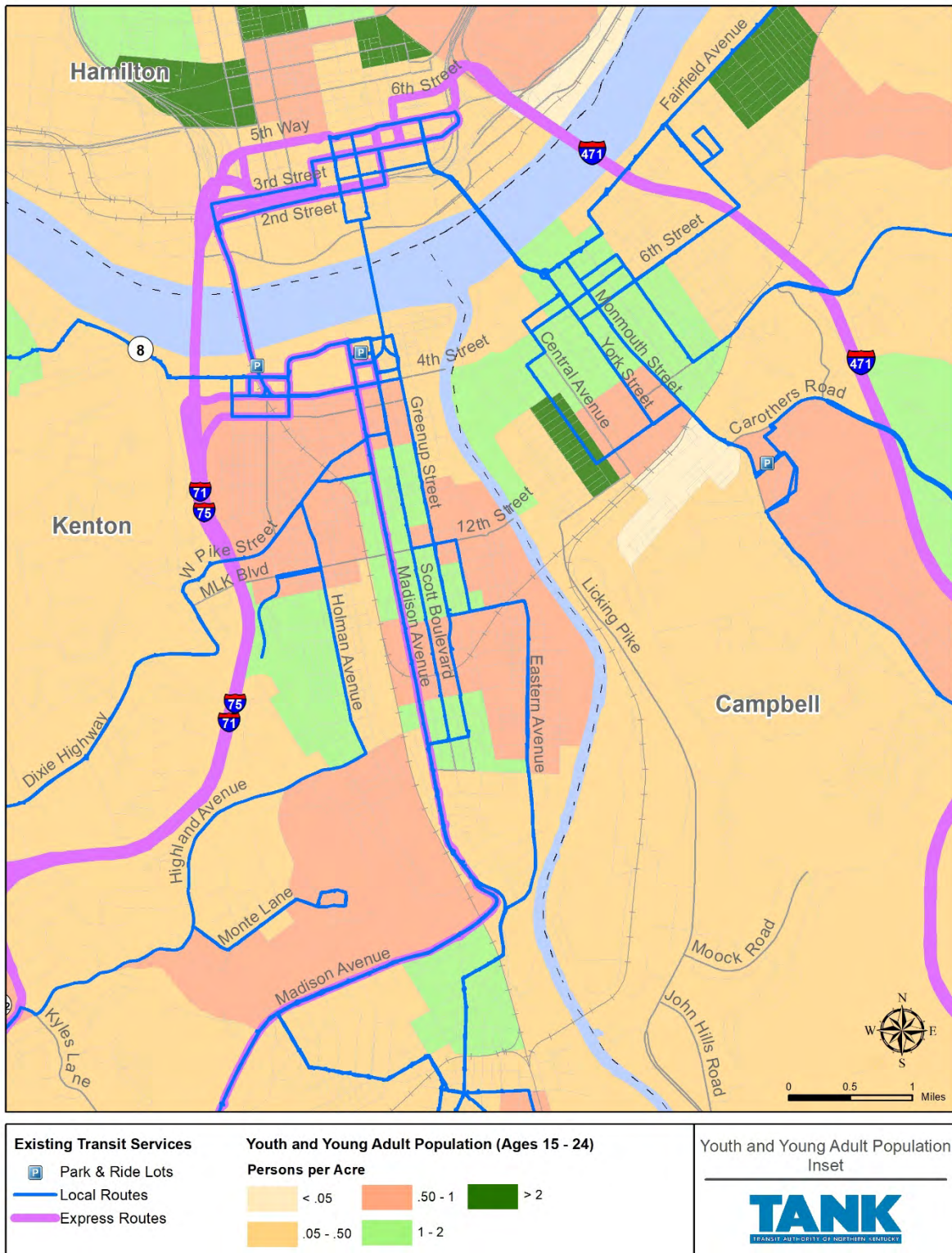
Map 4-5: Youth and Younger Adult Population



<b>Existing Transit Services</b>	<b>Youth and Young Adult Population (Ages 15 - 24)</b>	<b>Youth and Young Adult Population</b>
Park & Ride Lots	<b>Persons per Acre</b>	
Local Routes	< .05	
Express Routes	.05 - .50	
	1 - 2	
	> 2	

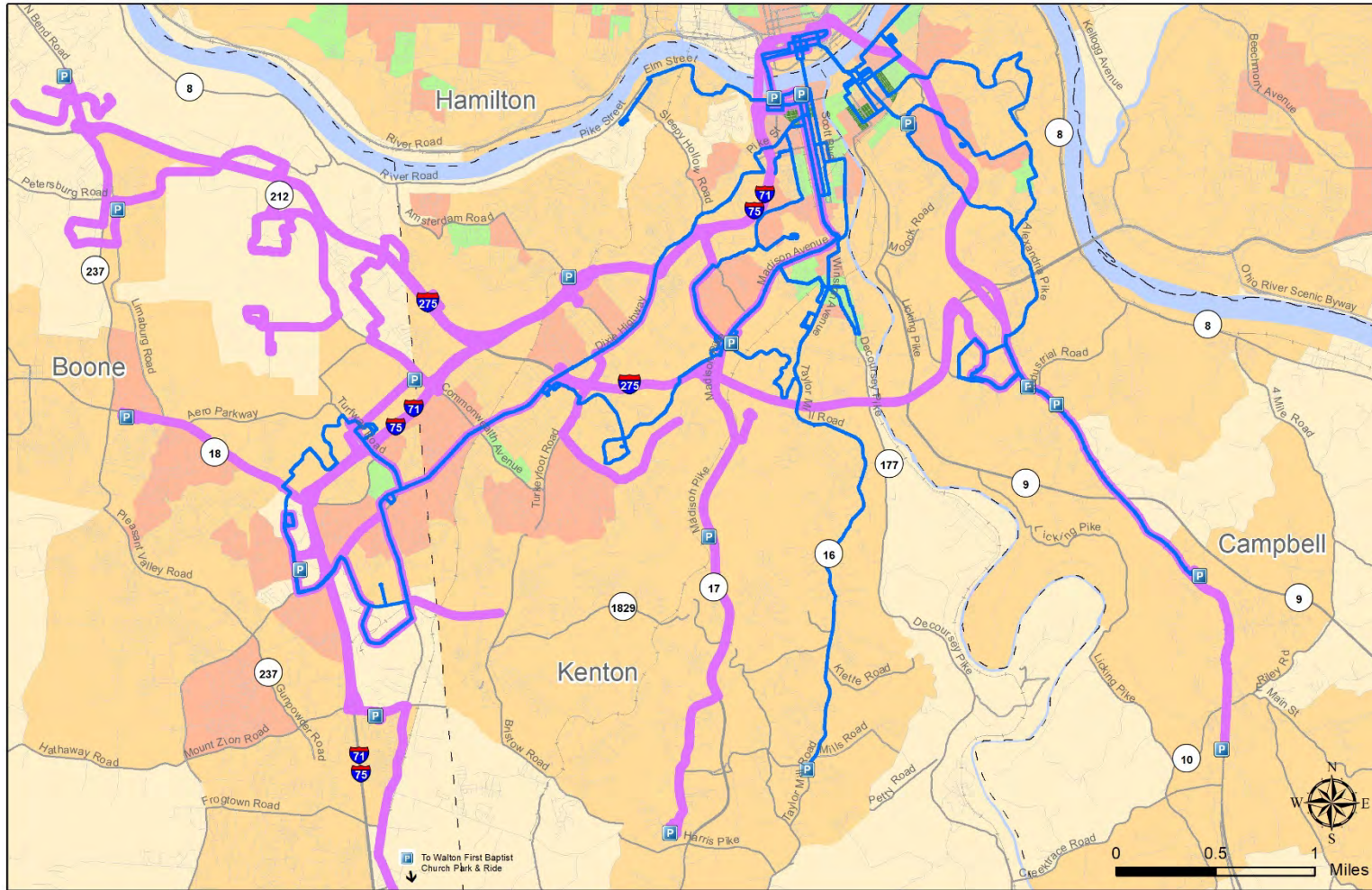


**Map 4-6: Youth and Younger Adult Population Inset**





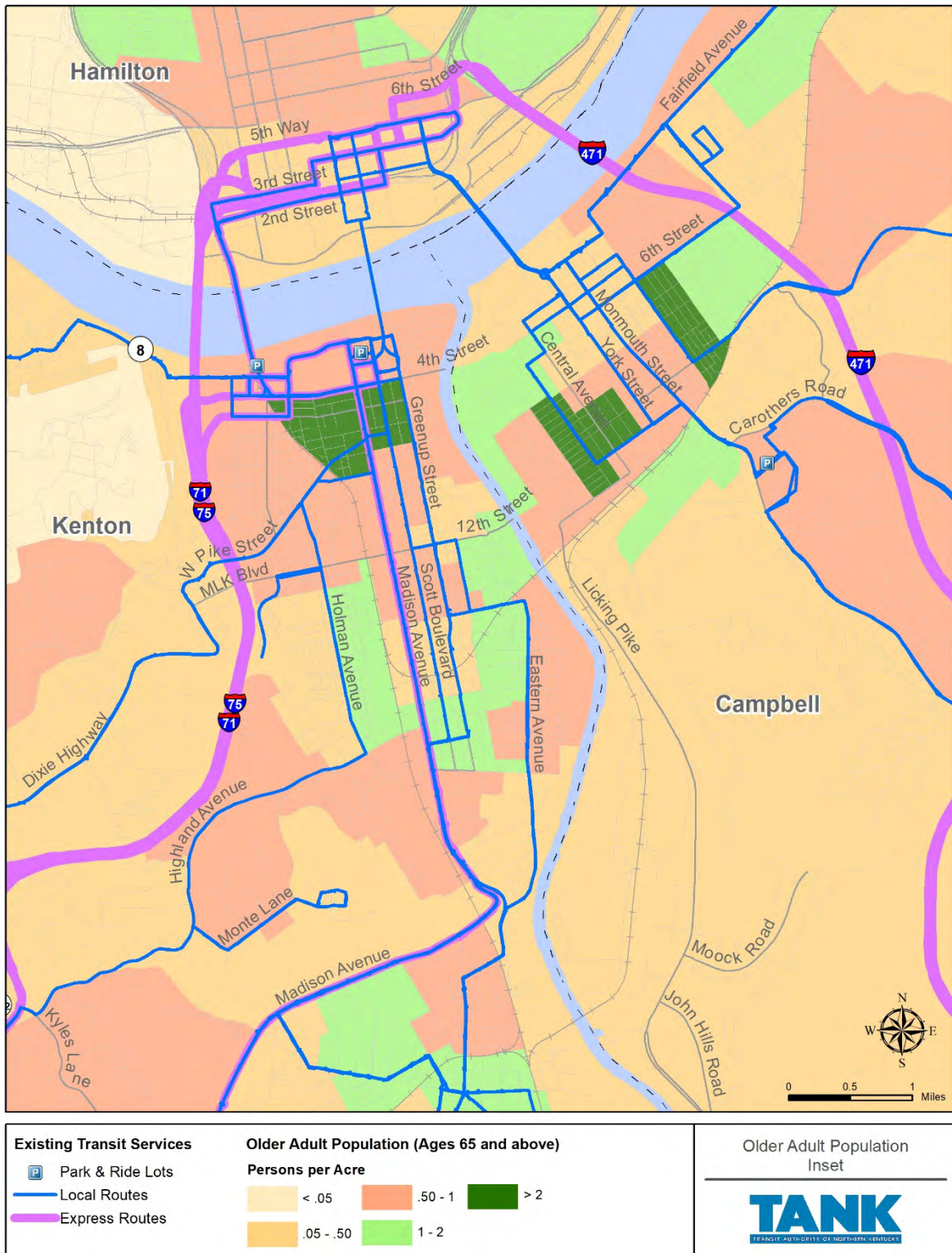
Map 4-7: Older Adult Population



<b>Existing Transit Services</b>	<b>Older Adult Population (Ages 65 and above)</b>			<b>Older Adult Population</b>
<ul style="list-style-type: none"> <li><span style="border: 1px solid black; padding: 2px;">P</span> Park &amp; Ride Lots</li> <li><span style="color: blue;">—</span> Local Routes</li> <li><span style="color: purple;">—</span> Express Routes</li> </ul>	<b>Persons per Acre</b> <div style="display: flex; justify-content: space-around;"> <div style="background-color: #fde0dd; width: 20px; height: 10px;"></div> &lt; .05</div> <div style="background-color: #f4cccc; width: 20px; height: 10px;"></div> .05 - .50			



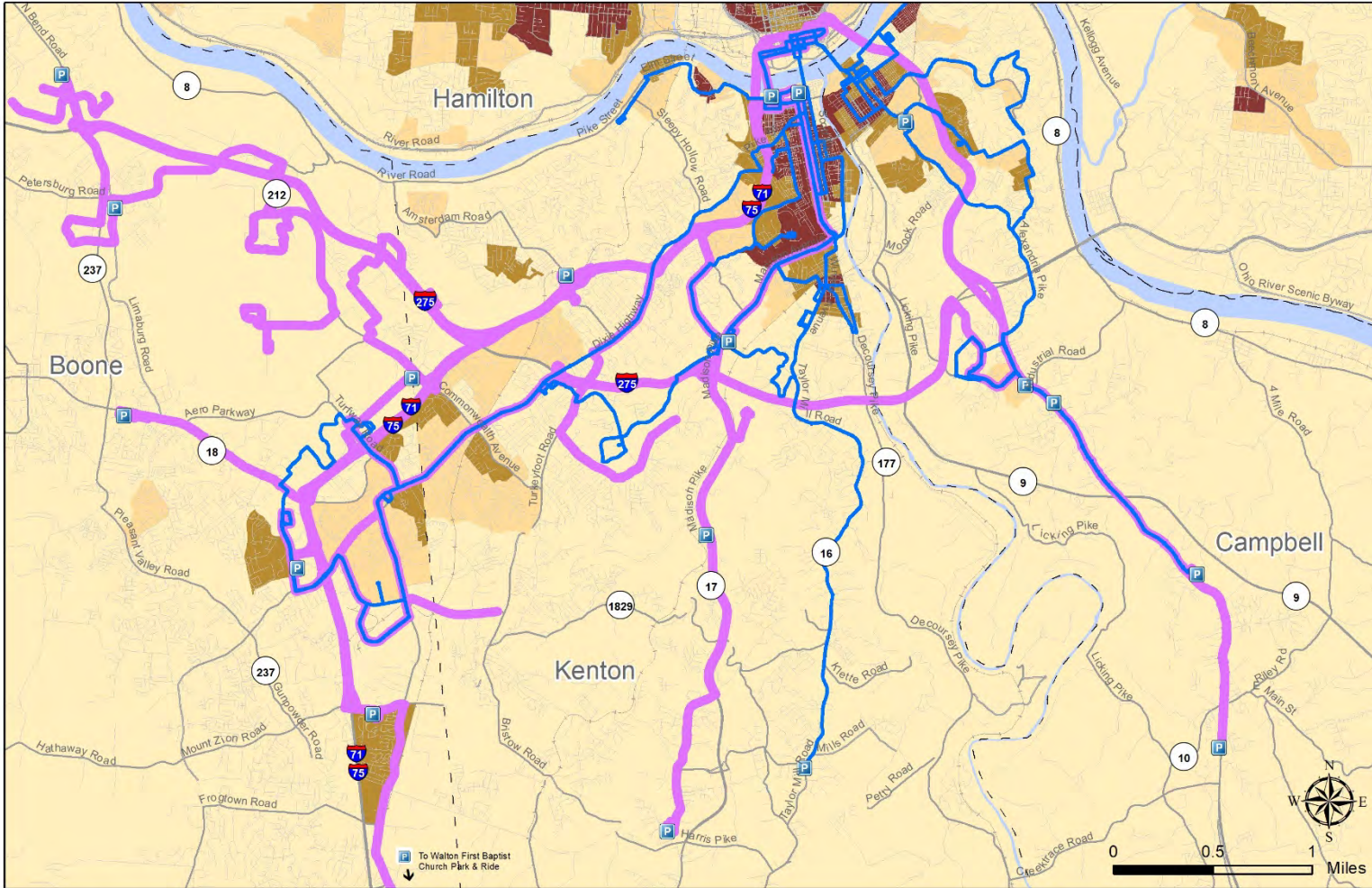
Map 4-8: Older Adult Population Inset







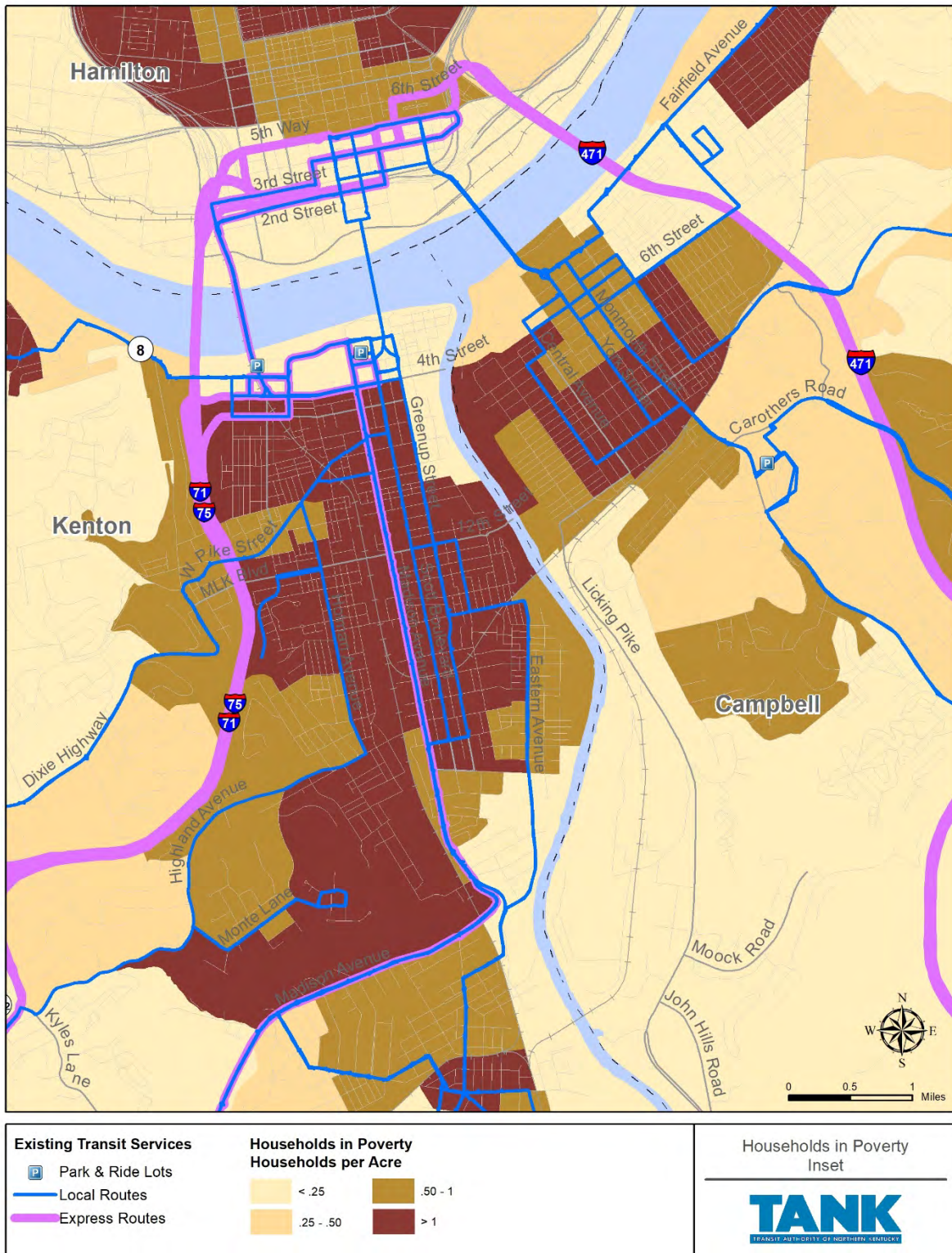
Map 4-9: Households Below Poverty



<b>Existing Transit Services</b> Park & Ride Lots Local Routes Express Routes		<b>Households in Poverty</b> <b>Households per Acre</b> < .25 .25 - .50 .50 - 1 > 1		<b>Households in Poverty</b> 
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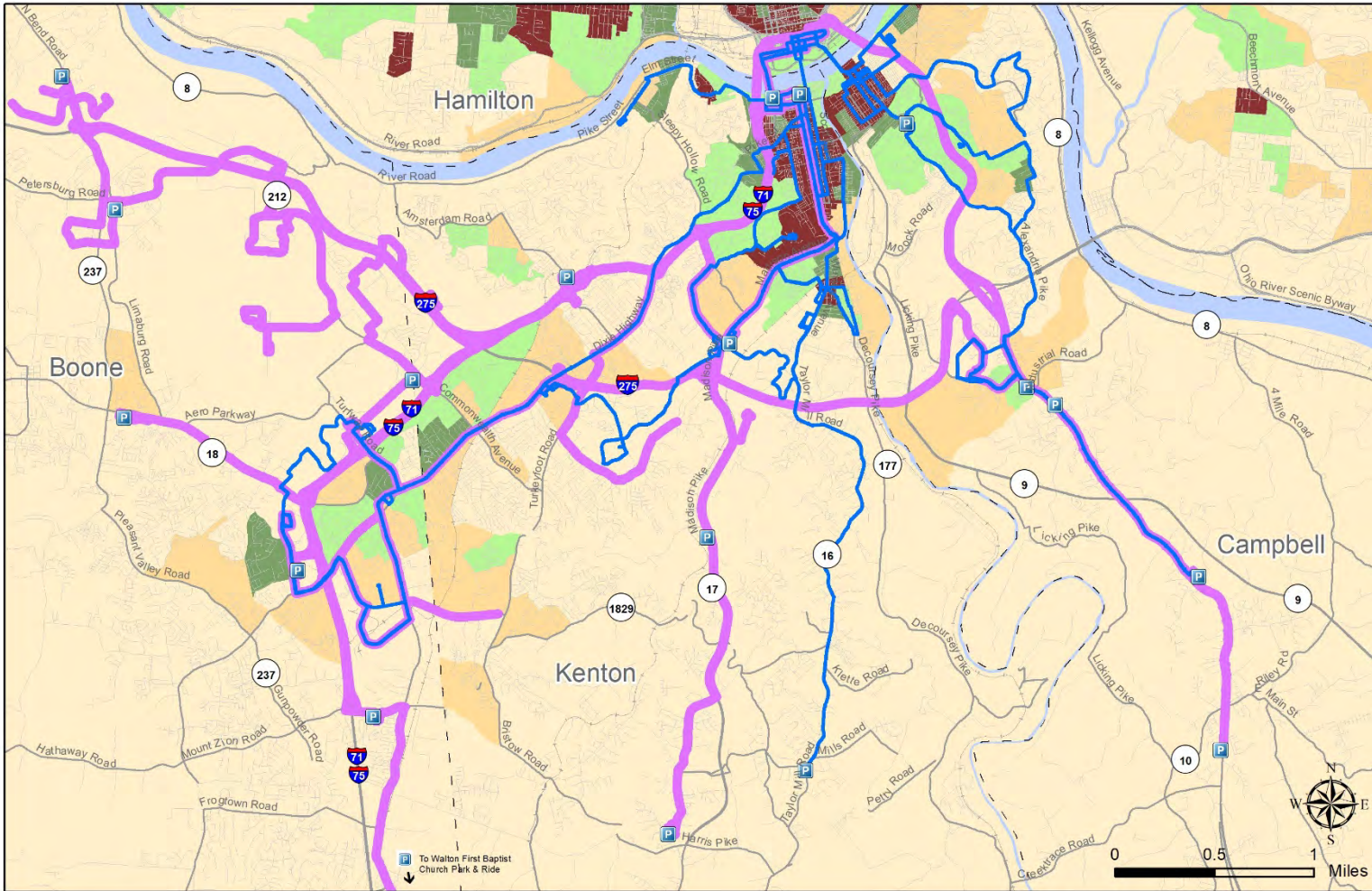


**Map 4-10: Households Below Poverty Inset**





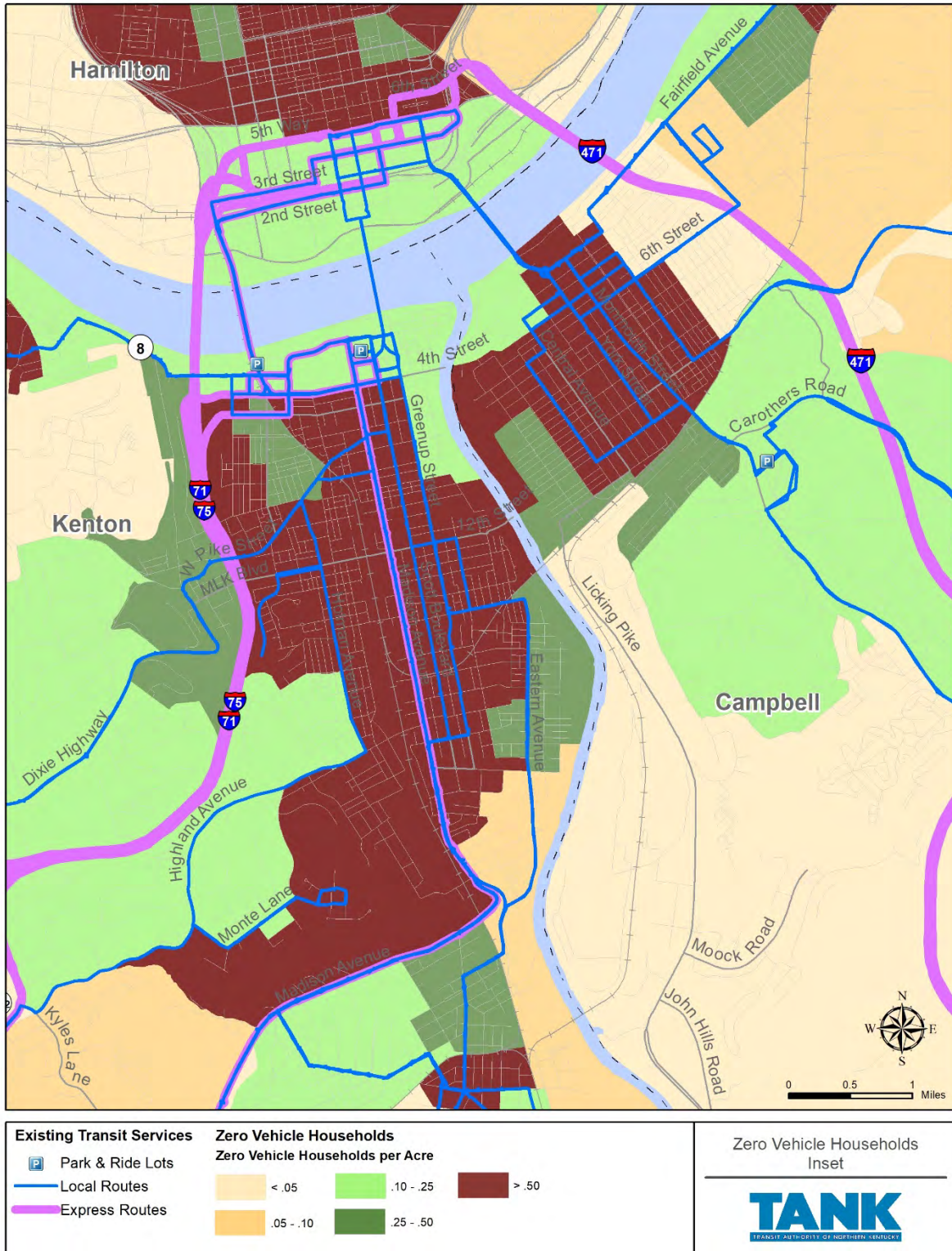
Map 4-11: Zero Vehicle Households



<b>Existing Transit Services</b> Park & Ride Lots Local Routes Express Routes		<b>Zero Vehicle Households</b> <b>Zero Vehicle Households per Acre</b> < .05     .10 - .25     > .50 .05 - .10     .25 - .50	
		<b>Zero Vehicle Households</b> 	

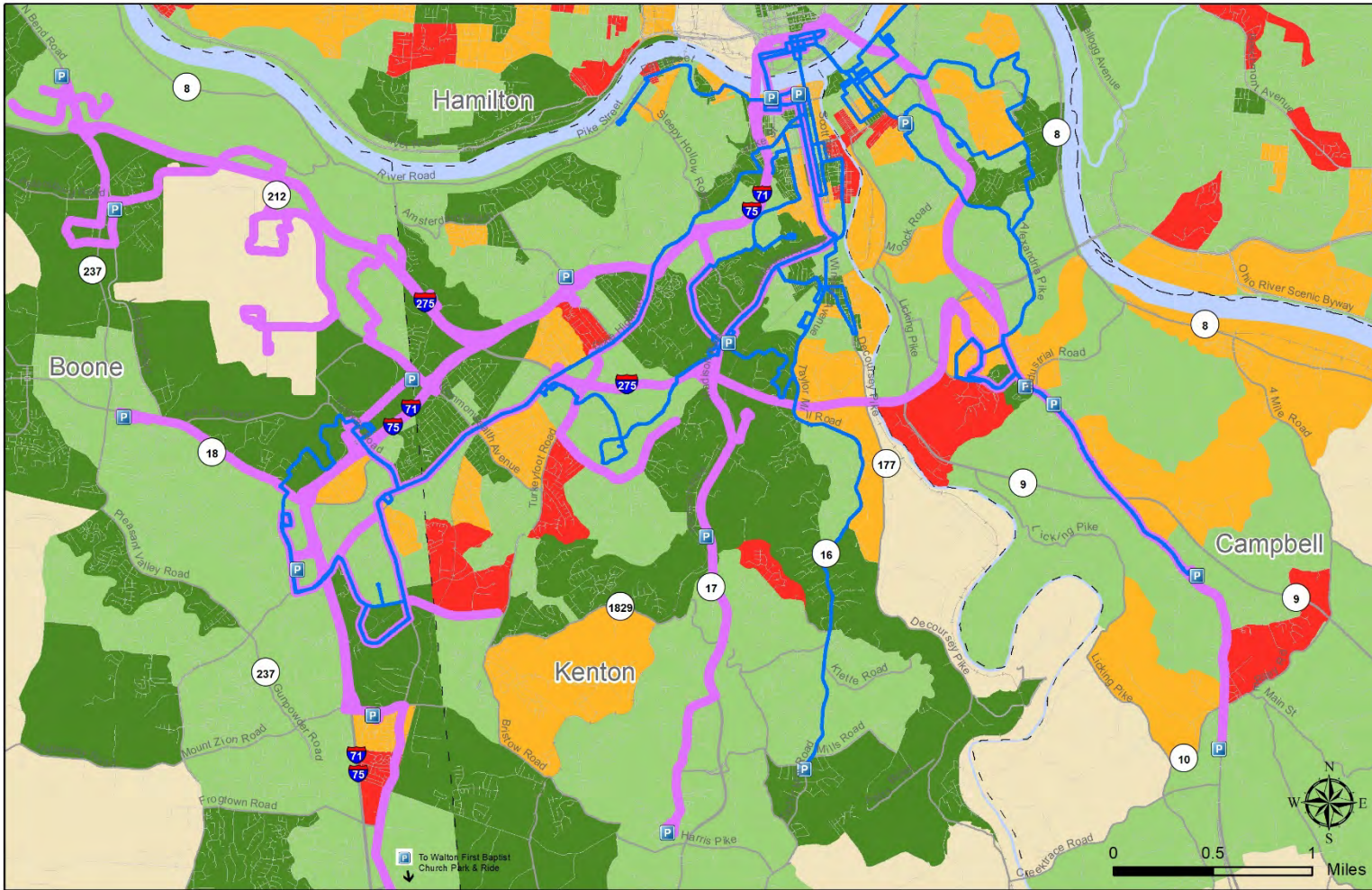


Map 4-12: Zero Vehicle Households Inset





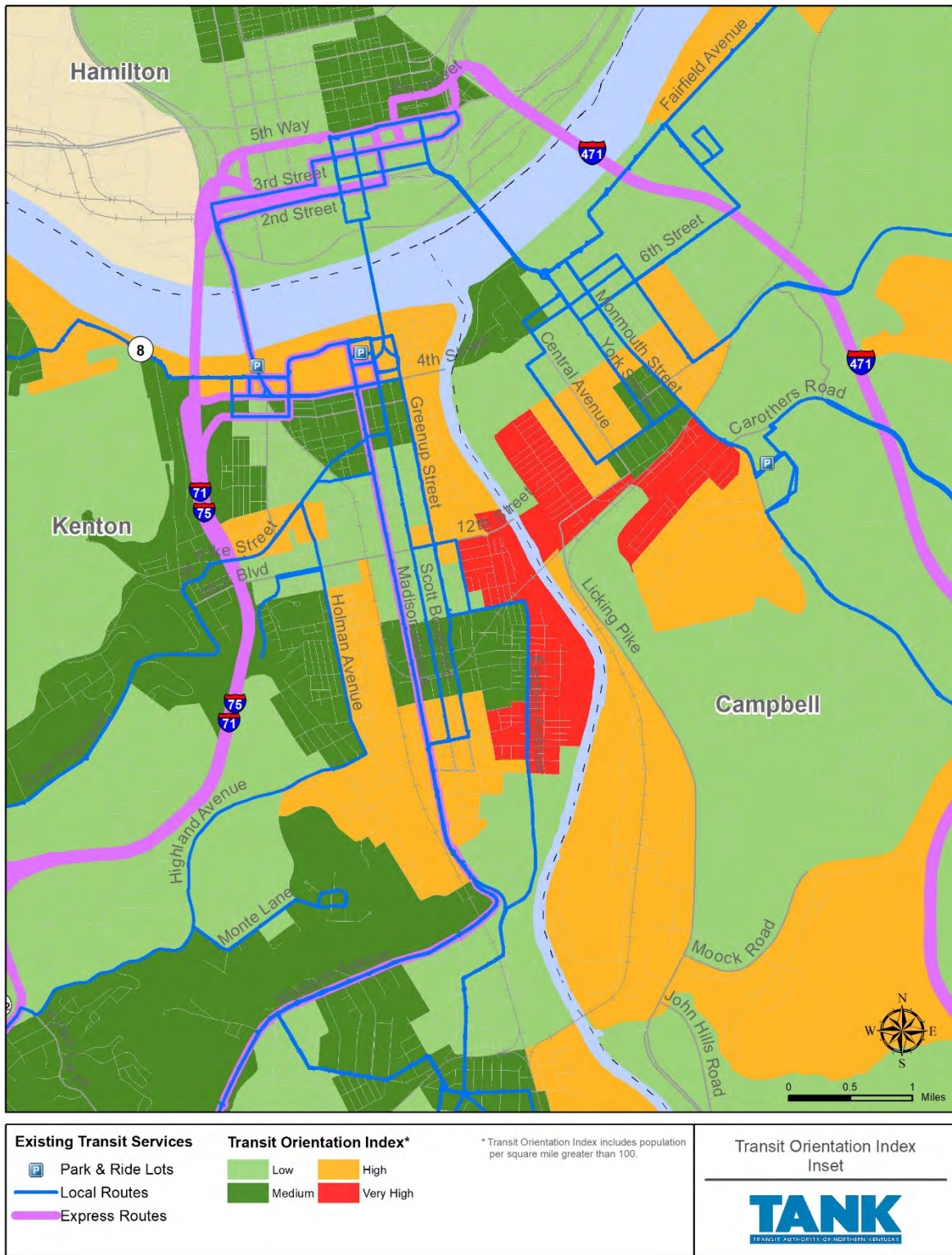
Map 4-13: Transit Orientation Index



<p><b>Existing Transit Services</b></p> <ul style="list-style-type: none"> <li> Park &amp; Ride Lots</li> <li> Local Routes</li> <li> Express Routes</li> </ul>	<p><b>Transit Orientation Index*</b></p> <table border="0"> <tr> <td></td> <td>Low</td> <td></td> <td>High</td> </tr> <tr> <td></td> <td>Medium</td> <td></td> <td>Very High</td> </tr> </table>		Low		High		Medium		Very High	<p>* Transit Orientation Index includes population per square mile greater than 100.</p>	<p>Transit Orientation Index</p>
	Low		High								
	Medium		Very High								



Map 4-14: Transit Orientation Index Inset





## SECTION 5: GAP ANALYSIS

This section presents the gap analysis, which is an evaluation process that compares existing service coverage to potential need using the TOI analysis results for the TANK service area. This is an approach that is becoming increasingly common as a component of assessing the performance of public transit in meeting the needs of the transit-disadvantaged populations within a service area.

### 5.1 Gap Analysis Overview

The gap analysis aims to identify geographical gaps in public transit where travel needs are high, but services are non-existent (unserved) or insufficient (underserved). This is a twofold process that uses socioeconomic data and ArcGIS. The first step involves determining transit service subareas with high transit TOI scores, using factors such as youth and younger adult populations, older adult populations, households in poverty, and zero-vehicle households. The TOI score is then mapped to the TANK service area, as previously shown on Maps 4-13 and 4-14. The second step uses geographic analyses to determine the extent of each route's service reach by using ArcGIS buffer and erase tools. It should be noted that only routes on local roads were buffered for this analysis. Ultimately, the two outputs are overlaid with one another to identify general gaps in the TANK transit service, and more specifically, high priority TOI areas that are served, unserved, or underserved. Note that areas beyond the route catchment area (the buffered area along the route) are considered to be unserved.

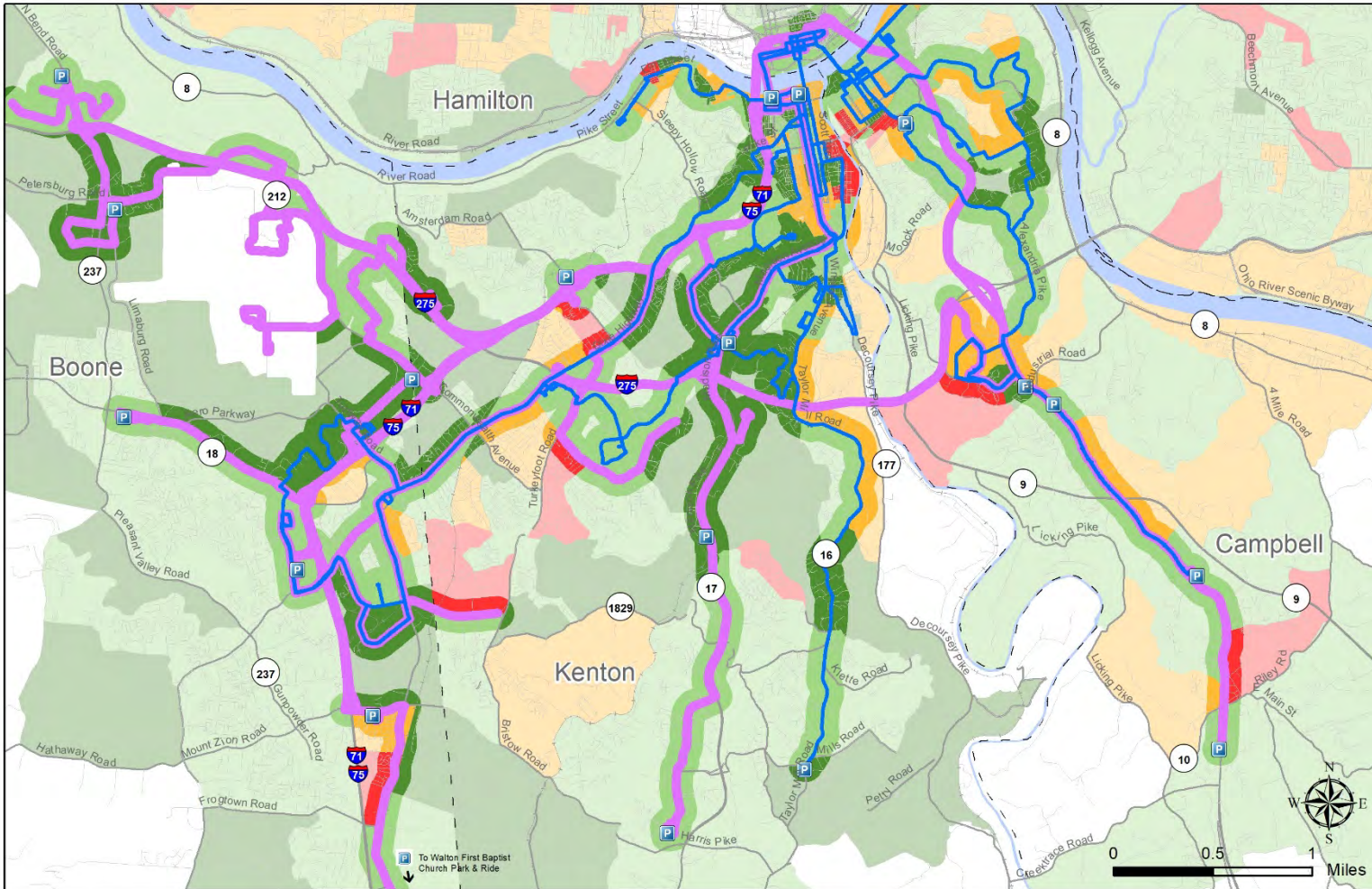
As shown in Map 5-1, areas that noticeably may have the potential for being underserved are located south of NKU, north of Industrial Drive and east of Dixie Highway, east of Turkeyfoot Road, north of Hands Pike, and the Alexandria area north of Riley Road, among others.

The inset map (Map 5-2), shows areas in north Kenton and Campbell counties that are served by transit and/or underserved. Most northern areas of Kenton are covered by transit within ¼-mile; however, some areas of north Campbell County do not have access to transit within ¼-mile. These areas include east-west portions of Licking Pike, and portions of Moock Road, as well as some areas east of I-471.

Once the gap analysis is prepared, service planning is applied to develop strategies to mitigate the gaps in service, especially in areas that resonate high in terms of TOI score. TANK has several options for serving targeted services gaps including modifications to existing routes – adjusting route alignments, service span, service frequencies, use of flex-routes, and application of mobility-on-demand strategies.



Map 5-1: TANK Gap Analysis

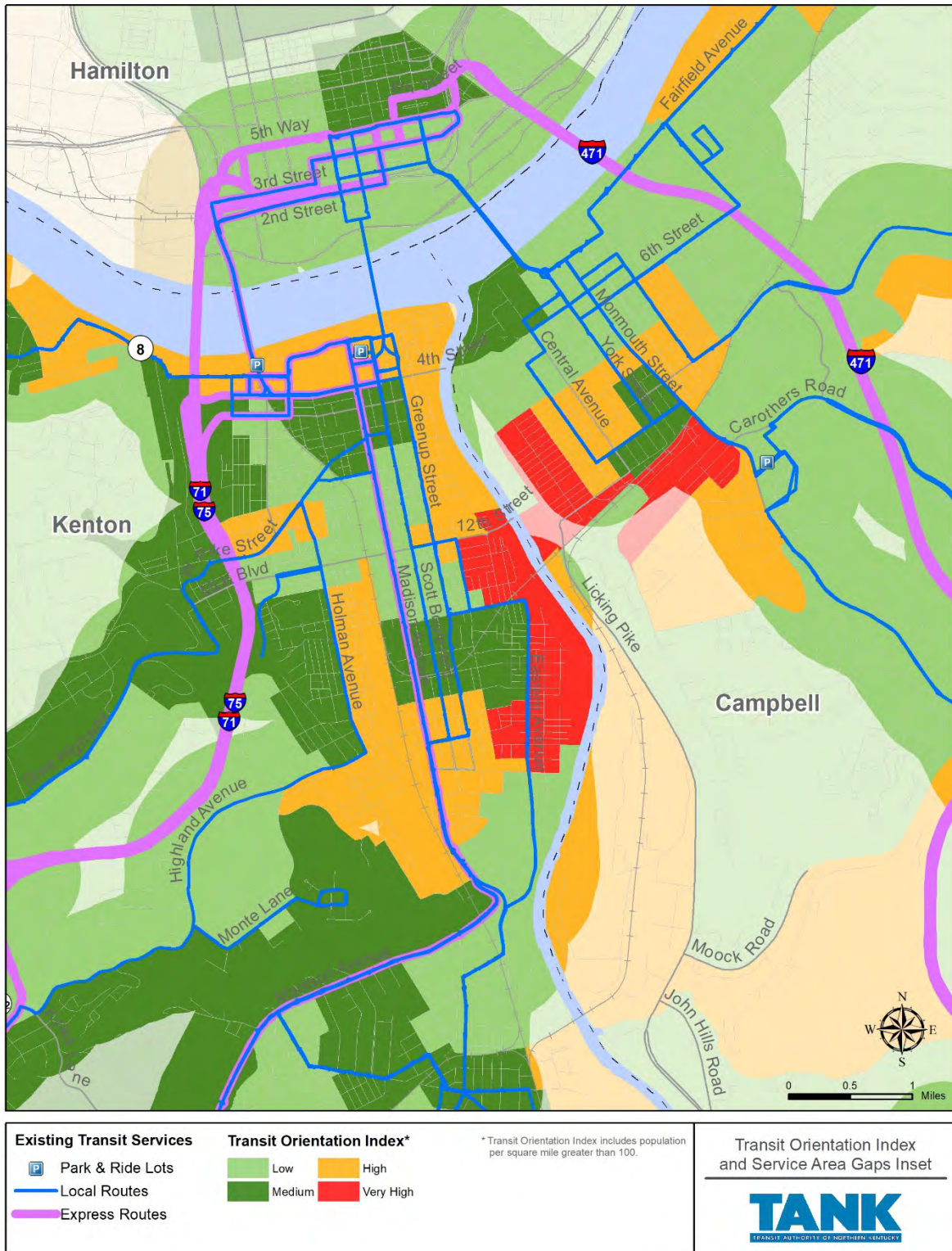


<b>Existing Transit Services</b> Park & Ride Lots Local Routes Express Routes		<b>Transit Orientation Index*</b> Low     High Medium     Very High		<small>* Transit Orientation Index includes population per square mile greater than 100.</small>	<b>Transit Orientation Index and Service Area Gaps</b> 
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**Map 5-2: TANK Gap Analysis Inset**





## SECTION 6: ACTIVITY CENTERS ANALYSIS

Activity centers around the TANK service area were identified for this analysis. Activity centers include key origins (locations where people begin their trips) and destinations (locations where people end their trips) throughout the region where people may want to use transit to access for some or most of their mobility needs.

The identification of activity centers assists in transit planning activities, as transit services typically are designed to serve many of these potential origins and destinations. To further assist with this analysis, activity centers were grouped into their areas of influence based on type. These areas of influence include business park, community, cultural, government, housing, medical, park, school, and shopping, as presented in Table 6-1. The table also provides a 'MapID' column, which corresponds to the symbols in Maps 6-1 through 6-3, where the activity centers are identified geographically for the TANK service area.

Based on these categories, buffers were drawn around each activity center using the following conventions:

- a ¼-mile buffer for the neighborhood-based activity centers,
- a ½-mile buffer for the community-based activity centers, and
- the entire county boundary for the tri-county service area.

The relative populations served for each activity center is calculated and scaled on Maps 6-4 and 6-5.

The greatest areas of influence are located around Thomas More Parkway, Mall Road, Turfway Road, and areas of north Campbell County, among others. These areas include medical facilities, shopping complexes, education facilities, cultural centers, and government facilities.

In addition, as population continues to grow in Boone County, new activity centers will become more prevalent around business parks located in CVG and Hebron, which is where most of the development is expected to occur. Most noticeably, activity centers that are underserved are located north of Route 28X along Thomas More Parkway and north and south of the Buttermill Park-and-Ride, as well as areas around Commonwealth Avenue. Activity centers that are underserved in Boone County are located west of the Burlington Park-and-Ride and along Burlington Pike in Florence. Most activity centers are served in Campbell County; however, during the route redesign process new service and/or modifications to existing service are expected to allow transit to better serve these areas.



**Table 6-1: Activity Center List**

Name	Type	Location	MapID	Map Symbol
Circleport Industrial Park	Business Park	Boone County	53	
Airport Office Park	Business Park	Boone County	256	
Mineola Industrial Park	Business Park	Boone County	54	
Parkwest Industrial Park	Business Park	Boone County	55	
Southpark Industrial Park	Business Park	Boone County	56	
Richwood Industrial Park	Business Park	Boone County	67	
Galerie Chocolate Fartory	Business Park	Boone County	261	
Amazon	Business Park	Boone County	262	
Toyota	Business Park	Boone County	263	
International Airport Park	Business Park	Boone County	264	
DHL Express Hub	Business Park	Boone County	265	
Circleport Industrial Park III	Business Park	Kenton County	98	
Circleport Industrial Park II	Business Park	Kenton County	100	
One Twenty Industrial Park	Business Park	Kenton County	127	
No. Kentucky Industrial park II	Business Park	Kenton County	128	
Gates Industrial Park	Business Park	Kenton County	129	
Thomas More Office Park	Business Park	Kenton County	131	
Boone County Park and Recreation Center	Community	Boone County	4	
YMCA Camp Ernst Summer Camp	Community	Boone County	45	
YMCA of Greater Cincinnati - RC Durr Branch	Community	Boone County	81	
Campbell County YMCA	Community	Campbell County	223	
Tower Park Mess Hall - St. Thomas Community Center	Community	Campbell County	225	
Southgate Community Center	Community	Campbell County	228	
Boone County Public Library	Cultural	Boone County	15	
Boone County Public Library	Cultural	Boone County	26	
Boone County Public Library	Cultural	Boone County	31	
Boone County Public Library	Cultural	Boone County	59	
Boone County Library - Main Branch	Cultural	Boone County	79	
Kenton County Public Library Administration Center	Cultural	Kenton County	92	
Kenton County Public Library - Erlanger Branch	Cultural	Kenton County	130	
Kenton County Library - William E. Durr Branch	Cultural	Kenton County	177	
Kenton County Library - Mary Ann Morgan Branch	Cultural	Kenton County	185	
Campbell County Public Library	Cultural	Campbell County	217	
Campbell County Public Library	Cultural	Campbell County	231	
Campbell County Library	Cultural	Campbell County	257	



Name	Type	Location	MapID	Map Symbol
Boone County Courthouse	Government	Boone County	2	
Boone County Sheriff Department	Government	Boone County	5	
Boone County Circuit Court	Government	Boone County	6	
Boone County Co-op Extension	Government	Boone County	9	
Walton City Hall	Government	Boone County	27	
Boone County Jail	Government	Boone County	35	
Florence Government Center	Government	Boone County	61	
Northern Kentucky Area Development District	Government	Boone County	66	
City of Erlanger Municipal Center	Government	Kenton County	90	
USPS	Government	Kenton County	95	
Kenton County Police Administration	Government	Kenton County	116	
USPS Customer Center	Government	Kenton County	126	
Taylor Mill Police Department	Government	Kenton County	139	
Edgewood Police Department	Government	Kenton County	147	
Lakeside Park Police Department	Government	Kenton County	161	
Fort Wright City Building	Government	Kenton County	162	
Crescent Springs City Building	Government	Kenton County	172	
Kenton County Courthouse - Independence	Government	Kenton County	175	
Covington City Hall	Government	Kenton County	182	
Internal Revenue Service	Government	Kenton County	188	
Campbell County Clerk	Government	Campbell County	195	
Police Administration	Government	Campbell County	206	
City of Highland Heights Police Department	Government	Campbell County	219	
City of Wilder City Building	Government	Campbell County	226	
Fort Thomas Police Department	Government	Campbell County	239	
Campbell County Circuit Court	Government	Campbell County	260	
Weaver Farm Apartments	Housing	Boone County	29	
Woodspring Apartments	Housing	Boone County	42	
The Trellises Apartments	Housing	Boone County	43	
City Heights Apartments	Housing	Kenton County	164	
Rivers Edge Apartments	Housing	Kenton County	180	
Brookstone Crossing Apartments	Housing	Campbell County	212	
Sonsrena Apartments	Housing	Campbell County	221	
Barkely Ridge Apartments	Housing	Campbell County	232	
North Key Community Care	Medical	Boone County	1	
Pediatric Care of Kentucky	Medical	Boone County	7	
Burlington Pharmacy Health Care	Medical	Boone County	8	
St. Elizabeth Burlington	Medical	Boone County	10	



Name	Type	Location	MapID	Map Symbol
St. Elizabeth Imaging Center	Medical	Boone County	16	
St. Elizabeth Physicians	Medical	Boone County	21	
St. Elizabeth Physicians	Medical	Boone County	24	
Union Pediatrics	Medical	Boone County	36	
Whole Child Pediatrics	Medical	Boone County	38	
St. Elizabeth Business Health Mt. Zion	Medical	Boone County	39	
Dermatology Center	Medical	Boone County	40	
Pediatric Associates	Medical	Boone County	41	
Gateway Rehabilitation Hospital	Medical	Boone County	46	
Florence Urgent Care	Medical	Boone County	47	
St. Elizabeth Physicians Group	Medical	Boone County	48	
Family Allergy & Asthma	Medical	Boone County	49	
St. Elizabeth Florence	Medical	Boone County	57	
St. Elizabeth Physicians	Medical	Boone County	60	
Tri State Women's Health Association	Medical	Boone County	63	
Women's Health Florence Burlington Pike	Medical	Boone County	64	
Pediatric & Adolescent Medicine	Medical	Boone County	65	
Center for Advanced Spine Tech	Medical	Kenton County	91	
Crescent Springs Family Practice	Medical	Kenton County	101	
Tri-State Vein Center	Medical	Kenton County	103	
St. Elizabeth Physicians	Medical	Kenton County	109	
Independence Urgent Care	Medical	Kenton County	113	
Pediatric Partners of Kentucky	Medical	Kenton County	133	
St. Elizabeth Physicians	Medical	Kenton County	138	
St. Elizabeth Physicians	Medical	Kenton County	141	
Premier Family Medicine	Medical	Kenton County	142	
St. Elizabeth Healthcare	Medical	Kenton County	143	
Cincinnati Eye Institute - Northern Kentucky	Medical	Kenton County	144	
Cardiology Associates	Medical	Kenton County	146	
Vascular & Interventional	Medical	Kenton County	148	
Kunath Burte & Temming	Medical	Kenton County	149	
Cincinnati Eye Institute	Medical	Kenton County	150	
Internal Medicine Associates	Medical	Kenton County	151	
St. Elizabeth Physicians	Medical	Kenton County	152	
Tri State Gastroenterology	Medical	Kenton County	153	
St. Elizabeth Physicians	Medical	Kenton County	154	
St. Elizabeth Physicians	Medical	Kenton County	155	
Mayfield Imaging Center	Medical	Kenton County	156	



Name	Type	Location	MapID	Map Symbol
Interventional Pain Specialist	Medical	Kenton County	157	
The Christ Hospital Physicians - Hematology & Oncology	Medical	Kenton County	158	
Riverhills Neuroscience	Medical	Kenton County	159	
St. Elizabeth Physicians Pediatrics	Medical	Kenton County	160	
Independence Family Practice	Medical	Kenton County	176	
NorthKey Community Care	Medical	Kenton County	186	
Pediatric Care of Kentucky	Medical	Kenton County	187	
St. Elizabeth Physicians	Medical	Campbell County	200	
River Hills Pediatric	Medical	Campbell County	201	
St. Elizabeth Physicians	Medical	Campbell County	208	
DaVita Cold Spring Dialysis	Medical	Campbell County	209	
St. Elizabeth Physicians After Hours Clinic	Medical	Campbell County	215	
Pediatric Associates	Medical	Campbell County	216	
Northern Kentucky Pediatric Group	Medical	Campbell County	220	
VA Medical Center	Medical	Campbell County	224	
Therapeutic Collaborative	Medical	Campbell County	227	
Riverhill Pediatrics	Medical	Campbell County	241	
St. Elizabeth Fort Thomas	Medical	Campbell County	243	
St. Elizabeth Physicians	Medical	Campbell County	244	
St. Elizabeth Physicians	Medical	Campbell County	255	
Devou Park	Park	Kenton County	189	
Kenton County Public Park	Park	Kenton County	191	
Alexandria Community Park	Park	Campbell County	197	
Burlington Elementary School	School	Boone County	3	
Prodigy School	School	Boone County	11	
Goodridge Elementary School	School	Boone County	12	
Conner High School	School	Boone County	13	
Conner Middle School	School	Boone County	14	
Larry A Ryle High School	School	Boone County	17	
Gray Middle School	School	Boone County	18	
Shirley Mann Elementary School	School	Boone County	19	
New Haven Elementary School	School	Boone County	20	
Ockerman Elementary School	School	Boone County	22	
Ockerman Middle School	School	Boone County	23	
St. Joseph Academy	School	Boone County	25	
Gateway Community & Technical College	School	Boone County	28	
Erpenbeck Elementary School	School	Boone County	30	
R.A. Jones Middle School	School	Boone County	32	



Name	Type	Location	MapID	Map Symbol
Collins Elementary School	School	Boone County	33	
St. Paul Catholic School	School	Boone County	34	
Cengage Learning	School	Boone County	37	
Camp Ernst Middle School	School	Boone County	44	
Beckfield College	School	Boone County	50	
Stephens Elementary School	School	Boone County	51	
St. Henry's District Highschool	School	Boone County	52	
Florence Elementary School	School	Boone County	58	
Boone County High School	School	Boone County	62	
Cengage Learning Center	School	Boone County	68	
Thomas More College	School	Kenton County	83	
Turkey Foot Middle School	School	Kenton County	84	
James A Caywood Elementary School	School	Kenton County	85	
Arnette Elementary School	School	Kenton County	86	
Little Red School House	School	Kenton County	87	
St. Henry Grade School	School	Kenton County	88	
Lloyd High School	School	Kenton County	89	
Dixie Heights High School	School	Kenton County	94	
River Ridge Elementary School	School	Kenton County	97	
A.J. Lindeman Elementary School	School	Kenton County	99	
St. Josephs Elementary School	School	Kenton County	102	
Villa Madonna Academy	School	Kenton County	104	
Bromley Elementary School	School	Kenton County	106	
Mary A. Goetz Elementary School	School	Kenton County	107	
Ludlow High School	School	Kenton County	108	
St. Augustine Parish and School	School	Kenton County	110	
Brown Mackie College - NKU	School	Kenton County	111	
Beechgrove Elementary School	School	Kenton County	112	
Simon Kenton High School	School	Kenton County	114	
Kenton Elementary School	School	Kenton County	115	
Twenhofel Middle School	School	Kenton County	117	
Success Academy	School	Kenton County	118	
White's Tower Elementary School	School	Kenton County	119	
St. Cecilia School	School	Kenton County	120	
Summit View Academy	School	Kenton County	121	
Taylor Mill Elementary School	School	Kenton County	123	
Woodland Middle School	School	Kenton County	124	
Scott High School	School	Kenton County	125	







Name	Type	Location	MapID	Map Symbol
Kenton County Board of Education	School	Kenton County	132	
Beechwood High School	School	Kenton County	134	
Fort Wright Elementary School	School	Kenton County	135	
Notre Dame Academy	School	Kenton County	136	
Covington Catholic High School	School	Kenton County	137	
Gateway Community & Technical College Edgewood Campus	School	Kenton County	145	
Holmes High School	School	Kenton County	163	
Ninth District Elementary School	School	Kenton County	165	
Holy Cross High School	School	Kenton County	166	
Latonia Elementary School	School	Kenton County	169	
St. Anthony's School	School	Kenton County	170	
Sixth District Elementary School	School	Kenton County	171	
Tichenor Middle School	School	Kenton County	173	
Howell Elementary School	School	Kenton County	174	
Holy Family School	School	Kenton County	178	
James E. Biggs Early Childhood	School	Kenton County	179	
John G. Carlisle Elementary School	School	Kenton County	181	
Covington Independent Public Schools	School	Kenton County	183	
Gateway Community & Technical College Urban Center	School	Kenton County	184	
Calvary Christian School	School	Kenton County	190	
R.C. Hinsdale Elementary School	School	Kenton County	192	
Reiley Elementary School	School	Campbell County	193	
Campbell County High School	School	Campbell County	194	
St. Mary School	School	Campbell County	196	
Campbell Ridge Elementary School	School	Campbell County	198	
Campbell County Middle School	School	Campbell County	199	
Bishop Brossart High School	School	Campbell County	202	
Campbell County Day Treatment	School	Campbell County	203	
C.E. McCormick Area Technology Center	School	Campbell County	204	
Campbell County Board of Education	School	Campbell County	205	
Crossroads Elementary School	School	Campbell County	211	
Cline Elementary School	School	Campbell County	213	
Silver Grove High School	School	Campbell County	214	
Northern Kentucky University	School	Campbell County	218	
Woodfill Elementary School	School	Campbell County	222	
St. Therese School	School	Campbell County	229	
Southgate Public School	School	Campbell County	230	
Highlands High School	School	Campbell County	237	







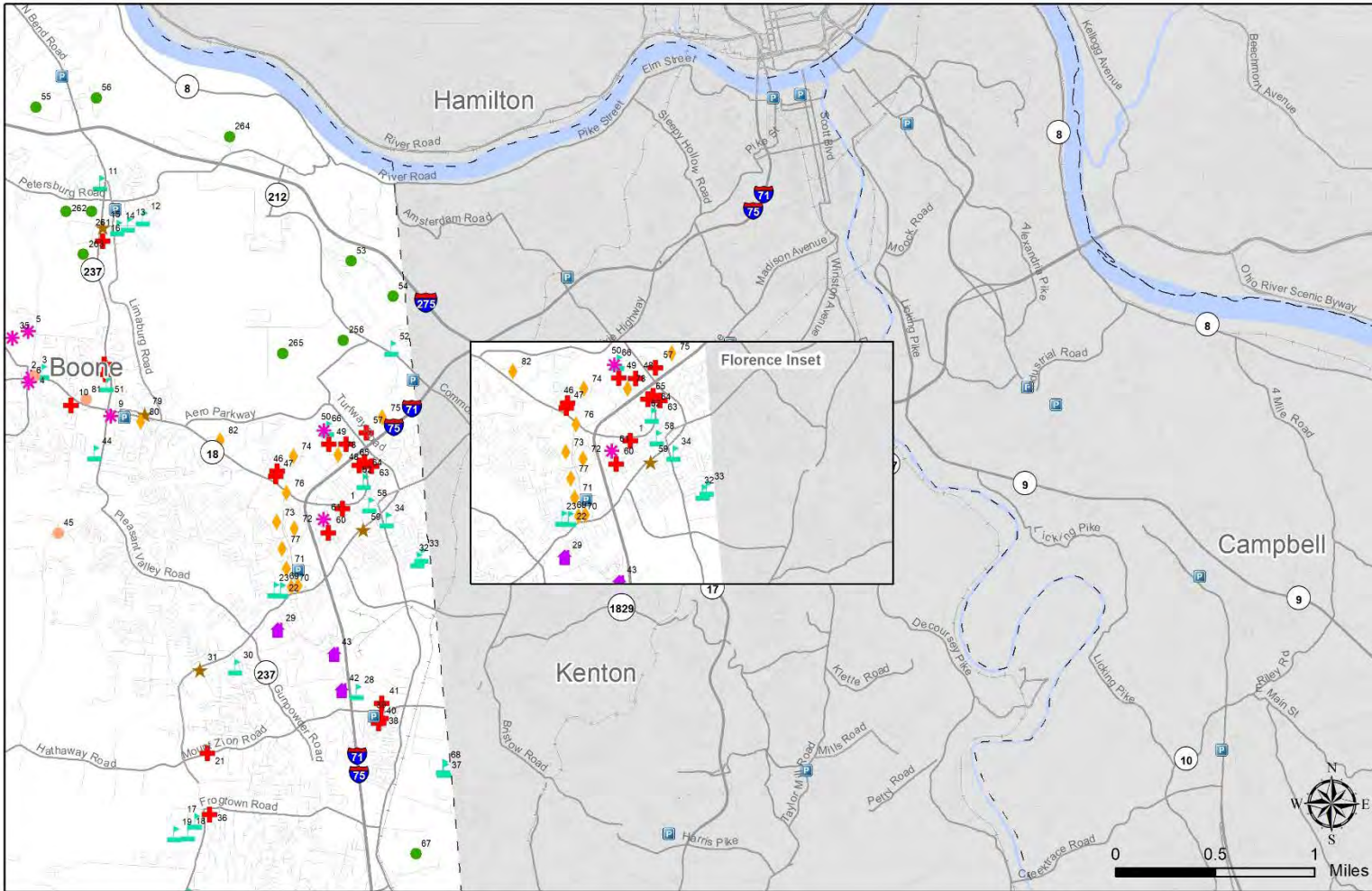
Name	Type	Location	MapID	Map Symbol
Highland Middle School	School	Campbell County	238	
Fort Thomas Board of Education	School	Campbell County	240	
St. Thomas School	School	Campbell County	242	
Ruth Moyer Elementary School	School	Campbell County	245	
Newport Middle School	School	Campbell County	246	
Newport Intermediate School	School	Campbell County	247	
Newport High School	School	Campbell County	248	
Park Avenue School	School	Campbell County	249	
Holy Trinity Jr. High School	School	Campbell County	250	
Johnson Elementary School	School	Campbell County	251	
St. Catherine of Siena School	School	Campbell County	252	
Lincoln Elementary School	School	Campbell County	253	
Grandview Elementary School	School	Campbell County	254	
Bellevue High School	School	Campbell County	258	
Mall Road Center	Shopping	Boone County	69	
Mall Road Square Shopping	Shopping	Boone County	70	
Florence Antique Mall	Shopping	Boone County	71	
Florence Mall	Shopping	Boone County	72	
Florence Square	Shopping	Boone County	73	
Walmart Supercenter	Shopping	Boone County	74	
Turfway Square	Shopping	Boone County	75	
Mall Road District	Shopping	Boone County	76	
Florence Plaza	Shopping	Boone County	77	
Meijer	Shopping	Boone County	78	
Shoppes of Burlington	Shopping	Boone County	80	
Liberty Hill Plaza	Shopping	Boone County	82	
Crestview Hills Town Center	Shopping	Kenton County	93	
Buttermilk Crossing Plaza	Shopping	Kenton County	96	
Buttermilk Shopping Plaza	Shopping	Kenton County	105	
Independence Cherokee Plaza	Shopping	Kenton County	122	
The Shoppe at Taylor Mill	Shopping	Kenton County	140	
Latonia Centre	Shopping	Kenton County	167	
Latonia Plaza	Shopping	Kenton County	168	
Village Greene Shopping Center	Shopping	Campbell County	207	
Cold Spring Crossing Plaza	Shopping	Campbell County	210	
Newport Shopping Center	Shopping	Campbell County	233	
Newport Pavilion	Shopping	Campbell County	234	
Newport Plaza II	Shopping	Campbell County	235	



Name	Type	Location	MapID	Map Symbol
Newport Shopping Plaza I	Shopping	Campbell County	236	
Bellevue Plaza	Shopping	Campbell County	256	
The Party Source	Shopping	Campbell County	259	



Map 6-1: Boone County Activity Centers



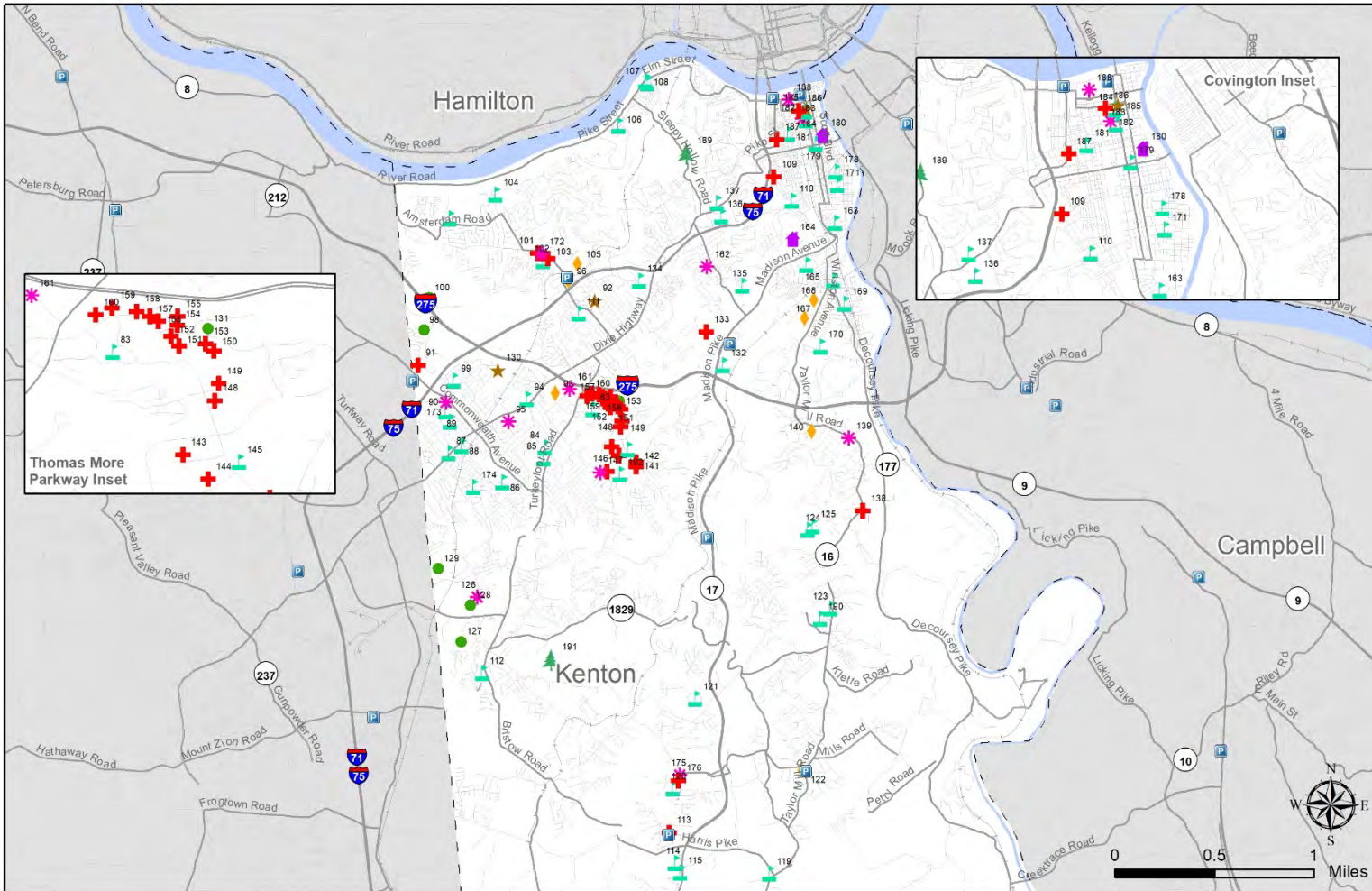
**Legend**

<span style="color: green;">●</span> Business Park	<span style="color: magenta;">✱</span> Government	<span style="color: green;">🌳</span> School
<span style="color: orange;">●</span> Community	<span style="color: purple;">■</span> Housing	<span style="color: yellow;">◆</span> Shopping
<span style="color: gold;">★</span> Cultural	<span style="color: red;">+</span> Medical	

Boone County Area Activity Centers



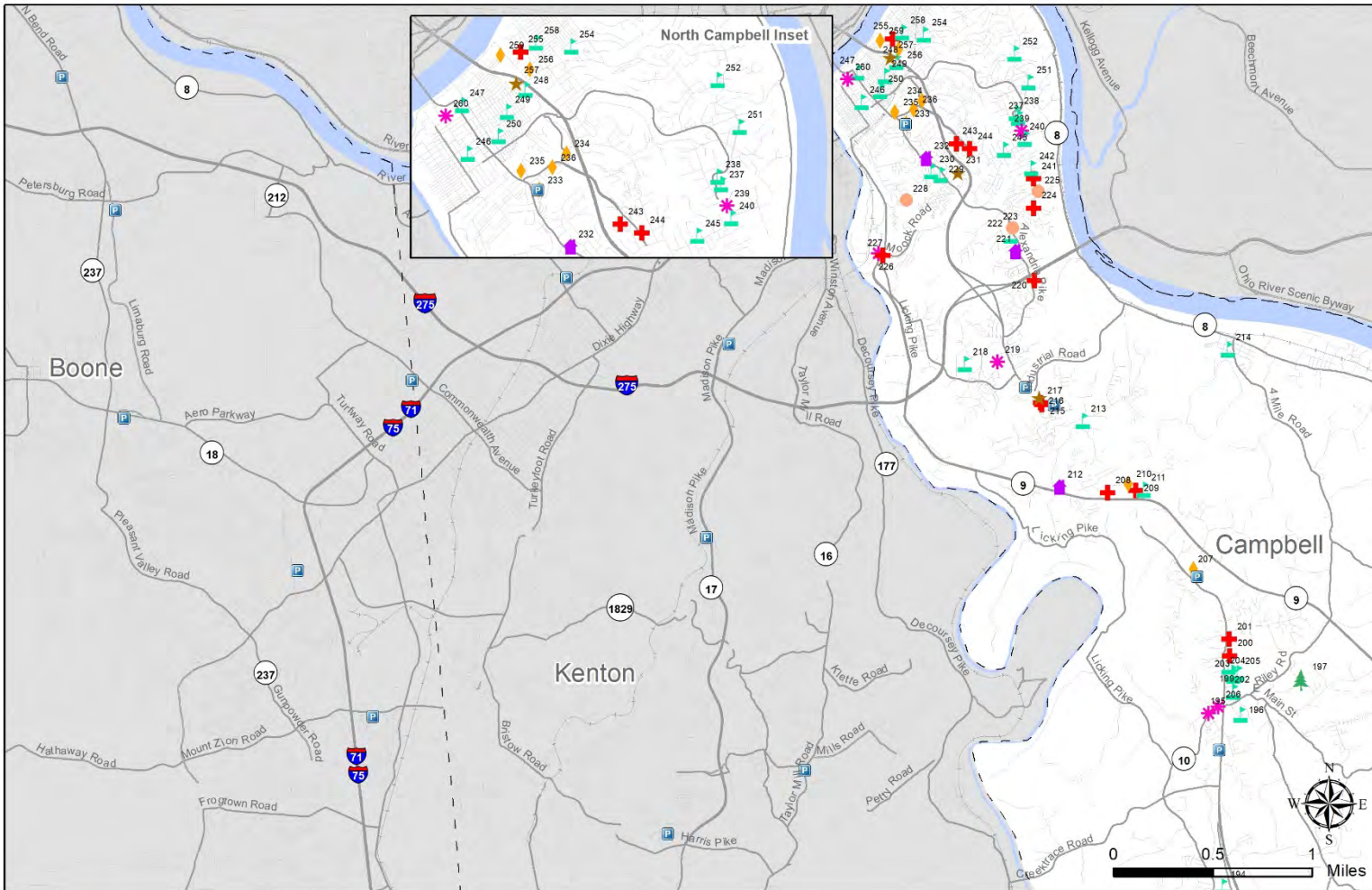
Map 6-2: Kenton County Activity Centers



<b>Legend</b>			
<span style="color: green;">●</span> Business Park	<span style="color: purple;">■</span> Housing	<span style="color: green;">🏫</span> School	
<span style="color: orange;">★</span> Cultural	<span style="color: red;">+</span> Medical	<span style="color: orange;">◆</span> Shopping	
<span style="color: pink;">✳</span> Government	<span style="color: green;">🌲</span> Park		

Kenton County Area Activity Centers

Map 6-3: Campbell County Activity Centers

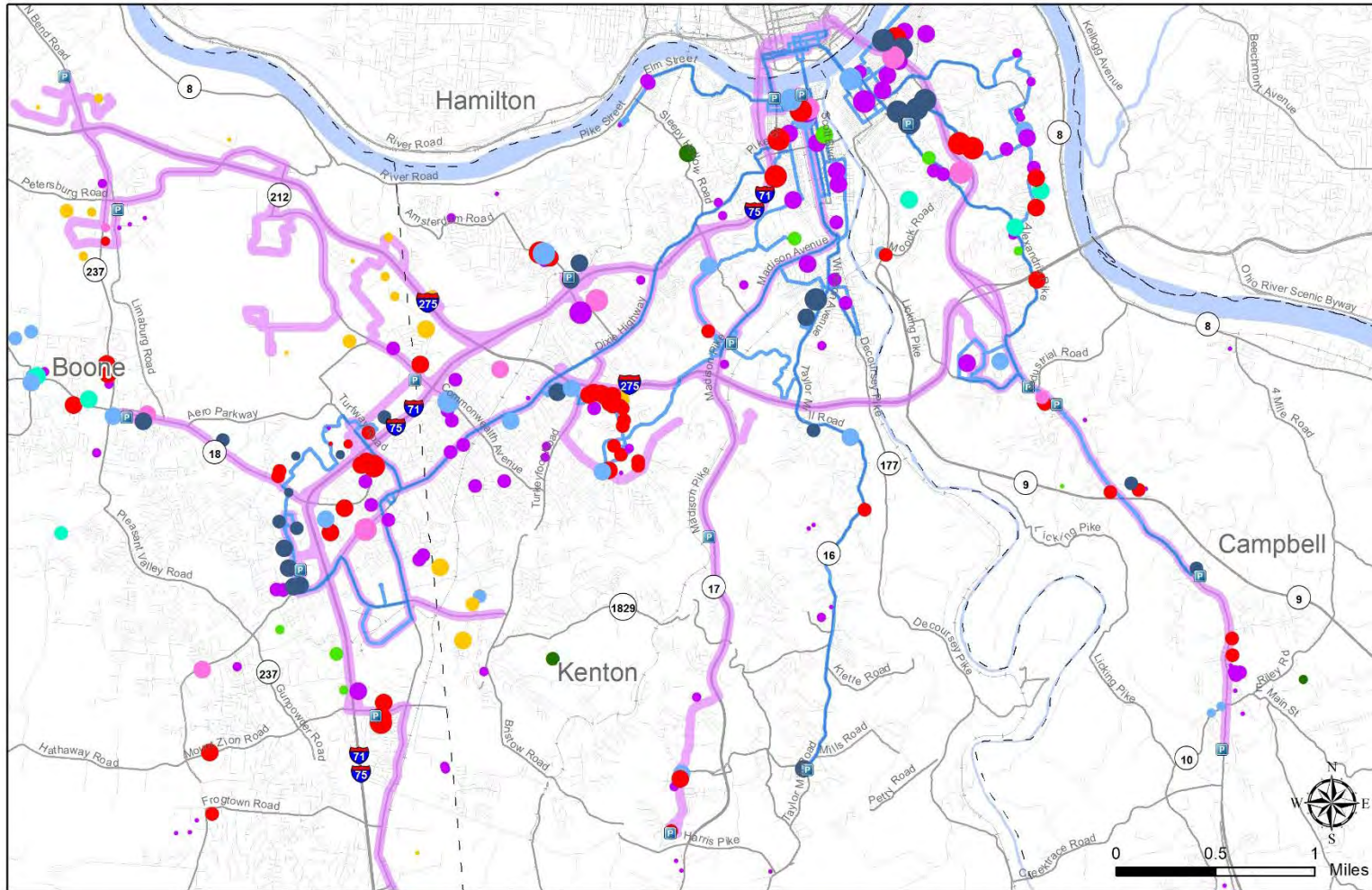


<b>Legend</b>		
Community	Housing	School
Cultural	Medical	Shopping
Government	Park	

Campbell County Area Activity Centers



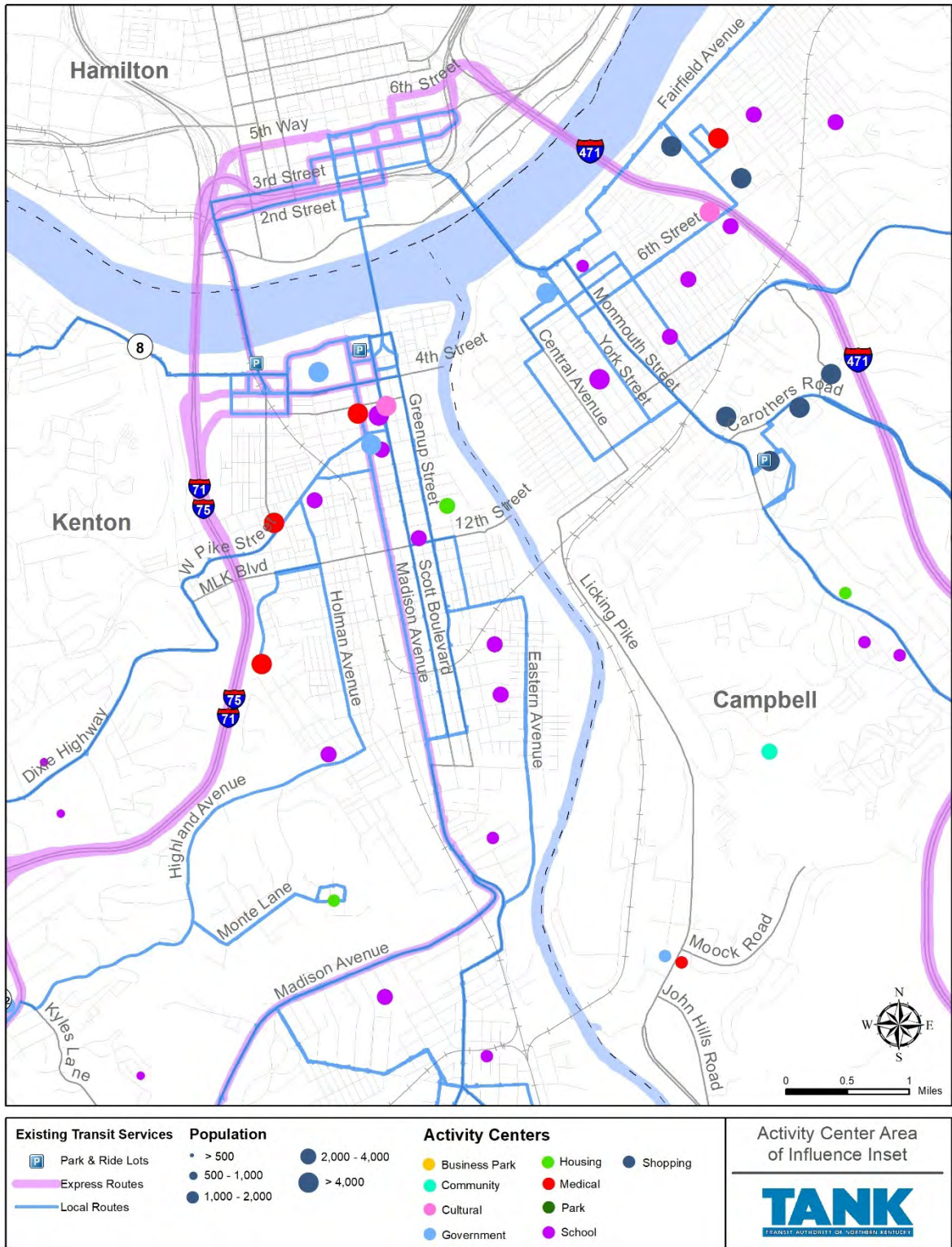
Map 6-4: Activity Center Area of Influence



<p><b>Existing Transit Services</b></p> <ul style="list-style-type: none"> <li> Park &amp; Ride Lots</li> <li> Local Routes</li> <li> Express Routes</li> </ul>	<p><b>Population</b></p> <ul style="list-style-type: none"> <li> &gt; 500</li> <li> 500 - 1,000</li> <li> 1,000 - 2,000</li> <li> 2,000 - 4,000</li> <li> &gt; 4,000</li> </ul>	<p><b>Activity Centers</b></p> <ul style="list-style-type: none"> <li> Business Park</li> <li> Community</li> <li> Cultural</li> <li> Government</li> <li> Housing</li> <li> Medical</li> <li> Park</li> <li> School</li> <li> Shopping</li> </ul>	<p>Activity Center Area of Influence</p>
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**Map 6-5: Activity Center Area of Influence Inset**





## SECTION 7: EXISTING RIDERSHIP IN STUDY AREA

This section documents the existing TANK ridership in the study area for FY 2018. Figures 7-1 and 7-2 show the monthly ridership levels for the local and express routes operated by TANK. In 2018, the TANK service recorded its highest ridership levels in the months of August and October for both the local and express services. This may be a direct result of colleges and universities beginning their fall semesters in August, and mid-terms and fall breaks occurring in the month of October. The lowest ridership level on the local routes occurred in December, while the lowest level of ridership on the express routes occurred in February. Other than the occasional fluctuations in ridership, both local and express service seemed to maintain generally similar and stable ridership trends over the course of 2018.

Currently, there are 11 local routes, 14 express routes, and 2 shuttles operated by TANK. Of the 11 local routes, Route 1 (Dixie Highway/Florence) logged the highest ridership in 2018, followed by Route 25 (Southgate/Alexandria) and Route 7 (Madison Avenue/Latonia). The poorest performing routes in TANK’s local service are Route 9 (Taylor Mill/Independence) and Route 11 (Fort Thomas). TANK’s express service served nearly 600,000 riders in 2018. Most of those riders (22%) used Route 2X (Airporter) to get from the two downtown areas (Covington and Cincinnati) to the Airport or industry located proximate to the airport. Conversely, the poorest performing routes among TANK’s express services are Routes 18X (Fort Mitchell/Edgewood) and Route 31X (Rolling Hills Drive).

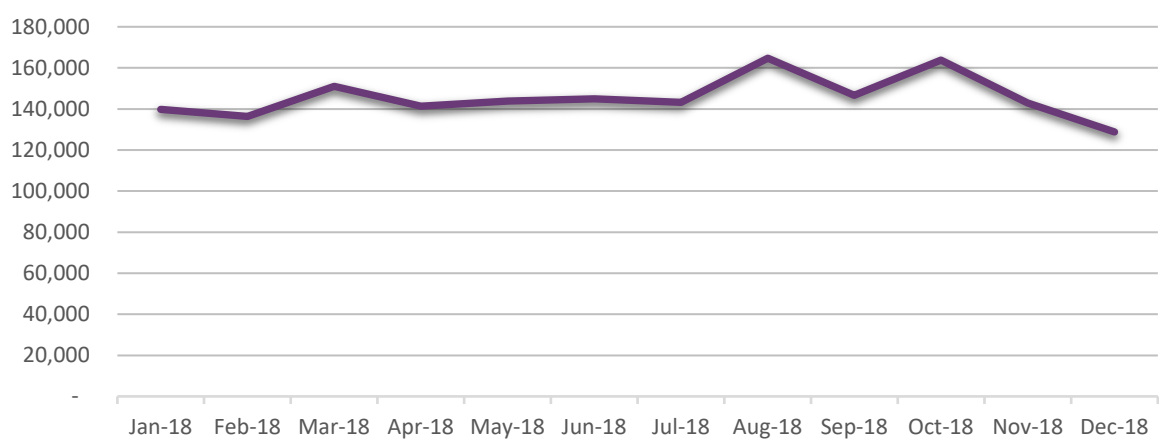
As noted, TANK provides two shuttle services, the Southbank Shuttle and the Northern Kentucky University (NKU) Shuttle. The Southbank Shuttle operates 7-days a week, providing short commutes between Bellevue, Cincinnati, and Covington via the Taylor Southgate Bridge. In 2018, the Southbank Shuttle recorded the second highest ridership (424,372) among TANK’s fixed-route services. The NKU Shuttle provides services around NKU from August to May. In 2018, the NKU Shuttle provided transit to 23 percent of the total shuttle bus riders. Figure 2-3 shows the ridership by month for TANK’s shuttle routes.

Figures 7-1 through 7-6 show the monthly ridership by route for TANK local service. Figures 7-7 through 7-9 show the monthly ridership by route for the agency’s express service, and Figure 7-10 shows the monthly ridership by route for the shuttle services.

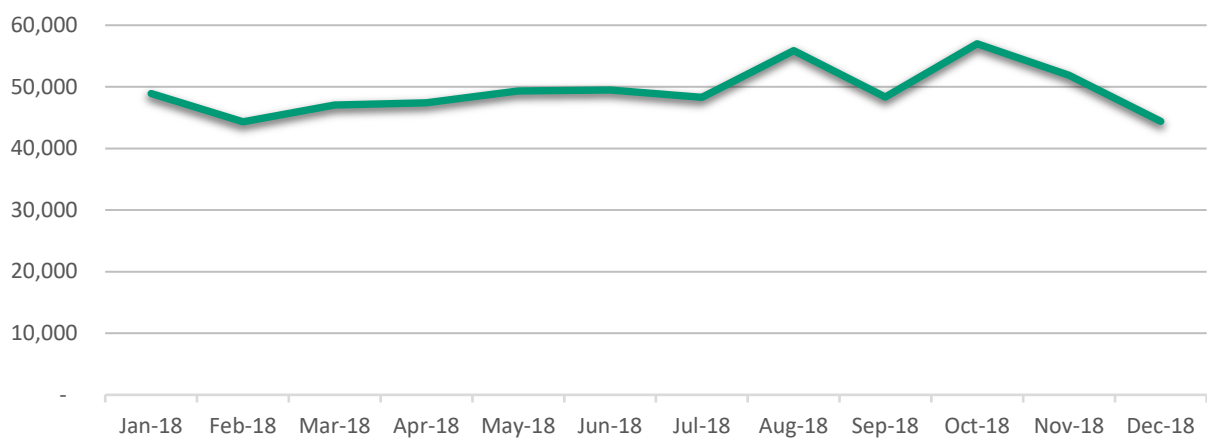




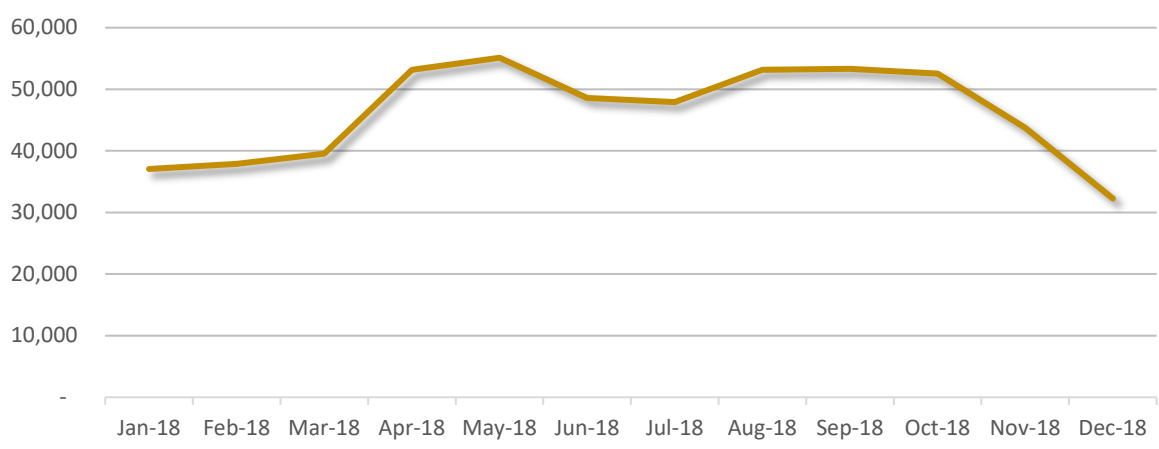
**Figure 7-1: FY 2018 – Monthly Local Route Ridership**



**Figure 7-2: FY 2018 – Monthly Express Route Ridership**

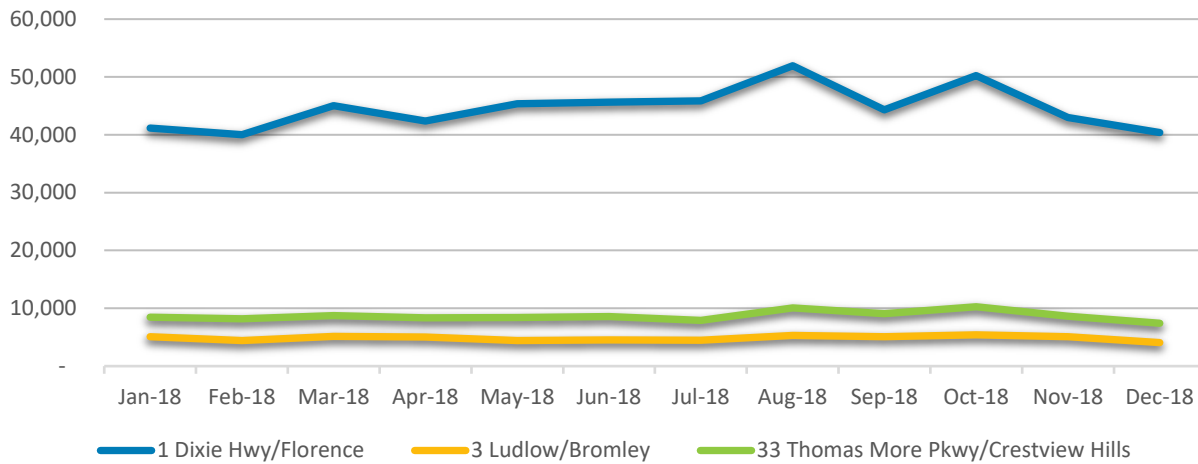


**Figure 7-3: FY 2018 – Monthly Shuttle Route Ridership**

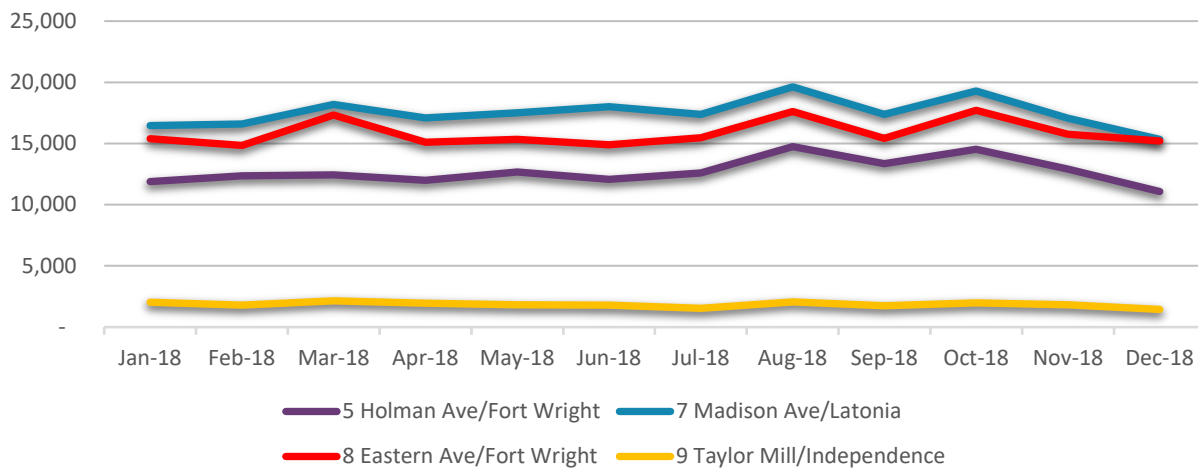




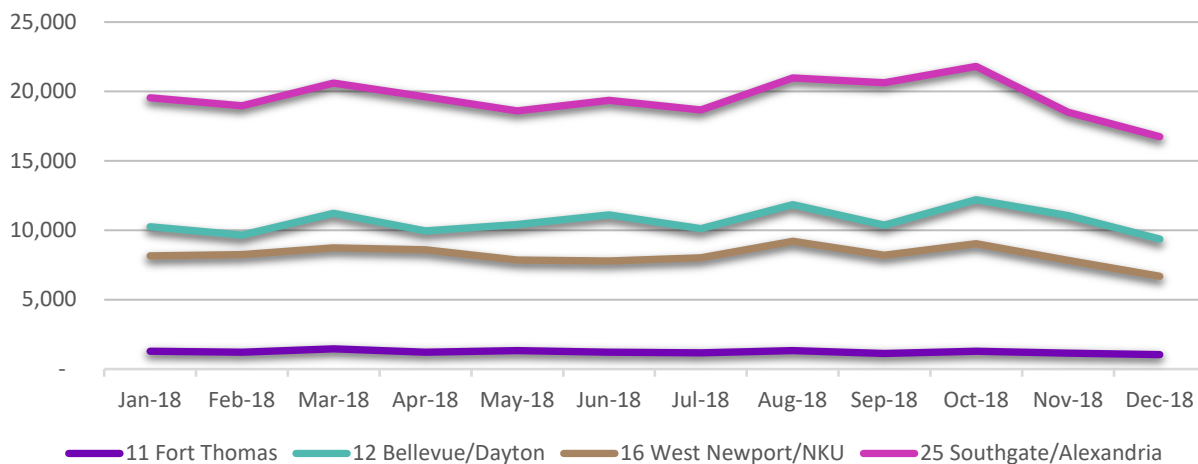
**Figure 7-4: FY 2018 – Local West Routes**



**Figure 7-5: FY 2018 – Local Central Routes**

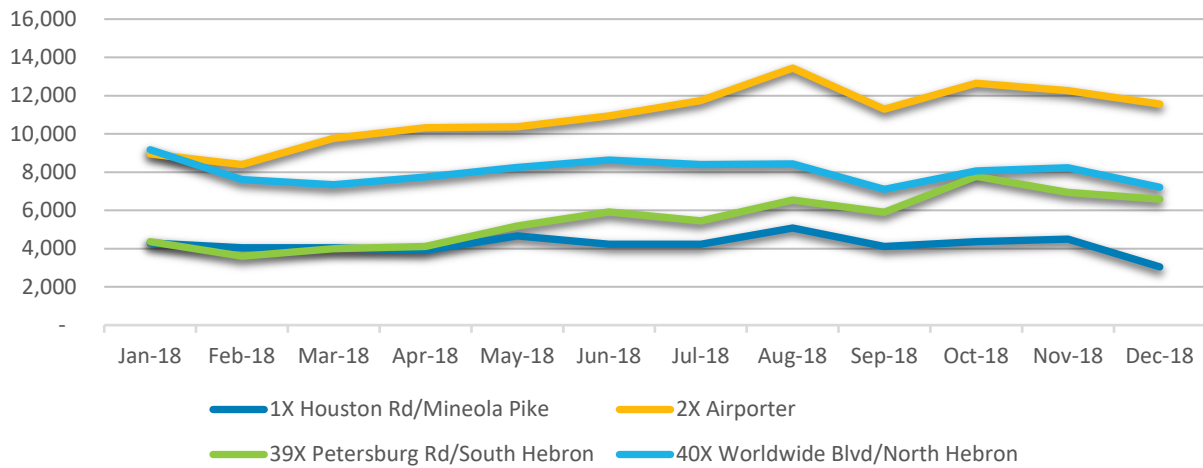


**Figure 7-6: FY 2018 – Local East Routes**

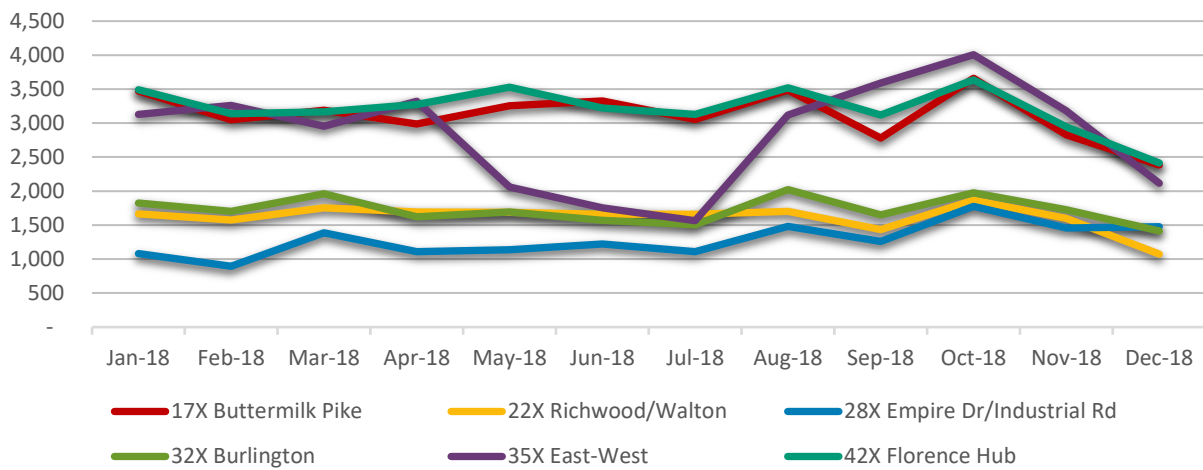




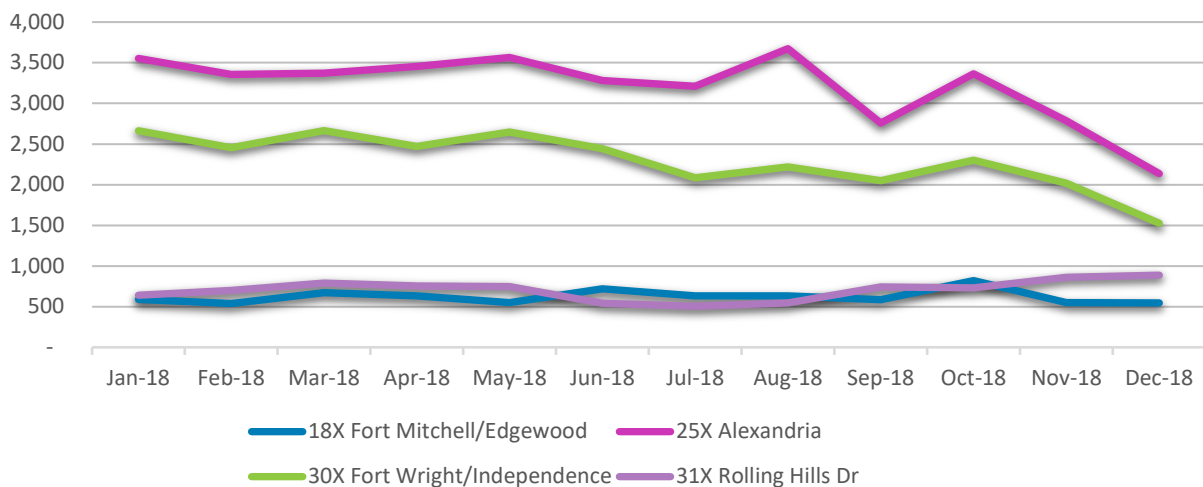
**Figure 7-7: FY 2018 – Express West Routes**



**Figure 7-8: FY 2018 – Express Central Routes**

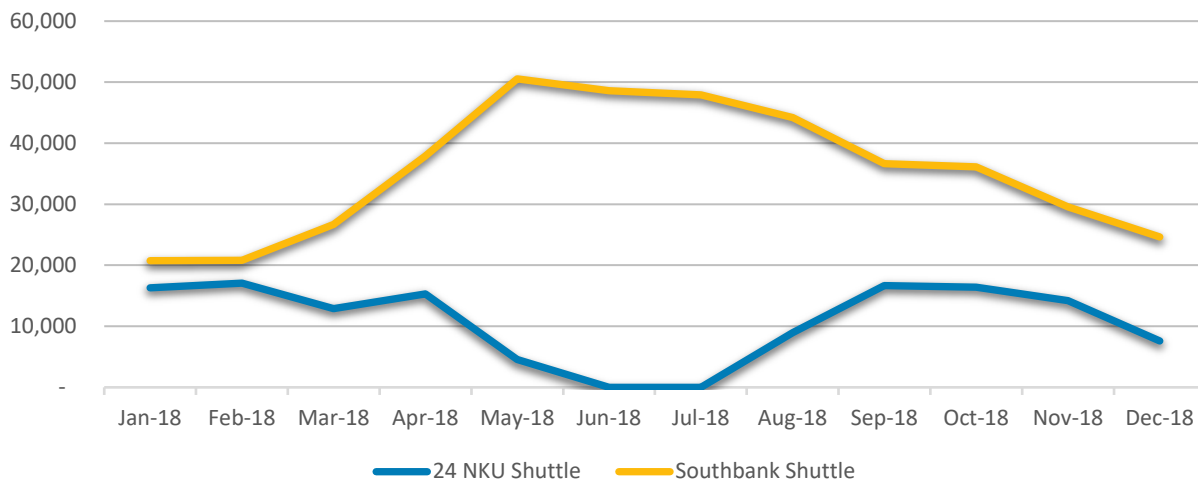


**Figure 7-9: FY 2018 – Express East Routes**





**Figure 7-10: FY 2018 – Shuttle Routes**



Note: NKU Shuttle only operates between August and May when school is in session.



## SECTION 8: SYSTEM LEVEL OPERATING & PERFORMANCE STATISTICS

This section includes an assessment of how efficiently TANK supplies fixed-route local and express transit service and how effectively those services meet the needs of the area, as well as trends of critical performance indicators aimed at understanding the existing system’s level of performance.

### 8.1 TANK Fixed-Route Critical Performance Indicators

Critical performance indicators have been included in Table 8-1, below. These indicators help highlight the recent performance trajectory of the transit agency and can be useful for addressing negative trends before their impact to the agency becomes too burdensome. The indicators included below reveal an agency that is battling similar overall declining performance in several key trends as other transit systems around the US as transit agencies struggle with attempting to stanch ridership losses of varying degree that have been occurring since about 2013. To this end, as the agencies lose ridership, they attempt to “right the ship” by adding new or enhanced service, resulting in more miles and hours of service that correspondingly drive up operating costs. As ridership continues to drop (albeit possibly at a lower rate because of some new trips captured by the enhancements), the agencies find that their key metrics continue to reflect lower effectiveness and efficiency because transit demand has not kept pace with the system growth that was intended specifically to generate more demand.

In TANK’s case, many key indicators reflect declining productivity: miles and hours of service have increased, resulting in growing operating costs, but passenger trip demand has not responded sufficiently to reflect the improvements to the system. It is important to recognize that TANK ridership decline over the last half decade has been extremely moderate compared to that of its peer systems and many transit agencies around the country. In addition, without the service improvements implemented by TANK, the decline in ridership and performance metrics would be worse.

As a result of staff efforts to control costs, however, it is apparent that some indicators still reflect an agency that continues to try and move in the right direction by maintaining some level of cost efficiency (at least on a per-mile and per-peak vehicle basis). For this reason, a major goal for TANK staff of this System Redesign Study is to take a fresh look at its routes and network structure to see how it can be “re-imagined” in order to turn the agency’s performance indicators in a positive direction once again, thereby indicating a healthy transit agency moving in a progressive direction while meeting the needs of its existing patrons.



**Table 8-1: TANK Performance Indicators**

Indicator	2014/15	20105/16	2016/17	Performance
<b>Trips/Hour (System-wide)</b>	15.86	15.57	14.24	↓
<b>Trips/Mile (System-wide)</b>	1.15	1.10	0.98	↓
<b>Transit System Operating Recovery Ratio</b>	22.62%	22.04%	19.66%	↓
<b>Cost/Service Mile (System-wide)</b>	\$6.15	\$6.00	\$5.99	↓
<b>Cost/Service Hour (System-wide)</b>	\$85.01	\$84.69	\$86.96	↑
<b>Cost/Trip (System-wide)</b>	\$5.35	\$5.44	\$6.11	↑
<b>Cost/Peak Vehicle (System-wide)</b>	\$217,643	\$206,673	\$201,626	↓

Source: National Transit Database (NTD)

A brief data-based review of the level of investment in transit within the TANK service area is provided in Table 8-2. The table reflects transit investment in terms of a series of service density metrics that help describe how much service is being provided and consumed within the service area on a per-person (or per-square mile) basis. These measures are effective for TANK to use moving forward in helping shape policy decisions about the agency since the information is readily comparable to other peer agencies or communities. Table 8-2 uses service area size and service area population from the TANK National Transit Database (NTD) reports: 267 square miles and 278,653 persons, respectively. Vehicle revenue hours (224,901), passenger trips (3,202,515), and operating expense (\$19,557,731) are all from TANK’s annual operating report for FY 2017.

**Table 8-2: Transit Investment**

Service Density Metric	Measure
<b>Vehicle Revenue Hours per Capita</b>	0.81
<b>Vehicle Revenue Hours per Square Mile</b>	842
<b>Passenger Trips per Capita</b>	11.46
<b>Operating Costs per Capita</b>	\$70.19

Source: National Transit Database (NTD)



On-time performance also was analyzed to determine for which routes service reliability is or is not problematic and thus to identify where improvements may be prudent and beneficial for route schedules as they are considered for modification in the redesign process. Specifically, on-time performance can be useful for evaluating route segments where lower ridership and consistent delay may warrant an alignment modification, a schedule adjustment, or some other mitigating treatment(s).

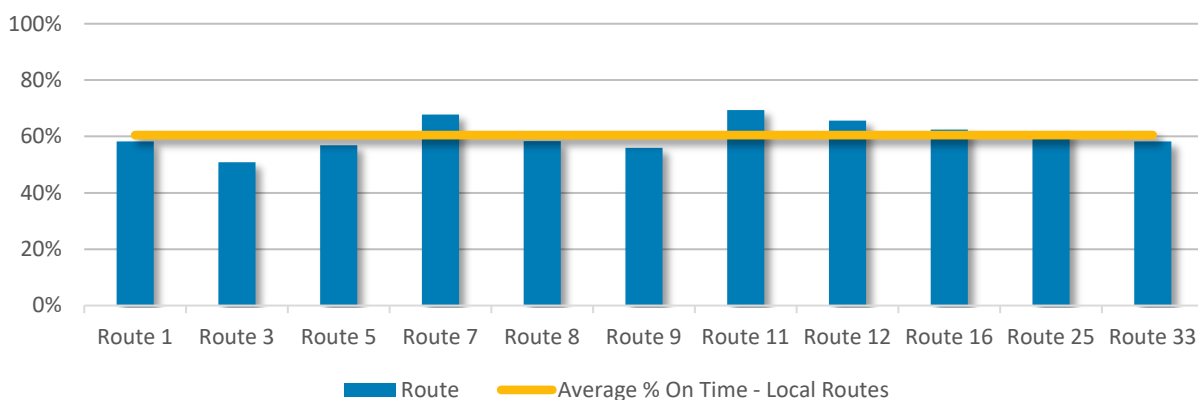
On-time performance from July 2018 is included in Table 8-3 and Table 8-4 for TANK’s local and express routes, respectively. As shown in Table 8-3, 5 out of the 11 local routes are on-time over 60 percent of the time, with no route performing below 50 percent for this metric. In addition, 5 out of 14 express routes are on-time over 60 percent of the time, as well. In the two tables, note that all local and express routes with less than 60 percent on-time performance are highlighted in bold. In addition, Figure 8-1 and Figure 8-2 show graphically how the TANK local and express routes compare to the system average for on-time performance. Most agencies elect to use a standard on-time performance of 85 percent or better. TANK currently operates below this standard which may suggest that TANK should consider alignment modification(s), schedule adjustment, or some other mitigating treatment(s) to improve on-time performance for the system.

**Table 8-3: On-Time Performance – Local Routes (July 2018)**

Local Routes	Percent Early	Rank	Percent Late	Rank	Percent On Time	Rank
<b>1</b>	5.08%	9	36.73%	9	<b>58.18%</b>	<b>8</b>
<b>3</b>	6.44%	7	42.68%	11	<b>50.88%</b>	<b>11</b>
<b>5</b>	9.51%	4	33.60%	5	<b>56.89%</b>	<b>9</b>
<b>7</b>	6.86%	6	25.33%	2	67.81%	2
<b>8</b>	5.94%	8	35.74%	8	<b>58.32%</b>	<b>6</b>
<b>9</b>	9.62%	3	34.40%	7	<b>55.98%</b>	<b>10</b>
<b>11</b>	9.64%	2	20.94%	1	69.42%	1
<b>12</b>	8.94%	5	25.50%	3	65.56%	3
<b>16</b>	3.36%	11	34.23%	6	62.42%	4
<b>25</b>	10.44%	1	27.83%	4	61.72%	5
<b>33</b>	4.79%	10	36.99%	10	<b>58.22%</b>	<b>7</b>

Source: TANK

**Figure 8-1: On-Time Performance – Local Routes (July 2018)**



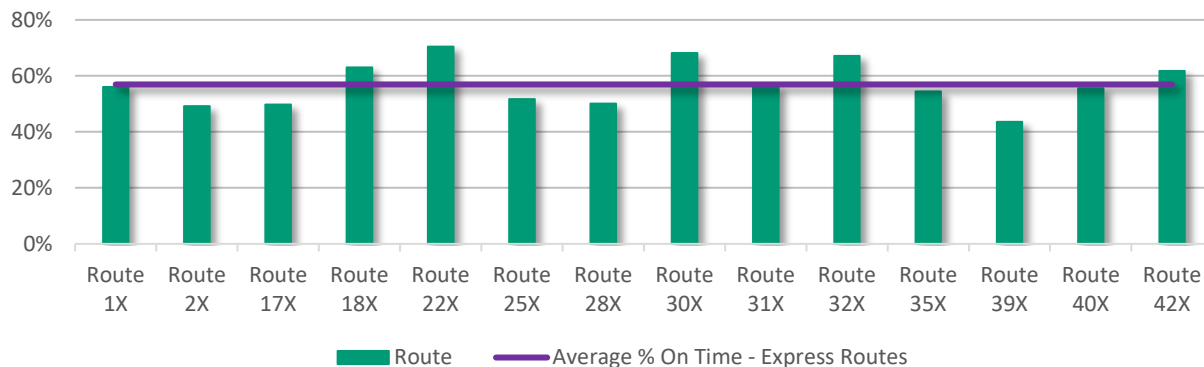


**Table 8-4: On-Time Performance – Express Routes (July 2018)**

Express Routes	Percent Early	Rank	Percent Late	Rank	Percent On Time	Rank
1X	15.04%	4	28.94%	7	56.02%	7
2X	18.70%	2	32.11%	9	49.18%	13
17X	6.43%	12	43.86%	13	49.71%	12
18X	9.32%	8	27.68%	6	62.99%	4
22X	9.22%	9	20.35%	2	70.42%	1
25X	36.91%	1	11.43%	1	51.66%	10
28X	10.98%	6	38.90%	12	50.11%	11
30X	6.88%	11	24.91%	3	68.21%	2
31X	18.13%	3	25.63%	4	56.25%	6
32X	6.92%	10	25.94%	5	67.15%	3
35X	10.00%	7	35.55%	11	54.45%	9
39X	2.92%	14	53.50%	14	43.58%	14
40X	13.90%	5	30.47%	8	55.64%	8
42X	3.81%	13	34.40%	10	61.80%	5

Source: TANK

**Figure 8-2: On-Time Performance – Express Routes (July 2018)**



## 8.2 TANK Fixed-Route Productivity

To assess how efficiently TANK supplies fixed-route transit service and how effectively those services meet the needs of the area, a trend analysis of passenger trips per revenue miles was conducted for 2014–2018. Each route is compared to TANK’s currently established service standard for this measure, which is 0.82 passenger trips per revenue mile for local routes and 0.39 passenger trips per revenue mile for express routes. Note the higher volume of passengers per local route is the result of the local bus serving more bus stops and thus more passenger boardings and alightings than is the case for express service, which tend to serve few stops and operate closed door service until the bus reaches its final destination.

Figures 8-3 through 8-7 show passenger trips per revenue mile from 2014 to 2018 for TANK’s local routes and shuttle services against the service standard. As shown, the NKU Shuttle and Southbank Shuttle have the highest passenger trips per revenue mile from 2014 to 2018, while Route 9 (Taylor



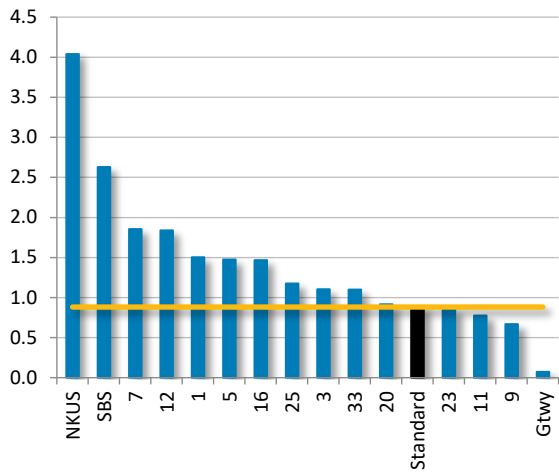


Mill/Independence) has consistently had one of the two lowest passenger trips per revenue mile metrics among TANK’s local services over the last five years.

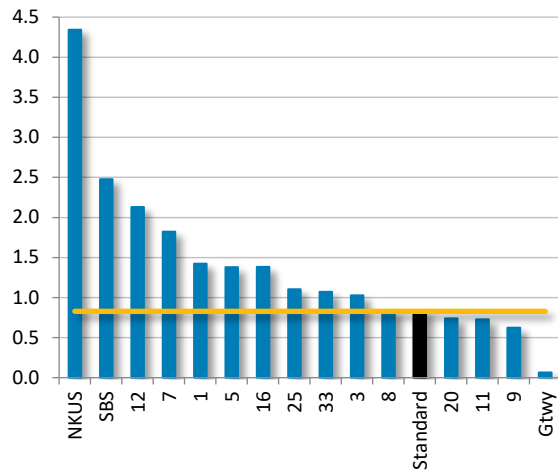
Figures 8-8 through 8-12 show passenger trips per revenue mile from 2014 to 2018 for TANK’s express routes against the service standard. As shown, from 2014 to 2018, Routes 31X (Rolling Hills Drive) and 25X (Alexandria) have had the highest passenger trips per revenue mile measures among TANK’s express routes, while Routes 21X (now discontinued) and 35X (East-West) have had the lowest passenger trips per revenue mile measures over the five-year period among TANK’s express services.



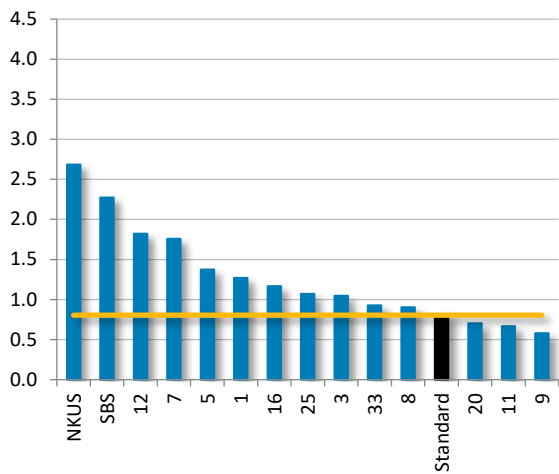
**Figure 8-3: 2014 Trips per Mile - Local**



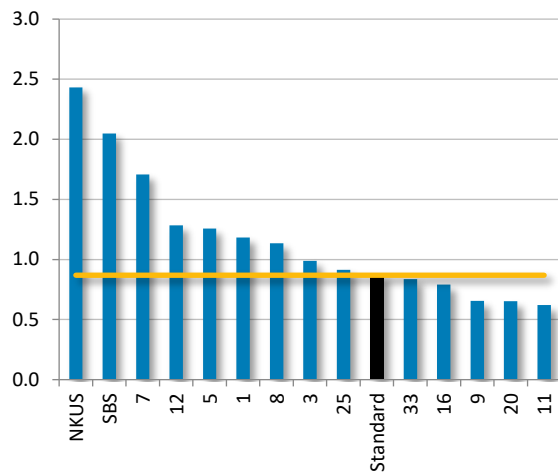
**Figure 8-4: 2015 Trips per Mile - Local**



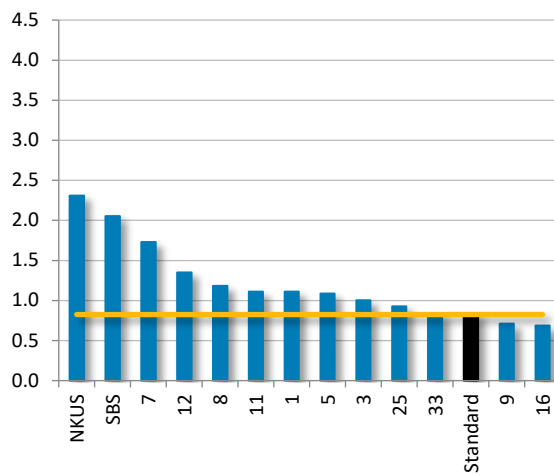
**Figure 8-5: 2016 Trips per Mile - Local**



**Figure 8-6: 2017 Trips per Mile - Local**

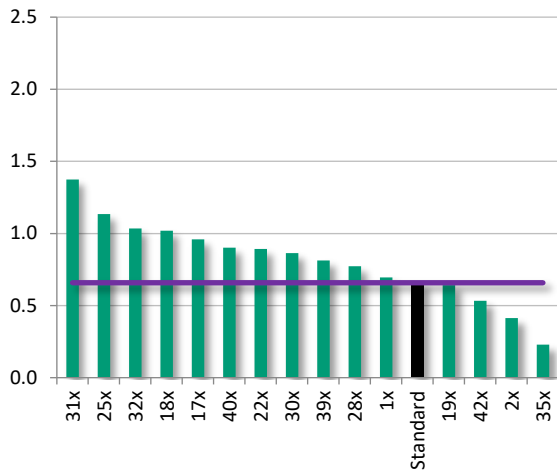


**Figure 8-7: 2018 Trips per Mile - Local**

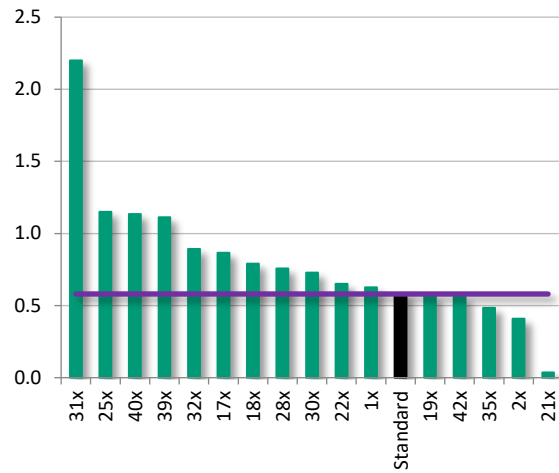




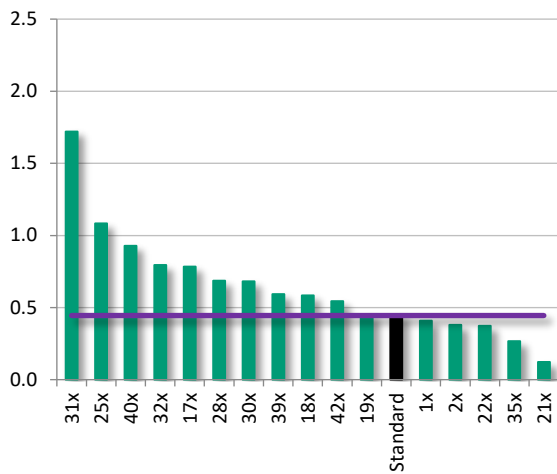
**Figure 8-8: 2014 Trips per Mile - Express**



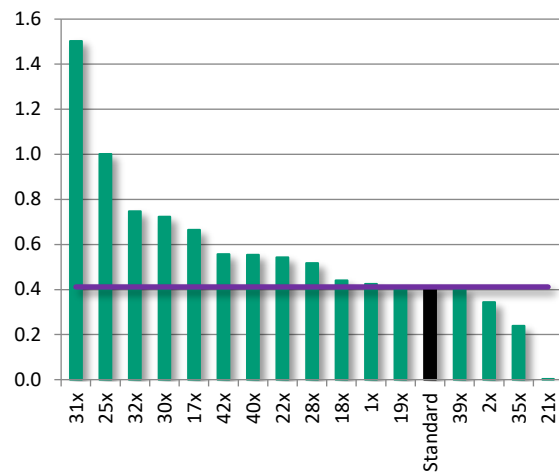
**Figure 8-9: 2015 Trips per Mile - Express**



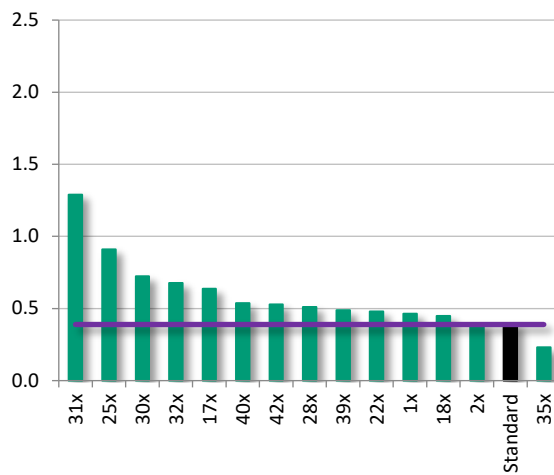
**Figure 8-10: 2016 Trips per Mile - Express**



**Figure 8-11: 2017 Trips per Mile - Express**



**Figure 8-12: 2018 Trips per Mile - Express**





### 8.3 TANK Fixed-Route Financial Characteristics

In order to examine TANK’s recent performance in terms of cost efficiency, financial data were compiled from NTD for the last six years from 2012 to 2017. This section summarizes the trends that were identified for the following financial characteristics.

- Operating Expense per Passenger Mile
- Operating Expense per Passenger Trip
- Operating Expense per Revenue Hour
- Operating Expense per Revenue Mile
- Operating Expense per Service Area Capita
- Total Maintenance Expense
- Total Operating Expense

#### 8.3.1 Operating Expense per Passenger Mile

Reported as operating expense per passenger mile, this cost measure reflects the efficiency of the agency’s fixed-route services in terms of its operating outlay for each passenger mile of service consumed by its patrons. This measure considers the impact that trip length has on performance since, based on the nature and layout of any given transit agency, it is the case that some riders will make long trips while others will make shorter ones. Overall, the cost per passenger mile metric has remained below the 2017 national average, despite fluctuating somewhat over the six-year period, as shown in Figure 8-13. This is likely a reflection of the longer average trip lengths taken by TANK riders on the agency’s express services helping moderate the costs of the overall fixed-route service provision.

Figure 8-13: Operating Expense per Passenger Mile



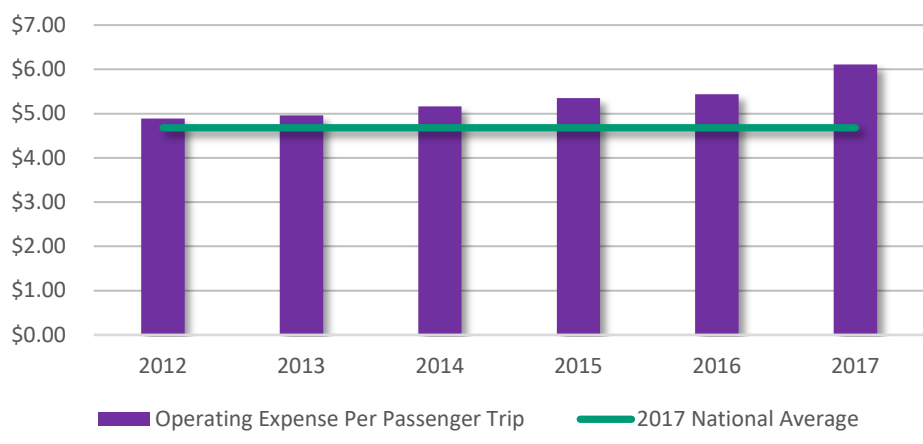
Source: NTD, 2019



### 8.3.2 Operating Expense per Passenger Trip

Operating expense per passenger trip is similar to the prior cost measure involving passenger miles in that it measures the general cost efficiency of transporting riders, but this trip-based metric does not account for the variability in trip length to help explain costs. This measure is often considered a key indicator of comparative performance since it reflects both the efficiency with which service is delivered and the market demands for the service. For TANK, the cost per trip in 2017 is greater than the national average (\$4.68) for that year, and the measure has been increasing since 2012, as shown in Figure 8-14.

**Figure 8-14: Operating Expense per Passenger Trip**



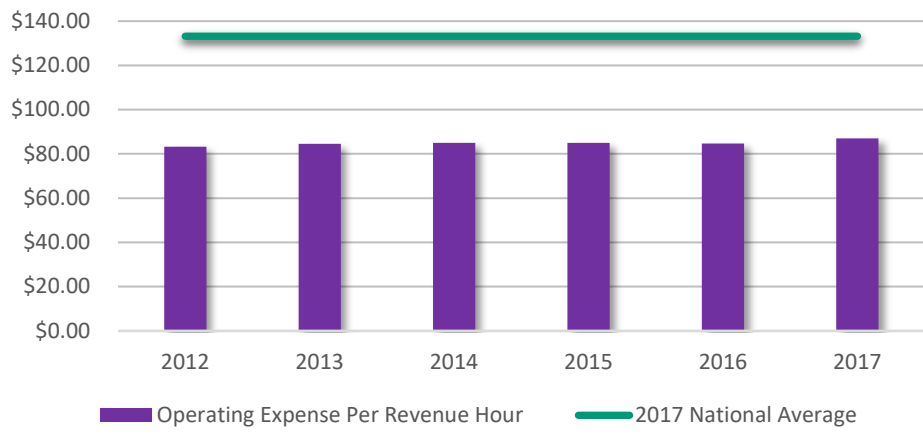
Source: NTD, 2019

### 8.3.3 Operating Expense per Revenue Hour

Operating expense per revenue hour is one of two key cost measures that examines the efficiency with which service delivery is occurring for an agency. A stable or decreasing trend in this measure ensures that transit service is being delivered efficiently on a per-revenue hour basis while controlling the costs associated with its provision. The revenue hour component of the measure is determined by the total number of hours that an agency’s fixed-route vehicles are available to pick up, transport, and drop off passengers for a fare (i.e., in revenue service), including any scheduled layovers between trips. Over the last six years, TANK has maintained a stable cost per revenue hour metric, and its level in 2017 was much lower than the national average, as shown in Figure 8-15.



**Figure 8-15: Operating Expense per Revenue Hour**

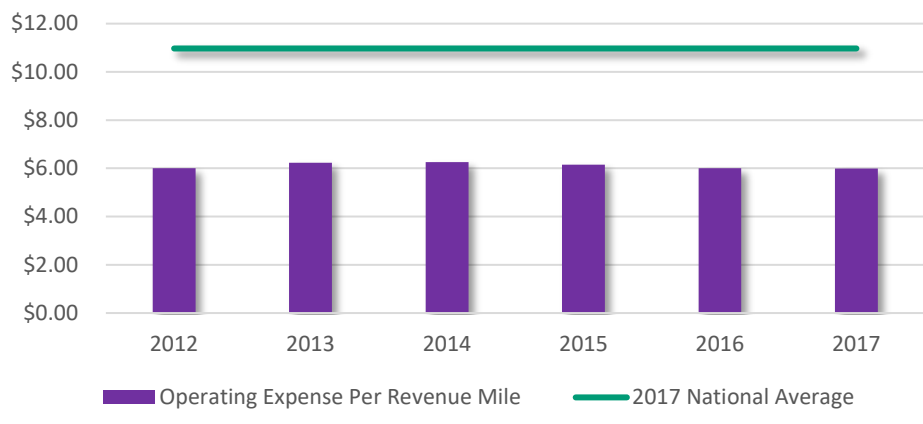


Source: NTD, 2019

### 8.3.4 Operating Expense per Revenue Mile

The other key cost measure that can highlight the efficiency with which service delivery is occurring for an agency is operating expense per revenue mile. It is similar to the revenue hour measure except that the amount of revenue service provided over the course of a year is measured in terms of distance rather than time. In fact, the TANK goal for efficiency is measured by the operating expense per revenue mile metric. The cost per revenue mile metric for TANK peaked in 2014 at \$6.26, but has decreased since then, as shown in Figure 8-16. In addition, TANK’s cost per revenue mile was nearly \$5.00 lower than the national average in 2017.

**Figure 8-16: Operating Expense per Revenue Mile**



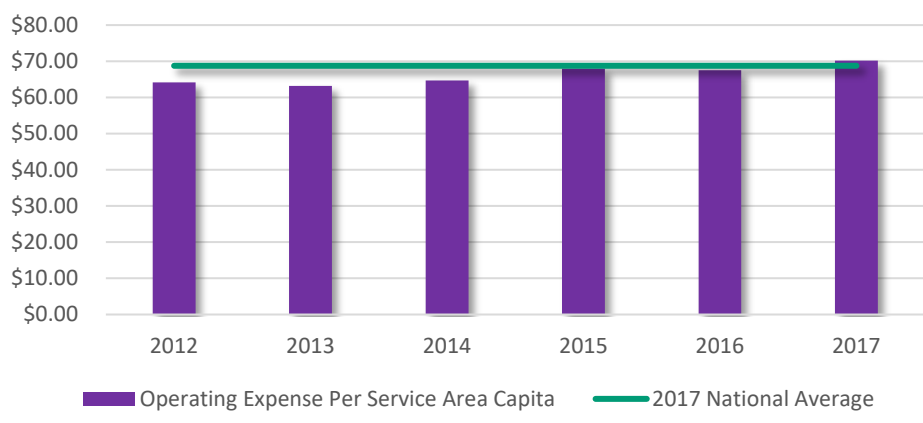
National Average: includes data for motorbus only  
 Source: NTD, 2019



### 8.3.5 Operating Expense per Service Area Capita

This measure divides an agency’s total operating expense by the number of persons within its service area. Regardless of whether everyone in a community uses transit, the metric is used as a proxy indicator for the total resource commitment made to transit within the community measured on a per-person basis. Over the past six years, the cost per capita for TANK has increased nine percent from 2012 to 2017. In addition, the cost expended per capita was almost level with the national average in 2017. Figure 8-17 shows the trend in this cost measure for TANK from 2012 to 2017.

**Figure 8-17: Operating Expense per Service Area Capita**



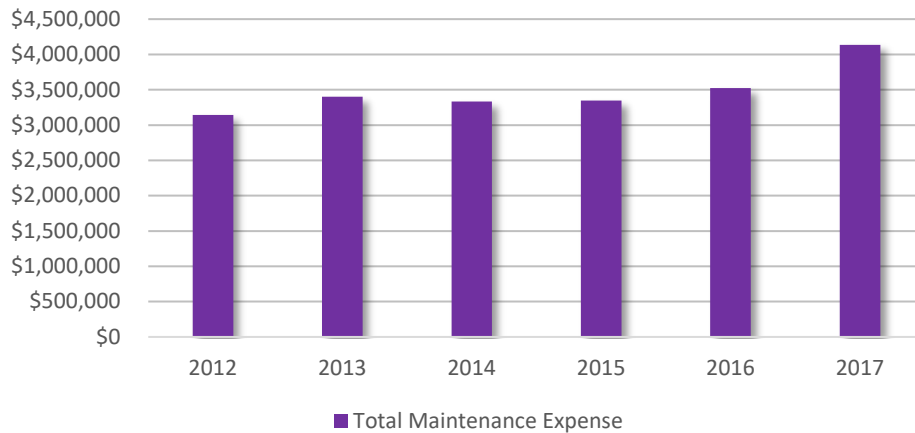
National Average: includes data for motorbus only.  
Source: NTD, 2019

### 8.3.6 Total Maintenance Expense

An important factor in both the provision and utilization of transit service is its reliability. If vehicles constantly break down or are in a state of disrepair, patrons will look for other mobility options. While there are several indicators available within the NTD to ascertain the condition of an agency’s vehicle fleet and how they are performing in terms of reliability, a basic yet key indicator to consider is total maintenance expense. This measure includes all expenses involved in the maintenance of an agency’s vehicle fleet and is a subset of total operating expense. Sudden increases without a corresponding logical cause (i.e., increase in fleet size) in this expense indicator can highlight an issue with the fleet that may be having an impact on performance. As shown in Figure 8-18, maintenance costs generally remained stable with minor fluctuations from 2012 to 2016. However, it seems that these costs grew more significantly in 2017 than the previous experience, resulting in an overall increase of nearly 32 percent over the entire 6-year trend. Without an otherwise apparent cause, this increase in cost is assumed to be equated with an aging fleet with decreasing warranty protections and increasing maintenance issues.



**Figure 8-18: Total Maintenance Expense**

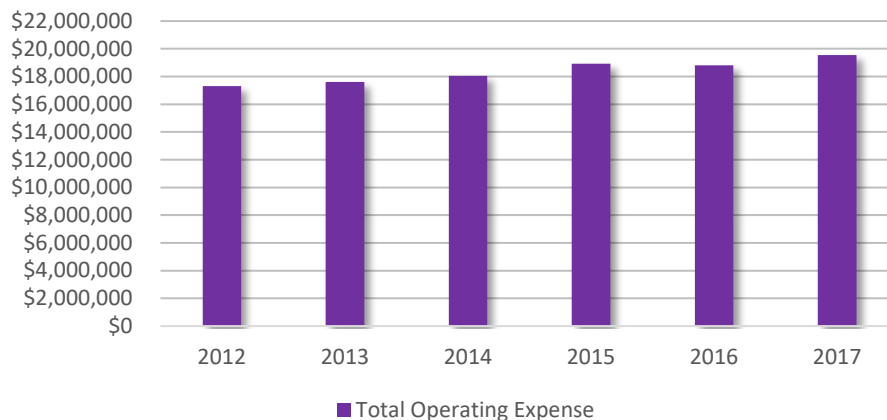


Note: National average was not calculated for this characteristic.  
Source: NTD, 2019

### 8.3.7 Total Operating Expense

Total operating expense is a measure of the total spending of a transit agency on its operations, including administration, maintenance, and operation of its service vehicles. While this indicator typically is examined in conjunction with other service characteristics to ascertain various aspects of system performance from the cost efficiency perspective, it also can be beneficial to consider its trend and ensure that it does not reflect wild fluctuations and/or precipitous increases. To this end, Figure 8-19 shows the total operating expense trend for TANK, which has increased from \$17,301,984 in 2012 to \$19,557,731 in 2017, an increase of 13 percent over the six-year period. The steady increase over time is typical of total transit cost trends as external factors are always going to have inflationary impacts on costs in the absence of any changes to system service levels. In fact, this relatively small increase over the six years suggests that TANK has been doing an excellent job at controlling costs given that much of the 13 percent growth can be explained away by inflation.

**Figure 8-19: Total Operating Expense**



Note: National average was not calculated for this characteristic.  
Source: NTD, 2019





## SECTION 9: FARE STRUCTURE & FAREBOX DATA

TANK’s fare structure has been in effect for the last six years, since November 2013. The fares that TANK charges its customers are included in Table 9-1, below. As shown, a single local fixed-route service ride costs \$1.50. Discounted fares are available to seniors (65 and over), individuals with disabilities, and students. In addition, TANK also offers partnership fares provided for several institutions in the service area. Also, a note is that TANK charges for transfers between its services.

**Table 9-1: TANK Fare Structure**

<b>Cash Fare (per trip)</b>	
Local Fixed-Route Adult	\$1.50
Local Route Reduced Fare (senior/disabled)	\$0.75 + reduced fare card or Metro Fare Deal Card
Express Service	\$2.00
Express Route Reduced Fare (senior/disabled)	\$1.00 + reduced fare card or Metro Fare Deal Card
Southbank Shuttle	\$1.00 or one token
Reduced Fare on Southbank Shuttle	\$0.75 + reduced fare card or Metro Fare Deal Card
RAMP	\$2.50
Student	\$1.00
Children Under 45"	Ride free when accompanied by an adult
<b>TANK Transfers</b>	
TANK to TANK	\$0.25
Metro to TANK Local	\$0.75
Metro to TANK Express	\$1.00
TANK to Metro (zone 1)	\$0.85
<b>10 Ride Passes/Ticket Books</b>	
TANK Regular 10 Ride Pass	\$13.560
Express 10 Ride Pass	\$18.00
RAMP Ticket Book (10 Rides)	\$22.50
Student Ticket	\$10.00
<b>Day Passes</b>	
30 Day Pass (unlimited travel on all local service buses and Southbank Shuttle; additional fare of \$0.50 to ride an express route)	\$53.00
30 Day Express Pass (unlimited travel on all TANK routes; valid for 30 consecutive days from 1 <sup>st</sup> use)	\$70.00
30 Day Southbank Shuttle Pass (unlimited travel on Southbank Shuttle’s only; valid for 30 consecutive days from 1 <sup>st</sup> use)	\$44.00
1 Day/3 Day/ 5 Day (valid for unlimited travel on all TANK routes for the calendar day or dates designated on the pass)	\$3.50/\$10.00/\$15.00
Levee/30 Day TANK Pass (valid for parking at Newport on the Levee surface lot B and TANK 30-day pass)	\$78.00
CTC/TANK 30 Pass (valid from 6:00 AM to 6:00 PM parking at CTC and TANK 30-day pass)	\$85.00
<b>Monthly Passes</b>	
RAMP Monthly Pass	\$88.00
Reduced Fare Local and Southbank Monthly Sticker (additional fare of \$0.50 is required to ride an express route)	\$25.00 (reduced fare card + local monthly sticker)
Reduced Fare Express Service Sticker	\$40 (reduced fare card + local monthly sticker + express sticker)
Metro/TANK Pass (additional fare of \$0.50 is required to ride an express route)	\$105.00 (may add express sticker for additional \$10)
Metro/TANK Express Pass (valid for rides on all TANK routes)	\$115.00
U-Pass Program (NKU, Gateway staff, faculty, students)	Free with valid University ID

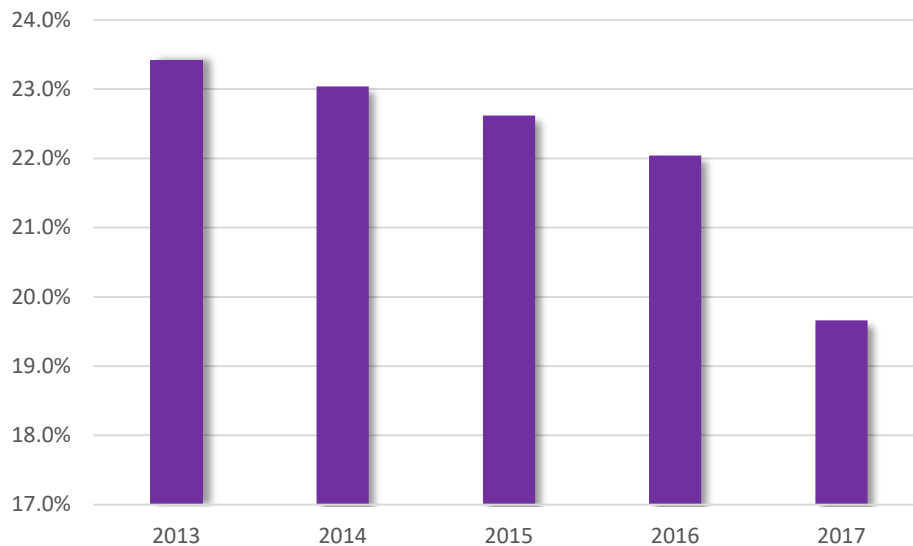
Source: TANK



## 9.1 Farebox Revenue & Recovery Ratio

The farebox recovery ratio is the percentage of transit operating expenses that are covered by revenues from transit fares. Since 2013, the farebox recovery ratio has been in decline, which is a direct result of TANK’s decreasing ridership and increasing operating expenses during this time. Figure 9-1 shows the farebox recovery ratio for the TANK fixed route service for the five-year trend from 2013 to 2017.

**Figure 9-1: Farebox Recovery Ratio**

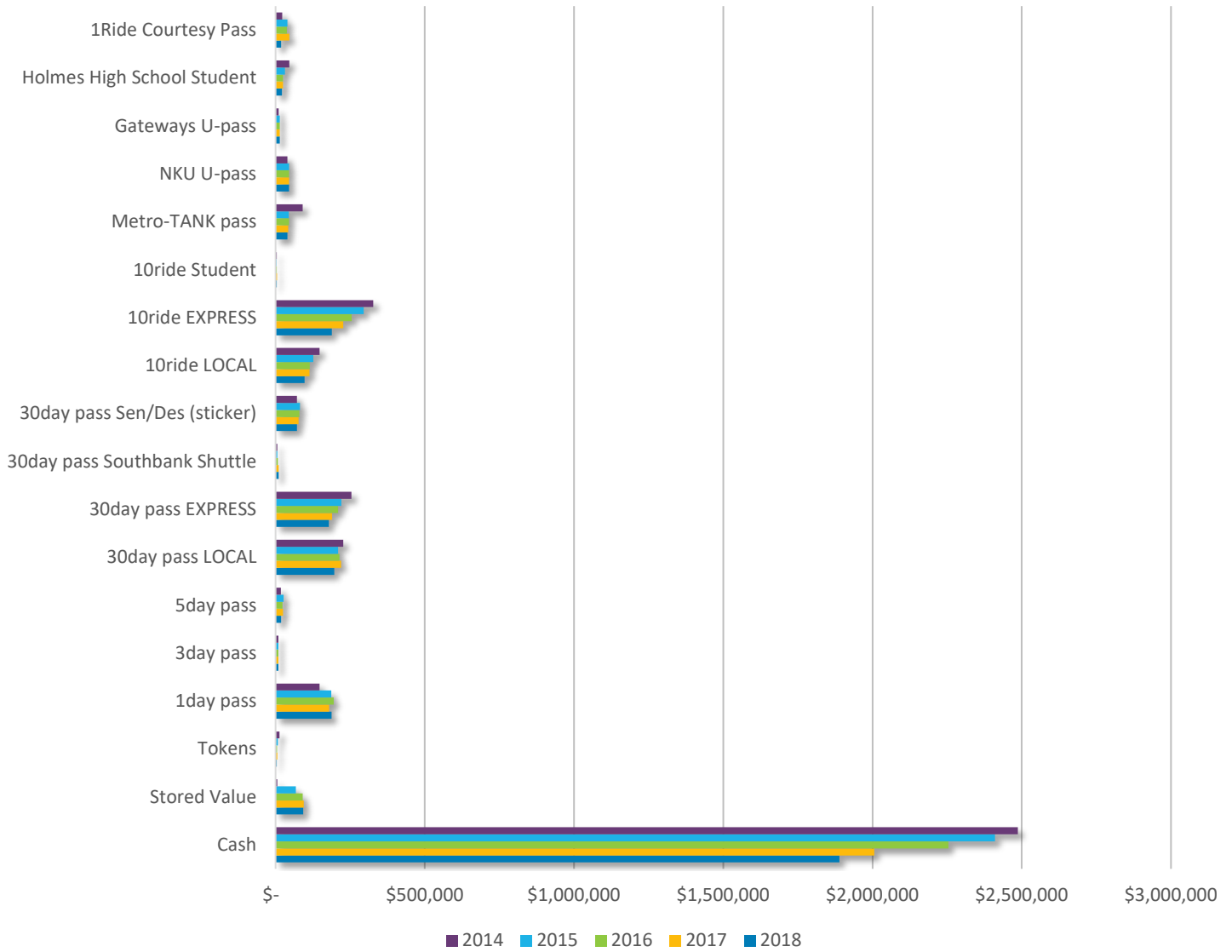


Source: NTD, 2017

As previously discussed, TANK has 18 different fare options available to their riders. The most common fare option utilized (in terms of fare revenue generation) is cash followed by the 30-day Local Pass option and 10 Ride Express, as shown in Figure 9-2. Other common fare options include the 10 Ride Local and 30-day Express. A few fare options that have increased in use over the 5-year period include the Stored Value Card, the 1-day Pass, and the NKU U-Pass. Potential recommendations associated with TANK’s fare structure will be considered later in the System Redesign Study process.



**Figure 9-2: Fixed-Route Farebox Revenue (2014 – 2018)**



Source: TANK, 2018



## SECTION 10: PRIOR STUDY SURVEY RESULTS, PRIOR RECOMMENDATIONS & OPERATOR INPUT FINDINGS

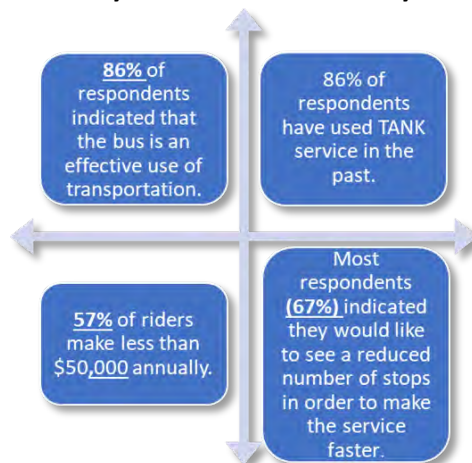
It often can be instructive to examine prior transit study results before embarking on present day changes to a transit system’s network and/or services. The study results may offer additional context with which to understand existing service needs and issues, provide more community input to consider before addressing those needs and issues, and even offer logical recommendations that still may have applicability today. To take advantage of such potential insights, prior TANK study results and recommendations are examined in this section. Additionally, summary findings from the informal meetings that were held with TANK operators as a part of the current study also are included herein to further help flesh out the scope of the various needs and issues that may be important to consider for improvement during the redesign process.

### 10.1 Prior Study Survey Results

The last Transit Network Study, completed in 2013, included a web-based online survey to gauge how people in the community were utilizing TANK services and their perceptions of the service. Some of the results are highlighted below. Figure 10-1 displays some of the key information gathered from that particular survey process.

- Approximately 50% of respondents encouraged TANK to provide more direct routes, while about 35% chose faster service.
- More than 400 respondents said it is important for Northern Kentucky to have a good transit service that serves older adults and individuals with disabilities, as well as individuals that have no other option to get around. In addition, more than 400 respondents strongly agreed that TANK should continue to serve employment centers in the service area.
- The majority of respondents requested that TANK operate the bus on time, followed by improved frequency of weekday service.

**Figure 10-1: Key 2013 TANK Community Survey Findings**



Source: TANK Transit Network Study (2014), Nelson\Nygaard Consulting Associates Inc.



In 2014, a separate ridership study was completed that involved transit intercept surveys of local and express bus riders, as well as an online survey of residents who had never ridden TANK or at least not ridden in the last six months. This survey process gathered various information about TANK ridership, including characteristics on a demographic level. At the time of the survey, more than half of the riders who used the local service provided by TANK were employed full-time and had no car available in their household. In addition, more than three-quarters of the riders who used either TANK’s local or express service indicated using it primarily for the work commute. Table 10-1 shows the breakdown of selected 2014 survey demographic results by local and express service.

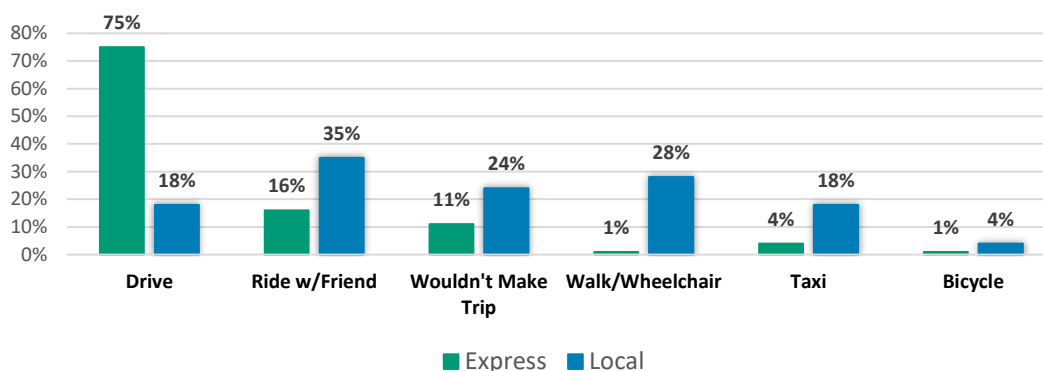
**Table 10-1: Selected TANK Ridership Study Survey Results (2014)**

Characteristics	Local	Express
<b>Zero Vehicle in Households</b>	57%	10%
<b>Employed Full-Time</b>	58%	93%
<b>Annual HH Income &lt;\$20,000</b>	52%	9%
<b>Annual HH Income &gt;\$50,000</b>	15%	63%
<b>Minority Population</b>	32%	22%
<b>Use TANK for Work Commute</b>	78%	96%
<b>Top Reasons for Riding TANK</b>	<ul style="list-style-type: none"> <li>• Save Gas Costs</li> <li>• Save Parking Costs</li> <li>• Avoid Traffic/Driving</li> </ul>	<ul style="list-style-type: none"> <li>• No Vehicle in Household</li> <li>• Don’t Drive</li> <li>• Save Gas Costs</li> </ul>

If TANK were not available, respondents were asked what other transportation option they would use to get to their destination. The majority of riders who rode express routes said that they would drive, while most of the riders who used local bus service would have to ride with a friend, as show in Figure 10-2.

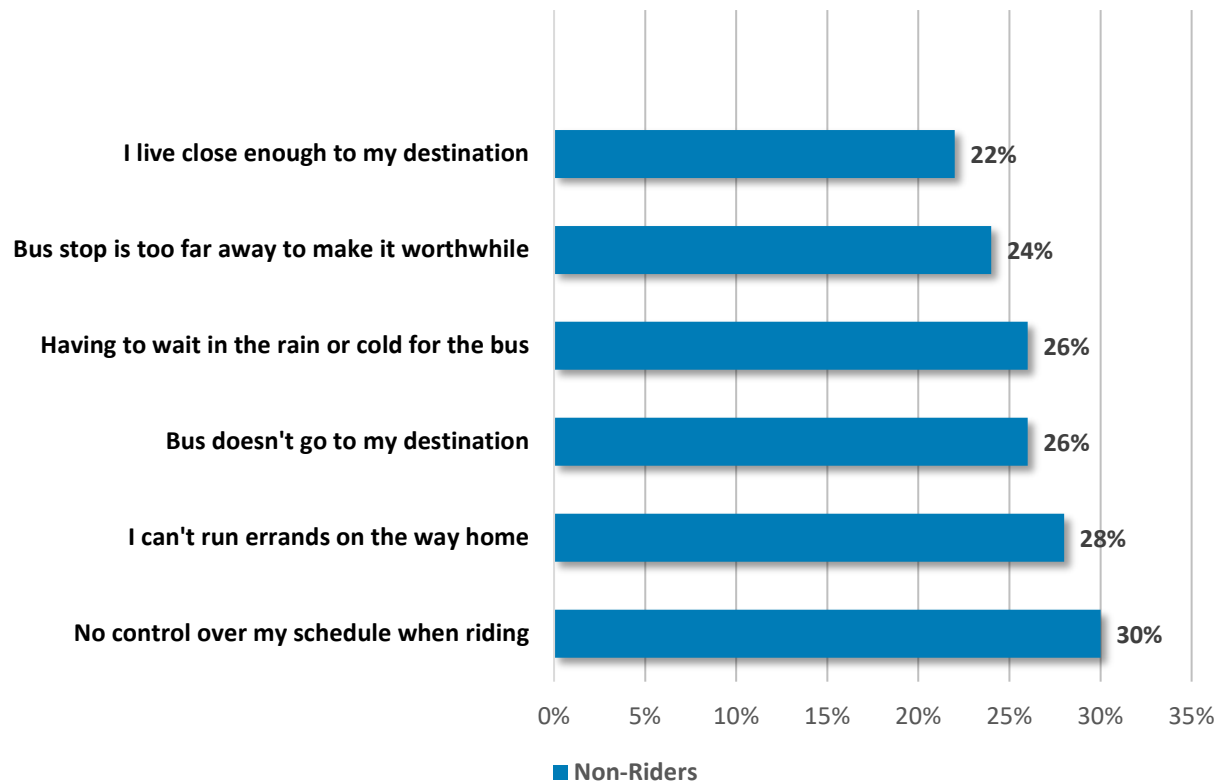
In the non-rider component of the survey process, respondents were asked what some of the barriers are that prevent them from using TANK as a transportation option. As shown in Figure 10-3, most of the non-riding respondents said that they lose control of their schedules when they use TANK. Other respondents indicated that they are unable to run errands on the way home if they were to use transit, or that the bus does not go to their destinations or they did not want to risk waiting in the cold or rain for the bus.

**Figure 10-2: Alternative Transportation Options if TANK were Not Available (2014)**





**Figure 10-3: Barriers to Riding Tank – Non-Riders (2014)**



## 10.2 Route-Level Proposed Service Improvements

The last Transit Network Study, completed in 2014, also included service-level recommendations for TANK to consider implementing. To ensure that these earlier recommendations are considered as a part of the System Redesign Study, especially those that have not been implemented, they are summarized below.

- It was recommended that Route 18X be truncated at Freedom Park in Edgewood because it was one of the least productive routes provided by TANK.
- It was recommended that Route 2X should serve the CVG and DHL facilities.
- It was recommended that during peak periods CVG industrial areas should be served by Route 1X, which would also serve both Convergys and Citi Campus, along with existing park-and-rides before deadheading back to the Houston Park-and-Ride.
- A flex option was recommended to serve the CVG Industrial Parks rather than Route 2X.
- It was recommended that Route 29X would become two separate express routes (Route 39X and Route 40X), which would provide faster, more direct service and increase service for new riders.
- It was recommended that Route 17X be truncated at the Buttermilk Park-and-Ride.



### 10.3 Bus Operator Meetings

The project team members spent time in the TANK operator break room on two occasions, Friday, June 21, 2019, and Wednesday, August 28, 2019, to provide an opportunity for operators to learn about the redesign study and provide input. Summary comments received from the operators have been documented previously. However, in this section, those comments have been reviewed specifically to compile the key reoccurring themes that were provided by TANK bus operators.

#### 10.3.1 Key Operator Findings

As noted in the prior documentation of the bus operator comments, the input from TANK operators can be categorized into three primary areas: route timing/scheduling concerns, agency/administrative concerns, and other specific route issues. Following are the key issues/concerns in these categories that TANK operators consistently brought up the most.

- Route Timing/Scheduling Concerns
  - More time needed in schedules, both to accommodate breaks at End of Line and to account for traffic congestion
  - Specific routes needing more time include Routes 1, 3, 5, 8, and 16
  - Scheduling process is very inefficient and should be fixed
- Agency/Administrative Concerns
  - Better communication and relationship with administration desired by operators
  - Various concerns expressed about working too many hours, high employee turnover, and dissatisfaction with current insurance carrier (United Health)
  - Desire a more efficient scheduling process that better considers seniority, long/short runs, etc.
- Other Specific Route Issues
  - Later night service needed on Routes 1, 3, 7, 9, and 12
  - More frequent weekend service needed, especially on Sundays (e.g., Route 3)
  - More cross-route connectivity needed
  - Better timing/connectivity between routes needed to accommodate transfers (e.g., Routes 1 and 25, 7 and 25, 6 and 18)
  - Improved bus stop infrastructure needed (e.g., light the shelters as they are difficult to see/find at night)
  - Some routes have very low ridership (e.g., Routes 3 and 11) and either should be cut or have smaller vehicles used on them



## SECTION 11: TRANSIT INFRASTRUCTURE

### 11.1 Park-and-Ride Locations

TANK currently serves 18 park-and-ride facilities throughout its existing service area. During the field work completed in June 2019, these park-and-rides were reviewed for utilization, ease of access, signage, amenities, and other considerations. Since some current TANK routes ultimately may be recommended for some level of truncation as part of the network redesign process, it is anticipated that some of these facilities may become unnecessary. Nevertheless, those that end up continuing to serve TANK local and express routes (and any new ones recommended for addition) will be considered for improvements, such as enhanced signage, shelters, comfortable seating, and/or lighting, which will benefit all who access transit via these locations. Table 11-1 provides a detailed summary of each park-and-ride served by TANK and Map 11-1 shows where the park-and-ride facilities are located throughout the service area.

**Table 11-1: Park-and-Ride Inventory**

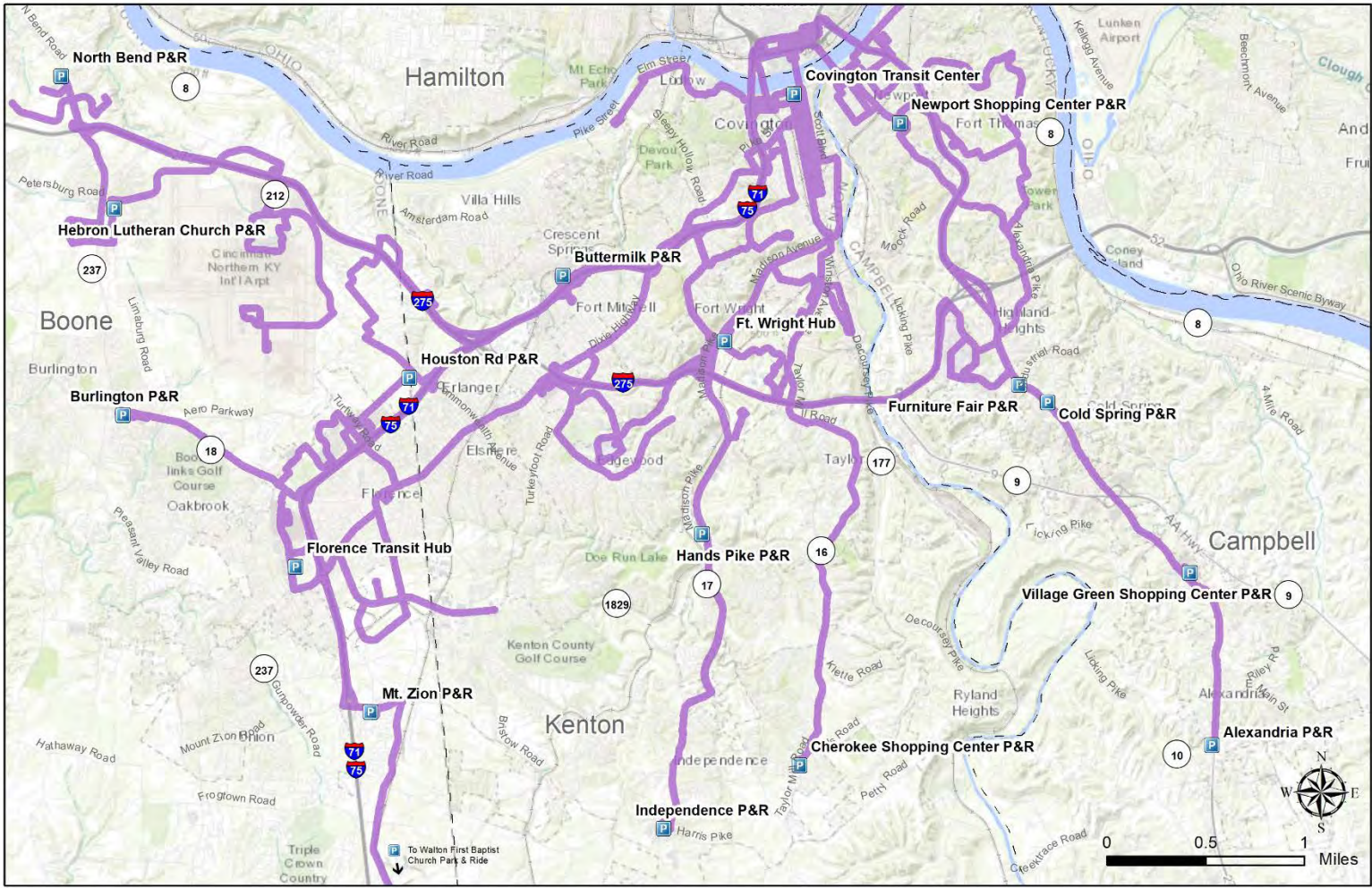
Facility Name	Parking Spaces	Routes Served	Amenities
<b>Boone County</b>			
Burlington Park-and-Ride	52	32X	Bike racks, bus shelter
Hebron Lutheran Church Park-and-Ride	50	39X	
Mt. Zion Park-and-Ride	75	22X	Bike racks, bus shelter
Florence Hub	168	1, 35X, 42X	Bike racks, bus shelter
North Bend Park-and-Ride	48	40X	Bike racks, bus shelter
Walton First Baptist Church Park-and-Ride	47	22X	
Houston Road Park-and-Ride	125	1X, 42X	Bus shelter
<b>Campbell County</b>			
Alexandria Park-and-Ride	157	25X	Bike racks, bus shelter
Furniture Fair Park-and-Ride	29	25, 25X, 35X	
Cold Springs Park-and-Ride	53	25, 25X	Bike racks, bus shelter
Newport Shopping Center Park-and-Ride	70	16, 25	
Village Green Shopping Center Park-and-Ride	150	25, 25X	Bus shelter
<b>Kenton County</b>			
Buttermilk Park-and-Ride	164	17X, 42X	Parking garage, covered waiting area, benches, bike rack
Covington Transit Center	1,500	1, 1X, 2X, 3, 5, 7, 8, 9, 12, 16, 17X, 25, 28X, 30X, 33, 39X, 40X, 42X	Parking garage, covered waiting area, benches, restroom, phones
Hands Pike Park-and-Ride	81	30X	Bike rack
Fort Wright Hub	200	5, 8, 28X, 30X, 31X, 33X, 35X	Bike racks, bus shelter
Independence Park-and-Ride	50	30X	Bike racks, benches, bus shelter
Cherokee Shopping Center Park-and-Ride	25	9	


Source: TANK





Map 11-1: Existing Services and Facilities



<p><b>Legend</b></p> <ul style="list-style-type: none"> <li><span style="color: purple; font-weight: bold;">—</span> TANK Routes</li> <li><span style="border: 1px solid blue; padding: 2px;">P</span> Park &amp; Ride Lots</li> </ul>	<p>Existing Services and Facilities</p> 
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## 11.2 Existing Shelters

Transit shelters are a key amenity for use at stops with higher levels of daily ridership activity. They are a key infrastructure element for helping make service more attractive, especially for non-users, since they are desired by riders who must wait for service for more than a few minutes, they offer a visual identifier of a bus stop location as well as general representation (at least perceptually) of the overall quality of the transit agency and its services, and they provide protection from inclement weather or the sun. For most transit agencies, the goal is to provide visually appealing bus shelters that are comfortable places to wait, connected to adjacent development by safe and accessible walking conditions.

In TANK’s case, the field review determined that, presently, the shelter inventory is varied with shelters of different style, brand/look, and condition. For example, the City of Crestview Hills has adopted its own shelter design, which is uniform throughout the city, as shown in Figure 11-1. Different shelter designs, however, occur in other areas of the agency’s service area, as shown in Figure 11-2 and Figure 11-3. Figure 11-4 shows the new shelter style and branding for Route 1 (Dixie Highway) to better highlight the new Dixie Corridor BRT-type service on the route. As a part of the System Redesign Study, it is anticipated that various infrastructure recommendations will be made to encourage TANK to identify a uniform shelter design and brand, so the bus service and its stops will be more noticeable for both existing patrons and potential new riders.

**Figure 11-1: Dixie Highway at Winding Way Shelter**



**Figure 11-2: Empire Drive at Dixie Highway Shelter**



**Figure 11-3: Empire Drive at Dixie Highway Shelter**



**Figure 11-4: Alexandria Park-and-Ride Shelter**



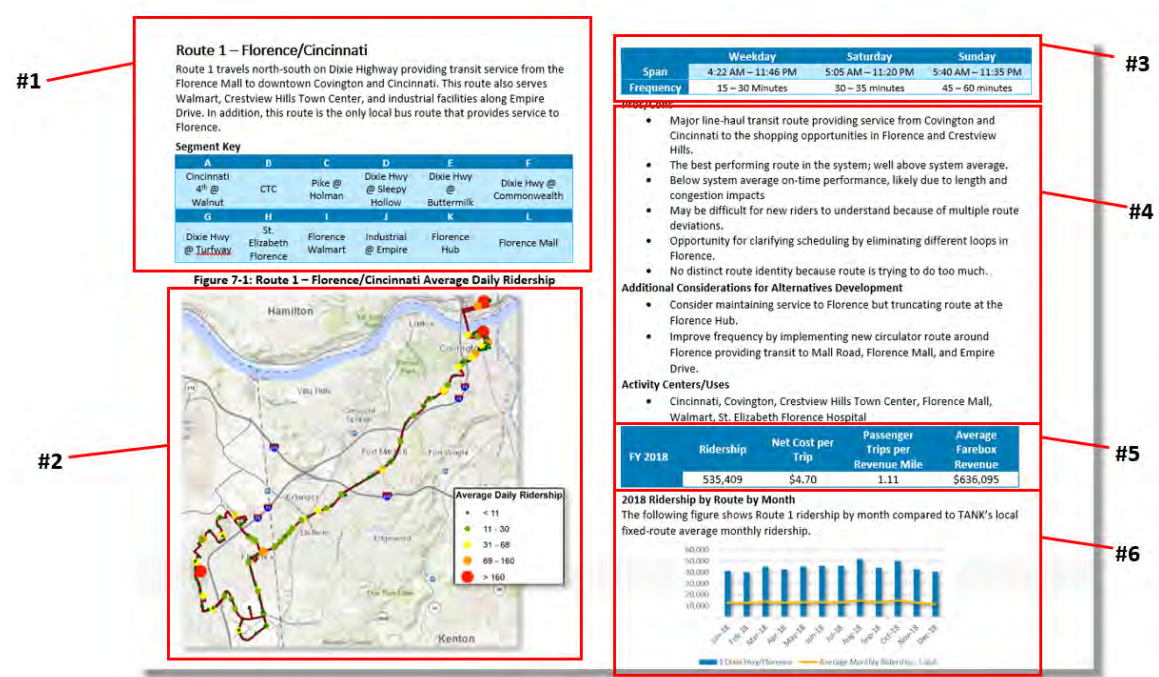


## SECTION 12: ROUTE PROFILES

This section presents route-by-route profiles for each transit route to highlight an analysis of each route’s performance and the challenges it faces. In addition, the route profiles include information on where the route operates, daily and monthly ridership levels, span and frequency information, project team observations, considerations for alternatives, and activity centers/uses served. Figure 12-1 highlights the elements located in each route profile.

1. Describes the route in the route profile and highlights major areas served along the route. A segment key is also provided which highlights major time points along the route.
2. Illustrates the average daily boardings gathered through the APC data provided by TANK. This identifies stops along each route that have the highest average daily ridership or where stops have the lowest average daily ridership. The APC data is an important tool used in route modification for the System Redesign Study.
3. Shows span and frequency information for each route. This is an important metric to reference when considering frequency modifications to new routes or existing routes.
4. This section provides pros/cons by route, as well as observations gathered during the project team field visit. This section also provides preliminary route modification notes, which are being considered as the project team begins route modifications. In addition, this section also highlights activity centers and uses served along each route.
5. Provides FY 2018 ridership information, financial metrics, and passenger trips per revenue mile data derived through TANK’s performance statistics and financial information.
6. Shows ridership by month for local and express service compared to the TANK system average. This figure shows whether the route has the potential to meet ridership demands compared to other routes in the system.

**Figure 12-1: Route Profile Key**





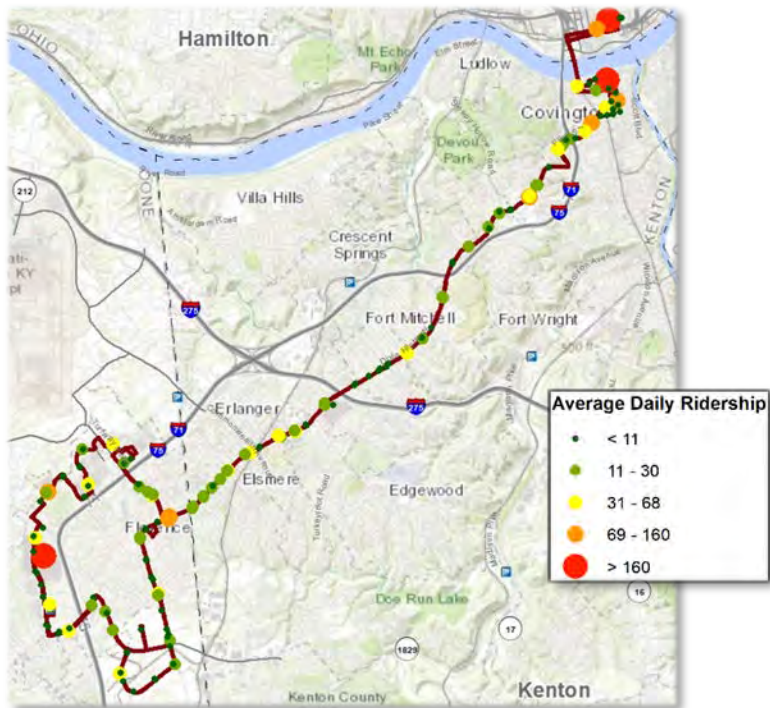
### Route 1 – Florence/Cincinnati

Route 1 travels north-south on Dixie Highway providing transit service from the Florence Mall to Downtown Covington and Cincinnati. This route also serves Walmart, Crestview Hills Town Center, and industrial facilities along Empire Drive. In addition, this route is the only local bus route that provides service to Florence.

#### Segment Key

A	B	C	D	E	F
Cincinnati 4th @ Walnut	CTC	Pike @ Holman	Dixie Hwy @ Sleepy Hollow	Dixie Hwy @ Buttermilk	Dixie Hwy @ Commonwealth
G	H	I	J	K	L
Dixie Hwy @ Turfway	St. Elizabeth Florence	Florence Walmart	Industrial @ Empire	Florence Hub	Florence Mall

### Route 1 – Florence/Cincinnati Average Daily Ridership



	Weekday	Saturday	Sunday
<b>Span</b>	4:22 AM – 11:46 PM	5:05 AM – 11:20 PM	5:40 AM – 11:35 PM
<b>Frequency</b>	15 – 30 Minutes	30 – 35 minutes	45 – 60 minutes

#### Pros/Cons

- Major line-haul transit route providing service from Covington and Cincinnati to the shopping opportunities in Florence and Crestview Hills.
- The best performing route in the system; well above system average.
- Below system average on-time performance, likely due to length and congestion impacts
- May be difficult for new riders to understand because of multiple route deviations.
- Opportunity for clarifying scheduling by eliminating different loops in Florence.
- No distinct route identity because route is trying to do too much.

#### Additional Considerations for Alternatives Development

- Consider maintaining service to Florence but truncating route at the Florence Hub.
- Improve frequency by implementing new circulator route around Florence providing transit to Mall Road, Florence Mall, and Empire Drive.

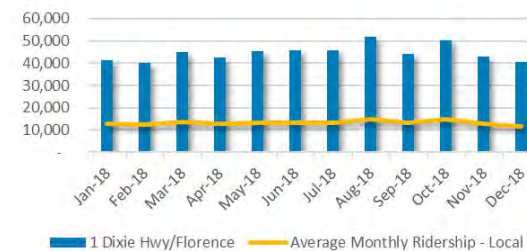
#### Activity Centers/Uses

- Cincinnati, Covington, Crestview Hills Town Center, Florence Mall, Walmart, St. Elizabeth Florence Hospital

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	535,409	\$4.70	1.11	\$636,095

#### 2018 Ridership by Route by Month

The following figure shows Route 1 ridership by month compared to TANK's local fixed-route average monthly ridership.





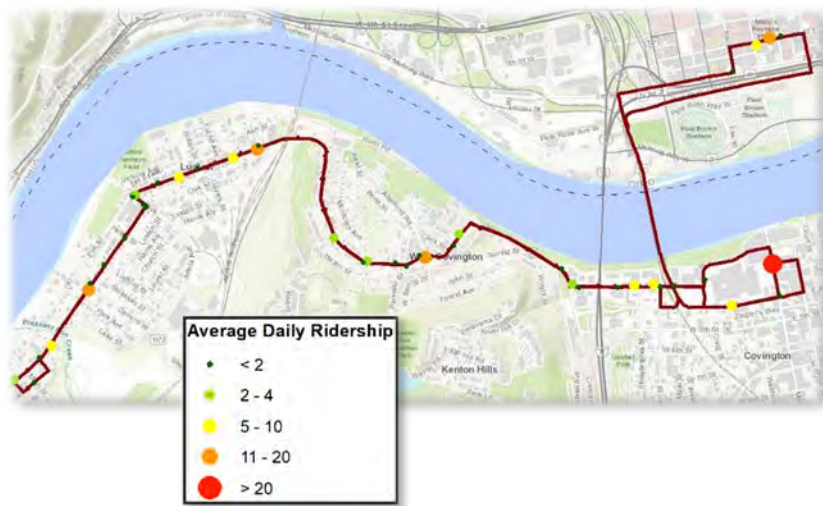
### Route 3 – Ludlow/Bromley

Route 3 travels east-west along the south bank of the Ohio River, providing transit to Bromley, Covington, and Cincinnati via Elm Street/Highway Avenue. Multiple transfer opportunities are available to and from Route 3 in Covington and Cincinnati.

#### Segment Key

A	B	C	D	E	F
Cincinnati 4 <sup>th</sup> @ Walnut	CTC	3 <sup>rd</sup> St @ Johnson	Highway @ Altamont	Elm @ Kenner	Oak @ Pleasant

#### Route 3 – Ludlow/Bromley Average Daily Ridership



	Weekday	Saturday	Sunday
Span	5:20 AM – 6:45 PM	7:45 AM – 9:45 AM 3:00 PM – 4:56 PM	7:45 AM – 9:45 AM 3:00 PM – 4:56 PM
Frequency	30 Minutes	60 Minutes	60 Minutes

#### Pros/Cons

- Only route that provides transit to Bromley, Ludlow, and West Covington
- Below system average on-time performance, likely due to corridor speeds and geometry constraints, as well as congestion in the downtown areas.
- This route has some of the lowest ridership in the TANK service.

#### Additional Considerations for Alternatives Development

- Consider maintaining service to Bromley, Ludlow, and West Covington.
- Improve on-time performance and frequency by terminating route at CTC.

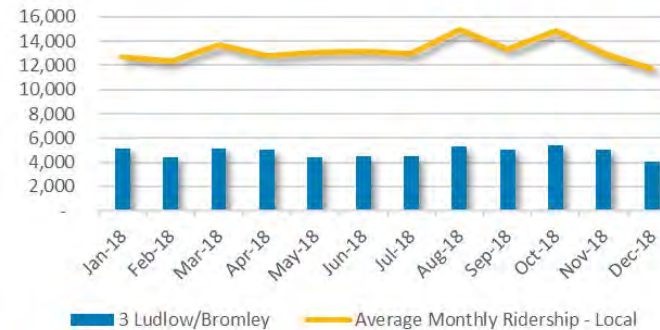
#### Activity Centers/Uses

- Cincinnati, Covington, Bromley, Ludlow

FY 2018	Ridership	Net Cost per Trip	Passengers Trips per Revenue Mile	Average Farebox Revenue
	58,065	\$5.88	1.00	\$68,368

#### 2018 Ridership by Route by Month

The following figure shows Route 3 ridership by month compared to TANK’s local fixed-route average monthly ridership.





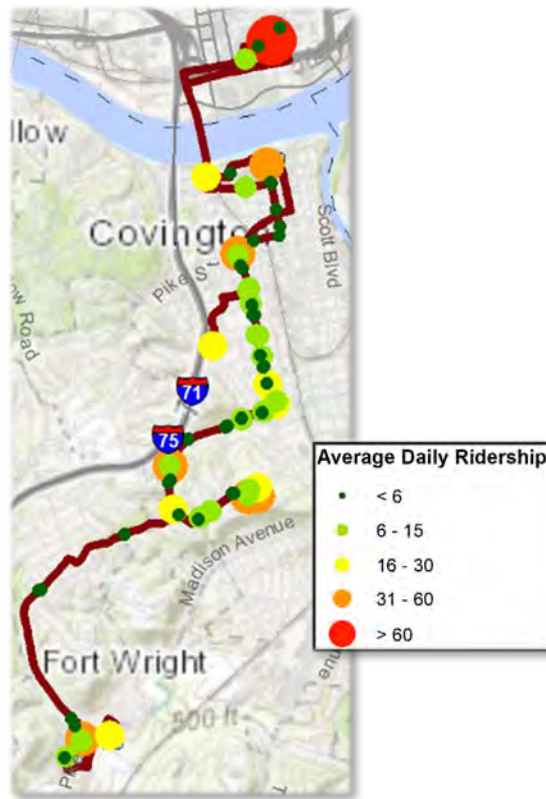
### Route 5 – Holman Avenue/Fort Wright

Route 5 travels north-south providing service to Fort Wright, City Heights, Covington, and Cincinnati via Highland Park and Holman Avenue. Multiple transfer opportunities are available to and from Route 5 at Fort Wright, Covington, and Cincinnati.

#### Segment Key

A	B	C	D	E
Cincinnati 4 <sup>th</sup> @ Walnut	CTC	Holman @ Pike	St. Elizabeth Covington	Holman @ 19 <sup>th</sup> St.
F	G	H	I	
Hanser @ Highland	City Heights Todd @ Benton	Walmart	Fort Wright Hub	

### Route 5 – Holman Avenue/Fort Wright Average Daily Ridership



	Weekday	Saturday	Sunday
Span	4:38 AM – 9:35 PM	7:00 AM – 9:12 PM	8:42 AM – 9:12 PM
Frequency	40 – 60 Minutes	102 Minutes	102 Minutes

#### Pros/Cons

- This route provides service to City Heights and neighborhoods along Highland Pike.
- Ridership is around the system average despite the routes lack of frequency.
- Below system average on-time performance, likely due to corridor speed and geometry constraints, as well as congestion in the downtown areas.
- Duplicates much of the service connecting at the Fort Wright Hub.

#### Additional Considerations for Alternatives Development

- Must maintain service to City Heights.
- Improve frequency by terminating route at Walmart in Fort Wright and at CTC in the north.

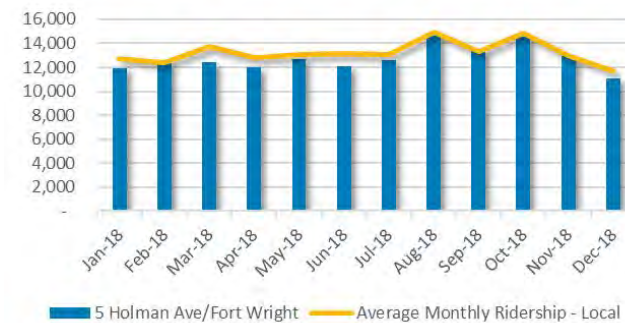
#### Activity Centers/Uses

- Cincinnati, Covington, Walmart, St. Elizabeth Hospital, City Heights

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	152,635	\$5.63	1.09	\$178,598

#### 2018 Ridership by Route by Month

The following figure shows Route 5 ridership by month compared to TANK’s local fixed-route average monthly ridership.





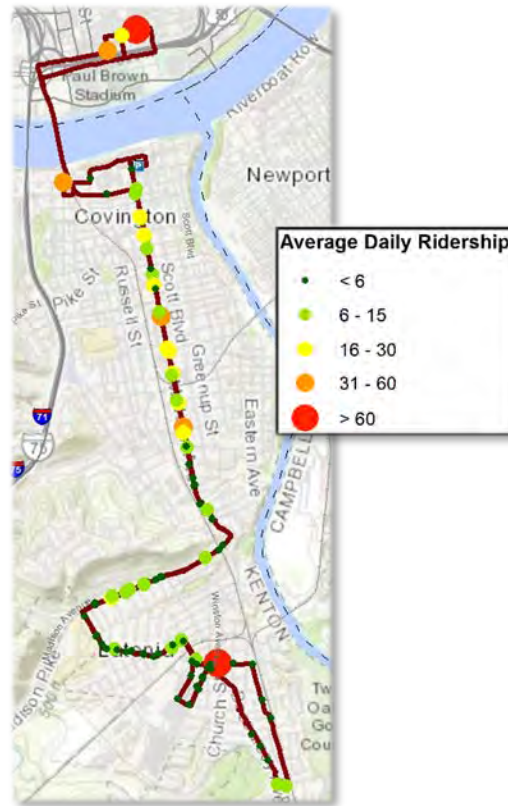
### Route 7 – Madison Avenue/Latonia

Route 7 provides service between Latonia, Covington, and Cincinnati via Madison Avenue. This route provides direct service to southeast Covington before traveling inbound to CTC.

#### Segment Key

A	B	C	D	E
Cincinnati 4 <sup>th</sup> @ Walnut	CTC	Madison @ 7 <sup>th</sup> St.	Madison @ 20 <sup>th</sup> St.	Madison @ Rosina
F	G	H	I	J
Latonia Plaza	Decoursey @ 38 <sup>th</sup> St.	45 <sup>th</sup> St. @ Huntington	Southern @ Church	Vine @ 4 <sup>th</sup>

### Route 7 – Madison Avenue/Latonia Average Daily Ridership



	Weekday	Saturday	Sunday
<b>Span</b>	4:35 AM – 12:15 AM	5:42 AM – 12:00 AM	6:13 AM – 10:40 PM
<b>Frequency</b>	30 – 60 Minutes	60 – 90 Minutes	60 Minutes

#### Pros/Cons

- Route 7 has consistent ridership above the system average.
- Route operates much of the same corridor as 28X and parallels Routes 8, 9, and 33.
- Route has above system average on-time performance.
- Only route providing circulation with Latonia.

#### Additional Considerations for Alternatives Development

- Route could have better frequency if it terminated at CTC rather than traveling into Cincinnati.
- Route travels too far south and should be truncated at 40<sup>th</sup> St.
- Route’s Decoursey and Huntington loop is not well utilized at its southern extent, so it should be shortened (e.g., 40<sup>th</sup> Street).
- Route performance may be improved by not circulating with Latonia Place.

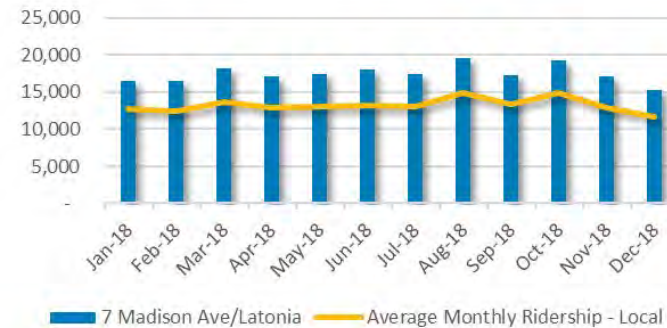
#### Activity Centers/Uses

- Cincinnati, Covington, Latonia Plaza, Holmes High School, Holy Cross High School

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	209,915	\$4.20	1.73	\$233,622

#### 2018 Ridership by Route by Month

The following figure shows Route 7 ridership by month compared to TANK’s local fixed-route average monthly ridership.





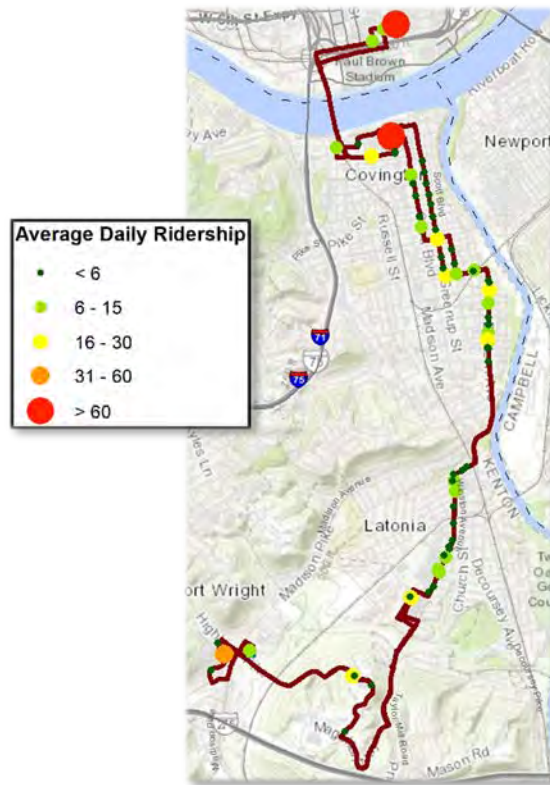
### Route 8 – Eastern Ave/Fort Wright

Route 8 travels mostly north-south providing service between Fort Wright, Taylor Mill, Latonia, Covington, and Cincinnati via Taylor Mill Road, Winston Avenue, and Eastern Avenue. Multiple transfer opportunities are available to and from Route 8 in Covington and Cincinnati.

#### Segment Key

A	B	C	D	E
Cincinnati 4 <sup>th</sup> @ Walnut	CTC	Grand @ 13 <sup>th</sup> St	Madison @ 20 <sup>th</sup> St.	Madison @ Rosina
F	G	H	I	J
Latonia Plaza	Decoursey @ 38 <sup>th</sup> St.	45 <sup>th</sup> St. @ Huntington	Southern @ Church	Vine @ 4th

#### Route 8 – Eastern Ave/Fort Wright Average Daily Ridership



	Weekday	Saturday	Sunday
<b>Span</b>	4:14 AM – 10:45 PM	5:30 AM – 10:10 PM	5:30 AM – 9:20 PM
<b>Frequency</b>	30 – 60 Minutes	50 Minutes	50 Minutes

#### Pros/Cons

- Solid transit route with minimal deviations between Fort Wright and Covington; serves denser neighborhoods of Austinburg and Latonia.
- Route 8 has ridership consistently above the system average.
- Route 8 has significant overlap with Route 9.
- Below system average on-time performance, likely due to length and congestion in the downtown areas.
- Poorly used segment of route on Magellan Way that serves the Fidelity Campus is primarily designed to access difficult-to-reach Cambridge Square Apartments.

#### Additional Considerations for Alternatives Development

- Improve frequency.
- Consider deleting unproductive service on Magellan Way.
- Possibly consolidate Scott/Greenup service in Covington onto Madison Avenue to create a denser transit corridor.

#### Activity Centers/Uses

- Cincinnati, Covington, Latonia Plaza, Holy Cross High School, Kroger, Walmart

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	190,090	\$4.95	1.18	\$213,280

#### 2018 Ridership by Route by Month

The following figure shows Route 8 ridership by month compared to TANK’s local fixed-route average monthly ridership.







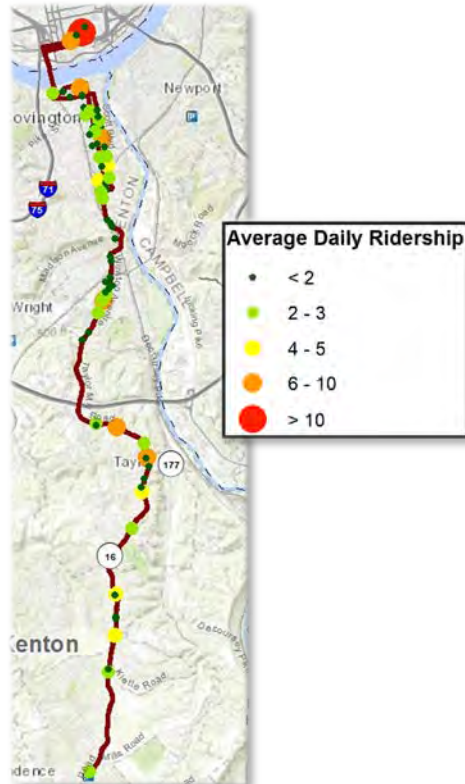
### Route 9 – Taylor Mill/Independence

Route 9 travels north-south providing service between Independence, Taylor Mill, Latonia, Covington, and Cincinnati via Taylor Mill Road and Winston Avenue. Multiple transfer opportunities are available to and from Route 9 in Covington and Cincinnati.

#### Segment Key

A	B	C	D	E	F	G
Cincinnati 4 <sup>th</sup> @ Walnut	CTC	Scott @ 7 <sup>th</sup> St	Madison @ 20 <sup>th</sup> St	Rittes Corner	Taylor Mill @ St. Matthew's	Park-and- Ride Cox Rd. @ Taylor Mill

### Route 9 – Taylor Mill/Independence Average Daily Ridership



	Weekday	Saturday	Sunday
<b>Span</b>	6:00 AM – 7:35 AM; 4:05 PM – 5:55 PM	No Service	No Service
<b>Frequency</b>	30 – 45 Minutes	N/A	N/A

#### Pros/Cons

- Local route is operating as an express; no weekend service.
- Route 9 has the lowest local fixed route ridership in the TANK system and primarily serves low density suburban land uses.
- Below system average on-time performance, likely due to length and congestion in the downtown areas.
- Route 9 has significant overlap with Route 8.

#### Additional Considerations for Alternatives Development

- Consider eliminating route, changing it over as an express route, or modify alignment.
- Possibly consolidate Scott/Greenup service in Covington onto Madison Avenue to create more dense transit corridor.
- Whether express or local, route should be truncated, with possible terminus at Rittes Corner.

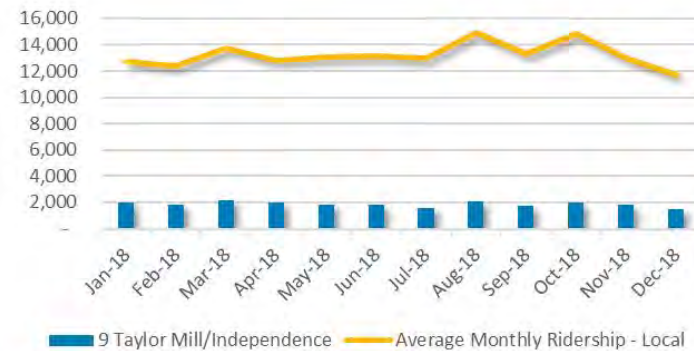
#### Activity Centers/Uses

- Cincinnati, Covington, Latonia Centre, Holy Cross High School, Remke

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	22,141	\$4.98	0.71	\$25,587

#### 2018 Ridership by Route by Month

The following figure shows Route 9 ridership by month compared to TANK's local fixed-route average monthly ridership.





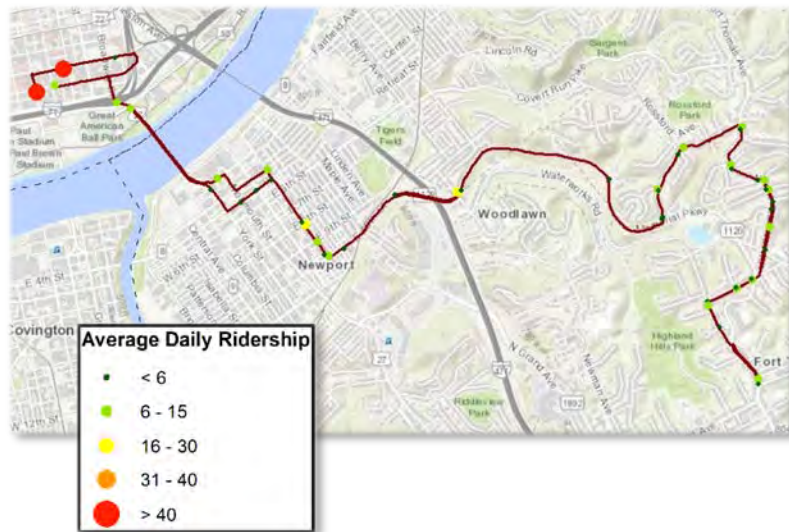
### Route 11 – Fort Thomas

Route 11 travels north-south providing service between Fort Thomas, Newport, and Cincinnati via Fort Thomas Avenue and Memorial Parkway. Multiple transfer opportunities are available to and from Route 11 in Cincinnati.

#### Segment Key

A	B	C	D	E
Cincinnati 4 <sup>th</sup> @ Walnut	3 <sup>rd</sup> @ York	10 <sup>th</sup> @ Washington	N. Ft. Thomas @ Rossford	N. Fort Thomas @ Lumley

#### Route 11 – Fort Thomas Average Daily Ridership



	Weekday	Saturday	Sunday
<b>Span</b>	5:40 AM – 7:55 AM; 3:55 PM – 6:10 PM	No Service	No Service
<b>Frequency</b>	45 Minutes	N/A	N/A

#### Pros/Cons

- Local route is operating as an express; no weekend service.
- Route 11 has the second lowest ridership in the TANK system; the route serves mostly suburban land uses.
- Currently has highest on-time performance among local routes, likely due to express nature and low utilization of the route.

#### Additional Considerations for Alternatives Development

- Consider eliminating route, changing it over to an express route, or providing alternative service.

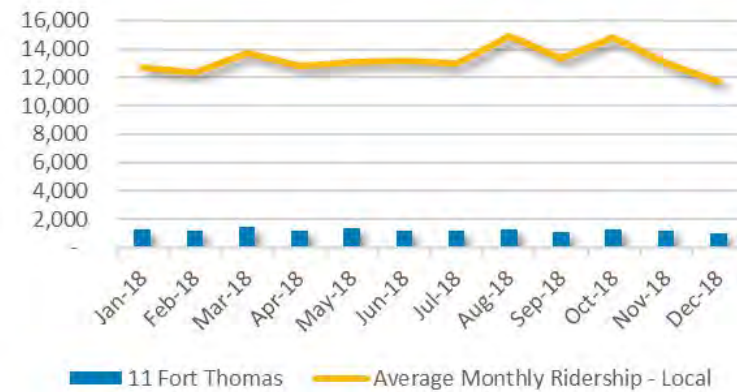
#### Activity Centers/Uses

- Cincinnati, Newport Pavilion, Highland High School, Newport on the Levee, St. Elizabeth Hospital

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	14,845	\$4.20	1.11	\$16,354

#### 2018 Ridership by Route by Month

The following figure shows Route 11 ridership by month compared to TANK’s local fixed-route average monthly ridership.





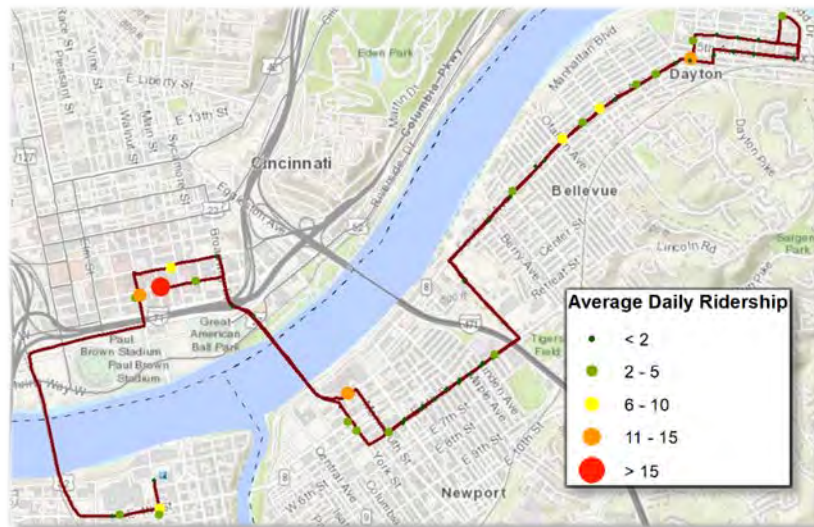
### Route 12 – Bellevue/Dayton

Route 12 travels east-west along the south bank of the Ohio River providing service between Dayton, Newport, Covington, and Cincinnati via Fairfield Avenue and 6<sup>th</sup> Street. Multiple transfer opportunities are available to and from Route 12 in Cincinnati and Covington.

#### Segment Key

A	B	C	D	E	F
CTC	Vine @ 4 <sup>th</sup> (Cincinnati)	5 <sup>th</sup> @ York	Fairfield Ave @ Taylor	6 <sup>th</sup> St. @ Clay	Clark @ 4 <sup>th</sup>

#### Route 12 – Bellevue/Dayton Average Daily Ridership



	Weekday	Saturday	Sunday
<b>Span</b>	4:31 AM – 11:49 PM	7:13 AM – 8:49 PM	7:13 AM – 7:54 PM
<b>Frequency</b>	30 – 60 Minutes	60 Minutes	60 Minutes

#### Pros/Cons

- Route 12 has ridership below the system average for local service.
- Route 12 has above system average on-time performance.
- The route serves the relatively denser areas of Bellevue and Dayton that are developing further.

#### Additional Considerations for Alternatives Development

- Consider whether route must go to Cincinnati.
- Determine whether redesigned Southbank Shuttle can replace/supplement part of this service.
- Consider whether 4<sup>th</sup> Street bridge be used by route to provide more direct connectivity between North Campbell County and Covington.

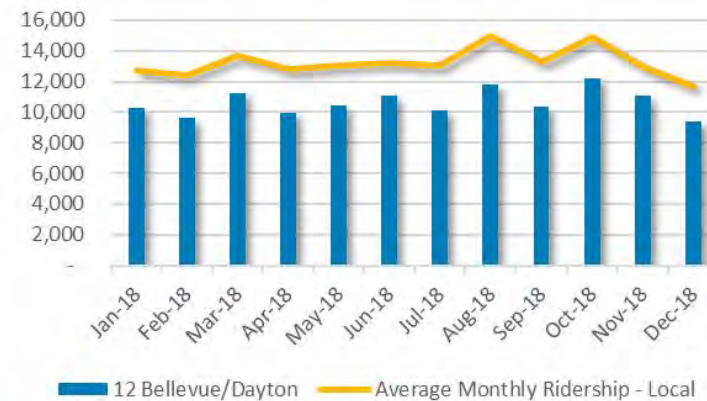
#### Activity Centers/Uses

- Cincinnati, Covington, Kroger, Public Library, Dayton, Bellevue

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	127,528	\$5.73	1.35	\$147,402

#### 2018 Ridership by Route by Month

The following figure shows Route 12 ridership by month compared to TANK’s local fixed-route average monthly ridership.





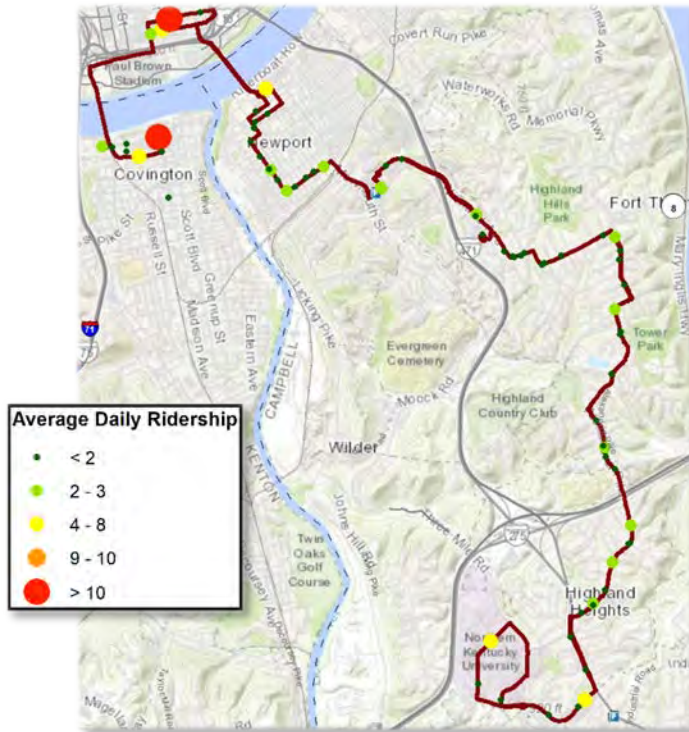
### Route 16 – West Newport/NKU

Route 16 travels north-south providing service between Highland Heights, NKU, Southgate, Newport, Covington, and Cincinnati via Alexandria Pike and Grand Avenue. Multiple transfer opportunities are available to and from Route 16 in Cincinnati and Covington, as well as at NKU.

#### Segment Key

A	B	C	D	E	F	G
CTC	Cincinnati 4th @ Walnut	Isabella @ 6th St.	Newport Shopping Center	St. Elisabeth Ft. Thomas	Alexandria @ Holly Woods Dr.	Kenton @ Carroll Dr.

### Route 16 – West Newport/NKU Average Daily Ridership



	Weekday	Saturday	Sunday
<b>Span</b>	6:06 AM – 6:09 PM	6:53 AM – 9:17 PM	8:35 AM – 9:17 PM
<b>Frequency</b>	30 – 60 Minutes	90 Minutes	90 Minutes

#### Pros/Cons

- Route 16 has some overlap with Route 26.
- Route has above system average on-time performance, likely due to nature and utilization of the service.
- Currently, this route has some of the lowest ridership in the TANK system with a high cost per trip, low cost recovery, and under 1 passenger trip per revenue mile.
- Frequency could be improved if route did not travel into Cincinnati.

#### Additional Considerations for Alternatives Development

- Consider whether route must go to Cincinnati.
- Improve frequency by terminating route at CTC.
- Consider whether route should have more direct service into Covington via one or both of the Licking River bridges.

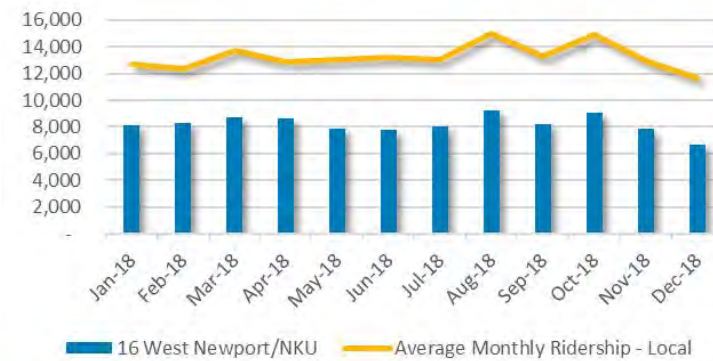
#### Activity Centers/Uses

- Cincinnati, Covington, Newport, NKU, VA Hospital, Newport Pavilion

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	98,413	\$6.98	0.69	\$94,207

#### 2018 Ridership by Route by Month

The following figure shows Route 16 ridership by month compared to TANK’s local fixed-route average monthly ridership.



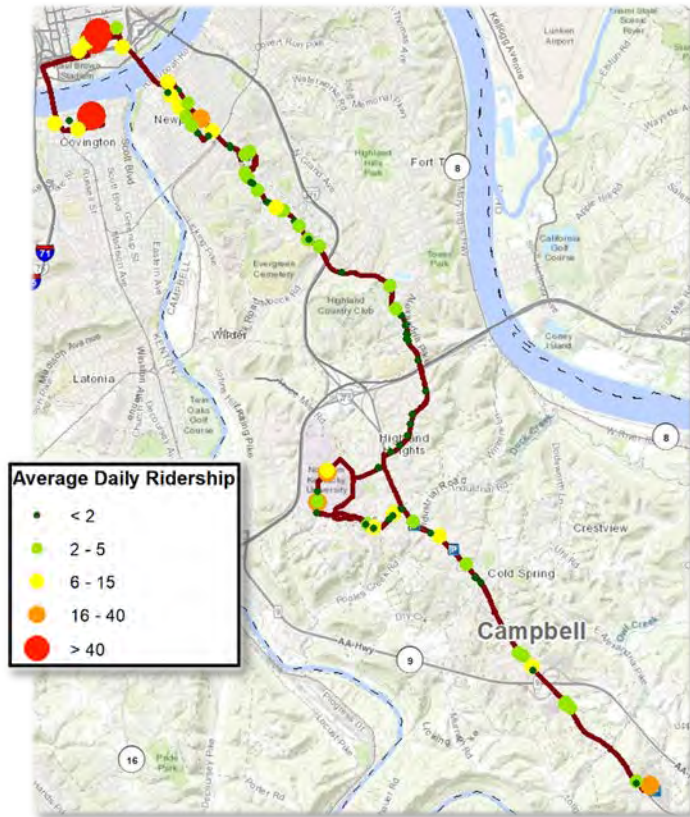
### Route 25 – Southgate/Alexandria

Route 25 travels north-south providing service between Alexandria, Cold Spring, Highland Heights, NKU, Southgate, Covington, and Cincinnati via US 27. Multiple transfer opportunities are available to and from Route 25 in Cincinnati and Covington, as well as at NKU.

#### Segment Key

A	B	C	D	E	F	G	H
CTC	Cincinnati Vine @ 4 <sup>th</sup>	York @ 5 <sup>th</sup>	Newport Shopping Center	US 27 @ Hollywood	NKU Kenton @ Campbell	US 27 @ East Alexandria	Village Garden

### Route 25 – Southgate/Alexandria Average Daily Ridership



	Weekday	Saturday	Sunday
<b>Span</b>	3:59 AM – 11:22 PM	6:08 AM – 9:28 PM	6:08 AM – 8:38 PM
<b>Frequency</b>	30 – 60 Minutes	50 Minutes	50 Minutes

#### Pros/Cons

- Route 25 has some overlap with Route 16 and Route 25X.
- Route has above system average on-time performance.
- Route does not have a distinct identity as it replicates much of two other routes in Campbell County.
- Route has well above average ridership; serves major shopping center.
- Frequency could be improved and made more reliable.

#### Additional Considerations for Alternative Development

- Consider some realignment to reduce duplication.
- Terminate route at NKU to cut down length and reduce unproductive/redundant segment to Village Green Shopping Center.
- Consider improving frequency.

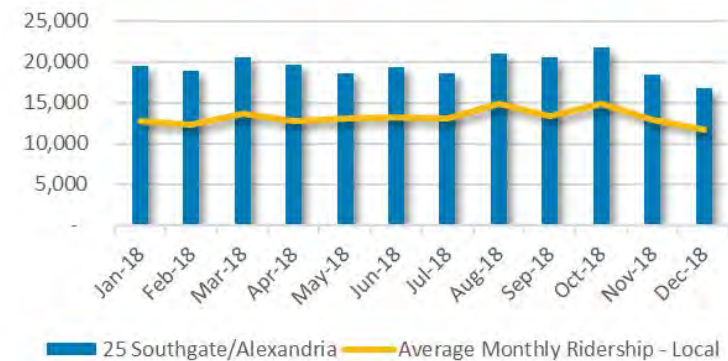
#### Activity Centers/Uses

- Cincinnati, Covington, Newport on the Levee, Newport Shopping Center, NKU, Village Green Shopping Center

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	234,019	\$5.10	0.93	\$230,533

#### 2018 Ridership by Route by Month

The following figure shows Route 25 ridership by month compared to TANK’s local fixed-route average monthly ridership.





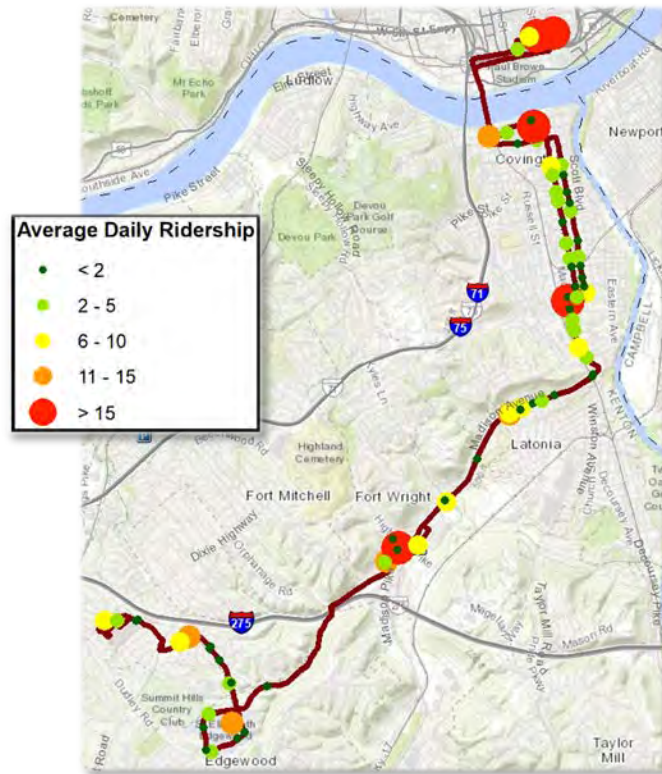
### Route 33 – Thomas More Parkway/Crestview Hills

Route 33 travels north-south providing service between Crestview Hills, Fort Wright, Covington, and Cincinnati via Thomas Moore Parkway and Madison Parkway. Multiple transfer opportunities are available to and from Route 33 in Cincinnati and Covington, as well as at the Fort Wright Hub

#### Segment Key

A	B	C	D	E	F	G	H
Cincinnati 4 <sup>th</sup> @ Walnut	CTC	Scott @ 7 <sup>th</sup> St.	Madison @ 20 <sup>th</sup> St.	Fort Wright Hub	Walmart	St. Elizabeth Edgewood	Crestview Hills Town Center

### Route 33 – Thomas More Parkway/Crestview Hills Average Daily Ridership



	Weekday	Saturday	Sunday
<b>Span</b>	6:10 AM – 9:55 PM	8:05 AM – 7:48 PM	8:05 AM – 7:48 PM
<b>Frequency</b>	60 Minutes	50 – 110 Minutes	50 – 110 Minutes

#### Pros/Cons

- Other than the service at the southern end in Crestview Hills, Route 33 duplicates the service of several other routes.
- Currently, this route has some of the lowest ridership in the TANK system.
- Below system average on-time performance, likely due to congestion on Madison Pike and in the downtown areas.
- Route segments on Orphanage and Horse Branch Road have no development and generate little to no ridership

#### Additional Considerations for Alternatives Development

- Route may be a candidate for deletion, due to redundancy and poorly utilized segments.
- Service to St. Elizabeth Hospital Edgewood, Thomas More Parkway, and Crestview Hills Town Center may be accomplished via another route.

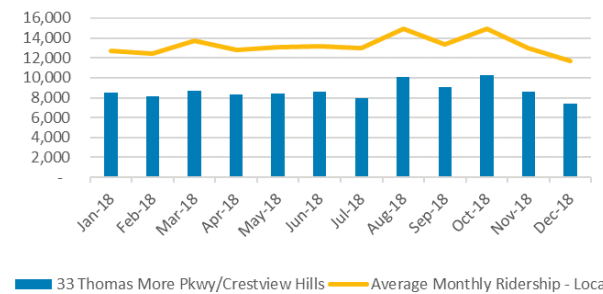
#### Activity Centers/Uses

- Cincinnati, Northern Kentucky Convention Center, Walmart, St. Elizabeth Hospital Edgewood Campus, Thomas More College, Crestview Hills Town Center

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	104,086	\$5.98	0.83	\$118,082

#### 2018 Ridership by Route by Month

The following figure shows Route 33 ridership by month compared to TANK's local fixed-route average monthly ridership.





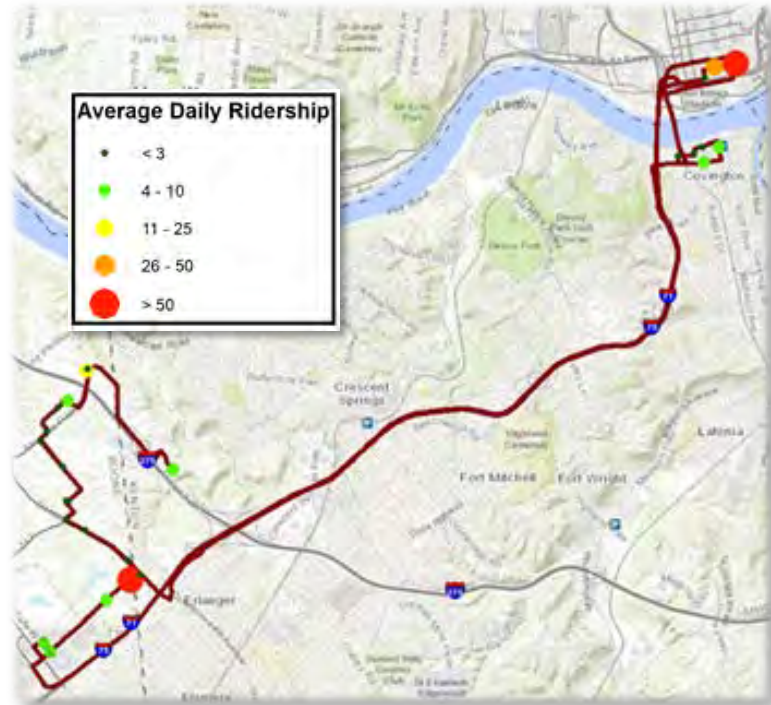
### Route 1X – Houston Road/Mineola Pike

Route 1X provides express service between Erlanger, Florence, Covington, and Cincinnati via I-71/I-75 and Donaldson Road. Multiple transfer opportunities are available to and from Route 1X in Cincinnati, and Covington, and Erlanger on Houston Road.

#### Segment Key

A	B	C	D	E
CTC	4 <sup>th</sup> @ Sycamore (Cincinnati)	Houston Rd. Park-and-Ride	Mineola at Airport Exchange	Convergys

### Route 1X – Houston Road/Mineola Pike Typical Daily Ridership



	Weekday	Saturday	Sunday
<b>Span</b>	5:01 AM – 7:40 AM 3:07 PM – 5:25 PM	No Service	No Service
<b>Frequency</b>	60 Minutes	N/A	N/A

#### Pros/Cons

- Express service with below system average on-time performance, likely due to length, Donaldson Highway congestion during shift changes, and meandering alignments through industrial areas.
- Route has ridership just above the system average for express services.
- Route provides service to Airport and major employers, but has some deviations that cause delays.
- Operator input suggests 1X need better coordination with 2X.
- Logical route identity is impacted by a convoluted alignment that is trying to cover multiple areas.

#### Additional Considerations for Alternatives Development

- Consider reconfiguring route for more logical interconnectivity with 2X.
- Determine whether frequency and span of service meets needs of key industrial uses served.

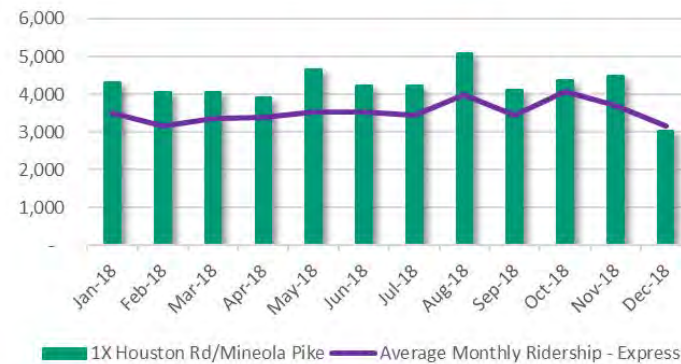
#### Activity Centers/Uses

- Target, Citi Bank, Houston Park-and-Ride, Convergys

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	50,547	\$8.25	0.46	\$57,722

#### 2018 Ridership by Route by Month

The following figure shows Route 1X ridership by month compared to TANK’s express fixed-route average monthly ridership.





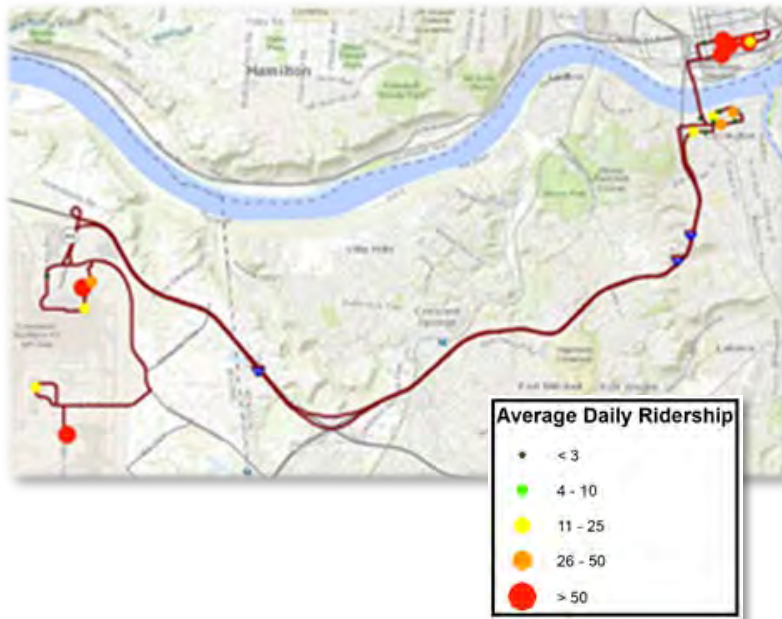
### Route 2X – Airporter

Route 2X provides service between Cincinnati/N Kentucky International Airport, DHL, CVG Centre, Covington, and Cincinnati via I-71/I-75 and I-275. Multiple transfer opportunities are available to and from Route 2X in Cincinnati and Covington.

#### Segment Key

A	B	C	D	E
CTC	5 <sup>th</sup> @ Elm (Cincinnati)	CVG Airport Terminal	DHL	CVG Centre

#### Route 2X – Airporter Typical Daily Ridership



	Weekday	Saturday	Sunday
<b>Span</b>	5:00 AM – 12:03 AM	4:53 AM – 11:35 PM	4:53 AM – 11:47 PM
<b>Frequency</b>	30 – 60 Minutes	60 – 80 Minutes	60 – 80 Minutes

#### Pros/Cons

- Solid express service with high ridership.
- High cost per trip with extremely low passenger trips per revenue mile.
- Route has poor on-time performance (<50%), likely due to length, meandering alignment, and Donaldson Highway congestion during shift changes.
- Route provides direct service to CVG Airport and operates on a consistent predictable schedule.
- Like 1X, 2X identity is impacted by convoluted alignment.

#### Additional Considerations for Alternatives Development

- Consider reconfiguring route for more logical interconnectivity with 1X.
- Commute on route suggest that it still does not meet mobility needs of CVG patrons.

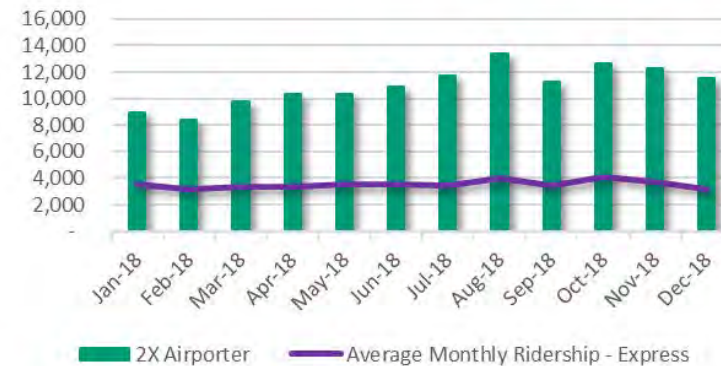
#### Activity Centers/Uses

- Cincinnati, Covington, CVG, DHL

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	131,708	\$7.18	0.39	\$240,184

#### 2018 Ridership by Route by Month

The following figure shows Route 2X ridership by month compared to TANK’s express fixed-route average monthly ridership.







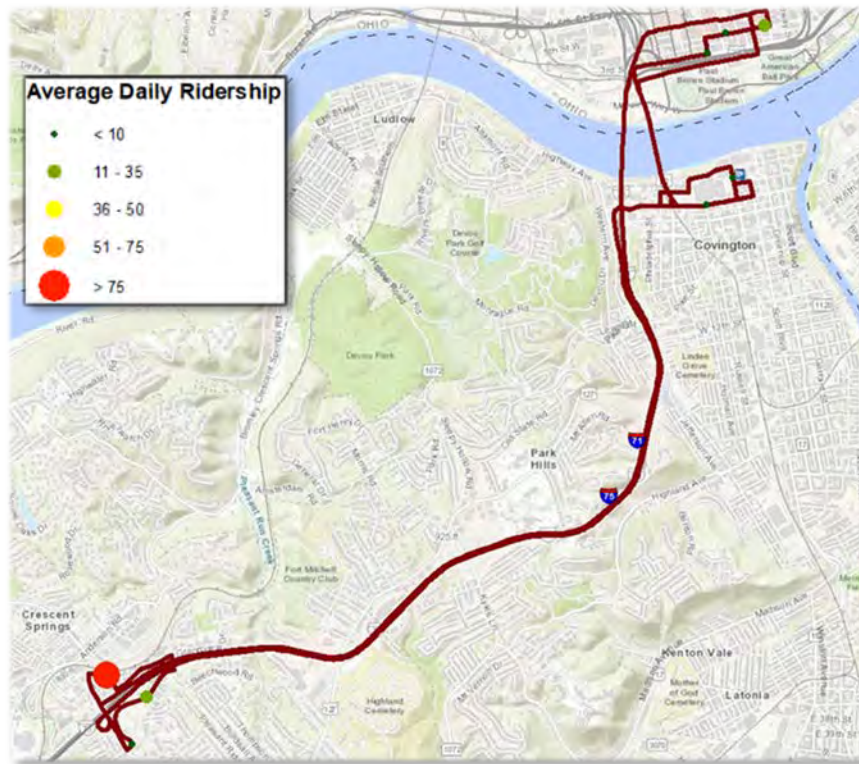
### Route 17X – Buttermilk Pike

Route 17X provides express service between the Buttermilk Park-and-Ride, Covington, and Cincinnati via I-71/I-75. Multiple transfer opportunities are available from Route 17X in Cincinnati and Covington.

#### Segment Key

A	B	C	D
CTC	4 <sup>th</sup> @ Syracuse (Cincinnati)	Royal @ Grace	Buttermilk Park-and-Ride

#### Route 17X – Buttermilk Pike Typical Daily Ridership



	Weekday	Saturday	Sunday
<b>Span</b>	6:22 AM – 8:52 AM 3:17 PM – 7:07 PM	No Service	No Service
<b>Frequency</b>	30 – 55 Minutes	N/A	N/A

#### Pros/Cons

- Decent express route with average ridership and above express system average trips per mile.
- Despite its shorter length and mostly interstate routing, 17X has poor on-time performance (<50%), likely due to peak hour congestion in the downtown areas.
- Route provides limited coverage or purpose, serving only one primary origin.

#### Additional Considerations for Alternatives Development

- Consider for possible deletion if Buttermilk Park-and-Ride can be served more productively by one or more other routes.

#### Activity Centers/Uses

- Cincinnati, Covington, Buttermilk Towne Center

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	37,470	\$5.13	0.64	\$44,189

#### 2018 Ridership by Route by Month

The following figure shows Route 17X ridership by month compared to TANK’s express fixed-route average monthly ridership.





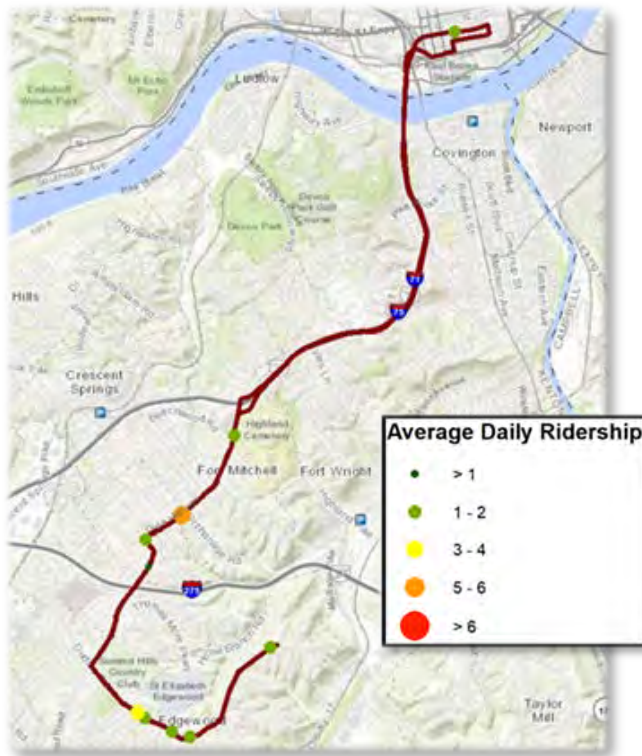
### Route 18X – Edgewood Express

Route 18X provides express service between Edgewood, Fort Mitchell, and Cincinnati via I-71/I-75, Dixie Highway, Turkeyfoot Road, and Dudley Parkway. Multiple transfer opportunities are available to and from Route 18X in Cincinnati and along Empire Drive south of Florence.

#### Segment Key

A	B	C	D
4 <sup>th</sup> @ Sycamore (Cincinnati)	Dixie Hwy @ Buttermilk	Dudley @ Medical Village Dr.	Dudley @ Winding Trails

### Route 18X – Buttermilk Pike Typical Daily Ridership



	Weekday	Saturday	Sunday
<b>Span</b>	6:36 AM – 7:36 AM 4:12 PM – 5:12 PM	No Service	No Service
<b>Frequency</b>	30 Minutes	N/A	N/A

#### Pros/Cons

- Express route has very low ridership, but trips per mile productivity is above the express system average, likely due to the short length of the route.
- Above express system average on-time performance, but still only 63%, likely due to a balance between route length and Dixie Highway congestion.
- Route provides express service thru a higher-income community that does not appear transit dependent in need of an express route to Cincinnati.

#### Additional Considerations for Alternatives Development

- One of the lowest performing express routes in the system that appears to serve and impromptu park-and-ride at St. Pius School.
- Resources may be better utilized elsewhere.
- Route does not appear to have a terminus on Winding Trails that permits a safe turnaround.

#### Activity Centers/Uses

- Cincinnati, Remke, Thomas More College, St. Elizabeth Hospital

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	7,469	\$7.98	0.45	\$9,606

#### 2018 Ridership by Route by Month

The following figure shows Route 18X ridership by month compared to TANK’s express fixed-route average monthly ridership.





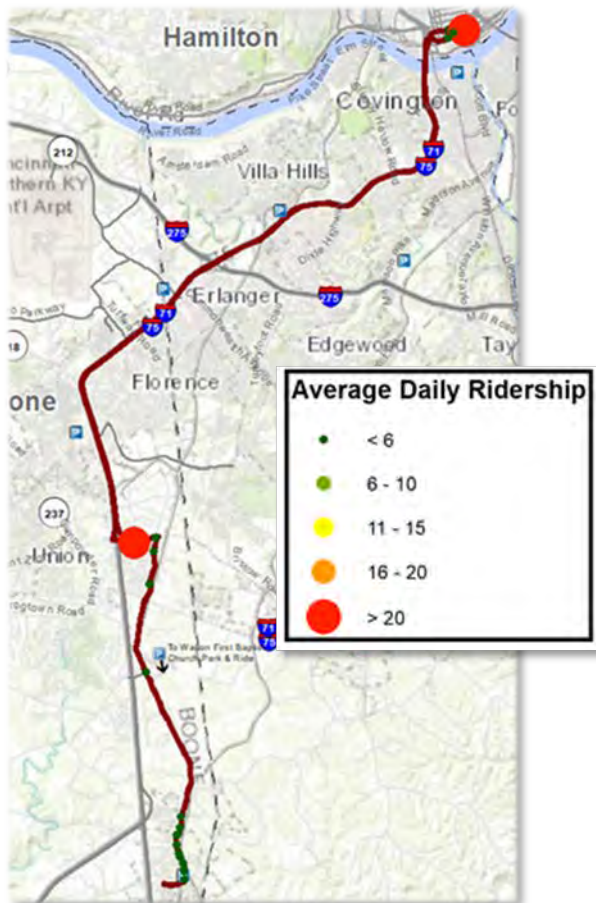
### Route 22X – Walton Express

Route 22X provides express service between Walton First Baptist Park-and-Ride, Mt. Zion Park-and-Ride, and Cincinnati via I-71/I-75 and US 25. Multiple transfer opportunities are available to and from Route 22X in Cincinnati.

#### Segment Key

A	B	C	D	E	F
4 <sup>th</sup> @ Sycamore (Cincinnati)	Mt. Zion Park-and-Ride	US 25 @ Mt. Zion	US 25 @ Richwood	US 25 @ Baptist Church	Mary Grubbs @ School Rd.

#### Route 22X – Walton Express Typical Daily Ridership



	Weekday	Saturday	Sunday
<b>Span</b>	6:10 AM – 7:10 AM 4:13 PM – 5:13 PM	No Service	No Service
<b>Frequency</b>	30 Minutes	N/A	N/A

#### Pros/Cons

- Route is one of several expresses that operate along I-275 between Florence and the downtown areas.
- Route has low ridership, although its trips per mile productivity is above the express system average.
- Route is extremely long, and the southern half goes through a more rural area with low density and little commercial development to attract riders.

#### Additional Considerations for Alternatives Development

- Route should be considered for truncation at the Mt. Zion Park-and-Ride.
- If ridership does not improve, route could be considered for deletion.

#### Activity Centers/Uses

- Cincinnati, Mt. Zion Park-and-Ride, Union Baptist Park-and-Ride

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	19,370	\$4.94	0.48	\$22,812

#### 2018 Ridership by Route by Month

The following figure shows Route 22X ridership by month compared to TANK’s express fixed-route average monthly ridership.





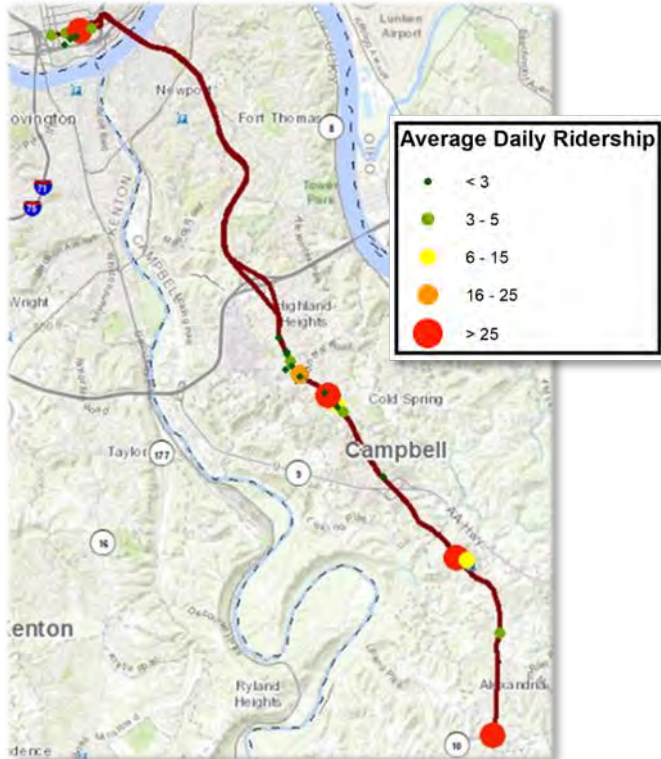
### Route 25X – Alexandria Express

Route 25X provides express service between Alexandria Park-and-Ride, Village Green Shopping Center, and Cincinnati via US 27. Multiple transfer opportunities are available to and from Route 25X along Alexandria Pike and at NKU, as well as Cincinnati.

#### Segment Key

A	B	C	D	E
5 <sup>th</sup> @ Elm	US 27 @ Nunn Drive	US 27 @ East Alexandria Pike	Village Green Park-and-Ride	Alexandria Park-and-Ride

#### Route 25X – Alexandria Express Typical Daily Ridership



	Weekday	Saturday	Sunday
<b>Span</b>	5:52 AM – 7:24 AM 3:55 PM – 5:12 PM	No Service	No Service
<b>Frequency</b>	30 Minutes	N/A	N/A

#### Pros/Cons

- Route ridership performance is similar to express system average.
- Route has been second most productive express route in the system in terms of trips per mile over the last five years.
- Below express system average on-time performance, likely due to length of route and congestion impacts.
- Route duplicates a portion of Route 25 local service on Alexandria Pike south of NKU.

#### Additional Considerations for Alternatives Development

- Route 25X is only express service directly connecting Campbell County to Cincinnati.
- Route serves four park-and-rides in Southern Campbell County before it reaches NKU.
- Route is a candidate for truncation and possible consolidation of park-and-rides.

#### Activity Centers/Uses

- Cincinnati, KU, Kroger, Meijer, Village Green Shopping Center, Campbell County Courthouse

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	38,506	\$3.71	0.91	\$37,834

#### 2018 Ridership by Route by Month

The following figure shows Route 25X ridership by month compared to TANK’s express fixed-route average monthly ridership.





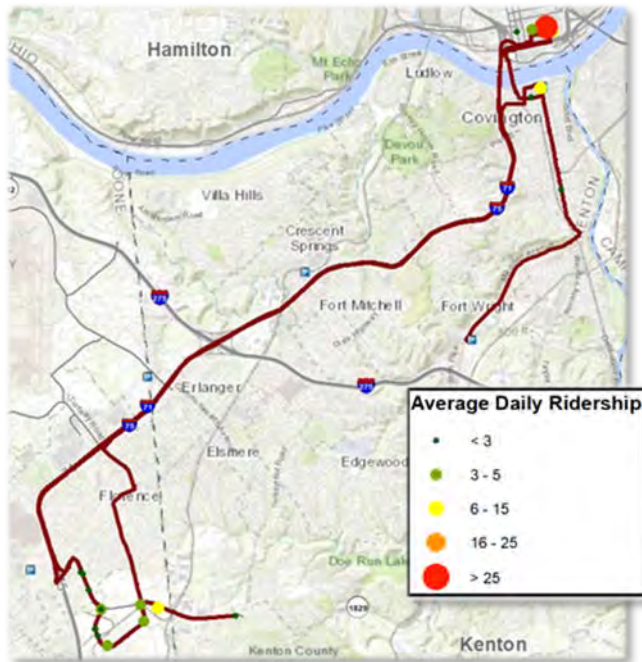
### Route 28X – Empire Drive/Industrial Road Express

Route 28X provides express service between Northern Kentucky Industrial Park, Covington, Fort Wright, and Cincinnati via I-71/I-75. Multiple transfer opportunities are available to and from Route 28X in Cincinnati and Covington, as well as in Florence and at the Fort Wright Hub.

#### Segment Key

A	B	C	D	E	F	H
Fort Wright Hub	Madison @ 20 <sup>th</sup>	Madison @ 7 <sup>th</sup>	CTC	4 <sup>th</sup> @ Sycamore (Cincinnati)	Industrial @ Empire Drive	Industrial @ Turkeyfoot

### Route 28X – Empire Drive/Industrial Road Express Typical Daily Ridership



	Weekday	Saturday	Sunday
<b>Span</b>	4:54 AM – 5:48 AM 3:10 PM – 3:40 PM	No Service	No Service
<b>Frequency</b>	30 – 60 Minutes	N/A	N/A

#### Pros/Cons

- Route ridership is below express system average, but its productivity in terms of trips per mile is above system average.
- Below express system average on-time performance, likely due to congestion impacts.
- Route duplicates much of the service provided by Routes 1 and 42X.

#### Additional Considerations for Alternatives Development

- Route seems to provide express service from downtown areas to industrial uses between Florence and Devon.
- Route is yet another of the many express routes using I-71/I-75 between Florence and the Downtown Covington and Cincinnati areas.
- Route is a candidate for possible deletion to utilize its resources to bolster other services.

#### Activity Centers/Uses

- Cincinnati, Covington, Northern Kentucky Industrial Center, Kroger

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	15,396	\$5.83	0.51	\$18,509

#### 2018 Ridership by Route by Month

The following figure shows Route 28X ridership by month compared to TANK’s express fixed-route average monthly ridership.





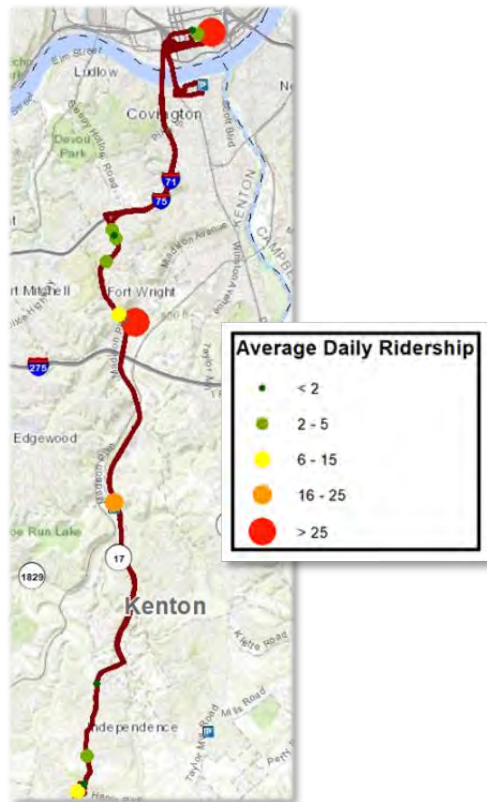
### Route 30X – Fort Wright/Independence Express

Route 30X provides express service between Independence, Fort Wright, Covington, and Cincinnati via I-71/I-75 and KY 17. Multiple transfer opportunities are available to and from Route 30X in Cincinnati, Covington, and at the Fort Wright Hub.

#### Segment Key

A	B	C	D	E	F
CTC	4 <sup>th</sup> @ Syracuse (Cincinnati)	Fort Wright Hub	Hands Pike Park-and- Ride	Madison @ McCullum	Kroger Park-and- Ride

### Route 30X – Fort Wright/Independence Express Typical Daily Ridership



	Weekday	Saturday	Sunday
<b>Span</b>	6:06 AM – 7:26 AM 4:00 PM – 5:44 PM	No Service	No Service
<b>Frequency</b>	30 – 45 Minutes	N/A	N/A

#### Pros/Cons

- Route ridership is below express system average, but its productivity is above system average for trips per mile.
- Route on-time performance is second highest among express routes at 68%.
- Route overlaps Route 31X completely, with only difference that it serves CTC in Downtown Covington.

#### Additional Considerations for Alternatives Development

- Route serves three park-and-rides, with two of these located south of I-275.
- Development along Madison Pike south of I-275 is mostly suburban, low density, and with little obvious transit dependency.
- Route is a candidate for truncation and or consolidation with Route 31X.
- The Hands Pike Park-and-Ride was difficult to enter and exit during field review, an issue also mentioned by several operators.

#### Activity Centers/Uses

- Cincinnati, Covington, Hands Pike Park-and-Ride, Independence Park-and-Ride

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	27,537	\$4.47	0.72	\$23,048

#### 2018 Ridership by Route by Month

The following figure shows Route 30X ridership by month compared to TANK’s express fixed-route average monthly ridership.





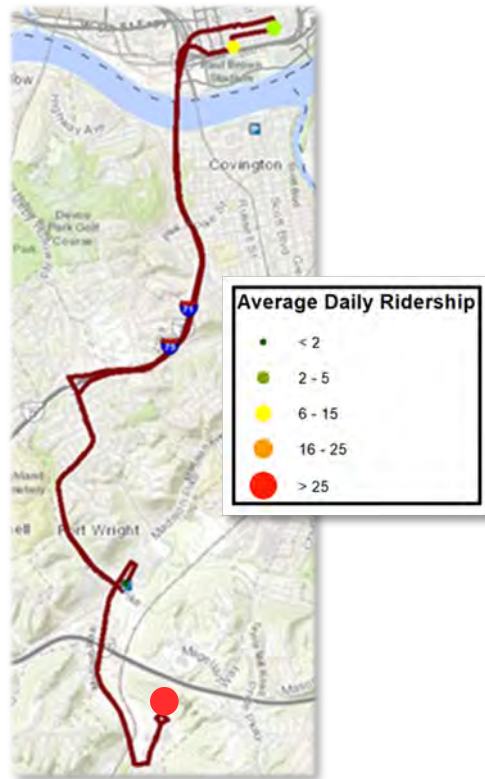
### Route 31X – Rolling Hills Drive Express

Route 31X provides express service along Madison Pike between Club Chef, Fort and Cincinnati via I-71/I-75 and Madison Pike. Multiple transfer opportunities are available to and from Route 31X at the Fort Wright Hub and in Cincinnati.

#### Segment Key

A	B	C	D
4 <sup>th</sup> @ Sycamore (Cincinnati)	Highland @ Valley Plaza	Fort Wright Hub	Club Chef

#### Route 31X – Rolling Hills Drive Express Typical Daily Ridership



	Weekday	Saturday	Sunday
<b>Span</b>	6:40 AM – 7:13 AM 5:05 PM	7:20 AM 5:05 PM	7:20 AM 5:05 PM
<b>Frequency</b>	33 Minutes	N/A	N/A

#### Pros/Cons

- Route ridership is extremely low compared to the express system average.
- Despite lower ridership totals, route has highest trips per mile productivity among express routes.
- Below express system average on-time performance despite short length, likely due to congestion.
- As noted previously, route is duplicated by the Route 30X service.

#### Additional Considerations for Alternatives Development

- Club Chef is a major trip generator for the route.
- Route does not serve CTC in Downtown Covington.
- Route is a candidate for consolidation with 30X.

#### Activity Centers/Uses

- Cincinnati, Covington, Club Chef

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	8,444	\$3.24	1.29	\$5,287

#### 2018 Ridership by Route by Month

The following figure shows Route 31X ridership by month compared to TANK’s express fixed-route average monthly ridership.





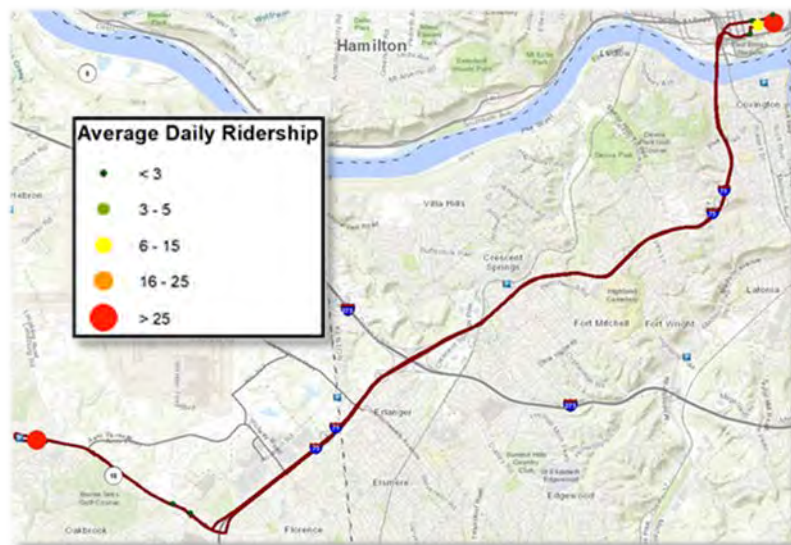
### Route 32X – Burlington Express

Route 32X provides express service from the Burlington Pike Park-and-Ride in Burlington to Cincinnati via Burlington Pike and I-71/I-75. Multiple transfer opportunities are available to and from Route 32X in Cincinnati, as well as near the Florence Mall along Burlington Pike.

#### Segment Key

A	B	C
4 <sup>th</sup> @ Sycamore (Cincinnati)	KY 18 @ Houston Rd	Burlington Park-and-Ride

#### Route 32X – Burlington Express Typical Daily Ridership



	Weekday	Saturday	Sunday
<b>Span</b>	6:10 AM – 7:37 AM 4:14 PM – 5:44 PM	No Service	No Service
<b>Frequency</b>	30 Minutes	N/A	N/A

#### Pros/Cons

- Route ridership is below express system average, but trips per mile productivity is above express system average.
- On-time performance is above express system average at just above 67%.
- Route duplicates the express routes running on I-71/I-75 between Florence and Cincinnati.

#### Additional Considerations for Alternatives Development

- Route is only one serving Burlington and Limaburg west of Florence.
- Burlington Park-and-Ride is well utilized and is the major trip generator for the route.

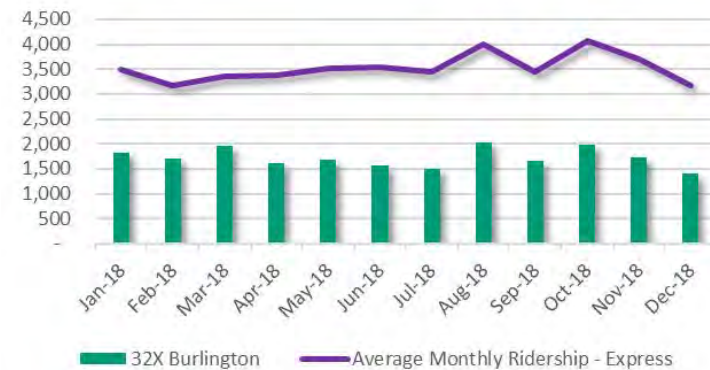
#### Activity Centers/Uses

- Cincinnati, K-Mart, Florence Mall, Kroger

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	30,668	\$3.86	0.68	\$18,105

#### 2018 Ridership by Route by Month

The following figure shows Route 32X ridership by month compared to TANK’s express fixed-route average monthly ridership.





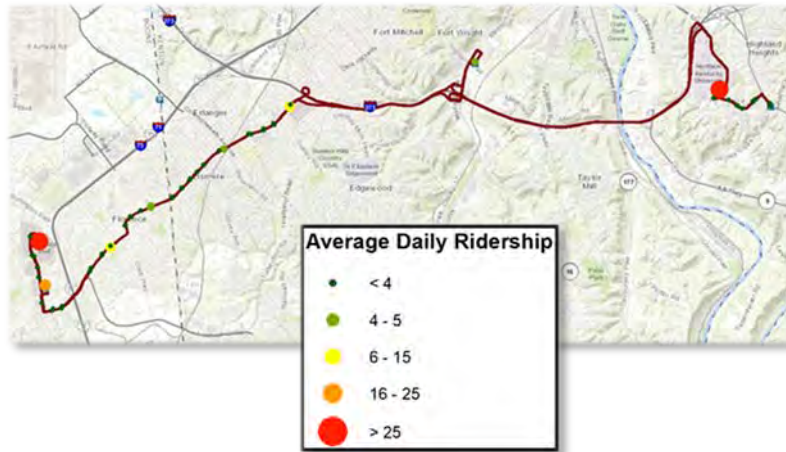
## Route 35X – East-West Express

Route 35X is a major east-west express service between NKU, Fort Wright, Crestview Hills, and Florence via I-275 and Dixie Highway. Multiple transfer opportunities are available to and from Route 35X at NKU, the Fort Wright Hub, and Florence.

### Segment Key

A	B	C	D	E	F	G
Furniture Fair	NKU MEP Building	Fort Wright Hub	Crestview Hills Town Center	Dixie Hwy @ Turfway Rd	Florence Hub	Florence Mall

### Route 35X – East West Express Typical Daily Ridership



	Weekday	Saturday	Sunday
Span	6:00 AM – 9:30 PM	No Service	No Service
Frequency	60 Minutes	N/A	N/A

### Pros/Cons

- Ridership performance generally tracks with express system average except in summer when NKU is out of service.
- Route has lowest ridership productivity among express routes in terms of trips per mile.
- Below express system average on-time performance likely due to length and congestion on Dixie Highway.

### Additional Considerations for Alternatives Development

- Route is only true cross-system connector to help mitigate transfer difficulties associated with radial networks.
- Route performance may be impacted by out of direction travel to Fort Wright Hub.
- Though an express, route uses Dixie Highway to access Florence rather than connecting to I-71/I-75 via I-275.

### Activity Centers/Uses

- NKU, Crestview Hills Town Center, Florence Mall

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	34,050	\$16.56	0.23	\$22,323

### 2018 Ridership by Route by Month

The following figure shows Route 35X ridership by month compared to TANK's express fixed-route average monthly ridership.





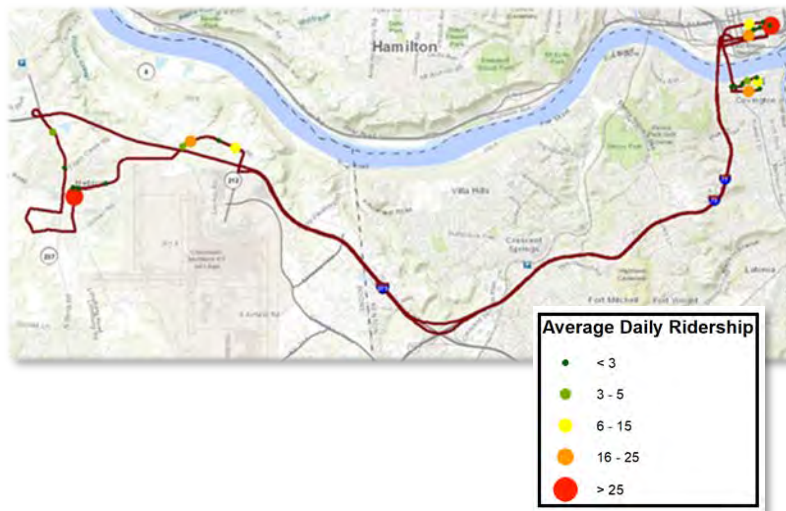
### Route 39X – Petersburg Road/South Hebron

Route 39X provides east-west express service between the industrial uses in Hebron and Cincinnati and Downtown Covington via I-275 and I-71/I-75. Multiple transfer opportunities are available to and from Route 39X in the downtown areas.

#### Segment Key

A	B	C	D	E	F
CTC	Sycamore @ 4 <sup>th</sup> (Cincinnati)	North Bend @ Litton	Amazon CVG 3 on Langley	Limaburg Park-and-Ride	Petersburg @ Aviation

### Route 39X – Petersburg Road/South Hebron Express Typical Daily Ridership



	Weekday	Saturday	Sunday
<b>Span</b>	5:07 AM – 7:38 AM 1:52 PM – 5:55 PM	5:52 – 6:23 AM 5:22 PM – 6:23 PM	5:52 – 6:23 AM 5:22 PM – 6:23 PM
<b>Frequency</b>	30 – 60 Minutes	30 Minutes	30 Minutes

#### Pros/Cons

- Productive express route with growing ridership that is well above the express system average.
- Route productivity in terms of trips per mile is above the express system average.
- Below express system average on-time performance, likely due to length and ridership activity increasing stop dwell-time.
- Route provides direct serve to industrial uses around CVG.

#### Additional Considerations for Alternatives Development

- Key activity centers for route are located at International Air Park and the industrial uses along Langley Drive and Wright Court (Amazon, Levi Strauss, Toyota).
- Only low density, suburban development along most of Petersburg Road.
- Trucks parking along Langley Drive impact bus operations.
- Various industrial shift-times drive service needs.

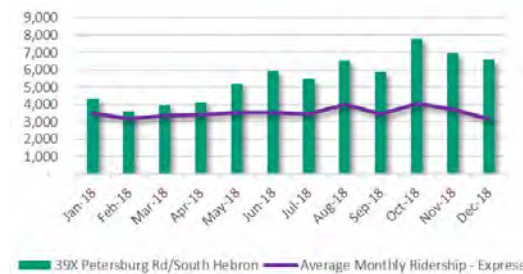
#### Activity Centers/Uses

- Cincinnati, Covington, Amazon, Toyota, Galerie Chocolate Factory, International Air Park

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	66,393	\$5.17	0.49	\$83,407

#### 2018 Ridership by Route by Month

The following figure shows Route 39X ridership by month compared to TANK’s express fixed-route average monthly ridership.





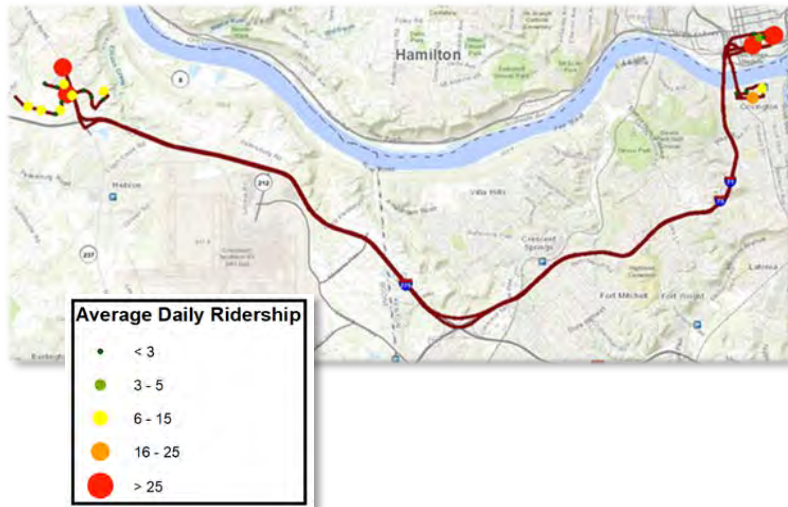
### Route 40X – Worldwide Boulevard/North Hebron Express

Route 40X provides east-west express service between North Bend Park-and-Ride, Downtown Covington, and Cincinnati via I-71/I-75 and I-275. Multiple transfer opportunities are available to and from Route 40X in Covington and Cincinnati.

#### Segment Key

A	B	C	D	E	F
CTC	Sycamore @ 4 <sup>th</sup> (Cincinnati)	Worldwide Blvd	South Park Dr	Global Way	North Bend Park-and-Ride

### Route 40X – Worldwide Boulevard/North Hebron Express Typical Daily Ridership



	Weekday	Saturday	Sunday
Span	4:52 AM – 7:30 AM	5:02 AM – 6:15 AM	5:02 AM – 6:15 AM
	1:52 PM – 5:45 PM	5:12 PM – 5:55 PM	5:12 PM – 5:55 PM
Frequency	15 – 30 Minutes	30 Minutes	30 Minutes

#### Pros/Cons

- Productive express route with ridership that is well above the express system average.
- Route productivity is above express system average in terms of trips per mile.
- Below express system average on-time performance, likely to due to length and ridership activity increasing stop dwell time.
- Route provides direct service to industrial uses around CVG.

#### Additional Considerations for Alternatives Development

- Key route activity centers include industrial uses on Global Way, Worldwide Boulevard, and Southpark Drive.
- Various industrial shift times drive service needs.

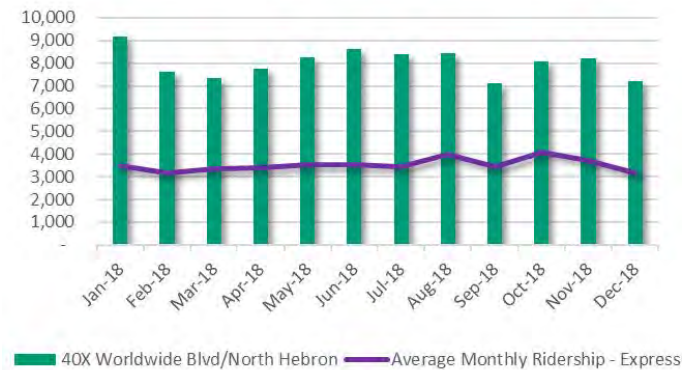
#### Activity Centers/Uses

- Cincinnati, Covington, Parkwest Industrial Park, Southpark Industrial Park, North Bend Park-and-Ride

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	96,183	\$5.39	0.54	\$128,230

#### 2018 Ridership by Route by Month

The following figure shows Route 40X ridership by month compared to TANK’s express fixed-route average monthly ridership.





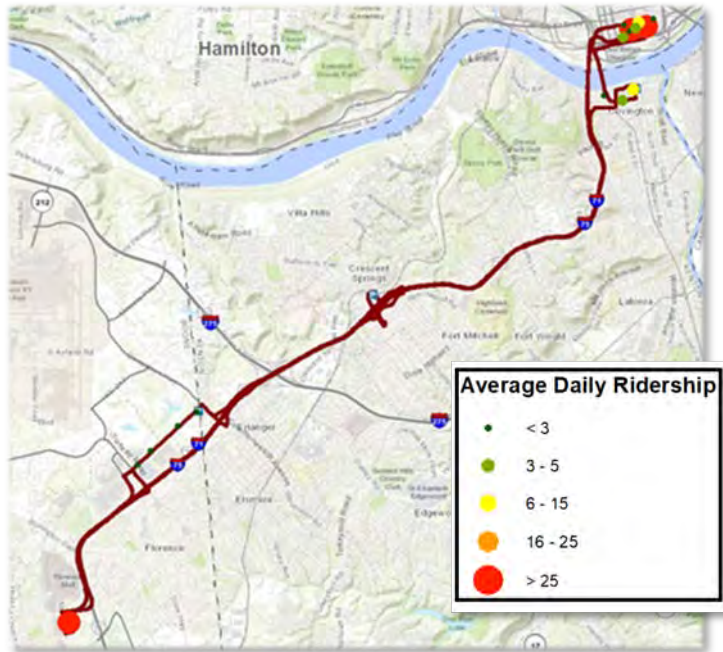
### Route 42X – Florence Express

Route 42X provides east-west express service between Florence, Buttermilk Park-and-Ride, Downtown Covington, and Cincinnati via I-71/I-75. Multiple transfer opportunities are available to and from Route 42X in Downtown Covington and Cincinnati.

#### Segment Key

A	B	C	D	E
CTC	Sycamore @ 4 <sup>th</sup> (Cincinnati)	Buttermilk Park-and-Ride	Houston Rd. Park-and-Ride	Florence Hub

### Route 42X – Florence Express Typical Daily Ridership



	Weekday	Saturday	Sunday
<b>Span</b>	6:00 AM - 5:40 PM	No Service	No Service
<b>Frequency</b>	30 – 110 Minutes	N/A	N/A

#### Pros/Cons

- Route ridership tracks generally closely with that for the express system average.
- Trips per mile productivity for route is above the express system average.
- On-time performance also is above express system average at nearly 62%.

#### Additional Considerations for Alternatives Development

- Route duplicates much of the express service on I-71/I-75 between Florence and the downtown areas.
- Route also serves two park-and-rides along I-71/I-75 (Buttermilk and Houston Road) that are served by other express routes.
- Route is a candidate for deletion or consolidation, unless a specific and unique identity can be established.

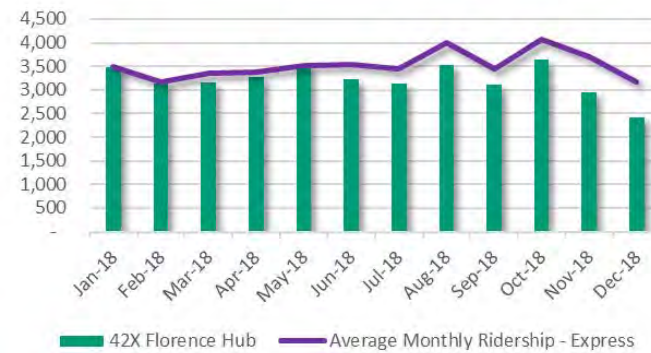
#### Activity Centers/Uses

- Cincinnati, Covington, Florence Mall, Citi Bank

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	38,577	\$5.55	0.53	\$38,682

#### 2018 Ridership by Route by Month

The following figure shows Route 42X ridership by month compared to TANK’s express fixed-route average monthly ridership.





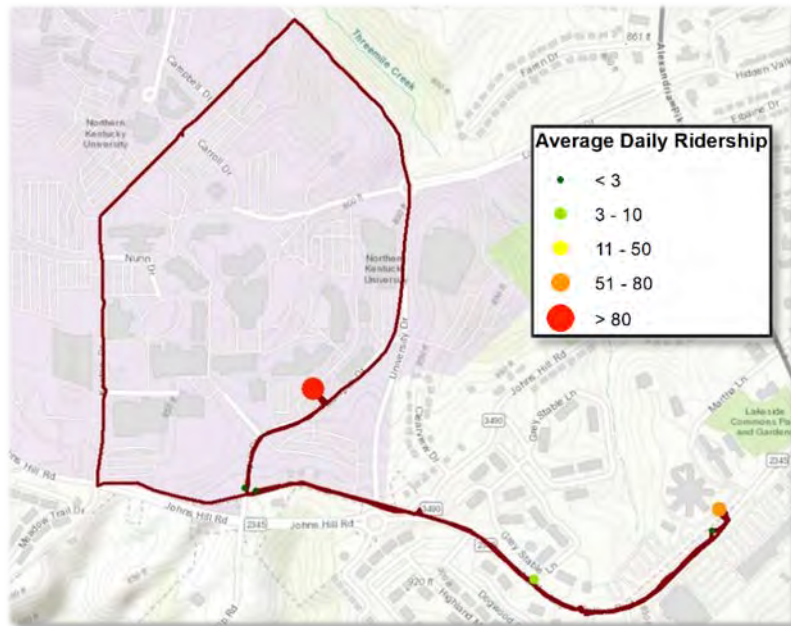
### Northern Kentucky University (NKU) Shuttle

The NKU Shuttle provides circulation within the university’s campus. The NKU Shuttle offers multiple transfer opportunities to and from the shuttle via the other TANK routes serving NKU.

#### Segment Key

Northern Terrace/Callahan Hall	Highland Meadows Dr.	John Hills Rd	Campus Dr	Kenton Dr
Student Union	Natural Science	Norse Commons	Mep Center	

#### Route – NKU Shuttle Average Daily Ridership



	Weekday	Saturday	Sunday
<b>Span</b>	7:30 AM – 11:30 PM	10:30 AM – 2:00 PM 4:30 PM – 7:00 PM	10:00 AM – 2:00 PM
<b>Frequency</b>	10-15 Minutes	10-15 Minutes	10-15 Minutes

#### Pros/Cons

- Route has highest trips per mile productivity among local bus services.
- Route provides beneficial circulation on NKU campus for students, faculty, and visitors.
- While TANK operates the service, its routing and other features are determined by the NKU administration.

#### Additional Considerations for Alternatives Development

- Since service is designed by the university, it may not be possible to modify it.

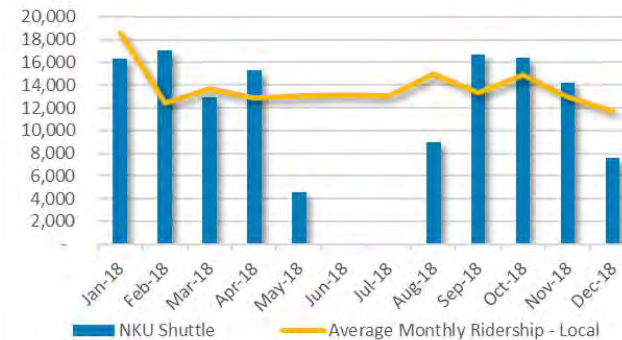
#### Activity Centers/Uses

- NKU, Kroger, Northern Terrace Residence Hall, Campbell County Senior Center

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	129,978	\$1.49	2.31	\$23,288

#### 2018 Ridership by Route by Month

The following figure shows Northern Kentucky University Shuttle ridership by month compared TANK’s express fixed-route average monthly ridership.



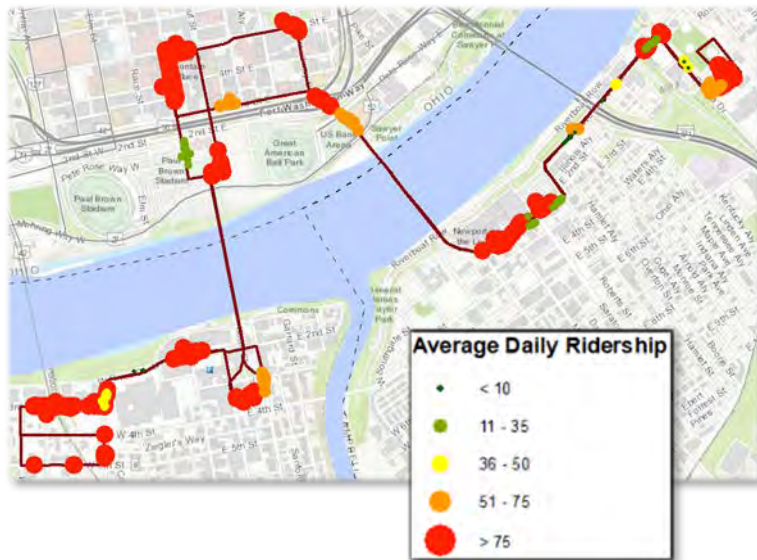
### Southbank Shuttle

The Southbank Shuttle provides circulator service between Newport, Bellevue, Downtown Covington, and Cincinnati. Multiple transfer opportunities are available to and from the Southbank Shuttle to local and express routes along the route.

#### Segment Key

A	B	C	D	E
Medical Arts	Newport on the Levee	Fountain Square	Covington Convention Center	5 <sup>th</sup> @ Philadelphia

#### Route – Southbank Shuttle Typical Daily Ridership



	Weekday	Saturday	Sunday
<b>Span</b>	5:55 AM – 12:00 AM	9:55 AM – 12:00 AM	9:55 AM – 12:00 AM
<b>Frequency</b>	15 Minutes	15 Minutes	15 Minutes

#### Pros/Cons

- Route provides circulation within and between the Covington and Cincinnati downtown areas, Newport, and Bellevue.
- Route has second highest trips per mile productivity among local bus services.
- Route primarily utilizes John Roebling Bridge, which has been shut down occasionally for repairs and already has had a weight limitation applied to it.

#### Additional Considerations for Alternatives Development

- Public input suggests that coverage area for the SBS along the Southbank should expand.
- Ongoing issues with suspension bridge map necessitate changes to routing.
- Current SBS alignment is more linear than might be expected for a circulating route.
- Consider using the route to provide more direct connectivity between Covington (Kenton County) and Newport (Campbell County).

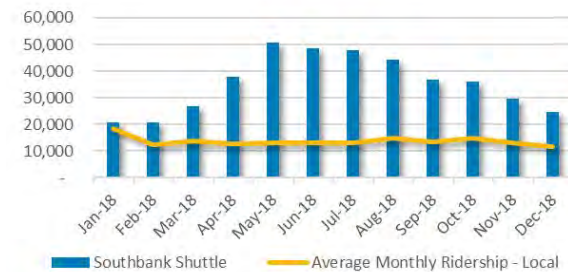
#### Activity Centers/Uses

- Cincinnati, Covington, Convention Center, Newport on the Levee, IRS, Port of Entry

FY 2018	Ridership	Net Cost per Trip	Passenger Trips per Revenue Mile	Average Farebox Revenue
	424,372	\$5.49	2.05	\$351,184

#### 2018 Ridership by Route by Month

The following figure shows the Southbank Shuttle ridership by month compared TANK’s fixed-route average monthly ridership.





## SECTION 13: KEY INPUT NEEDS, GOALS, AND STRATEGIES

Many of the prior sections of this document have been intended to serve as the supportive analysis and documentation for TANK’s current operating environmental conditions and contextual local policies and plans, including the potential latent demand within its service area and its discretionary and traditional transit markets. Following the development of these supportive analyses, the project team met with TANK staff to develop goals and strategies to support the next phase of the System Redesign Study. Public and stakeholder input collected during the initial phase of outreach also were gleaned to identify key community needs that could inform the next phase of the study, as well. This was done to help ensure that any potential transit network/service and capital/infrastructure improvements identified for transit service in the region would not only support TANK’s desired goals and strategies, but the mobility needs of the community, too.

### 13.1 Study Goals and Strategies

Community outreach and stakeholder and agency input are vitally important to the TANK System Redesign Study. While technical analysis will drive many of the modifications that end up being proposed for the existing TANK network of routes, it also is important to consider the mobility needs of existing patrons, and even potential future riders, as the existing network structure gets re-imagined. This will ensure that *efficient* service design based on logical and appropriate transit planning principles also will be *effective* in attracting ridership so that the redesigned network not only meets current travel needs, but also helps stimulate additional demand. It is for these reasons that the following key outcomes have been a focus of this effort:

- ✓ Enhance efficiency and reliability of TANK services
- ✓ Increase utilization of TANK services
- ✓ Improve mobility within the Northern Kentucky region

To help ensure that the redesign effort would lead to the successful fulfillment of these outcomes, a goal and strategy setting process was completed with TANK staff. The process involved three key steps: (1) reviewing stakeholder and public input to identify key needs and desires related to TANK services, (2) using these findings to establish proposed goals for the redesign process, and (3) developing a series of potential strategies for helping to accomplish the proposed goals. This was done by both the project team and TANK staff, with results then being compared and combined into a logical final set of goals and strategies. The following sections detail the results of this goal and strategy setting process.

#### 13.1.1 Key Outreach and Input Findings

Between August 28<sup>th</sup> and 29<sup>th</sup>, 2019, two stakeholder workshops and a public meeting were held at the Covington Career Center on Madison Avenue in Downtown Covington. The major purposes of the workshops and meeting was to introduce the study and get input on needs from the participants. Right before these outreach events, an online survey also was implemented and advertised to give everyone



within the three-county TANK service area an opportunity to weigh in on the study. Workshop and meeting participants also were steered to the survey so that they could participate in it, as well.

### 13.1.1.1 Workshops and Public Meeting

The agendas and activities of the workshops and public meeting are detailed further in Section 16. The summary results of those meetings were reviewed to distill the key issues and needs that were on the minds of the participants as it relates to the potential improvement of existing TANK services. Following is a summary list of the key elements that universally were desired.

- Expanded Southbank Shuttle
- Better bus stops (e.g., in terms of enhanced infrastructure, consistent look, and improved accessibility)
- Easier-to-use service
- More frequent service
- Enhanced connectivity (e.g., between Cincinnati and Covington)
- More weekend service
- More airport service
- Increased span of service (e.g., earlier and later service hours)
- Improved technology (e.g., Wi-Fi on buses, real-time passenger information mobile app, easier fare payment)

### 13.1.1.2 Online Survey

An online survey was made available to capture additional responses from the public. About halfway through the survey's online availability, the summary survey results (based on 574 respondents at the time) also were reviewed to pull out the key issues and needs that pertained to the survey participants related to improving existing TANK services. Following is a summary list of the major elements that were identified from the responses provided.

- Faster service/less delay
- More routes/coverage
- More crosstown service
- Frequency is more important than Longer Hours of Service, which in turn is more important than Longer Routes (i.e., coverage)

### 13.1.2 Proposed Goals of Redesign

Based on the issues and needs consistently expressed by stakeholders and the public, a series of goals were developed to help govern the process of the redesign effort. The goals are presented in the following bullets subdivided into the three key overarching goal areas of Efficiency, Effectiveness, and Speed/Reliability.





- Efficiency
  - Reduce redundancy of route coverage
  - Reduce cost per rider
  - Reduce county subsidy per rider
  - Achieve more sustainable financial and ridership projections
- Effectiveness
  - Enhance network connectivity
  - Improve access to jobs
  - Improve access to higher frequency transit in high density residential areas
  - Make system easier to understand and use
- Speed/Reliability
  - Improve travel times, especially to jobs
  - Improve directness of travel

### 13.1.3 Potential Strategies

Lastly, based on the established goals proposed to govern the redesign process, potential strategies were identified to help empower the process to aggressively address the goals. The strategies proposed are as follows:

- Focus on frequency and efficiency over coverage, especially in core
- Eliminate highly unproductive service
- Reallocate resources into key routes to enhance frequency and span of service
- Consolidate local service in major urban corridors and improve frequency
- Consolidate and shorten park-and-ride express service
- Establish a specific identity/purpose for each route (to cut down on redundancy and facilitate use)
- Provide better service and access to CVG
- Conduct driver reliefs on the road to reduce out of direction travel
- Better delineate between local and express services to facilitate use and cut down on overlapping routes into downtown core
- Tighten RAMP's ADA boundary definition to fit any proposed new (and likely smaller) fixed-route service area
- Implement flex circulator services where prudent to fill in service gaps efficiently (as resources allow)
- Establish transit infrastructure and bus stop guidelines to improve brand and accessibility of stops
- Enhance use of technology to facilitate use of the TANK system and make it more attractive as a mobility option



## SECTION 14: PUBLIC OUTREACH EFFORTS

The purpose of this section is to summarize all the public involvement activities undertaken for the TANK Network Redesign Study, as well as comments received as part of all the public outreach efforts for the redesign of TANK’s system. Public involvement is an ongoing process that includes continuously receiving and analyzing the feedback about TANK. In order to gather comments on the System Redesign Study of TANK’s system, a series of meetings, interviews, online survey and field reviews were conducted from June 2019 through February 2020. These outreach efforts were held to introduce the study and gather comments, a field review of all bus service and bus operator interviews was conducted in June 2019, followed by an initial series of meetings held at the Kentucky Career Center and additional bus operator interviews in August 2019. An on-line survey was also made available to the public in August/September 2019 that generated 827 responses. A separate report of all responses was provided to TANK on September 16, 2019.

Once TANK staff and project team members had an opportunity to review and analyze all comments and survey responses, a draft set of proposed recommendations was made. These recommendations were then presented to TANK stakeholders and members of the public in a second series of meetings in January 2020 at the Kentucky Career Center.

To generate as much participation and comments from the stakeholders and public at all meetings, flyers were placed in the buses, notices posted on TANK’s website and social media outlets, news media was alerted via a press release and email invitations were sent to representatives of the three counties that fund TANK. Businesses, resource agencies and other organizations were part of the outreach efforts as well.



### PUBLIC MEETING

#### Redesign of TANK Bus System

**TANK is starting the process of Redesigning the Northern KY Bus System and we need your input!**

We are seeking public comment on everything from current service, future needs and your ideas about what TANK should do as part of the service redesign. Here’s how you can provide your feedback!

1. Come to the TANK Public Meeting (Open House style):
  - o DATE: August 29, 2019
  - o TIME: 4:00 - 7:00 PM (with a brief presentation on the half hour)
  - o LOCATION: Kentucky Career Center, 1324 Madison Ave, Covington
2. Visit the Redesign page on the TANK website ([www.tankbus.org](http://www.tankbus.org)) to stay informed on the process, plan and ideas generated.
3. Send your comments to us at [info@tankbus.org](mailto:info@tankbus.org)



Below is a “quick glance” at the extent of public outreach efforts that provided opportunities for comments about the redesign process and recommended changes to the transit system, which occurred primarily from August 2019 through February 2020. During that timeframe, TANK received the following number and types of public comments (see Table 14-1):

**Table 14-1: Public Comments Received**

TYPE AND NUMBER OF COMMENTS RECEIVED	
•	<b>414 emails</b>
•	<b>40 voicemails</b>
•	<b>10 feedback forms (Public Open House on August 29, 2020)</b>
•	<b>35 feedback forms (Public Open House on January 7, 2020)</b>
•	<b>25 Facebook comments</b>
•	<b>15 Fiscal Court public comments</b>
•	<b>10 official city/agency letters</b>
•	<b>7 hand-written letters</b>
•	<b>2 petitions</b>

Table 14-2 shows when redesign presentations and opportunities were held. This was also an opportunity for in-person feedback.

**Table 14-2: Dates of Public Feedback**

DATE AND VENUE TYPE	
<b>August 28 &amp; 29, 2019</b>	Stakeholder meetings
<b>August 29, 2019</b>	Public Open House (33 attendees)
<b>January 7 &amp; 8, 2020</b>	Stakeholder meetings
<b>January 7, 2020</b>	Public Open House (97 attendees)
<b>January 8, 2020</b>	TANK Board Meeting
<b>January 9, 2020</b>	Kenton County Fiscal Court Meeting
<b>January 14, 2020</b>	Boone County Fiscal Court Meeting (2 citizens commented)
<b>January 15, 2020</b>	Campbell County Fiscal Court Meeting (13 citizens commented)
<b>February 5 and 10, 2020</b>	City of Covington Meetings



## 1.1 Recommended Changes to TANK Network – TANK Recommendations

The following summary bullets highlight the additional comments that TANK staff recommended to prepare the final Approved 2020 Redesign Network based on the open comment period from December 2019 to February 2020.

- Route 3 – Move forward with alignment/schedule.
- Route 5 – Route should end at Fort Wright Hub, not Walmart.
- Route 7 – Stagger frequency with Route 8 to achieve 20-minute frequency for most of the span.
- Route 8 – Restore Route 8 and stagger frequency with Route 7 to achieve 20-minute frequency for most of the span. Remove proposed Healthline. Recommend combining southern portion of existing Route 33 with recommended Route 8. Route 8 will travel to Latonia Plaza, Fidelity, Fort Wright Hub, Walmart, St. Elizabeth, and Crestview Hills.
- Bring back existing Route 12 and truncate route in Downtown Covington rather than Cincinnati. Modify frequency if possible.
- Route 25 – Terminate route in Cincinnati and extend to Village Green Shopping Center.
- Southbank Shuttle – Modify Southbank Shuttle with TANK routing for Downtown Covington and delay combination with Route 12. Span and frequency are good as recommended.
- Route 2X – End of line should be at CVG Centre, not DHL.
- Route 17X – Span and frequency are good as recommended. In the morning, modify network to serve Royal Drive before serving Buttermilk Park-and-Ride. In the evening, modify network to serve Buttermilk Park-and-Ride before serving Royal Drive.
- Route 25X – Extend to Village Green Shopping Center.
- Route 42X – TANK staff is delaying the passenger survey and have decided to move forward with scheduling and routing.



## SECTION 15: INITIAL SITE VISIT AND FIELD REVIEW

To help kick off the project, the project team prepared for and completed an initial site visit during the week of June 17-21, 2019. Team members from Tindale Oliver and Dan Boyle & Associates spent the week meeting with various staff, speaking with operators, and field reviewing the existing route network. Figure 15-1 shows the summary activities list that was developed to guide the work intended to be completed during the trip.

A summary of the participating team members' notes from the site visit and field review, as well as preliminary route-level thoughts, ideas, and concepts discussed by the team for consideration in the redesign is provided in this section. The detailed notes from these visits are provided in Appendix A.

**Figure 15-1: Summary of Activities**

**Tindale Oliver**  
planning | design | engineering

GREAT INSIGHTS. GREATER OUTCOMES.

**Transit Authority of Northern Kentucky (TANK)**  
**TANK System Redesign Study**

**Initial Site Visit/Field Review Trip Activities**

Dates: Monday, June 17 through Friday, June 21, 2019

Following are the activities that the Project Team plans to accomplish during its initial trip to TANK.

1. General tour of facilities and operations
2. Windshield survey of all TANK routes
  - a. All routes to be field-checked by car
  - b. Several key routes to be reviewed from on-board perspective (also helps gain input from operators and even passengers)
3. Informal operator discussions
  - a. Some members of team to spend time in operator break room to discuss routes and service with operators before, after, and/or between shifts
4. Staff discussions
  - a. Meeting on Wednesday to discuss scope, outreach, study G&Os, other study elements
  - b. Other informal meetings with staff in specific positions that will impact and/or be impacted by study (e.g., planning, scheduling, performance analysis, operations, paratransit, etc.)
5. Finalization of study scope and outreach plan (to extent feasible)
6. Compile additional data, as available, according to needs
  - a. Continue discussing format and viability of APC data
  - b. Access to NTD data (historical, most recent submission)
7. Other

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## 15.1 Staff Meeting Notes

During the site visit, several meetings were held with various key TANK staff on different days/times, including the following individuals:

- Andrew Aiello, General Manager
- Frank Busofsky, Manager of Planning
- Kail Clifton, Manager of Special Services
- Gina Douthat, Deputy General Manager/EEOC Officer
- Gary McCulley, Manager of Scheduling
- Lyndi Whiteker, Performance Analyst

The following bullets highlight key items discussed during the various meetings held with key TANK staff.

### 15.1.1 Routes and Service Areas

- Hebron is a large unincorporated area that has developed north of the Cincinnati/Northern Kentucky International Airport (CVG). Most of the ridership in this area is on Worldwide Boulevard. Ridership has increased 25% since the addition of DHL and Amazon Prime.
- Amazon has at least 10 different warehouses around CVG and the company has been requesting service on Litton Road for 3 years.
- The Airporter provides service connecting CVG to Covington and Cincinnati.
- The challenge that TANK has had in the CVG area is getting to all the industrial centers and finding out their respective shift changes.
- Dixie Highway (Route 1) needs to be streamlined
- TANK is interested in finding opportunities to consolidate the express routes.
- TANK wants to improve the frequency of some of its routes (e.g., the Airporter).
- The CVG area may be good for a first mile/last mile flex service pilot.
- TANK has been catering to the hospitals in the planning of its routes and services.
- About 70-80% of the riders going to the industrial areas around CVG are from the western side of Cincinnati, so most are already on their second bus. This represents a heavy reverse commute to CVG to access employment at the warehouses. Bridge access is a constraint.
- Routes 30X and 31X are mostly the same with highest demand on both at Club Chef, so there may be an opportunity to truncate service at Club Chef.
- Ridership on the 39X and 40X has started to decline.
- The 35X serves Northern Kentucky University (NKU). Its ridership drops during the summer when there are fewer students on campus.
- It makes most sense for all express services to terminate in Cincinnati and not the CTC.
- Transit purpose is threefold: commuters to Cincinnati; residents to Cincinnati for events; tourists and business travelers along the riverfront.
- There is support for terminating express routes in Cincinnati and local routes at the CTC; however, it also is important to staff that key “trunk” lines among the local routes (e.g., Route 1) also continue to go into Cincinnati.
- Creating connections between Route 1 and new developments to the west was discussed, including connections with Routes 39X and 40X.
- The only “sacred cow” noted by staff is CVG. TANK recognizes the need to serve the CVG area well, but staff believes that they are not serving it at a level now that it needs to be served.



- The NKU Shuttle was designed by the university so it should not be included among the proposed route changes. Campus shuttles do not operate when school is out.
- Route 11 meanders; it used to be all-day route to NKU that eventually was recommended for elimination. Instead, it ended up being shortened with some service hours being shifted to Route 16, which has a little more transit “feel.” One option is to make it an express on I-471.
- In the airport area, TANK has not pushed back about serving the CVG Centre, although it seems to be better served by an airport-run shuttle. With Amazon expanding in the area, there may be an opportunity for a subsidized “TANK Prime” service. Demand at DHL justifies service, but not really at CVG Centre.
- The scheduling software that TANK is going to be using is called M-Tran (originally from MAIOR in Italy), and it is coming from Clever Devices. The new software will be completely web-based with planning, scheduling, and bidding modules. Clever Devices’ contract kickoff is July 1st. Frank, Lyndi, and Gary will cross-train. Everything is supposed to go live September 29th, but it probably will be more like end of October.

### 15.1.2 Park-and-Ride

- TANK owns only 3 of the 18 park-and-ride lots being used currently, and the maintenance department is struggling to take care of them.

### 15.1.3 Paratransit (RAMP)

- Paratransit service area has been expanded by policy; however, staff is supportive of limiting the paratransit service area boundaries to federal definitions and the ¾-mile limit. In addition, demand for this service is up and down.
- The four main area hospitals used to be St. Luke’s East and West, and St. Elizabeth North and South. St. Elizabeth bought out St. Luke’s and others (e.g., Patient First). TANK’s fixed routes serve the four hospitals; however, in the cases of Routes 5 and 16, they detour for at least 5 minutes to reach them. It was requested that the detour on Route 5 to the hospital (on Hewson Street) be examined to determine its necessity.
- Medicaid service is provided by Federated Transportation Service of the Bluegrass State (FTSB).
- TANK is strict in serving the ¾-mile ADA buffer in Cincinnati, except the Cincinnati Association of the Blind (on the west side of downtown by Union terminal), which falls outside this buffer but is still served. This agency was grandfathered in by TANK.
- TANK also provides weekend paratransit service in places that have no fixed-route service on weekends.

## 15.2 Route Field Review Notes

One of the primary reasons for the initial site visit was to drive all the TANK routes and gain valuable context and insight into the service areas in which they operate. During this “windshield survey” of the routes, which was conducted over the entire week of the visit, members of the project team discussed various aspects of each route, including both positive and negative issues noted for each, and began developing potential concepts for improvements. Following is a brief synopsis of the primary observations that were made about the routes, bus stop infrastructure, elements of operation, and/or



connectivity of the network during the five days of field review completed. Extensive details are provided in Appendix A.

### 15.2.1 Route Observations

- **Route 1** has a significant number of variations in the south around the St. Elizabeth Florence Hospital and Walmart, as well as near the BAWAC facility. Currently, this portion of the route takes too long. Dependent on what the stop-level ridership data show, the route is likely a candidate for a circulator service or a shuttle, which would terminate at the Florence Mall.
- **Route 5** operates as a local service between Fort Wright Hub and Cincinnati. The inbound segment between 4<sup>th</sup> Street/Scott Street and Holman Avenue/Pike Street needs to be further examined for operational concerns.
- **Route 7** may be beneficial to turn at 40<sup>th</sup> Street rather than 45<sup>th</sup> Street, dependent on what the stop-level ridership data shows.
- **Route 8** operates as a local route providing transit service along Taylor Mill Road and Winston Avenue before traveling into Covington. Dependent on what the stop-level ridership data collected at the Cambridge Square Apartments show, it seems that this portion of the route is not needed.
- **Route 9** is characterized as a local route but operates in peak periods only. It is long and terminates in the south at the Cherokee Shopping Center Park-and-Ride. Most of the service area south of I-275 is suburban in nature with low density, large parcels, and multi-vehicle homes.
- **Route 12** operates as a local route providing service to Covington, Cincinnati, and northern portions of Campbell County. This route could use the 4<sup>th</sup> or 12<sup>th</sup> Street bridges to return to Covington.
- **Route 18X** may be able to provide service to the medical complexes rather than operating on Dudley Road. If not, then Route 18X may be a candidate for deletion since it appears to be operating in a non-transit supportive area.
- **Route 22X** is likely a candidate for truncation at Mount Zion Park-and-Ride.
- **Route 25X** operates as an express/local service providing transit service from the Alexandria Park-and-Ride to Cincinnati. At minimum, this route should be truncated to terminate at the existing Village Green Shopping Center Park-and-Ride.
- **Route 28X** operates as both local and express service. It may make sense for time points A through E to operate as local service, while time points F through H operate as a shuttle. The segment operating from Cincinnati to Erlanger should operate as an express route on I-71/I-75.
- **Routes 30X and 31X** both operate on Madison Pike using the same route between Cincinnati and Club Chef.
- **Route 33** needs to be further examined. The segment between Walmart and St. Elizabeth Hospital Edgewood campus does not appear to be a transit-supportive environment that generates much ridership.
- The **Southbank Shuttle (SBS)** should serve as a frequent connector/circulator service between Covington and Cincinnati. To do this, it may be feasible to revamp the service as two reverse-direction loops that extend out along the South Bank, thereby combining with some portions of Routes 3 and 12.





### 15.2.2 Network Observations

- Routes that serve remote park-and-rides need to be further reviewed. Dependent on what the stop-level ridership data show, the routes that serve remote park-and-rides may be adjusted.
- Express routes also operate as local routes throughout the service area.

### 15.2.3 Infrastructure Observations

- Some stops are located in areas that are inaccessible, could create traffic issues when a bus stops, and/or too close to adjacent stops. It is recommended that stop placement should be reviewed once routes are adjusted.
- TANK should examine similar consistency of shelter design throughout the rest of its service area, perhaps with architectural or artistic embellishments.
- Park-and-Ride signs were placed an adequate distance away to notify users. However, it was difficult to locate some of the park-and-ride locations at shopping centers. It will be prudent to develop appropriate signage plans for the final set of park-and-rides being applied to the redesign.

### 15.2.4 Operations Observations

- Relief options need to be further examined.
- A further review of routes that deadhead back to Cincinnati (i.e., Route 1) should be considered.



## SECTION 16: SUMMARY OF OUTREACH WORKSHOPS AND MEETINGS

This section highlights summary input from the four stakeholder discussion groups and two public meetings that were held as part of the redesign effort. To engage the stakeholders and public in the redesign process and to gather input on future needs and overall ideas about what TANK should do as part of the service redesign, these meetings were held prior to and after initial recommendations were made about TANK's current service.

The first series of meetings occurred on August 28 and 29, 2019, at the Kentucky Career Center. These initial meetings introduced and explained the redesign process, as well as provided an opportunity to listen to comments and concerns of the various groups involved and gather feedback regarding the TANK system. Flyers, website and social media posts, and news media announcements were provided to encourage participation.

The second series of meetings occurred on January 7 and 8, 2020, at the Kentucky Career Center. The purpose of these meetings was to present the initial draft recommendations and hear comments about them and their potential impacts from stakeholders and the public. The key input and comments from each of the meetings are presented in the rest of this section.

### 16.1 Stakeholder Discussion Workshop #1

Representatives of the three counties included in the TANK service area and that support the funding of its services were invited to participate in this meeting, which occurred August 28, 2019, from 11:00 AM to 1:00 PM. The sign-in sheets are included in Appendix B. A summary of the key points from the discussion is highlighted below.

#### 16.1.1 General Questions/Comments from Stakeholders

- Coverage equity – it is inefficient to those who NEED it
- Need to expand shuttle service
- Visual appeal of the bus stops needs improvement

#### 16.1.2 Why haven't you used TANK?

- Technology is limited - Uber is easy and simple
- Perception is that TANK is complicated and insufficient
- 3 hours to get to NKU - driving is easier and shorter
- No comfort with children - perception of risk - fear factor

#### 16.1.3 Awareness - Do people know about TANK?

- Not familiar with schedules and bus stops
- Perception of being an inefficient system
- Bus stops are not welcoming. There are no visuals with directions
- No boards or visuals – bus stops need to look like Dixie Corridor stops
- More awareness from businesses to their employees



#### 16.1.4 Responsiveness

- Airport – good response, can expand
- TANK responsiveness to community vs. community responsiveness to TANK
- Yes, it is responsive, given the resources and funding

#### 16.1.5 TANK's Role

- Critical service to be successful
- Extend to Cincinnati and bigger areas
- Don't operate in silos
- Need to change the stigma associated with riding the bus

### 16.2 Stakeholder Breakout Sessions from Workshop #1

#### 16.2.1 What is TANK doing well?

- TANK is “thinking”
- Staff is good
- Southbank Shuttle is good
- Connecting people through social media
- Trying to be strategic by being collaborative, working together with stakeholders, engaged, keeping stakeholders informed

#### 16.2.2 What areas do you see opportunity for improvement?

- Need a mission statement that is relatable – what is the goal?
- More frequent service is “king”
- Stops need to be “walkable” for all people (disabled, young, old, etc.)
- Right size for the buses
- Customized routes
- How to overcome perceptions of public transit
- Upgrade buses inside and out
- Need to educate employees, riders and non-riders more about transit system and how to ride, where you can get to, etc.
- Provide greater connectivity between Cincinnati and Covington or other areas
- Ask people – are you working where you want to work? e.g., may work somewhere where there's a bus stop but not necessarily where they want to work, or vice versa
- Employers need to understand how the subsidy works and that it's a pre-tax benefit to them
- Frankfurt needs to increase their portion of funding to transit and place more emphasis on public transportation – TANK needs to convince them to pay; advocate thru their partners, have them be “champions” of bus system
- What populations, types of people, employment centers, etc., are we missing?

#### 16.2.3 What improvements are needed in the existing transit system?

- More frequent service and more weekend service
- Communicating advantages of public transportation to the public
- Improved weekend service – especially on Sundays
- User experience – this is needed to pick up discretionary riders
- Better coordination with other models – Uber, Lyft, Bikes, etc.



- TANK needs app – or better marketing of Transit App
  - Customer-centric technology
- Airport is severely underserved
- Wi-Fi
- Establish partnerships with zoning department so that they will support transit when reviewing proposed development or changes; transit stops need sidewalks and shelters, should include those in their approval of new development
- Consider first mile/last mile – Uber? Circulator?
- Complement and enhance service, don't need to solve everything!

#### 16.2.4 How do we measure success?

- Number of jobs in our region with access to GOOD transit service
- Number of residents in our region with access to GOOD transit service
- NEED vs. WANT, entertainment vs. get to/from work
- Riders per dollar spent (subsidy) – want farebox to go up to show riders are buying into it
- Nobody complains when it's full!
- Mix between ridership and what passengers are saying
- Urban Core – biggest factor in success

#### 16.2.5 Overall focus

- Want a system that is SUSTAINABLE based on current funding, but flexible to change with technology, trends, and customer needs

### 16.3 Representative Discussion Workshop #1

Members of organizations, businesses, and those with an interest in TANK were invited to participate in this meeting, which occurred on August 29, 2019, from 10:00 AM to 12:00 PM. The sign-in sheets are provided in Appendix C. A summary of the key points from the discussion is provided below.

#### 16.3.1 Questions from participants

- Data may be skewed because data does not split transit dependent vs. one car families vs. multi-car families for ridership
- Safety – Do you have policies in place? Any statistics? Andy replied that it is 10x safer in bus than car.
- Technology and how it has become transformative
- Is this study focusing on TANK or pedestrian infrastructure as well?
- What is TANK's marketing budget? – Been the same for the last decade according to Andy. 1/3 of a percent for marketing. Gets expensive quickly to saturate whole market.

#### 16.3.2 Why don't you use TANK?

- Travel time is too long
- Come and go throughout the day – need vehicle for job travel requirements
- Service cuts – used to ride but lost service
- It is inconvenient – walk or drive to get there (coverage/easy access)
- Use RedBike and scooters instead
- Don't need it – live close to work already



- Motion sickness on buses

### 16.3.3 Awareness

- Awareness is high
- Confusion as to where stops are – inconsistency and lack of branding (different shelter types)
- Accessibility – no sidewalk/pedestrian infrastructure
- Some riders rely on transit app on iPhone to show where to get on and off – it does not work for the elderly as they do not know how to navigate it
- Need education for youth

### 16.3.4 What is TANK’s role?

- Two types of users – need and choose. Want to see more of a priority toward those who need. More impactful to those who do not have an option
- Senior citizen – accessibility – hot topic, economically a challenge but a good base of people
- All spectrum – Entertainment, jobs, suburbs and commute in. What is the right balance?
- Support economic development
- Educational section – educate on benefits of TANK; teach the young
- How can we work regionally with other bus systems? – there needs to be a special transaction if you are going to Cincinnati
- TANK app? If we are going to use a transit app or Google transit, instead, there needs to be a way to inform the public about this
- Connect people to jobs, build ridership – need to be more efficient (different for every area and every community)

### 16.3.5 Does TANK matter to businesses?

Yes.

### 16.3.6 TANK’s position between coverage and core frequency?

Right now, we look like we’re around “D.” Is the level of need part of the barometer?

A – 0 (core frequency)

B – 12

C – 8

D – 0

E – 0 (coverage)

### 16.3.7 What can be improved?

- Bus stop accessibility
- Consistency of bus stop infrastructure and signage
- Needs to be more communication on location of stops
- Frequency
- Where to park to get on the stops (not at park-and-ride lots)
- Better infrastructure – canopy, benches, signage



- Smaller buses

### 16.3.8 What improvements are needed in existing transit system?

- Wi-Fi and charging ports
- Greater span of service on second shift
- Urban Core – fewer stops, but better bus stops

### 16.3.9 Destinations currently unserved

- Tyson (rather than Lake Park), airport weekend service, Silver Grove

### 16.3.10 How do we determine success?

- Number of jobs in our region with access to good transit service
- Number of residents in our region with access to good transit service

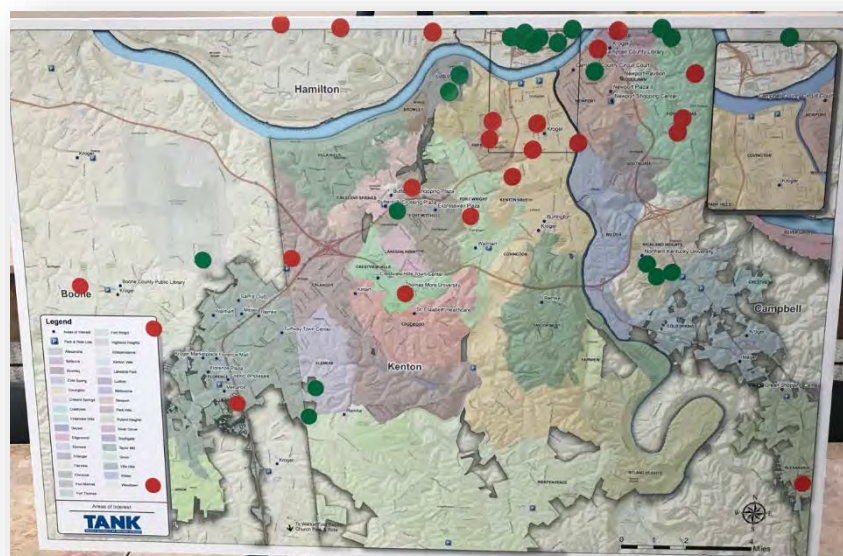
## 16.4 Public Meeting #1

This public meeting, which occurred on August 29, 2019, from 4:00 PM to 7:00 PM, was advertised via news, social media, and through flyers placed on the buses, as provided in Appendix D. Approximately 33 people attended the public meeting at the Kentucky Career Center (sign-in sheet provided in Appendix E). Each participant was provided an agenda, fact sheet, and comment form, as shown in Appendix F. The workshop was set up in an open house with stations format to allow for one-on-one discussion with staff and project team members. The stations were interactive and provided information such as location of residence and work, route suggestions, and favorite destinations. A brief summary of the stations and key comments received are presented below.

### 16.4.1 Station 1 - Where Do You Live and Work? Route Suggestions?

Station 1 asked participants to place a dot where they lived and worked to get a general sense of commuter travel, as shown in Figure 16-1. The participants were then asked to provide any route suggestions.

**Figure 16-1: Live and Work Locations**

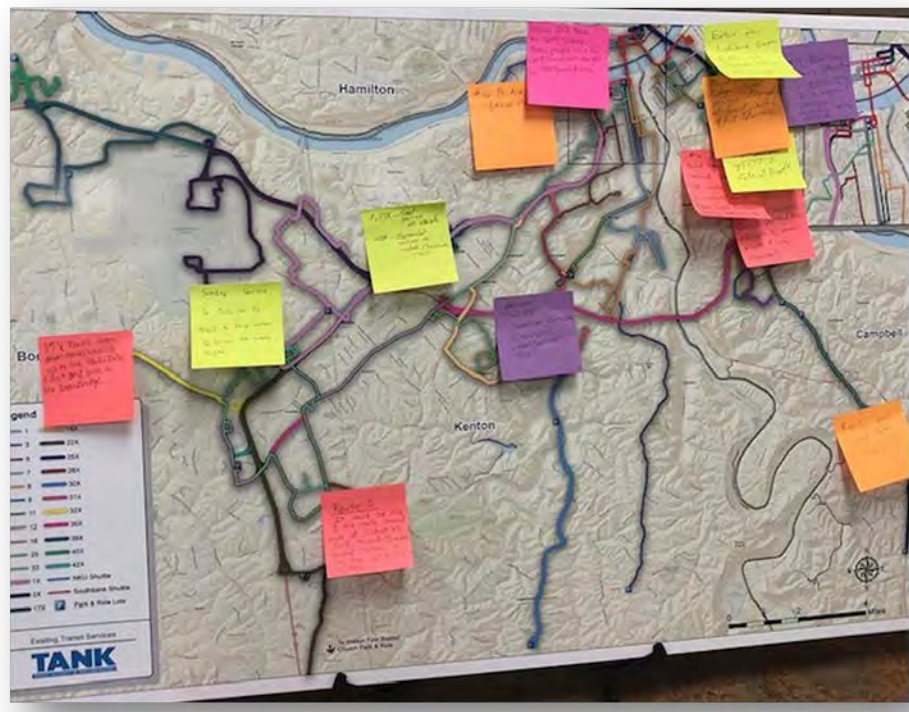




### 16.4.1.1 Route Suggestions

- Regular service route farther south on Route 25
- Route 1 - it would be nice if the route covered more of Industrial Road, towards Turkeyfoot; several employers in this area are looking for workers
- Route 17X - route from Cincinnati should go to the park-and-ride first and over to the drawbridge
- Sunday service to DHL on 2x needs a trip after 12:30am on Sunday night
- Route 1 and Route 17X – need service on weekends
- Route 42X – expanded service to include Florence Mall
- Route 16 – to NKU from Fort Thomas
- Move Route 25X back to 6<sup>th</sup> Street; many people have to walk from 4<sup>th</sup> to get to 7<sup>th</sup> and Vine
- Extend the Southbank Shuttle farther into Bellevue and even into Dayton
- Route 16 and Route 25 – more frequent weekend service and later route times to accommodate events
- Route 11 – need to expand hours

**Figure 16-2: Routing Recommendations**

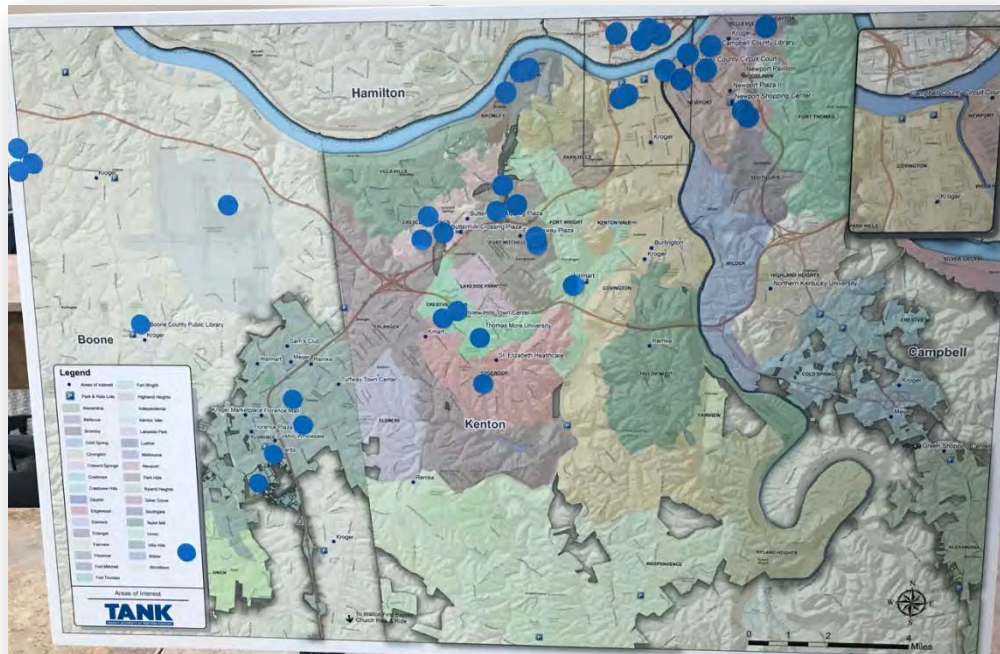




### 16.4.2 Station 2 – What Are Your Favorite Destinations?

Station 2 asked participants to list their favorite destination throughout the TANK service area, as shown in Figure 16-3.

**Figure 16-3: Favorite Destinations**



### 16.4.3 Station 3 – Blank Maps

Blank maps were available for participants to draw on, make comments, or identify new routes/add to existing, etc. All maps were collected and reviewed by the project team and TANK staff. To the extent feasible, the suggestions provided were considered as potential changes to the system were developed and modified over time.

### 16.4.4 Station 4 – Survey

Participants were able to complete the survey online or via paper copy while at the workshop. All surveys were inputted into the system and compiled weekly until the survey finally was closed on September 20, 2019.





#### 16.4.4.1 Feedback from Survey

Was the meeting location easily accessible to you?

YES - 9

NO - 1

Was the information presented in a way that made it easy to understand?

YES - 10

NO - 0

- Nice job!
- Great visuals and articulate presenters.

Was the “station format” a good way to present the information today?

YES - 10

NO - 0

- It was awesome!
- Station format was good however shorten length of the presentation and only do one or two
- Because its station format, have attendees hold comments until after presentation

Is there information you would like to know that was not included today (please be specific)?

- Extend Route 33 to include Senior Center in Freedom Park
- Events for seniors – at parks, libraries, senior centers to be included in your routes
- Maybe pick up/drop off at the banks
- Improve maps to show more points of interest, malls, hospitals, parks, etc.
- Express routes for employees
- Is data/info being collected from non-riders?
- Is information being put out to promote TANK to non-riders?
- Why are community riders not considered stakeholders? The presenter mentioned stakeholders a few times in reference to others outside of actual riders.
- Are you looking at other strategic improvements other than route location, i.e., governance, mobile apps for routes?
- Let the public know about changes, meetings, thru all TV stations
- Interested in the Southbank with a Campbell County ridership. How can Kenton County (Ludlow) make a case for weekend service?



### Specific comments from Jack Moreland, President, Southbank Partners, Inc., to Project Team at Public Meeting

- Believes that the governance and administration of TANK is as good as anyone else currently has in the community. TANK is a well-run agency.
- Strongly believes that you “cannot cut your way to prosperity,” meaning that reducing the scale and/or budget at TANK will do no one any good from a prosperity standpoint. He believes that taxes are a way to grow prosperity and he listed three key points that make this case:
  - Today, people are returning to the urban core
  - Transit fits in well with this new dynamic
  - Quality of life is critical to the success of local businesses
- Every politician would agree that Northern Kentucky is a key driver of the State’s economy. As such, the Fiscal Courts must not cut their way to prosperity (e.g., don’t cut back TANK service to reduce spending/save money).
- Believes that the Southbank Shuttle, which the Southbank Partners originally started, is a big driver of growth. Therefore, it needs to connect better to all the development and commercial growth occurring along the Southbank.

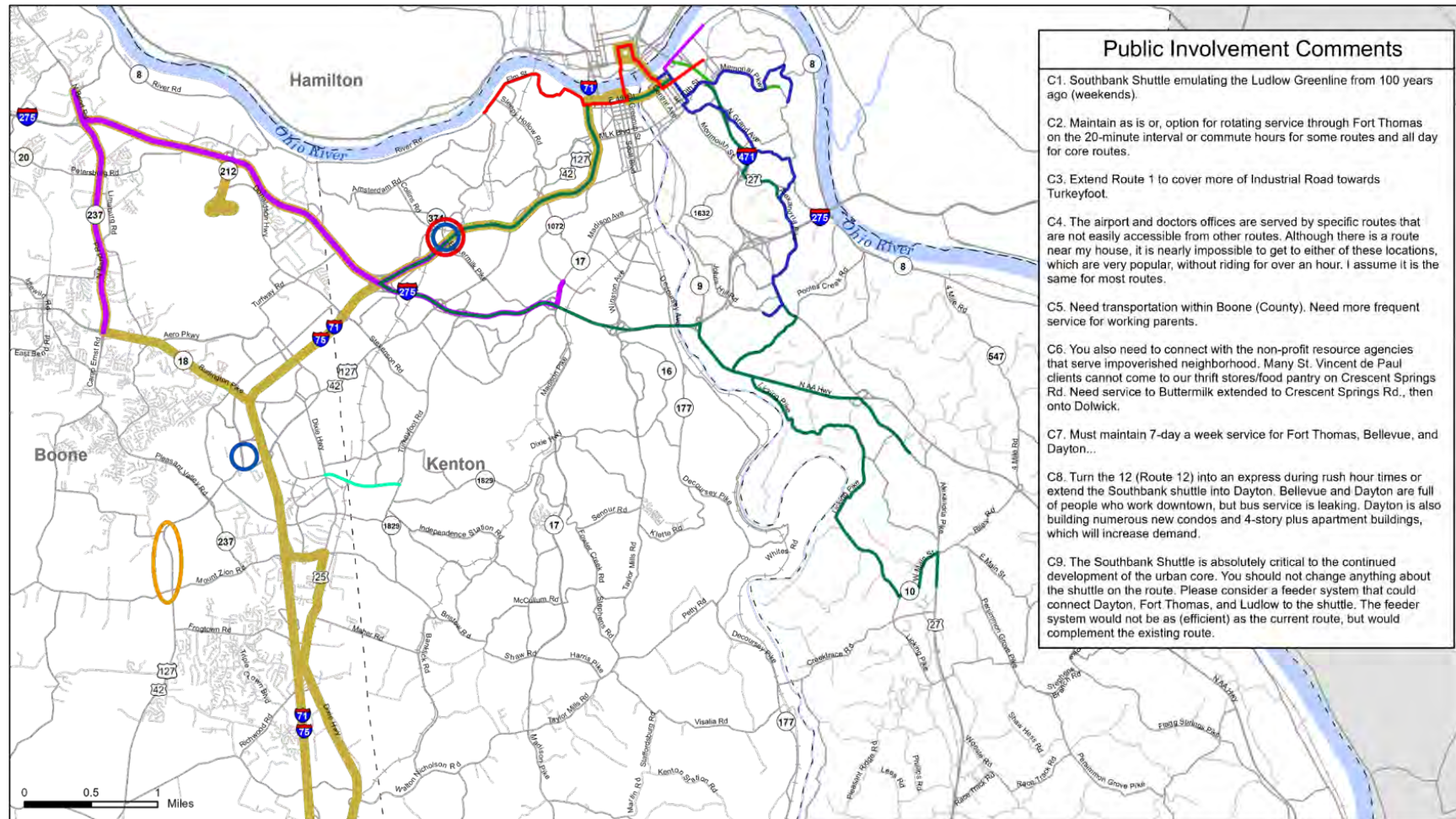
*Side note: Mr. Moreland was very supportive of transit and TANK, and he said that his group had plenty of political clout to prevent any reductions in service and/or bring new revenues to bear on helping the service grow in a logical fashion.*

#### 16.4.5 Public Comments Map

A large exhibit map of TANK’s system was available for members of the public to draw on and/or make comments on sticky notes. The project team recreated the map to highlight public comments, as shown in Map 16-1.



Map 16-1: Public Comment Map



### Public Involvement Comments

C1. Southbank Shuttle emulating the Ludlow Greenline from 100 years ago (weekends).

C2. Maintain as is or, option for rotating service through Fort Thomas on the 20-minute interval or commute hours for some routes and all day for core routes.

C3. Extend Route 1 to cover more of Industrial Road towards Turkeyfoot.

C4. The airport and doctors offices are served by specific routes that are not easily accessible from other routes. Although there is a route near my house, it is nearly impossible to get to either of these locations, which are very popular, without riding for over an hour. I assume it is the same for most routes.

C5. Need transportation within Boone (County). Need more frequent service for working parents.

C6. You also need to connect with the non-profit resource agencies that serve impoverished neighborhood. Many St. Vincent de Paul clients cannot come to our thrift stores/food pantry on Crescent Springs Rd. Need service to Buttermilk extended to Crescent Springs Rd., then onto Dolwick.

C7. Must maintain 7-day a week service for Fort Thomas, Bellevue, and Dayton...

C8. Turn the 12 (Route 12) into an express during rush hour times or extend the Southbank shuttle into Dayton. Bellevue and Dayton are full of people who work downtown, but bus service is lacking. Dayton is also building numerous new condos and 4-story plus apartment buildings, which will increase demand.

C9. The Southbank Shuttle is absolutely critical to the continued development of the urban core. You should not change anything about the shuttle on the route. Please consider a feeder system that could connect Dayton, Fort Thomas, and Ludlow to the shuttle. The feeder system would not be as (efficient) as the current route, but would complement the existing route.

- Comment 1
- Comment 2
- Comment 3
- Comment 8
- Comment 9
- Comment 10
- New Route Concept 1
- New Route Concept 2
- New Route Concept 3
- Specific Roadway Segment Suggested for Service
- Specified Park & Ride Locations
- Specified Park & Ride Location for C6

Public Comments



## 16.5 Stakeholder and Representative Discussion Workshops #2

Attendance at both the stakeholder and representative discussion group workshops held at the Kentucky Career Center totaled 48. These meetings occurred on January 7, 2020, from 11:00 AM to 1:00 PM and January 8, 2020, from 10:00 AM to 12:00 PM. The sign-in sheets are provided in Appendix G. To begin the meetings, introductions were made for staff, project team members, and participants, followed by a PPT presentation that included slides of all initially-proposed changes. A significant amount of time was spent on the potential changes to the system and the four new types of routes:

1. Frequent service (frequent routes) – high frequency linehaul services
2. Neighborhood service (coverage urban) – major lifeline routes for community circulation
3. Jobs express – (reverse commute) – scheduled around shift changes and provides evening park-and-ride service
4. Commute express (park-and-ride service) – serves park-and-rides and inbound/outbound commuters

Following are summaries of some of the key discussion items from the two workshops.

### 16.5.1 Route 25 and Service to Cincinnati/Downtown Covington

- #25 (US 27/NKU) – Would it continue to serve CTC directly, as it does today (and not as proposed, which terminates the route in Cincinnati)?
- It does not go to Walmart, which is a concern (TANK is hearing a lot of complaints about this so this may be an item to revisit).
- NKU wants to make sure TANK moves the students.
- This raised concerns regarding the changes to the route circulation between Downtown Covington and Cincinnati (i.e., will they stay the same as proposed for each route?). This led to a broader discussion ranging from whether TANK’s routes should go into CTC only and have SORTA provide connectivity between the two downtowns, or whether all of the revised routes can be made to serve both locations. TANK staff clarified that this was a key item to change since the “current” network provides hundreds of trips each day between the two downtowns and that this was an inefficient use of resources.
  - People that work in Kentucky say that this will be a long route; they do not want to go to Cincinnati when they work in Kentucky.
  - Participants indicated wanting people to stay in Kentucky; if the bus stops in Cincinnati, then that deters people from staying in Kentucky. They do not see the merits of taking away service to/from Covington side. They want to serve their people (in Northern Kentucky).
  - This appears to lessen the use of (and the investment in) the CTC. The discussion of this question revealed some strong sentiment (noted also in the second bullet) about





terminating routes in Downtown Covington instead of Cincinnati because TANK is the transit system for Northern Kentucky.

- But if people need to get to work in Cincinnati, then they need the shuttle to get there or they need the bus service.
- Perhaps TANK should consider a more direct connection between Campbell County and the CTC. The response to this discussed the difficulty in connecting Campbell and Kenton because of the geography and bridges (especially the weight limitations of the bridge at 4th connecting the two counties) and that efforts were made to ensure this connectivity.
- The bridge opens up opportunities for the Southbank Shuttle, but how do we make a better connection to CVG? It is a struggle.

### 16.5.2 Route 33/Healthline

- May want to consider an alternate route that would use Turkeyfoot Road to the Crestview Hills Town Center.

### 16.5.3 Route 17X

- Concerned about the location of bus stops located on Buttermilk Pike on either side of I-71/I-75. This stemmed from the discussion about the proposed changes to the routing to/from the Buttermilk Park-and-Ride facility.

### 16.5.4 General Comments

There were some complimentary comments from the stakeholders that the changes proposed successfully meet the intended study goals of efficiency over coverage. Other comments included:

- TANK needs to look at other potential funding sources to meet the unmet trip needs that may result from the proposed changes.
- Learn from CTC's experience with messaging strategy as the system changes are broadcast to riders and the public. Let's not talk about route cuts but how this will help efficiency, and it is a better system.
- The planning organization is looking at Transportation Network Companies, micro transit, and other options to supplement the region's transportation network.
- This is so powerful that we need to emphasize that it is more than a bus system, that it is a regional way to connect (via connections to sidewalks, bike paths, scooters, other transit agencies, etc.), so we need to have better access to buses, as well. Thank you for thinking about the regional network. Have to think about other multimodal connections and investments.



### 16.5.5 Questions/Answer Session:

- Q: What times will you serve airport service?  
A: All day; airport hours would likely be 4am-1am.
- Q: Why route to Cincinnati when you can utilize Covington hub?  
A: The main reason is that there is so much service into Cincinnati that was not necessary, so the shuttle takes care of that and provides that service into Cincinnati. New routes were identified based on ridership.
- Q: How will we serve Cincinnati?  
A: The Southbank Shuttle provides that service.
- Q: Is the ridership good on the shuttle?  
A: We eliminated duplication (Route 12) so it is more cost efficient.
- Q: Will the Southbank Shuttle use the transit center?  
A: It will (does not today, but will).
- Q: On neighborhood routes, do they all have to go into Cincinnati? Or can some not go?  
A: We tried to keep things consistent on both types of routes. But most of the current routes (neighborhood) do.
- Q: Regarding the Route 2X CVG/Industrial Express, is that for people to commute to hotels?  
A: No, it is mostly used for employees who work at the airport and ancillary services. It also will be able to bring people to the terminal.
- Q: What is the frequency on the Southbank Shuttle?  
A: 15-minutes.
- Q: Can you get to airport if on Route 25?  
A: Yes, you can transfer at the Covington hub to Route 2X to go to the airport and downtown.
- Q: On the #17X, do the apartment residents have to walk uphill to catch the bus?  
A: There is a stop at Sunoco and another on Buttermilk in front of the Shell gas station.
- Q: What are you hearing from Taylor Mill and Independence?  
A: We do not get a lot of riders on Route 9 from Taylor Mill; the bulk of riders on #9 are from CVG, so we have not heard a lot yet. Most of our ridership is from park-and-ride lots; this would be really hard for transit dependent people.
- Q: If you are in Kenton and Crestview Hills, is there a route directly to NKU?  
A: As of today, you'd have to take Route 1 to Crestview Hills and then get on Route 35X (once an hour). Under the proposal, the #1 bus will come every 20 minutes and the Route 25 will come every 25 minutes, but people would still go inbound on Route 1 to Route 35X.
- Q: Are there data on how many people park at Alexandria Village Greens?  
A: We are hearing from our customers and operators that Walmart is important.



- Q: What will happen with outlying park-and-ride lots?  
A: The park-and-ride lots are NOT owned by TANK. However, we imagine that they would still let people park there. It was pointed out that many of them may continue to be used for carpooling purposes.
- Q: Please clarify changes to Route 16?  
A: The proposed coverage will allow us to extend service to 10:00 PM versus 6:30 PM now.
- Q: Please clarify the socio-economic chart?  
A: There is a geographical buffer that is shown in pink on the network map. When you truncate some of the routes, you lose some people; but that portion of route is not really used much because it does not service a lot of people; they are not transit dependent riders.
- Q: How much does it cost to operate?  
A: It is about \$25M to operate it. TANK carries 100,000 people annually; only about 30-40% live in urban areas.
- Q: What are the short-term impacts financially? (referring to the impacts slide)  
A: It is a “re-set” of the budget, but not by much. It is a small drop in budget and if we can stabilize ridership, we can be sustainable over the next 5-6 years.
- Q: Will their funding (3 counties) align with their level of service that they are getting?  
A: Yes. They use a formula that has been agreed upon by the three counties. Boone and Campbell counties currently fund about 25% each, while Kenton is 50%. Formulas drive how the counties interact with TANK on an annual basis.
- Q: How are you communicating the changes to public?  
A: TANK put flyers on buses, used its website and social media, communicated to stakeholders, put out a press release, and also used media coverage. We are also having a public meeting tonight (Tuesday, January 7, 2020) to review the proposed changes and receive comments.

#### 16.5.6 Action Items

- Provide the workshop presentation to stakeholders (TANK indicated that the PowerPoint slides would be added to the website).
- Provide the feedback forms to the stakeholders so that they can distribute them to their respective constituents.

### 16.6 Public Meeting #2

The public meeting was advertised via news and social media and through flyers placed on the buses, as provided in Appendix H. The meeting occurred on January 7, 2020. Approximately 92 people attended the meeting (sign-in sheets are included in Appendix I) at the Kentucky Career Center, which began with a shortened presentation that was a cutdown version of what was presented to the stakeholders and representatives. Each participant was provided an agenda and comment form, as shown in Appendix J. Many who attended indicated that they were going to be impacted by the loss of service on Eastern Avenue. Some of the individuals present had some level of disability, whether physical (i.e., requiring a



walker or cane) or cognitive. Many of the individuals who attended the workshop were very concerned (and even angry) with the proposed changes.

In addition to the comments received at this public meeting, TANK received over 500 other comments, emails, letters, petitions, etc., throughout the month of January 2020. TANK staff compiled all of the comments into a separate document, which is available for review by contacting the transit agency's office either by email at [info@tankbus.org](mailto:info@tankbus.org) or by phone at 859.814.2125.

## 16.7 Feedback Form Summary

At the public workshop, a feedback form also was distributed to participants at the sign-in table when they entered so they could complete it at some point during the workshop and turn it in before departing. The three questions asked of participants were:

1. Do you understand the proposed recommendations? If not, what can we help clarify in the information?
2. Will the proposed route changes affect you? If yes, which route(s) and how will the change(s) affect you?
3. Do you feel that the proposed changes are an improvement to the current system? If not, why?

Responses gathered from the participants are summarized below by route. In addition, the summaries below also include miscellaneous comments pertaining to the network and other service provided by TANK.

### 16.7.1 Route 1

- The end time on this route is too early to accommodate work schedules.
- The change in the time schedule is an improvement.
- Like the frequency increase and think it's an improvement.
- I fear I won't be able to ride to work if changed to Industrial route.
- My only transportation is Route 1; I live on Industrial route.
- The Route 1 proposal is illogical, turns 1 bus ride into 3 rides.
- I fear I won't be able to get to work with proposed changes; I ride bus to work to Dream St.
- I live on Industrial route on Dixie Hwy.; it's my only transportation to work. Keep Route 1.
- Will affect me because I take Route 1 bus 5 days/week to Covington Transit Center and then Route 12 to work in Kentucky.







- Will be affected by cuts/changes to Route 1, Route 7 (for work off Decoursey Ave), Route 8 (for Walmart), Route 9, Route 33 (Walmart, hospital, and medical village); it's not convenient from Latonia to catch the Route 5 just to go to Walmart.

#### 16.7.2 Route 5

- End times during the week should be later for people getting off work.

#### 16.7.3 Route 7

- The nursing home on this route will be inaccessible.
- People who live along this route rely on this bus to get to the grocery store.
- Can't walk 5 blocks (I have bad feet) to catch this bus instead of Route 8 bus.
- No Eastern Ave on Route 7 would be a problem and cause me hardship to walk 5 extra blocks.
- Consider merging Routes 7 and 8 to cover both Madison and Eastern Ave.
- Change cuts off the entire east end of Dayton, Kentucky. I like taking the Route 12, Route 7 to Latonia and Madison (I work in Cincinnati).
- Will increase walking distances if route is removed (same with Route 8, Route 9, Route 33).
- Use as a circulator between Madison and Eastern Avenue.

#### 16.7.4 Route 8

- A lot of riders on this route cannot walk 4 or more blocks to get the bus.
- I'm a senior citizen and can't walk to Madison safely from Easton Ave.
- There are 4 senior apartments on Route 8 and two on Route 16. Unable to get to doctors' offices and hospital and South St. E.
- Difficult to get groceries home from bus stop.
- Broken pavement and steep make it impossible for walkers.
- The proposed change to consolidate Route 8 and Route 7 will force me to reconsider riding public transportation to work.
- On a walker at 20th and Eastern and to get to Madison Ave would be hardship.
- Elimination of Route 8 is hinderance to those living and working on Eastern Ave.
- Currently use Route 8 to get to work and grocery would lose rider with changes.
- Use this route for doctors appt. and work.
- Need Route 8 to get to work at Newport McDonald's 7am-3pm every day.
- Use this route to get to Planet Fitness in Ft Wright.
- TANK is making a terrible mistake in altering this route (Route 8/Route 25) and forgetting about people who live on lower east side and depend on bus. Madison is too far to walk in dark and bad weather.
- Changing the route threatens even lower ridership; go back to the drawing board. Two buses is crazy, did that, didn't like it.
- Please keep Route 8 to Latonia, Downtown Covington and Cincinnati; I use to get groceries, bank, post office, etc.
- Make adjustments for those who may have to walk long distances to access Route 8 and Route 33.



- 18<sup>th</sup> and Eastern CTC – have to walk in dark.
- This is the only bus that goes up the hill to serve Cambridge Square Apartments; people on Eastern ride this, too, and it’s a far walk from Eastern Ave. to Madison on Route 7.
- People in Latonia rely on Route 8.

#### 16.7.5 Route 11

- Fort Thomas should be saved on commuter hours.
- I count on this route to get to work 6:30am or 7:15am pick-up and am unable to get to Newport Shopping Center Park-and-Ride, so eliminating route loses me as rider.
- Would be willing to pay higher fares for service on Route 11.
- Very unhappy with the service cuts.

#### 16.7.6 Route 12

- Unable to walk 4 blocks with walker to catch this proposed change, need to keep at 4th and Keaton.
- Elderly and disabled at Speers Court that can’t get to bus.
- Think the proposed replacement with Southbank Shuttle is an improvement because of increased frequency.

#### 16.7.7 Route 16

- Focus on peak hours and increased fares.
- Need this route to get to hospital, walking not an option.
- Need Route 16 to get from Pentland/Highland Ave to NKU.
- Terminating the St. Elizabeth will deny access to the VA Medical facility in Fort Thomas; consider terminating at Carmel Manor instead.
- Lots of low-income middle school and high school students in Fort Thomas depend on bus to go approximately 4 miles to school.
- Impact getting to VA on Fort Thomas Ave.
- Type of vehicle without lifts – need big buses.
- Autonomous route.
- Saturday schedule all days.
- Use River Road in Fort Thomas as turnaround, VA in Fort Thomas as end of line.
- Very unhappy with the service cuts.

#### 16.7.8 Route 17X

- Need to keep midway stops at 12:30 and 2:30 to accommodate workers getting to appts, illness, short workdays.
- Customers may have to relocate if route changes; don’t have cars to get to the Park-and-Ride (live on Royal Drive).

#### 16.7.9 Route 25

- Consider having this bus heading north, take Fort Thomas Ave to Highland and back onto US 27.



- Needs to go to Village Green.
- Keep this route; cancel Route 25X.

#### 16.7.10 Route 28X

- I depend on the Route 7, Route 28X, Route 33; without the Route 28X, it will be a 45-minute walk to Woodcrest Nursing Home to visit my mom.

#### 16.7.11 Route 33

- Eliminating Route 33 will mean a 3-bus trip to get to the cancer center and it adds another 2 hours to my total travel time. This added time affects my family.
- Maybe an alteration of a route that goes Route 33 to Route 8 to Route 33 to Route 8, etc.
- Use this route to get to Walmart and doctor appts.
- Eliminating Route 33 will make it impossible for residents along Madison Ave. at 26th and up to access medical care in a timely manner.
- Don't want to catch Route 1 to get to Route 33.
- Need to get to St. Elizabeth Hospital.
- Currently a patient at St. Elizabeth's in Edgewood who takes RAMP – how do I get there?
- Serve 2x/week: Crestview Hills, catch Route 1 to Skyline to Woodcrest Route 28X.
- Changes are inconvenient as I use this route for all of my travel, including to church, the hospital, and Walmart for grocery shopping.

#### 16.7.12 Route 39X/40X

- Would like increased frequencies for both the Route 39X and Route 40X to support a new business in Hebron that her company is starting.

#### 16.7.13 Route 42X

- Will Route 42 go up and down US 25 Dixie Hwy and Circle Drive?
- End time too early.

#### 16.7.14 Southbank Shuttle

- Too uncomfortable.
- I catch the first bus at 4:30AM and the proposed change will cost me my job.

#### 16.7.15 RAMP

- Concern over the proposed fare change that would extend beyond the required ¼-mile buffer.

#### 16.7.16 Express Routes to Industrial Parks

- Start at Florence Hub to industrial parks and then back to Hub.
- Turfway route proceeds to Florence Hub and back to Mall.
- Won't need to go to Cincinnati or CTC.



### 16.7.17 Miscellaneous

- Do the decision-makers ride the bus?! You are not thinking about your riders.
- How do those without technology access TANK?
- This presentation (public meeting) should be online for all to review.
- Maybe TANK could provide a shuttle to areas where service is being cut to the main line.
- People depend on the current routes; the changes are an inconvenience to current riders.
- Low income and disabled people will be negatively affected.
- Don't like that Main St in Florence is cut out because it makes for a long, dangerous walk to Social Security office.
- Make adjustments for those who may have to walk long distances to access Route 8 and Route 33.
- I can adjust to frequency changes but not route eliminations.
- Instead of concentrating on increased frequency, maybe decreased frequency will increase ridership.
- Increase fares to make up for decreased ridership.
- Consider specialty service to ballgames, festivals, and events to generate more funds.
- Not in agreement with proposed route (3 buses) to get to the hospital in Edgewood.
- If TANK has a money problem and government won't support maintaining service, then it falls to riders. Raise fares. Consider a Fort Thomas rider faces \$1,200.00/year mileage costs and \$1,500.00/year parking, they can afford more than \$1.50 per ride.
- Campbell County will lose service altogether.
- Skeptical that the proposed plan will increase revenue.
- Feel the proposed changes are an improvement to Newport.
- If people can't get to the main routes, they will not ride the bus.
- Proposed changes are not equal to losses (for me) on Routes 7, 8, 9, and 33.
- How are people in wheelchairs and walkers supposed to get on and off the Southbank Shuttle?
- Proposed plan has some improvement in service times.
- Plan has me walking extra blocks in the dark in a bad neighborhood.
- Found maps confusing.
- Change is good, just not too much!
- Changes may be good for TANK but not for current riders.
- Why fix it if it's not broken? I've been riding since 1995.
- How can you serve our shifts at Zeiss? 300 employees, 24-hour operation, 7AM – 2:30PM; 2:30-11PM; 10:30-Midday 2:30.



## SECTION 17: SUMMARY OF BUS OPERATOR INPUT

### 17.1 Bus Operator Interviews

Two series of interviews with bus operators were conducted to ensure that all drivers were given an opportunity to speak freely and provide comments on the TANK system that could be utilized as input into the redesign study. A summary of the interviews is provided in this section.

#### 17.1.1 Bus Operator Interview Notes – June 21st

On Friday, June 21, 2019, project team members sat in the TANK operator break room for approximately 1.5 hours to provide an opportunity for operators to learn about the study and provide input. Despite a few drivers contending that they had not been notified about the opportunity to meet with the project team, most were cordial and listened when provided a synopsis of the effort, and some eventually came over to discuss a variety of topics and issues. Following are the comments that were received from the operators who elected to provide input:

- The way things are communicated was indicated as an issue. If you ask the supervisors a question, several operators agreed that you will get five different responses.
- One operator questioned whether there was any way to get a park-and-ride for reverse commute in Cincinnati.
- Another operator agreed with the potential truncation of Routes 9, 22X, 30X, and 25X to cut down on unproductive service and pull back in the active service area.
- One operator specifically mentioned that Route 22X riders would drive farther north to the Mt. Zion Park-and-Ride without loss of ridership because drivers want to avoid Cincinnati.
- It was mentioned that the Alexandria Park-and-Ride and Hands Pike Park-and-Ride are both very dangerous to enter and exit for the operators, especially the left turn onto Madison Pike from Hands Pike Park-and-Ride.
- It was suggested that the Route 2X be connected to the Route 1X by turning left on Point Pleasant from Donaldson, and then heading down Dolwick to Mineola, and back to Donaldson.
- One issue is that lots of people live in Florence and must go all the way into Cincinnati just to go back out to the industrial uses around CVG.
- It was suggested that service should be added to Aero Road to connect to the CVG expresses via Turfway Road and Ted Bushelman. This will provide enhanced connectivity to the new Amazon facility.
- Another suggestion was to add time in the schedules during both the AM and PM peak periods to accommodate congestion.
- Route 1 was mentioned as being problematic in terms of running time; Routes 5 and 8 also were mentioned.
- An operator indicated that the Route 98 used to go out the interstate from Florence to the jail in Boone County. She loved driving the route and would have driven it until retirement because it was easy, quiet, and had no passengers (probably 10 total riders over a 3-month period of driving the route). However, she agreed that it was a good move getting rid of it.



- One operator mentioned that the Route 3 has so few riders, that it should not be a “big-bus” route. A RAMP van could handle load (10 on weekdays, 4-5 on weekends).
- It was suggested that Route 11 could be discontinued. A seasoned driver can drive it, but the streets are tight and there are lots of accidents. A RAMP van may be better here, too, since there are less than 10 riders per day.
- Apparently, many of the Route 39X and Route 40X Amazon workers stay at the Extended Stay behind Florence Mall and there is no direct route to provide this connection.

Since only a few drivers were able to weigh in with their experiences and opinions, the project team determined that it would spend additional time in the break room during its follow-up trip in August to accomplish several of the outreach events.

### 17.1.2 Bus Operator Interview Notes – August 28th

On Wednesday, August 28, 2019, project team members sat in the TANK operator break room for approximately 2.5 hours to provide an additional opportunity for operators to learn about the study and provide input on specific routes, service, timing, etc. Following are the notes concerning the input that was received from the operators who elected to provide input during this follow-up opportunity.

#### 17.1.3 Route Timing

- Late night – Route 7 and Route 12 need more time
- Add more time to routes
- Cannot pick up riders on time, schedules are too tight
- Route 1, Route 3, and Route 16 need to add minutes
- Riders cannot get the last bus. TANK needs to adjust the bus route to meet the needs of employees so that they can catch the last bus.
- Schedules do not consider rush hour traffic and build in time for drivers.
- No time for breaks or bathroom breaks for operators.

#### 17.1.4 Specific Route Issues/Suggestions

- Route 3 – Should run later, a lot of riders miss the last bus by 5 minutes.
- Route 16 (route from Fort Thomas to Alexandria) – Never on time; stressful for the operators. Lots of traffic during school year (27<sup>th</sup> & Monmouth), which causes bus to be late.
- Route 3 – Operators sometimes go through the entire line without picking anyone up; “dying route” according to some operators.
- Route 11 – Goes through Fort Thomas neighborhoods; ridership is low. Everyone drives cars in this neighborhood, so operator suggested to skip neighborhoods and go down Memorial Highway instead.
- Set the timing of Route 7 to Route 25 and Route 6 to Route 18; need last bus to sit for 10 more minutes. Riders need more time to transfer.
- Route 1 cut down by 20 minutes; if they do not catch the 12:55, they have to Uber.



- Add stop on 5<sup>th</sup> between Main and Sycamore; have elderly people walk in the rain and it is too far.
- Need more Route 9 in afternoons; not a lot of ridership because buses do not stay out long enough.
- Route 3 (Ludlow) does not need a big bus because ridership is low; it is costly.
- One operator has too long of a break between runs (e.g., Route 40X, Route 5).
- Need Route 20 Newport South route back.
- The Southbank Shuttle should do a half loop in Bellevue; go up Fairfield to Taylor to right at basketball court/park then right at stop sign, then left on 6<sup>th</sup> street, then back to Art Building.
- The projects come alive in the evening: Latonia, Terrace Heights.
- Route 3 does not run regular/all day on Saturday or Sunday; should run buses through Ludlow (send bus down Sleepy Hollow and do part of Route 3 to transit center) and vice versa. Do not get on I-75. Not all day, but a bit more often. People need service on Sunday later than 1pm because church goes until 4pm.
- Route 35X should go to Florence hub, but not up Dixie Highway. Would like it to go to Hebron so it becomes a true cross-county route. Do not go into Cincinnati.
- Route 1 and Route 25 miss each other by minutes. Resolve by having the Route 8 sit here for 5 extra minutes.
- Why does Route 16 operate later on Saturday than Monday through Friday?
- Riders (on Route 25X) want service to Falmouth.

#### 17.1.5 Suggestions and Complaints

- Regular cars park in bus stops; no towing or tickets.
- Employees want 15-minute break at end of line.
- Scheduling process is very inefficient.
- Fix the board, it is antiquated. There must be a better way to schedule (which also considers seniority, long runs/short runs, etc.).
- Lots of accidents on the express routes; it would be good to know about these before they get stuck in traffic so they could take an alternate route.
- Breaks at end of line – can never get it because riders are always waiting, and the operators feel bad leaving them on the bus to wait.
- Bus shelters not lit, hard to find.
- Sunday (weekend service) service needs to be more frequent.
- Employee turnover is high; spend money on training and then employee leaves.
- Want another insurance carrier (not United Health) – some cannot get their medicine even though they pay.
- Some do not feel like they have a life outside of TANK because they work too many hours that they do not want.
- If a driver wants to come in on his/her day off and work, give them at least 4 hours, NOT 1-2 hours--it is a waste of time.
- Disconnect between operators and administration.



## SECTION 18: KEY INPUT GUIDANCE FROM PUBLIC AND STAFF

As highlighted throughout Sections 14 through 17, the redesign effort included a significant outreach component that involved meaningful interaction with TANK staff and operators, service area stakeholders, key agency representatives, and the general public. This was done to ensure that the redesign effort would ultimately result in a successful reconceptualized network for TANK that would meet study goals and objectives while enhancing mobility for current and future patrons. Based on the input received from these various groups, key outreach input findings were synthesized into a series of key suggested recommendations that helped guide the proposed changes to individual routes and the network throughout the effort.

### 18.1 Public Input Recommendations

The following summary highlights the most significant guidance inputs from stakeholders and the public received during the initial wave of outreach.

- Expand the Southbank Shuttle in Campbell and Kenton Counties to provide more downtown service.
- Improve bus stops throughout the TANK service by enhancing infrastructure, improving accessibility, and establishing a consistent identity.
- Create easier to use network by streamlining routes and removing redundancy.
- Provide more frequent service with enhanced connectivity between Cincinnati and Covington.
- Provide more airport service to Covington and Cincinnati.
- Consider increasing the span of service (e.g., earlier and later service).
- Provide more routes or improve coverage where gaps are prevalent.
- Provide more linehaul routes with less delay and redundancy.

### 18.2 TANK Recommendations

The following summary highlights key items discussed during the various meetings held with key TANK staff. The information gathered during these meetings proved to be significantly beneficial as the project team attempted to conceptualize an improved system that would better meet the mobility needs of the region.

- Hebron, the large unincorporated area that has developed north of the Cincinnati/Northern Kentucky International Airport (CVG), supports significant ridership on Worldwide Boulevard; ridership increased 25% since the addition of DHL and Amazon Prime.
- The challenge that TANK has in the CVG area is efficiently accessing the multiple industrial centers and serving varying shift changes.
- Consolidating service on Madison Avenue, including the existing one-way pair of Scott Boulevard and Greenup Street in Covington, was a recommendation in the last network update study.
- City Heights public housing is difficult to serve but generates healthy ridership.





- Dixie Highway (Route 1) needs to be streamlined (especially the industrial portion of the route).
- TANK is interested in finding opportunities to consolidate the express routes.
- TANK owns only 3 of the 18 park-and-ride lots being used currently, and requires significant efforts to maintain them.
- Bus stop branding and placement should be standardized and recommendations for both stop placement and customer amenities are desired.
- TANK would like to develop a new schedule design.
- TANK wants to improve the frequency of some of routes (e.g., the Airporter).
- Large industrial partners currently include Amazon, Wayfair, and DHL.
- Routes 30X and 31X are mostly the same with highest demand at Club Chef, so there may be an opportunity to truncate service at Club Chef.
- Ridership on the 39X and 40X has started to decline.
- The 35X serves Northern Kentucky University (NKU), its ridership drops during the summer when there are fewer students on campus.
- It makes most sense for all express services to terminate in Cincinnati and not the CTC.
- Discussed potential for a South Bank consolidation of SBS and Route 12.
- In Campbell County, TANK currently brings all local routes directly into Cincinnati and not the CTC, only Route 35X operates a different alignment.
- There is support for terminating express routes in Cincinnati and local routes at the CTC; however, it also is important to staff that key “trunk” lines among the local routes (e.g., Route 1) continue to go into Cincinnati.
- Paratransit service was discussed with the recognition that the service as it is provided goes well beyond the ADA mandated requirements.
- Route 5 should be streamlined.
- The patrons in the City Heights facility are going to Walmart and Downtown Covington so there is need to connect this community to these uses (e.g., perhaps connect to Walmart via Madison Park).
- Route 11 meanders; it used to be all-day route to NKU that eventually was recommended for elimination, but it was shortened with some service hours being shifted to Route 16; one option is to make it an express on I-471.
- TANK wants to make Madison Avenue the main transit corridor, especially for Routes 7, 8, 9, and 33; currently, Route 7 is on Madison, with Routes 8, 9, and 33 on Scott Boulevard (OB) and Greenup Street (IB); with all four routes on Madison, TANK would achieve a 15-minute frequency on the corridor effectively.
- The portion of Route 33 on Orphanage Road and Horse Branch Road is poor for fixed-route service (possibly a better micro transit zone).
- Examine running Route 40X only on Worldwide Boulevard, and study ridership to determine if service is needed on South Park Drive and Global Way.
- Routes 17X and 42X serve generally most of the same I-75 corridor, Route 17X is peak period service only and terminates at the Buttermilk Crossing Park-and-Ride, while Route 42X extends farther south to the Florence Hub Park-and-Ride.



- The four main area hospitals used to be St. Luke’s East and West, and St. Elizabeth North and South; TANK’s fixed routes serve the four hospitals; however, in the cases of Routes 5 and 16, they detour for at least 5 minutes to reach them; examine the necessity for detour on Route 5 to the hospital.
- Much of the Route 1X ridership comes from the industrial businesses along Airport Exchange.

### 18.3 TANK Operator Recommendations

As discussed in Section 17, the project team met with TANK operators to provide an opportunity for operators to learn about the study and provide input. Following are key comments received from the operators that were particularly beneficial to the redesign process.

- Operators agreed with the potential truncation of Routes 9, 22X, 30X, and 25X to cut down on unproductive service and pull back in the active service area.
- One operator specifically mentioned that Route 22X riders would drive farther north to the Mt. Zion Park-and-Ride without loss of ridership because drivers want to avoid Cincinnati.
- It was mentioned that the Alexandria Park-and-Ride and Hands Pike Park-and-Ride are both very dangerous to enter and exit for the operators, especially the left turn onto Madison Pike from Hands Pike Park-and-Ride.
- An operator suggested adding time to the schedules during the AM and PM peak periods to accommodate congestion.
- Route 1 was mentioned as problematic in running time; Routes 5 and 8 also were mentioned as needing more running time.
- It was suggested that Route 11 be discontinued, a seasoned operator can drive it, but the streets are tight and prone to accidents.

### 18.4 Proposed 2020 Redesign Network – Public Input

Based on all of the preliminary analysis of the TANK system and its operating environment, and the input received from the first wave of outreach, the project team developed an initial network concept that was presented to TANK staff. Though well-received, the concept was determined to be more appropriate as a future system vision and it became termed the “Aspirational Network.” Based on staff input, this network was modified and the new network became known as the “Proposed 2020 Redesign Network.”

The project team and TANK staff presented the Proposed 2020 Redesign Network during the second wave of outreach events on January 7 and 8, 2020, to provide an opportunity for stakeholders, agency representatives, and the public to provide feedback on it. Given the amount of interest shown and input received at those initial meetings, however, TANK staff elected to extend the comment period to allow residents to provide feedback who were unable to attend the public meeting, as well as more time for agencies and stakeholders to provide additional input. The comment period was extended to February 2020.



Throughout the extended comment period, TANK staff received 414 emails, 40 voicemails, 35 feedback forms, 25 Facebook comments, 15 Fiscal Court public comments, 10 official city/agency letters, and 7 hand-written letters. In addition, TANK staff also held two additional meetings with the City of Covington. All comments received from the various entities have been documented and were considered as a part of the final network development process that produced the “Approved 2020 Redesign Network.” Table 18-1 provides a breakdown of the comments received by route.

**Table 18-1: Proposed 2020 Redesign – Public Comments by Route**

#1	#5	#7	#8	#9	#11	#12/SBS	#16	#25	#33
19	8	10	113	14	23	53	23	58	16
#1X	#2X	#17X	#18X	#22X	#25X	#30X	#35X	#42X	General
30	6	18	10	8	23	18	22	15	39

### 18.5 Approved 2020 Redesign Network– TANK Recommendations

As noted, an Approved 2020 Redesign Network resulted from the extended comment period. The following summary bullets highlight the additional comments that TANK staff recommended to prepare the final Approved 2020 Redesign Network based on the open comment period from December 2019 to February 2020.

- Route 1 – No comments.
- Route 3 – Move forward with alignment/schedule.
- Route 5 – Route should end at Fort Wright Hub, not Walmart.
- Route 7 – Stagger frequency with Route 8 to achieve 20-minute frequency between Cincinnati and Latonia Plaza for most of the span.
- Route 8 – Restore Route 8 and stagger frequency with Route 7 to achieve 20-minute frequency between Cincinnati and Latonia Plaza for most of the span. Remove proposed Healthline. Recommend combining southern portion of existing Route 33 with recommended Route 8. Route 8 will travel to Latonia Plaza, Fidelity, Fort Wright Hub, Walmart, St. Elizabeth, and Crestview Hills.
- Bring back existing Route 12 and truncate route in Downtown Covington rather than Cincinnati. Modify frequency if possible.
- Route 16 – No Comments. Move forward with recommendation to St. Elizabeth Hospital.
- Route 25 – Terminate route in Cincinnati and extend to Village Green Shopping Center. Span and frequency are good as recommended.
- Southbank Shuttle – Modify Southbank Shuttle with TANK routing for Downtown Covington and delay combination with Route 12. Span and frequency are good as recommended.
- Route 2X – End of line should be at CVG Centre, not DHL.
- Route 17X – Span and frequency are good as recommended. In the morning, modify network to serve Royal Drive before serving Buttermilk Park-and-Ride. In the evening, modify network to serve Buttermilk Park-and-Ride before serving Royal Drive.
- Route 22X – No comments.



- Route 25X – Extend to Village Green Shopping Center.
- Route 30X – No comments.
- Route 32X – No comments.
- Route 39X – No comments.
- Route 40X – No comments.
- Route 42X – TANK staff is delaying the passenger survey and have decided to move forward with scheduling and routing.



## SECTION 19: TRANSIT NEEDS ASSESSMENT

As presented previously in Sections 2 through 9, a significant level of analysis was completed on the TANK system and its service area. Such analysis is critical in a redesign study as it provides both context and structure for the development of potential recommendations for new service and/or service modifications and enhancements. Using these various data and analyses, the project team evaluated the local service area, service demand, and service supply to identify any existing geographical/temporal gaps between identified needs and existing services so that these could be accounted for in the redesign process.

Following are the key items (presented in more detail in those prior sections) that were assessed to identify transit needs within the current TANK service area. Each is summarized briefly in this section to further highlight the various pertinent issues and needs and how they were considered in the development of the network redesign concepts.

- Population Trends and Characteristics – Used to identify where potential growth is occurring and where ridership potential may be located
- Labor Force and Employment – Used to locate where higher concentrations of employment occur and where opportunities for work-based transit is most needed
- Major Activity Centers and Employers – Used to identify where the highest boardings and alightings occur in the service area
- Transportation Disadvantaged Populations – A traditional rider market, or transportation disadvantaged population, refers to population segments that historically have had a higher propensity to use transit or are dependent on public transit for their transportation needs
- Discretionary Markets – The discretionary market analysis (DTA) describes potential riders living in higher-density areas who may choose to use transit
- Gap Analysis – A criteria-based method that reviews coverage and assesses potential connectivity gaps in the service area

### 19.1 Population Trends and Characteristics

Housing and population demographics are important metrics used to identify where growth is occurring and where ridership potential can be met. Densities in Northern Kentucky in 2040 are similar to those in 2020. However, Boone County is expected to see major growth in its western suburbs, resulting from new industrial uses surrounding CVG. The project team examined ways to provide more frequent service to Boone County by streamlining routes and removing duplication.

Furthermore, younger residents generally have different expectations of what transit service should be, including that it should be flexible, modern, and connected to multimodal networks. A variety of reports document this growing desire to drive less and use transit more (APTA, “Millennials and Mobility: Understanding the Millennial Mindset,” 2016). Although more older adult residents tend to use transit less often and have different perceptions about its role, there exists an opportunity to provide crucial transit service to those who desire to age in place, reduce their automobile reliance,



or who are physically unable to drive. The project team developed a streamlined network that still provides direct transit service to numerous park-and-ride lots throughout the TANK service area, which will continue to provide the opportunity for younger and older residents to drive less and reduce their automobile reliance.

## 19.2 Labor Force and Employment

TANK must accommodate a variety of work schedules and trip destinations to adequately support a diverse base of riders in Northern Kentucky. In addition, Northern Kentucky will experience employment growth in some of the suburban areas south of CVG in both Boone and Kenton Counties. However, the area that will experience the most employment growth in Boone County surrounding CVG. The workforce at the new industrial uses surrounding CVG reside in Northern Kentucky, as well as Cincinnati. The project team designed routes that better serve these industrial uses by providing express routes that do not meander to underutilized areas.

## 19.3 Major Activity Centers and Employers

First mile/last mile connections and services make transit more attractive and viable for employees in major jobs centers, especially where there are not presently sufficient transit connections. These services should vary by mode, frequency, and type to capture the various markets within and connecting to Northern Kentucky and Cincinnati's activity centers. The project team made modifications to the Southbank Shuttle, which provides frequent service between Downtown Covington, Cincinnati, Newport, and Dayton. The new Southbank Shuttle will offer riders in the downtown areas more connections to major activity centers that line the southern bank of the Ohio River.

## 19.4 Transportation Disadvantaged Populations

Transportation disadvantaged or the traditional transit market refers to populations that historically have a higher propensity to use transit and depend on public transit for their transportation needs. As previously discussed in Section 4, the TANK service area includes Census block groups with significant transit dependent populations. The southwestern portion of the service area south of Mount Zion Road shows high and very high TOI scores due to higher concentrations of older adult, youth, younger adult, and households in poverty. In addition, block groups in the southwestern portion of Kenton County also show high to very high TOI scores, with data indicating high concentrations of zero-vehicle households, older adults, youth, and younger adult populations. Block groups surrounding NKU show high and very high TOI scores, indicating youth, younger adult populations, households in poverty, and zero-vehicle households. Southern portions of Campbell County have very high TOI scores, indicating older adults, youth, and younger adult populations. However, this area of Campbell County also has some of the lowest concentrations of households in poverty and households with zero-car availability. The project team used this information to realign routes and consolidate service to fill in service gaps that were underserved by the TANK service.



## 19.5 Discretionary Markets

The discretionary market refers to the potential riders living in higher-density areas of the service area who may choose to use transit as a commute or transportation alternative though they have other options with which to meet their mobility needs. As previously discussed in Section 4, 2020 results show major concentrations of employment-related transit investments located in Covington and Newport. Corridors such as Pike Street, Madison Avenue, and Scott Boulevard consistently score “high” to “very high” as employment-related transit investment areas. For household unit-based results, the areas that meet or surpass the “high” threshold are located along Madison Avenue in Covington, in Newport and Bellevue, and in a sub-area of Fort Thomas south of Highland Avenue. Other areas with “high” to “very high” thresholds include portions of Cincinnati and portions of Latonia.

Based on the 2040 results, there is noticeable employment growth along Pleasant Valley Road and north of I-275 in Boone County. This is a direct result of existing and future industrial growth located around CVG and new retail developments west of Mall Road.

The project team used this tool to determine whether existing routes serve areas of Northern Kentucky considered to be transit-supportive for the corresponding transit market.

## 19.6 Gap Analysis

The project team conducted a gap analysis aimed to identify geographical gaps in public transit where travel needs are high, but services are non-existent (unserved) or insufficient (underserved). As previously discussed in Section 5, areas that have potential for being underserved are located south of NKU, north of Industrial Drive and east of Dixie Highway, east of Turkeyfoot Road, north of Hands Pike, and the Alexandria area north of Riley Road, among others. The analysis was used in the service planning process to develop strategies to mitigate gaps in service, especially in areas that resonate in terms of high TOI score. Some considerations to mitigate gaps in service include, realigning route alignments, adjusting service span, modifying service frequencies, limiting duplication on major corridors, and applying resources where they are more appropriate.



## SECTION 20: TRANSIT ROUTING RECOMMENDATIONS

Due to the specific focus of the study, transit routing and operating modifications were analyzed and prioritized throughout the life of the project to develop an implementable set of service recommendations. Extensive data collection and analyses were performed in the early stages of the project to evaluate existing service performance, coverage, and potential new markets, as well as determine whether existing service levels and types were effective in providing the necessary mobility to the community. Preliminary recommendations were vetted with TANK staff and modified in response to their feedback.

As noted briefly in Section 18, the Aspirational Network was developed based on analyses and data gathered in the early stages of the project, as well as initial comments and input received from TANK staff and the general public. The Aspirational Network, while somewhat more costly than TANK’s existing network, reduced route redundancy and inefficiency, improved frequency, enhanced consistency, and focused on the core network. However, given the important goal of attempting to at least stay cost neutral if not actually identifying some level of savings in current agency operating costs, TANK staff made a number of recommendations to the Aspirational Network with the intent of achieving a more budget-conscious network, which pulled back on some frequencies and service spans, as well as some of the recommended route modifications. Based on the recommendations from TANK staff, the project team developed a revised version of the original Aspirational Network, which became known as the Proposed 2020 Redesign Network and was presented to the public, stakeholders, and agency representatives at three workshops that occurred on January 7 and 8, 2020, to gather general feedback and final recommendations. Again, as noted in Section 18, TANK staff extended the comment period through January 31, 2020, in order to gather additional feedback from agencies and stakeholders and allow citizens who did not attend the public workshop to comment. Final recommendations for the proposed network then were developed to help address the significant amount of input received. These were vetted with TANK staff and modified in response to their final feedback. As a result, based on the results of the process to address popular concerns about the Proposed 2020 Redesign Network, the project team developed the Approved 2020 Redesign Network. The following sections describe the routing recommendation process that will be phased in the final tiered implementation and financial plan. As has been discussed thus far, the process resulted in the development of three related, but evolutionarily discrete redesigned networks:

- Aspirational Network
- Proposed 2020 Redesign Network
- Approved 2020 Redesign Network





## 20.1 Transit Network Modifications

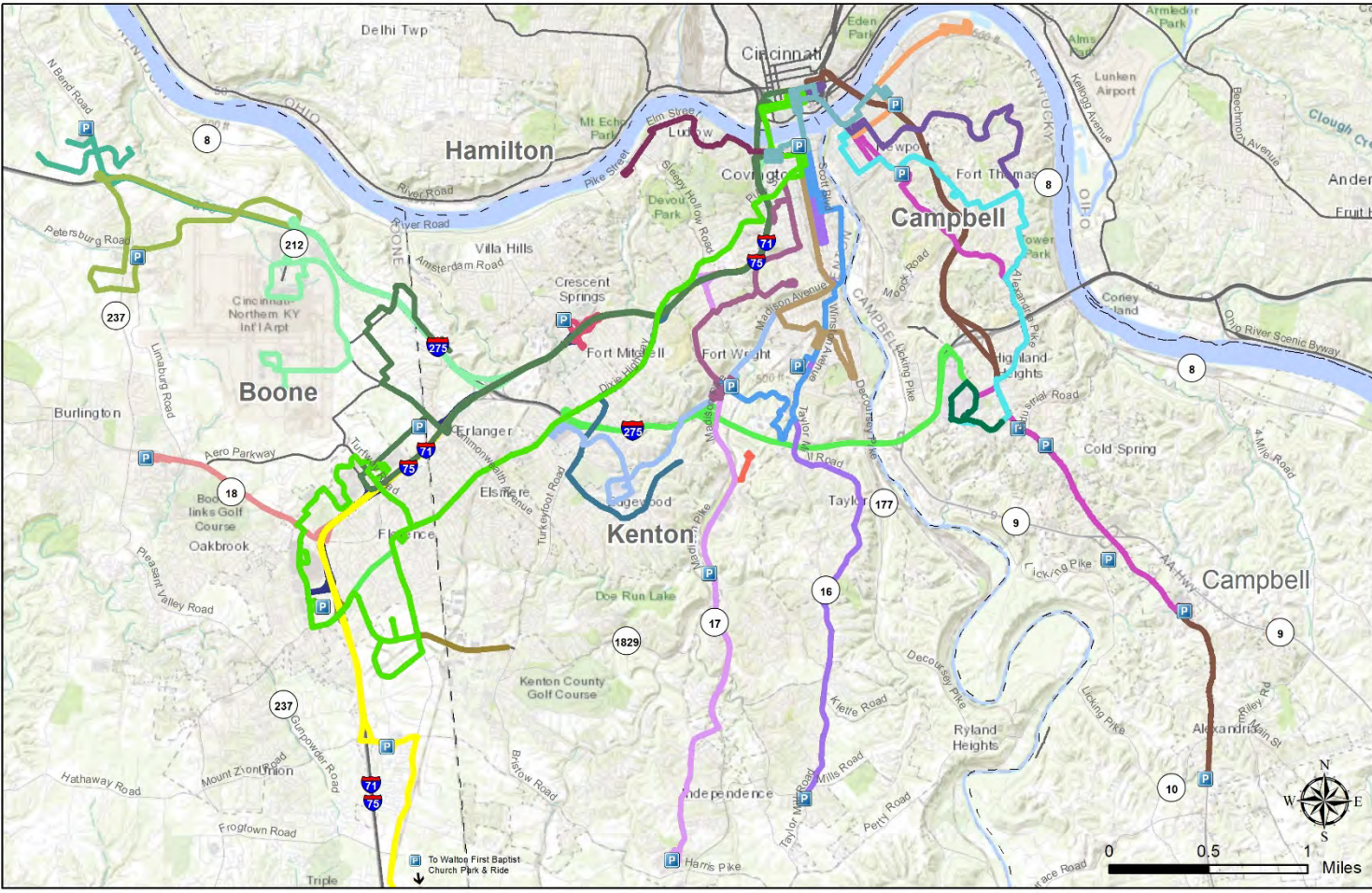
An important initial recommendation for the System Redesign Study was to first focus on modifications to the existing network to address existing operational issues negatively affecting the performance of the overall service and ridership. These issues result from a variety of both internal and external factors that include increased congestion throughout the service area, overextension and redundancy in service coverage (see Map 20-1), and subsequent longer travel times connecting to distant rural park-and-rides that make it difficult to meet existing time points and, therefore, prevent passengers from connecting to other routes or destinations on-time. As a result, key goals for this system redesign include:

- Minimize impacts to existing ridership while increasing system operational efficiencies
- Reduce need for all routes to travel to downtown on inbound and outbound trips
- Preserve coverage, but realign routes where they are negatively impacting ridership, travel times, and on-time performance on existing routes
- Reduce redundancy to better utilize resources to bolster other services

A key item to note for the remainder of this section is that route naming conventions have been kept consistent to minimize subsequent confusion with any implementation of proposed modified services. Any noted changes in naming are recommended only for shuttle services and local routes. All new routes that end up being implemented must be advertised in individual route brochures similar to the way existing routes are currently treated. It also is recommended that there be a section on the reverse of each route brochure that shows the corridor frequencies associated with routes leaving the downtown areas to indicate the variety of options passengers have for travel along each corridor throughout a typical weekday, Saturday, or Sunday.



Map 20-1: TANK Existing Network



1	8	16	2X	25X	32X	42X
3	9	25	17X	28X	35X	NKU Shuttle
5	11	33	18X	30X	39X	Southbank Shuttle
7	12	1X	22X	31X	40X	Park & Ride Lots

Existing Routes

TRANSIT AUTHORITY OF NORTHERN KENTUCKY



### 20.1.1 TANK Aspirational Network

The Aspirational Network was developed based on extensive data collection, field observations, and analyses performed to create an efficient network with improved frequencies. In addition, the Aspirational Network reallocated resources to core routes by reducing redundancy and inefficiency brought on by overextended coverage, and improving reliability and core frequency. The Aspirational Network, while somewhat more costly than the existing TANK network, would decrease the number of vehicles operating in maximum service (VOMS) and allow most routes to maintain 20-30-minute headways for the duration of service. Additionally, the Aspirational Network would provide more coverage to Downtown Covington, Cincinnati, and north Campbell county by combining the Southbank Shuttle and Route 12, which would maintain 15-minute headways and have an increased span of service. Map 20-2 shows the Aspirational Network.

Like many other areas around the country, Northern Kentucky and Cincinnati are growing and a lot of that growth is concentrated in a few specific areas: CVG, key areas of Kenton County, and key areas in northern Campbell County. Hence, the Aspirational Network was intended to offer the most frequent, reliable service to existing key destinations and areas with increasing demand, such as Downtown Covington, Cincinnati, and the various industrial uses near CVG. Table 20-1 shows the span and headways by route for the Aspirational Network.

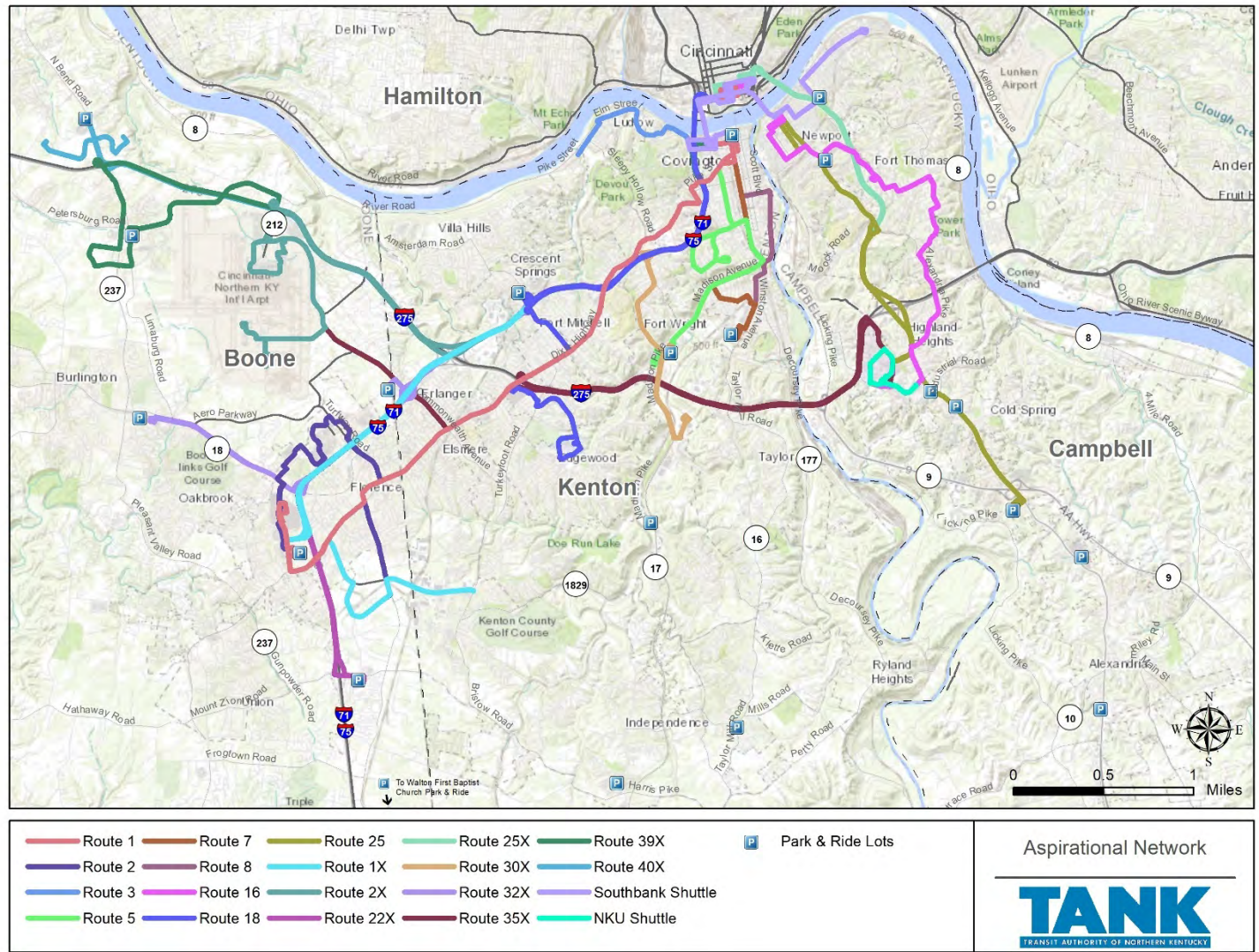


**Table 20-1: TANK Aspirational Network**

Route	Span/Headway	Weekday		Saturday		Sunday	
		Time	Time	Time	Time	Time	Time
Route 1	Time	4:22 AM	11:46 PM	5:05 AM	11:20 PM	5:40 AM	11:35 PM
	Headways (Minutes)	20		30		30	
Route 2	Time	4:22 AM	11:46 PM	5:05 AM	11:20 PM	5:40 AM	11:35 PM
	Headways (Minutes)	15		30		30	
Route 3	Time	5:20 AM	10:00 PM	7:45 AM	10:00 PM	7:45 AM	10:00 PM
	Headways (Minutes)	30		30		30	
Route 5	Time	4:38 AM	9:35 PM	7:00 AM	9:12 PM	8:42 AM	9:12 PM
	Headways (Minutes)	25		50		50	
Route 7	Time	4:35 AM	12:15 PM	5:42 AM	12:00 AM	6:13 AM	10:40 PM
	Headways (Minutes)	35		35		35	
Route 8	Time	4:15 AM	10:45 PM	5:30 AM	10:10 PM	5:40 AM	9:30 PM
	Headways (Minutes)	30		30		30	
Route 16	Time	6:06 AM	10:00 PM	6:53 AM	10:08 PM	8:35 AM	10:08 PM
	Headways (Minutes)	32		47		47	
Route 18	Time	6:30 AM	10:00 PM	8:00 AM	10:00 PM	8:00 AM	9:00 PM
	Headways (Minutes)	40		40		40	
Route 25	Time	4:00 AM	11:22 PM	6:08 AM	9:28 PM	6:08 AM	8:38 PM
	Headways (Minutes)	20		42		42	
SBS	Time	6:00 AM	12:00 AM	7:00 AM	12:00 AM	7:00 AM	10:00 PM
	Headways (Minutes)	15		15		15	
Route 1X	Time	5:00 AM	8:45 AM				
	Headways (Minutes)	22					
Route 2X	Time	5:00 AM	12:00 AM	4:53 AM	11:35 PM	4:53 AM	11:47 PM
	Headways (Minutes)	30		30		30	
Route 22X	Time	6:10 AM	8:45 AM				
	Headways (Minutes)	32					
Route 25X	Time	5:45 AM	8:45 AM				
	Headways (Minutes)	30					
Route 30X	Time	6:00 AM	8:45 AM				
	Headways (Minutes)	30					
Route 32X	Time	5:45 AM	8:45 AM				
	Headways (Minutes)	40					
Route 35X	Time	6:00 AM	9:30 PM				
	Headways (Minutes)	30					
Route 39X	Time	5:45 AM	7:45 AM	6:30 AM	7:00 AM	6:30 AM	7:00 AM
	Headways (Minutes)	24AM – 35PM		53AM – 30PM		53AM – 30PM	
Route 40X	Time	6:00 AM	7:30 AM	6:00 AM	6:45 AM	6:00 AM	6:45 AM
	Headways (Minutes)	15AM – 28PM		47AM – 86PM		47AM – 86PM	



Map 20-2: TANK Aspirational Network





### 20.1.2 TANK Proposed 2020 Redesign Network

As previously discussed, the Aspirational Network was reconceptualized in conjunction with TANK staff to develop a revised network that would attempt to adhere to the precepts that derived this initial vision for TANK’s services, but would do so in a manner that would reduce impacts to riders and operations while also decreasing operating costs to be at or below existing expenditure. The result was the Proposed 2020 Redesign Network (see Map 20-3), which was presented to stakeholders, agency representatives, and the general public at a series of workshops held between January 7 and 8, 2020.

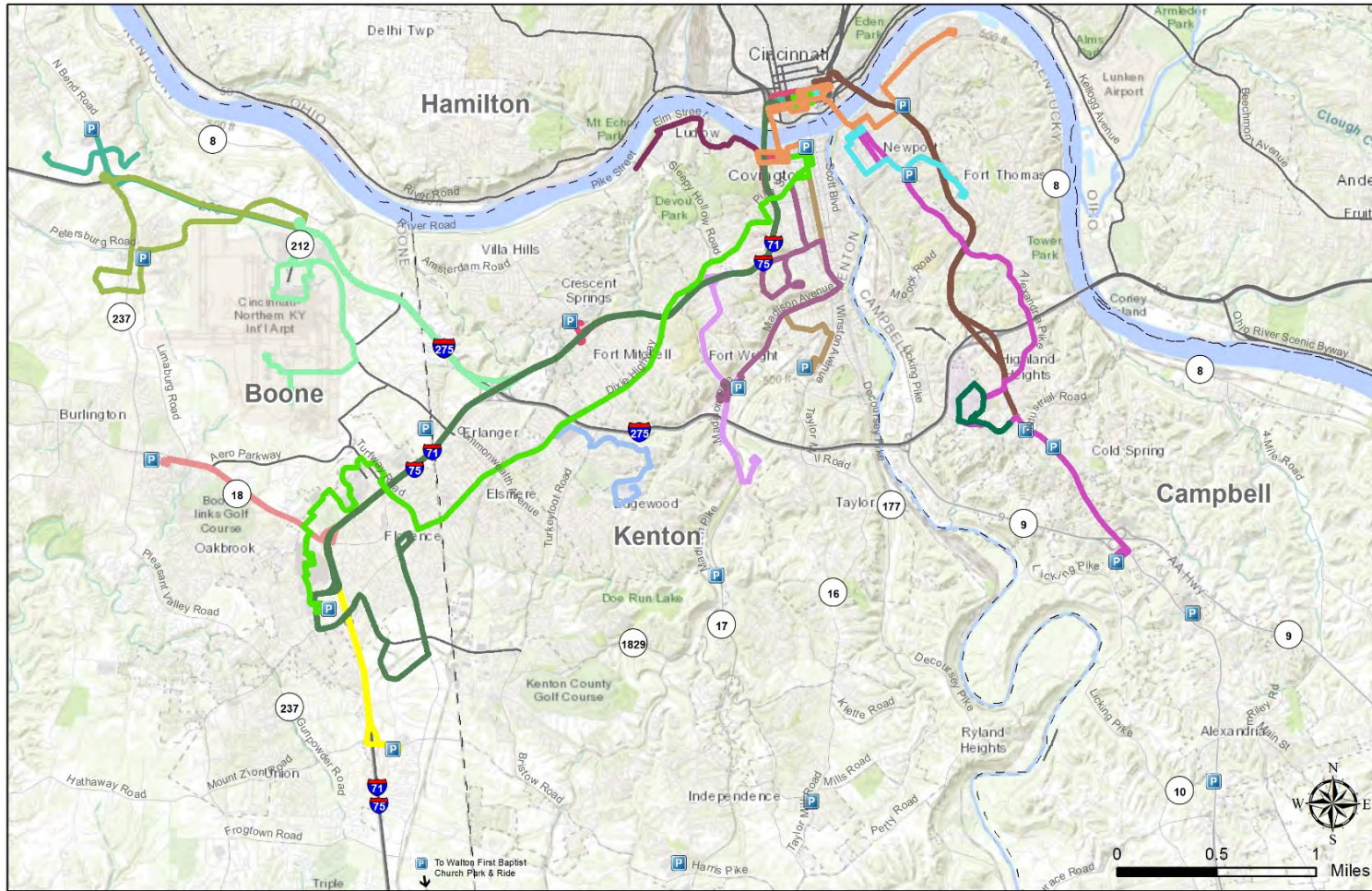
This newly-proposed network was broken down into four distinct service types to show the community the various mobility options that they would be getting with a reconceptualized TANK service network. To present the Proposed 2020 Redesign Network, the following sections break out each route recommendation by its distinct service type and describe the specific changes recommended to route schedules and annual service based on recommendations that were reviewed and vetted by TANK staff. In addition, the following sections provide comparative operating costs for the existing and proposed transit network based on TANK’s marginal hourly cost for service.

The four new service types include the following, which are described in more detail in the subsequent sections.

- TANK Frequent Service (see Map 20-4)
  - Route 1 – Dixie Highway / Florence
  - Route 7 – Madison Avenue / Latonia
  - Route 25 – US 27 / NKU
  - Route 2X – Airport / Industrial Express
  - Southbank Shuttle
- TANK Neighborhood Service (see Map 20-5)
  - Route 3 – Ludlow / Bromley
  - Route 5 – Covington / City Heights
  - Route 16 – West Newport
  - Healthline – Crestview Hills to St. Elizabeth Hospital Edgewood
- TANK Jobs Express (see Map 20-6)
  - Boone / Florence Express
  - Route 39X – Petersburg Road / South Hebron Express
  - Route 40X – Worldwide Boulevard / North Hebron Express
- TANK Commute Express (see Map 20-7)
  - Route 17X – Buttermilk Pike Express
  - Route 22X – Mt. Zion Express
  - Route 25X – Campbell / Alexandria
  - Route 30X – Kenton / Fort Wright
  - Route 32X – Boone / Burlington



Map 20-3: TANK Proposed 2020 Redesign Network

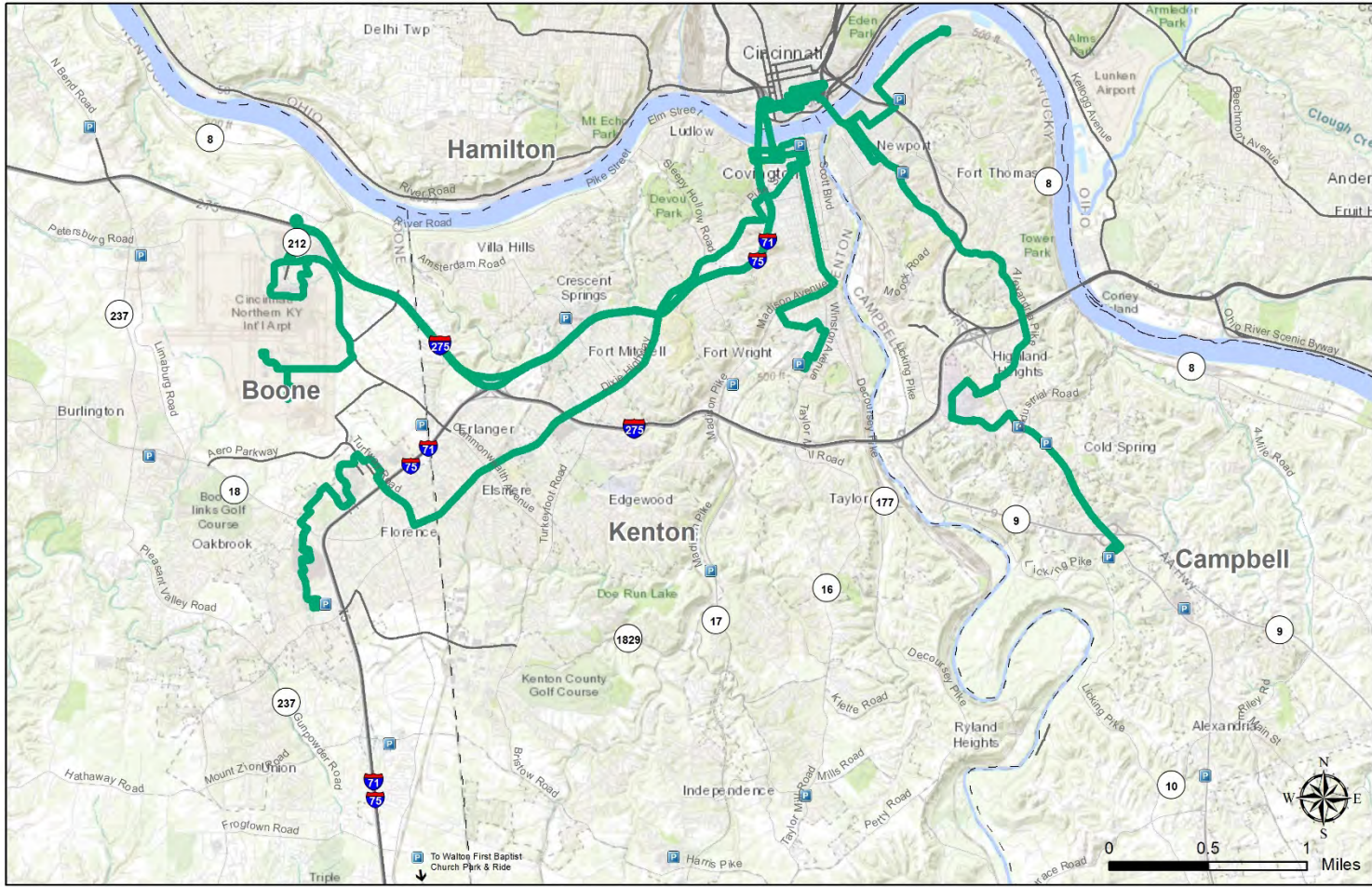


Route 1	Route 7	Route 2X	Route 25X	Route 39X	Boone/Florence Express
Route 3	Route 16	Route 17X	Route 30X	Route 40X	Southbank Shuttle
Route 5	Route 25	Route 22X	Route 32X	Healthline	NKU Shuttle
Park & Ride Lots					

Proposed 2020 Redesign Network



Map 20-4: TANK Frequent Service



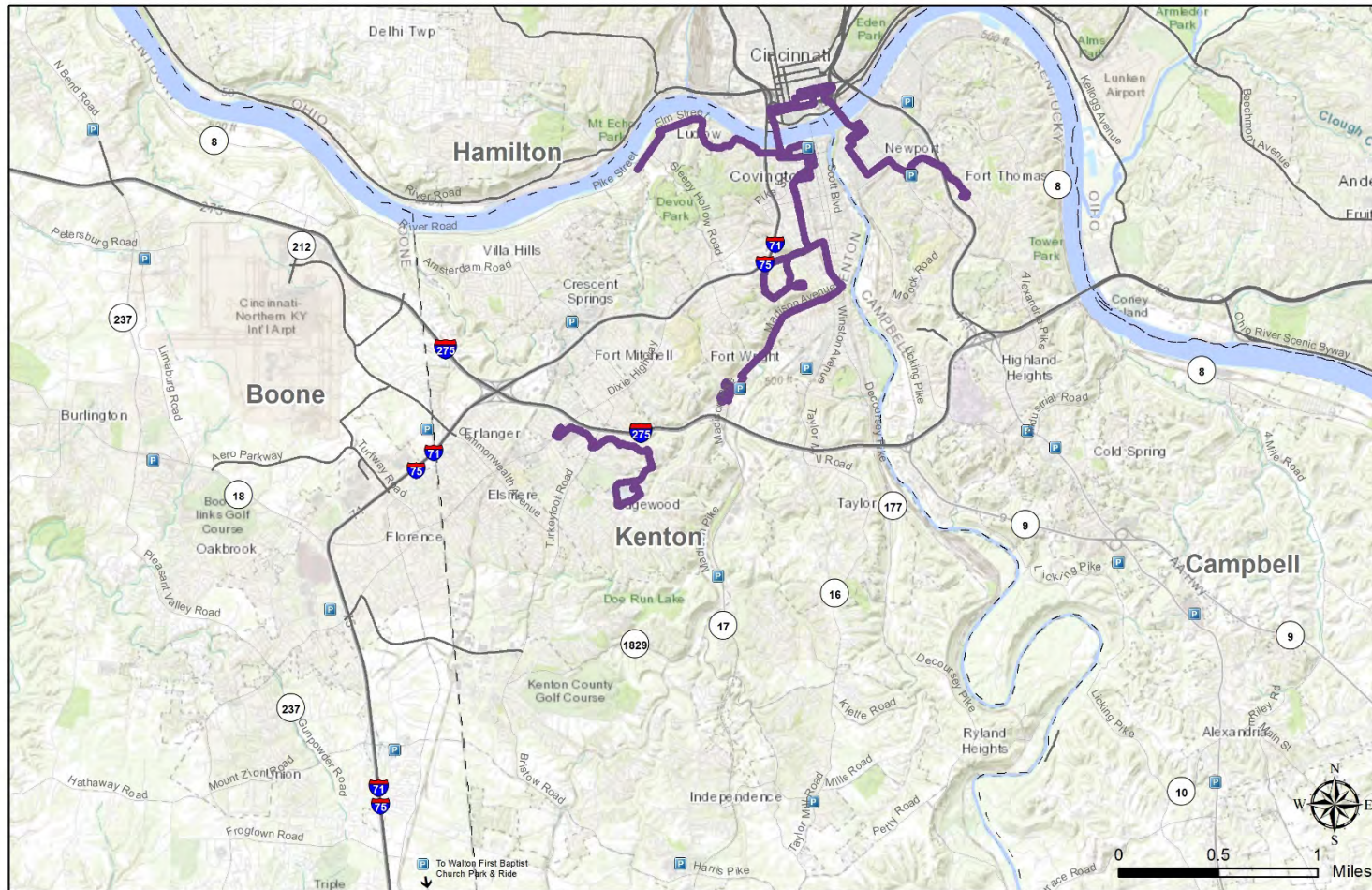
— TANK Frequent Service  
P Park-and-Ride Lots

Proposed 2020 TANK Frequent Service





Map 20-5: TANK Neighborhood Service

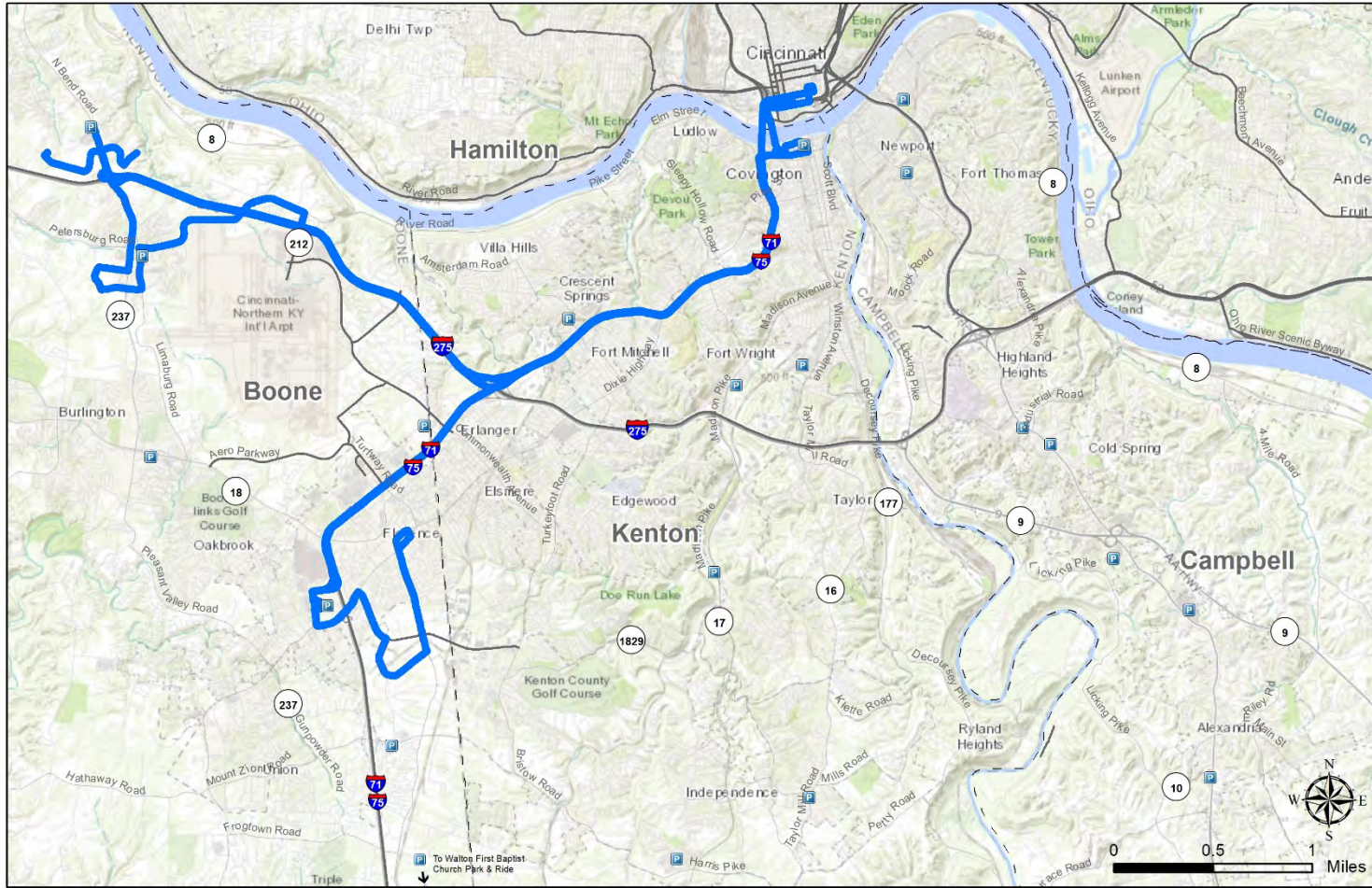


- TANK Neighborhood Service
- P Park-and-Ride Lots

Proposed 2020 TANK  
Neighborhood Service



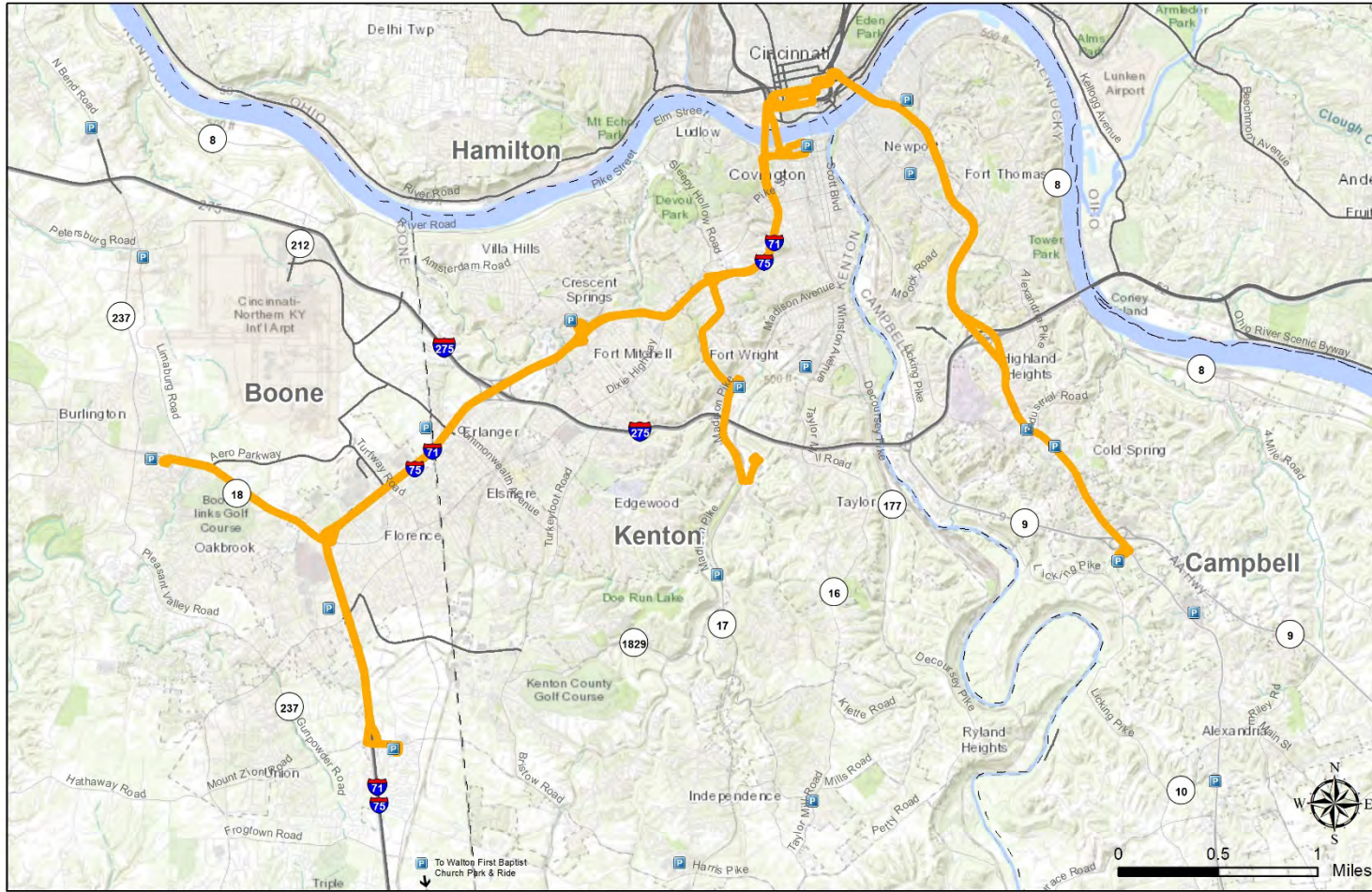
Map 20-6: TANK Jobs Express



<ul style="list-style-type: none"> <li><span style="color: blue; font-weight: bold;">—</span> TANK Jobs Express</li> <li><span style="color: blue; font-weight: bold;">P</span> Park-and-Ride Lots</li> </ul>	<p>Proposed 2020 TANK Jobs Express</p>
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Map 20-7: TANK Commute Express



<ul style="list-style-type: none"> <li><span style="color: orange; font-weight: bold;">—</span> TANK Commute Express</li> <li><span style="color: blue; font-weight: bold;">P</span> Park-and-Ride Lots</li> </ul>	<p>Proposed 2020 TANK Commute Express</p>
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### 20.1.2.1 TANK Frequent Service Recommendations

The new TANK Frequent Service network includes four high frequency routes that provide major linehaul service to Downtown Covington and Cincinnati from CVG, Florence, Bellevue, NKU, and Latonia. The modifications and improvements associated with the routes in the Frequent Service network are described below.

#### 20.1.2.1.1 Route 1 – Dixie Highway / Florence

Route 1 provides local linehaul service on Dixie Highway from the Florence Mall to Downtown Covington and Cincinnati. The current Route 1 also circulates around the commercial uses along Houston Road and Mall Road and the industrial uses along Empire Drive. Route 1 is the best performing route in the TANK service; however, the deviations in Florence make it difficult for new riders to comprehend the different route variations and likely cause the route to have poor on-time performance.

The modified Route 1 will maintain connections between Florence and Downtown Covington, as well as Cincinnati. However, the new route will not operate the eastern half of the Florence loop, which serves most of the industrial facilities in Florence. The modified Route 1 will maintain service to St. Elizabeth Hospital, shops on Houston Road, Florence Mall, and the Florence Park-and-Ride. As previously mentioned, the route will not serve Industrial Road, Empire Drive, or the southern portion of Dixie Highway. By truncating the route at Florence Park-and-Ride, the new Route 1 will have improved frequency and on-time performance. Additionally, this route will maintain service to Dixie Highway and Madison Avenue, north of Florence, as well as Rivercenter Boulevard and Scott Street. Map 20-8 displays the proposed Route 1 network.

The new Route 1 will operate weekdays, Saturday, and Sunday. Compared to existing Route 1 information, the new Route 1 increases the annual service hours by 4,442. However, the project team was able to lower the number of vehicles operated in maximum service (VOMS) and operate a 20-minute headway from 4:22 AM to 8:00 PM, which is a significant improvement from the existing Route 1 operational characteristics. In addition, the modified Route 1 will have 30-minute headways on the weekends, transitioning to 60-minute headways after 8:00 PM, as shown in Table 20-2. Table 20-3 shows the changes in annual service hours and costs between the existing Route 1 and the proposed Route 1.

**Table 20-2: Proposed Route 1 – Dixie Highway / Florence: Schedule**

Day	Weekday		Saturday		Sunday	
Time	4:22 AM	11:46 PM	5:05 AM	11:20 PM	5:40 AM	11:20 PM
Headways (Minutes)	20 AM/PM – 40 PM		30 AM/PM – 60 PM		30 AM/PM – 60 PM	

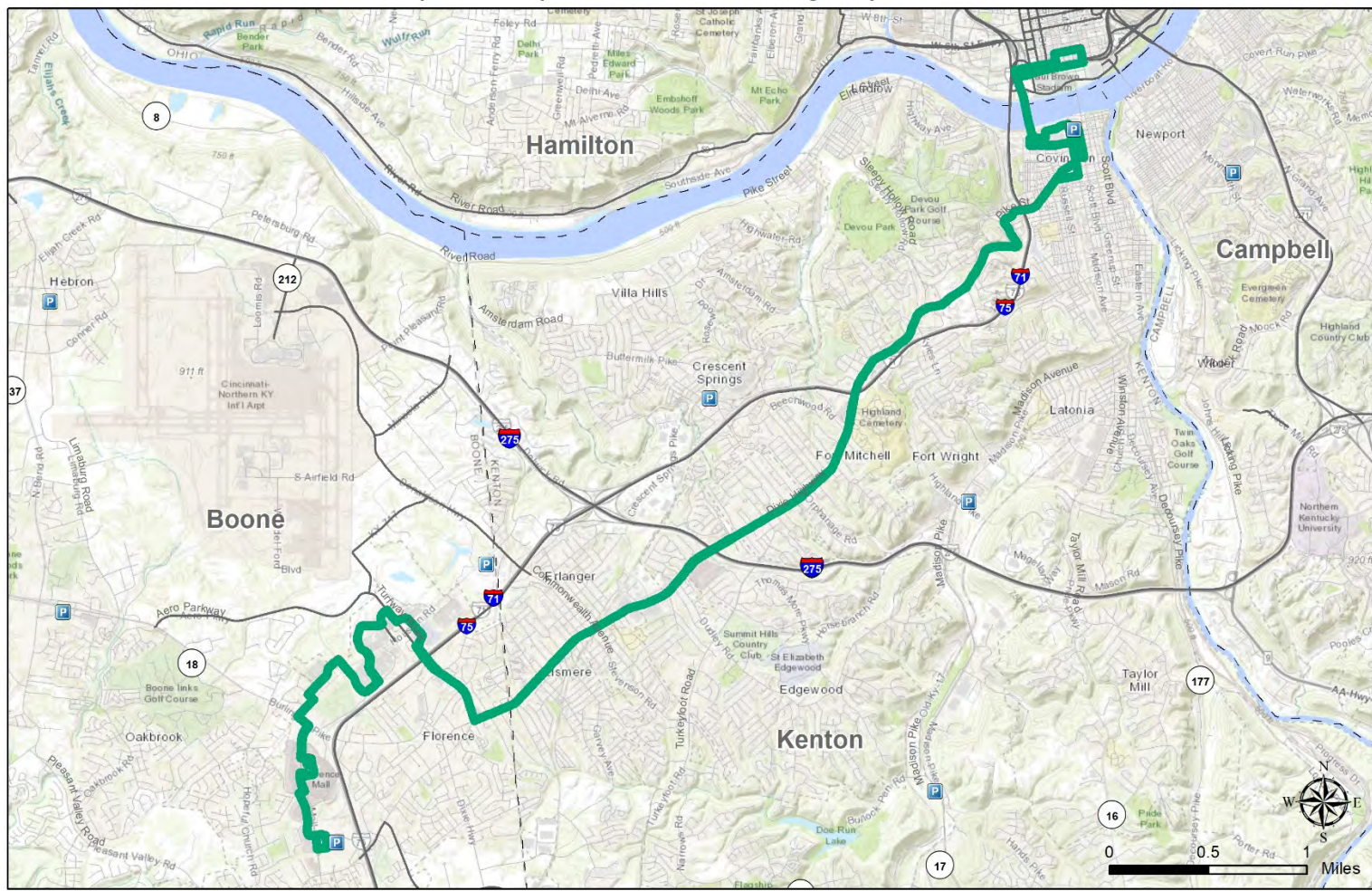
**Table 20-3: Route 1 – Dixie Highway / Florence: Net Changes**

Existing Route		Proposed Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
<b>34,975</b>	\$1,935,167	39,417	\$2,180,943	4,442	\$245,776

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



**Map 20-8: Proposed Route 1 – Dixie Highway / Florence**



<p><b>Existing Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Proposed Route</b></p> <p> Route 1</p>	<p>Route 1- Dixie Hwy/Florence</p>
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### 20.1.2.1.2 Route 7 – Madison Avenue / Latonia

Route 7 provides transit service to Latonia via Southern Avenue and Decoursey Avenue. Route 7 is the only route providing this service in Latonia. In addition, Route 7 provides service to Downtown Covington and Cincinnati on inbound and outbound trips. Overall, this route has above average on-time performance compared to other routes in the system. However, frequency could be improved if this route did not provide service to both Downtown Covington and Cincinnati.

The new Route 7 is designed to better serve retail uses in Latonia and provide more frequent service to Downtown Covington and Cincinnati. The new Route 7 will serve Latonia Plaza and Latonia Centre via Winston Avenue before traveling back to Downtown Covington and then traveling to Cincinnati. Due to poor ridership and low frequency, the Route 7 will not provide service to Huntington Avenue or 45<sup>th</sup> Street. Map 20-9 displays the new Route 7 Madison Avenue / Latonia.

The new Route 7 will operate weekdays, Saturday, and Sunday. Based on the changes to the Route 7, the annual service hours will increase by 5,799. The new Route 7 will have 20-minute headways on the weekdays until 8:00 PM. On weekends, Route 7 will have 30-minute headways until 8:00 PM and 60-minute headways after 8:00 PM, as shown in Table 20-4. Table 20-5 shows the changes in annual service hours and costs between the existing Route 7 and the redesigned Route 7.

**Table 20-4: Proposed Route 7 – Madison Avenue / Latonia: Schedule**

Day	Weekday		Saturday		Sunday	
Time	4:35 AM	12:15 AM	5:42 AM	12:00 AM	6:13 AM	10:40 PM
Headways (Minutes)	20 AM/PM – 40 PM		30 AM/PM – 60 PM		30 AM/PM – 60 PM	

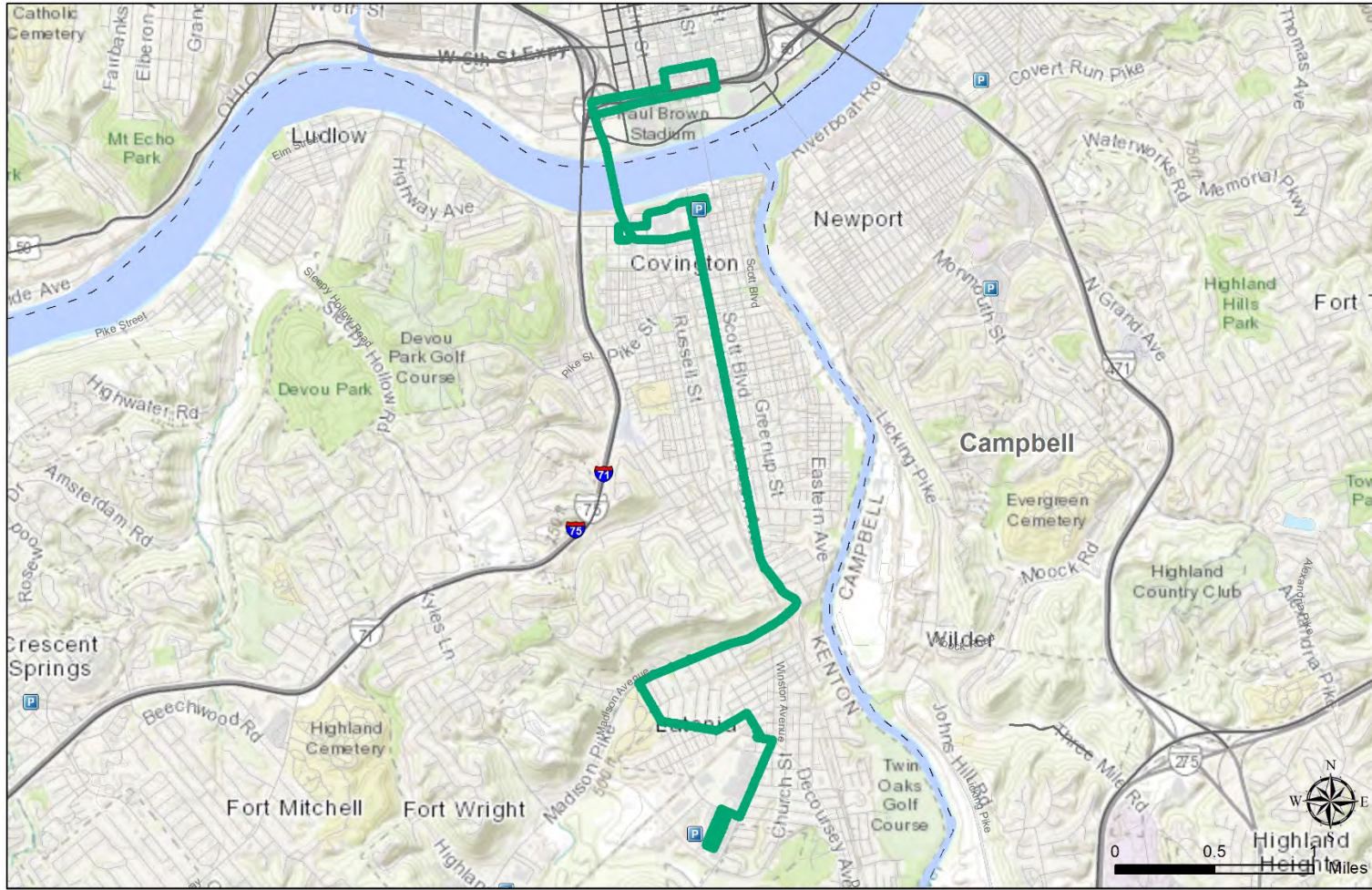
**Table 20-5: Route 7 – Madison Avenue / Latonia: Net Changes**

Existing Route		Proposed Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
<b>12,269</b>	\$678,844	18,068	\$999,702	5,799	\$320,859

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



Map 20-9: Proposed Route 7 – Madison Avenue / Latonia



<p><b>Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Proposed Route</b></p> <p> Route 7</p>	<p>Route 7 - Madison Ave / Latonia</p>
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### 20.1.2.1.3 Route 25 – US 27 / NKU

Route 25 is a major linehaul route in Campbell County that provides service from the Village Green Shopping Center and NKU to Newport, Cincinnati, and Downtown Covington. Currently, Route 25 has above average on-time performance and ridership, but the route does not have a distinct identity because it replicates much of Route 16 and Route 25X.

The new Route 25 will maintain service to Downtown Covington and Cincinnati acting as a major linehaul for Campbell County. In addition, the route will still provide service to NKU and the park-and-rides at Cold Spring and Furniture Fair via Alexandria Pike. Additionally, the route will be truncated at the Meijer on Alexandria Pike just south of AA Highway. These changes will reduce redundancy and improve frequency and on-time performance for Route 25. Map 20-10 displays the new Route 25 Southgate / Alexandria.

The redesigned Route 25 will operate weekdays, Saturday, and Sunday. In addition, based on the proposed changes to the Route 25, the annual service hours will increase by 2,057. On weekdays, the new Route 25 will have 22-minute headways until 8:00 PM and 40-minute headways after 8:00 PM. On weekends, Route 25 will have 45-minute headways until 8:00 PM and 60-minute headways after 8:00 PM, as shown in Table 20-6. Table 20-7 shows the changes in annual service hours and costs between the existing Route 25 and the redesigned Route 25.

**Table 20-6: Proposed Route 25 – US 27 / NKU: Schedule**

Day	Weekday		Saturday		Sunday	
Time	4:00 AM	11:22 PM	6:08 AM	9:28 PM	6:08 AM	8:38 PM
Headways (Minutes)	22 AM/PM – 40 PM		45 AM/PM – 60 PM		45 AM/PM – 60 PM	

**Table 20-7: Route 25 – US 27 / NKU: Net Changes**

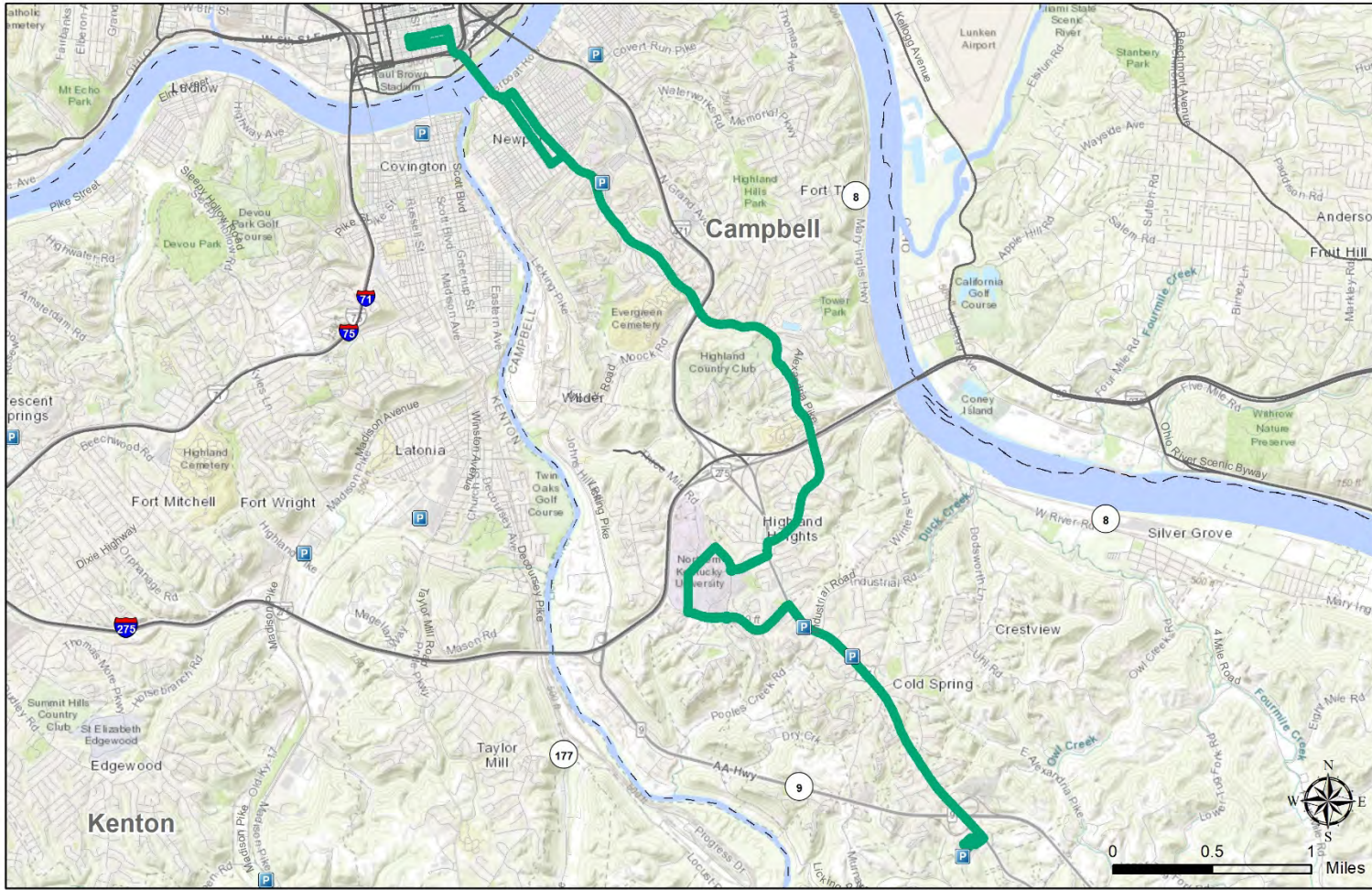
Existing Route		Proposed Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
<b>16,587</b>	\$917,759	18,644	\$1,031,573	2,057	\$113,814

\*Costs are developed using TANK Hourly Operating Cost (December 2018).





Map 20-10: Proposed Route 25 – US 27 / NKU



<p><b>Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Proposed Route</b></p> <p> Route 25</p>	<p>Route 25 - US 27 / NKU</p>
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### 20.1.2.1.4 Route 2X – CVG / Industrial Express

The current Route 2X provides transit service from Cincinnati and Downtown Covington to CVG and industrial uses near DHL south of CVG. The current route uses I-71/I-75 and I-275 between CVG and Downtown Covington. However, this route has poor on-time performance, likely due to congestion in Downtown Covington on both inbound trips.

In order to improve frequency and on-time performance, the project team redesigned this route to provide direct service to/from Cincinnati rather than traversing into Downtown Covington. Riders will use the revamped Southbank Shuttle to get to/from Downtown Covington. The new Route 2X will provide direct service to CVG and then to airport employment centers off Lincoln Road before serving CVG Centre, DHL, and Amazon. Eliminating repetitive trips to Downtown Covington will improve on-time performance and route reliability. Map 20-11 displays the new Route 2X CVG / Industrial Express.

Route 2X will operate weekdays, Saturday, and Sunday. Based on the proposed changes to the Route 2X, the annual service hours will increase by 7,695, but the new route will operate earlier and later to better serve shift times of nearby industrial uses and flights arriving/departing from CVG. The new Route 2X will have 30-minute headways on the weekdays and 30-minute headways on the weekends, as shown in Table 20-8. Table 20-9 shows the changes in annual service hours and costs between the existing Route 2X and the redesigned Route 2X.

**Table 20-8: Proposed Route 2X – CVG / Industrial Express: Schedule**

Day	Weekday		Saturday		Sunday	
	Time	Time	Time	Time	Time	Time
	5:00 AM	12:00 AM	4:53 AM	11:35 PM	4:53 AM	11:47 PM
Headways (Minutes)	30		30		30	

**Table 20-9: Route 2X – CVG / Industrial Express: Net Changes**

Existing Route		Proposed Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
<b>13,144</b>	\$727,258	20,839	\$1,153,022	7,695	\$425,764

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



**Map 20-11: Proposed Route 2X – CVG / Industrial Express**



<p><b>Existing Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Proposed Route</b></p> <p> Route 2X</p>	<p>Route 2X - CVG / Industrial Express</p>
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### 20.1.2.1.5 Route – Southbank Shuttle

The newly revamped Southbank Shuttle will use Taylor Southgate Bridge and Clay Wade Bailey Bridge since the availability of the John A. Roebling Suspension Bridge is unreliable due to ongoing repair issues. From CTC, the route will travel on Rivercenter Boulevard to Crescent Avenue before traveling to Cincinnati using the Clay Wade Bailey Bridge. Once in Cincinnati, the Southbank Shuttle will travel south onto Freedom Way to Walnut Street where the route will turn right on 5<sup>th</sup> Street. The route will travel on 5<sup>th</sup> Street to Pike Street and then to Broadway Street before traveling across the Taylor Southgate Bridge to Newport. The Southbank Shuttle will travel east on 3<sup>rd</sup> Street, right on Washington Street to 6<sup>th</sup> Street before traveling east on 6<sup>th</sup> Street and left on Riviera Drive. The new Southbank Shuttle replaces the Route 12 by combining services, which will travel to Dayton via Fairfield Avenue before traveling back to Cincinnati and Downtown Covington. In addition, the project team and TANK staff propose a park-and-ride at Riviera Drive and Donnermeyer Drive to serve commuters from Campbell County. Map 20-12 displays the new Southbank Shuttle.

The new Southbank Shuttle will operate weekdays, Saturday, and Sunday. This will be a new route in the TANK system once it is consolidated with Route 12, which eliminates Route 12 from the Proposed 2020 Redesign network, saving over one-half million dollars in operating expenses. The Southbank Shuttle will continue to have 15-minute headways on weekdays, Saturday, and Sunday. The new Southbank Shuttle has 34,010 revenue hours and operates with one additional vehicle (6). Table 20-10 shows the new span and frequency characteristics of the Southbank Shuttle. Table 20-11 shows the changes in annual service hours and costs based off the redesigned Southbank Shuttle.

**Table 20-10: Proposed Southbank Shuttle: Schedule**

Day	Weekday		Saturday		Sunday	
Time	6:00 AM	12:00 AM	7:00 AM	12:00 AM	7:00 AM	10:00 PM
Headways (Minutes)	15		15		15	

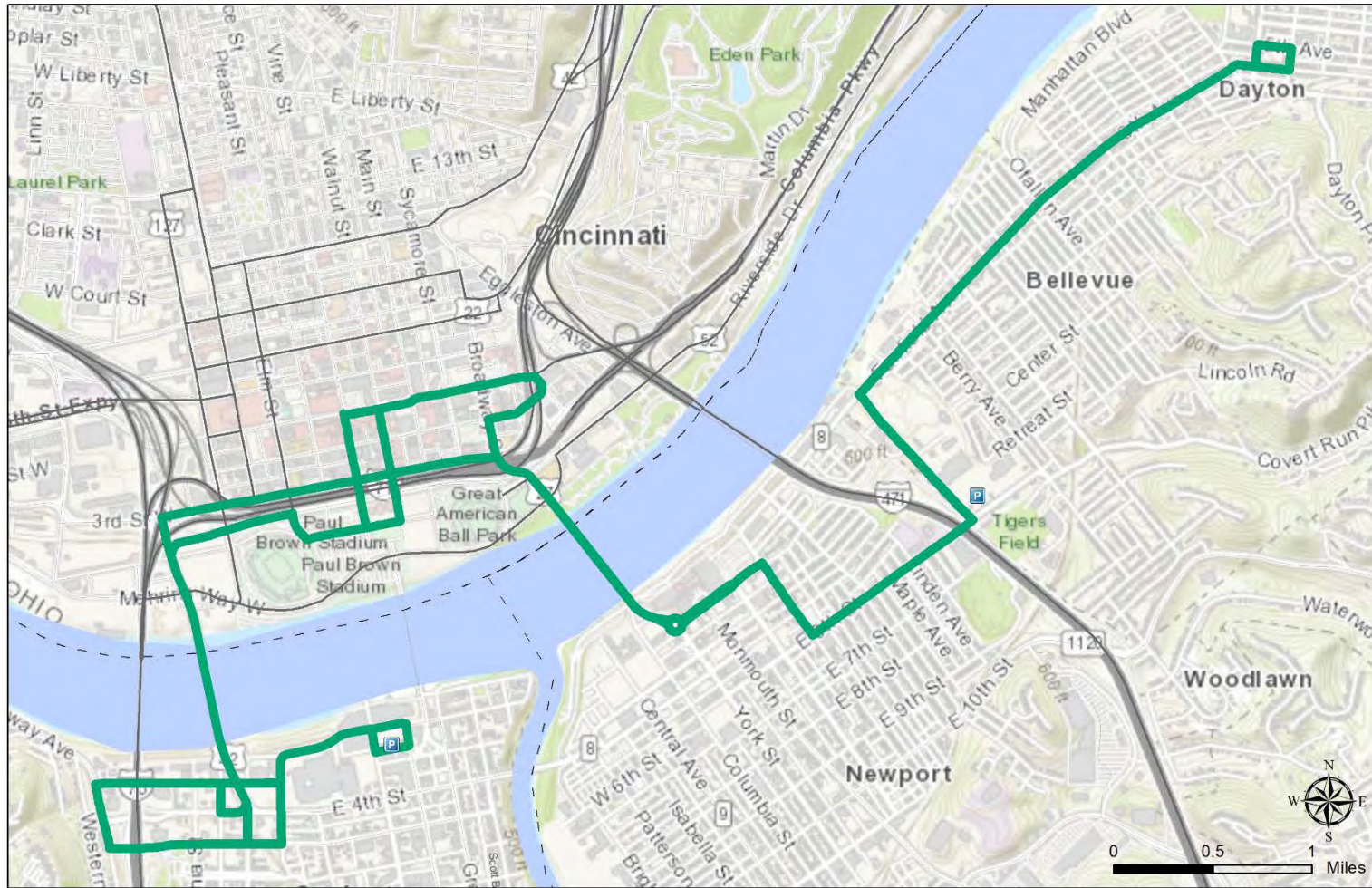
**Table 20-11: Route - Southbank Shuttle: Net Changes**

Existing Route		Proposed Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
--	--	34,010	\$1,881,773	34,010	\$1,881,773

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



Map 20-12: Proposed Route – Southbank Shuttle



**Existing Transit Services**    **Proposed Route**  
 Park & Ride Lots    Southbank Shuttle

Route - Southbank Shuttle





### 20.1.2.2 TANK Neighborhood Service Recommendations

The new TANK Neighborhood Service network includes four major lifeline routes that provide convenient connections to retail and access to Downtown Covington and Cincinnati. Other areas served include Bromley, Madison Avenue, City Heights, West Newport, Crestview Hills, Thomas More University, and St. Elizabeth Edgewood Campus. This section examines the modifications and improvements applied to the four new routes in the Neighborhood Service network.

#### 20.1.2.2.1 Route 3 – Ludlow / Bromley

Route 3 provides east-west service between Bromley, Ludlow, Downtown Covington, and Cincinnati. This is the only TANK route that provides transit service to Bromley and Ludlow. In addition, this route serves Downtown Covington on the inbound and outbound route, which is likely why the route has poor on-time performance due to having to deal with congestion in this downtown area twice each trip.

The project team reconfigured this route to improve on-time performance, lower frequency, and minimize redundancy in the downtown areas. The new Route 3 will be truncated at Pleasant Street and Oak Street in Bromley. In addition, the new Route 3 will operate as a local route providing service to Downtown Covington, where riders can transfer to the Southbank Shuttle or most of the other routes in the TANK service. The inbound route will use Rivercenter Boulevard to enter CTC, while the outbound route will use 4<sup>th</sup> Street to travel back towards Bromley. Map 20-13 shows the new Route 3 Ludlow/Bromley.

The new Route 3 will operate weekdays, Saturday, and Sunday. Compared to existing Route 3 statistics, the new Route 3 decreases the annual service hours by 776. The new Route 3 will have 40-minute and 60-minute headways on the weekdays and 60-minute headways on the weekends, as shown in Table 20-12. Table 20-13 shows the changes in annual service hours and costs between the existing Route 3 and the proposed Route 3.

**Table 20-12: Proposed Route 3 – Ludlow / Bromley: Schedule**

Day	Weekday		Saturday		Sunday	
Time	5:20 AM	10:00 PM	7:00 AM	9:12 PM	8:42 AM	9:12 PM
Headways (Minutes)	40 AM/PM – 60 PM		60		60	

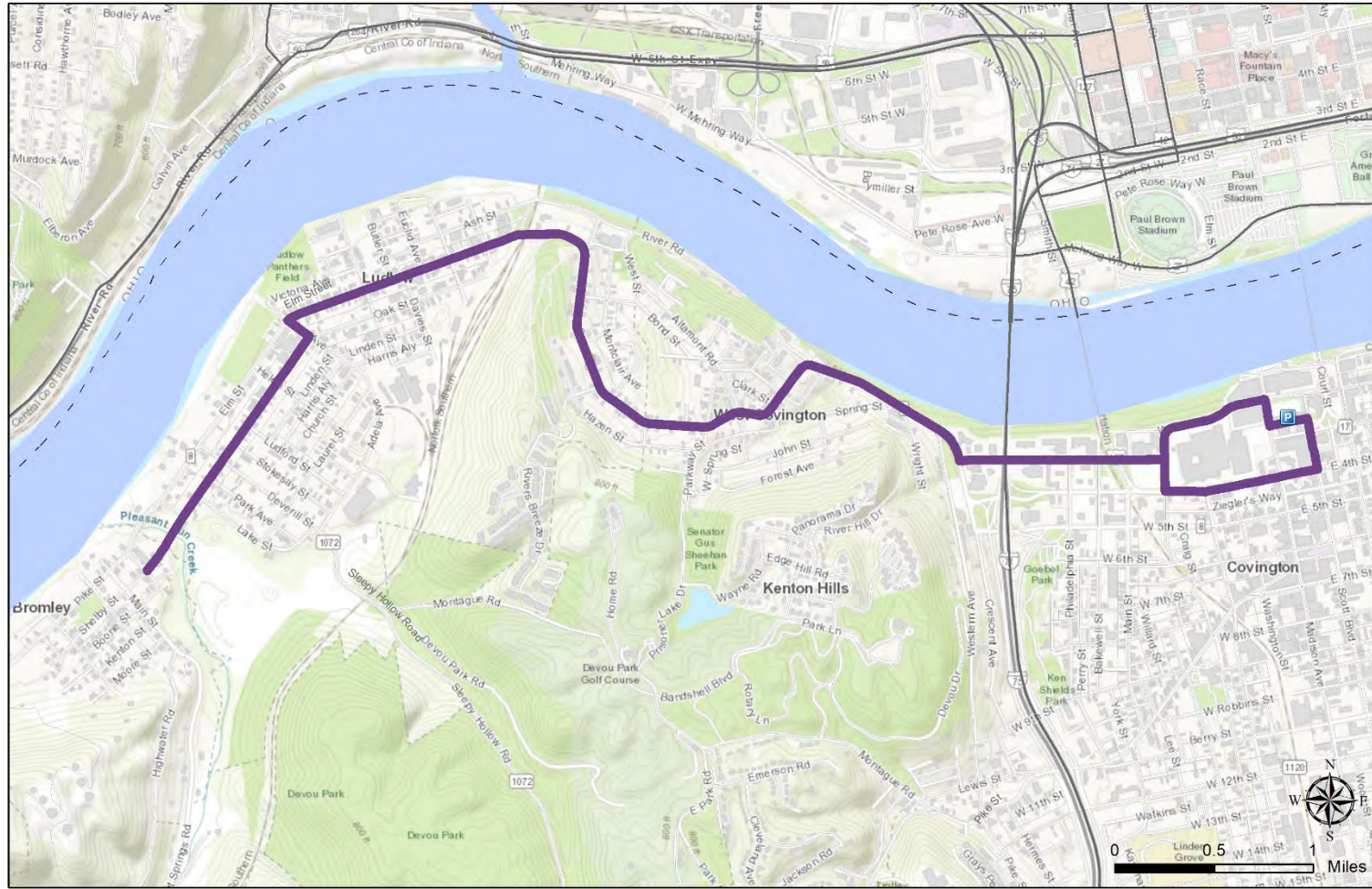
**Table 20-13: Route 3 – Ludlow / Bromley: Net Changes**

Existing Route		Proposed Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
4,749	\$262,762	3,973	\$219,826	-776	-\$42,936

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



Map 20-13: Proposed Route 3 – Ludlow / Bromley



<p><b>Existing Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Proposed Route</b></p> <p> Route 3</p>	<p>Route 3 - Ludlow / Bromley</p>
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### 20.1.2.2.2 Route 5 – Covington / City Heights

Route 5 is a major linehaul route that provides transit service to City Heights, Fort Wright, Downtown Covington, and Cincinnati. Currently, Route 5 has poor on-time performance likely due to geometry constraints accessing City Heights and congestion in the downtown areas. In addition, this route also provides service to St. Elizabeth Hospital, which is an additional deviation off Holman Street that further adds to the, poor on-time performance.

The new Route 5 will maintain service to City Heights, Fort Wright, Walmart, Downtown Covington, and Cincinnati. However, the project team has realigned portions of Route 5 to improve frequency and on-time performance. Instead of providing service to City Heights via Highland Pike, Route 5 will use Madison Avenue to 19<sup>th</sup> Street. Additionally, on the inbound route to City Heights, Route 5 will use Hanser Drive to Monte Lane, while the outbound route will use Benton Road to Highland Pike. This adjustment is expected to generate more ridership and improve frequency. The project team and TANK staff determined this route should maintain service to Downtown Covington on the inbound and outbound routes, as well as maintaining service to Cincinnati. Map 20-14 shows the new Route 5 Covington/City Heights.

The new Route 5 will operate weekdays, Saturday, and Sunday. Compared to existing Route 5 statistics, the modified Route 5 increases the annual service hours by 1,885. The new Route 5 will have 40-minute and 60-minute headways on the weekdays and 60-minute headways on the weekends, as shown in Table 20-14. Table 20-15 shows the changes in annual service hours and costs between the existing Route 5 and the proposed Route 5.

**Table 20-14: Proposed Route 5 – Covington / City Heights: Schedule**

Day	Weekday		Saturday		Sunday	
Time	4:38 AM	9:35 PM	7:00 AM	9:12 PM	8:42 AM	9:12 PM
Headways (Minutes)	40 AM/PM – 60 PM		60 PM		60 PM	

**Table 20-15: Route 5 – Covington / City Heights: Net Changes**

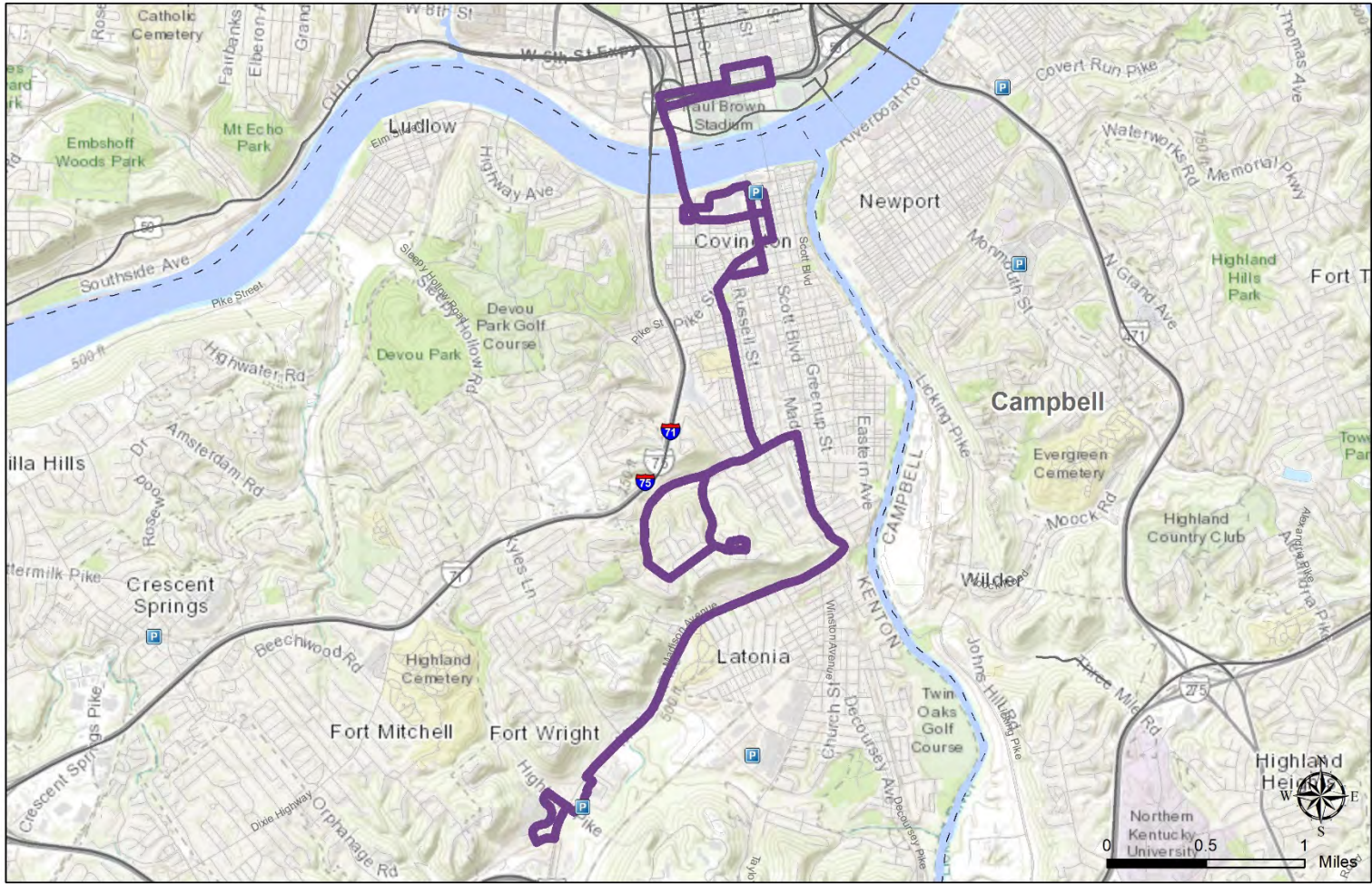
Existing Route		Proposed Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
11,960	\$661,747	13,845	\$766,044	1,885	\$104,297

\*Costs are developed using TANK Hourly Operating Cost (December 2018).





**Map 20-14: Proposed Route 5 – Covington / City Heights**



<p><b>Existing Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Proposed Route</b></p> <p> Route 5</p>	<p>Route 5 - Covington / City Heights</p>
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### 20.1.2.2.3 Route 16 – West Newport

The existing Route 16 is a major linehaul route providing service between Downtown Covington, Cincinnati, West Newport, and St. Elizabeth Ft. Thomas. Due to the utilization of service, this route has above average on-time performance. However, this route has some of the lowest ridership in the TANK system. In addition, frequency could drastically improve if the route did not travel into Downtown Covington or Cincinnati.

The new Route 16 will maintain access to all current services in Campbell County. However, the new Route 16 will not provide service to Downtown Covington; instead, the route will truncate in Cincinnati before traveling outbound to St. Elizabeth Ft. Thomas. In addition, the modified Route 16 will be truncated at St. Elizabeth Ft. Thomas Hospital in Campbell County. Route 25 will serve as the local NKU route providing frequent service to Cincinnati. Map 20-15 displays the new Route 16 West Newport.

Route 16 will operate weekdays, Saturday, and Sunday. In addition, based on the proposed changes to the Route 16, the annual service hours will decrease by 4,496. The new Route 16 will have 40-minute to 60-minute headways on weekdays and 60-minute headways on the weekends, as shown in Table 20-16. Table 20-17 shows the changes in annual service hours and costs between the existing Route 16 and the redesigned Route 16.

**Table 20-16: Proposed Route 16 – West Newport: Schedule**

Day	Weekday		Saturday		Sunday	
Time	6:06 AM	10:00 PM	6:53 AM	10:08 PM	8:35 AM	10:08 PM
Headways (Minutes)	40 AM/PM – 60 PM		60		60	

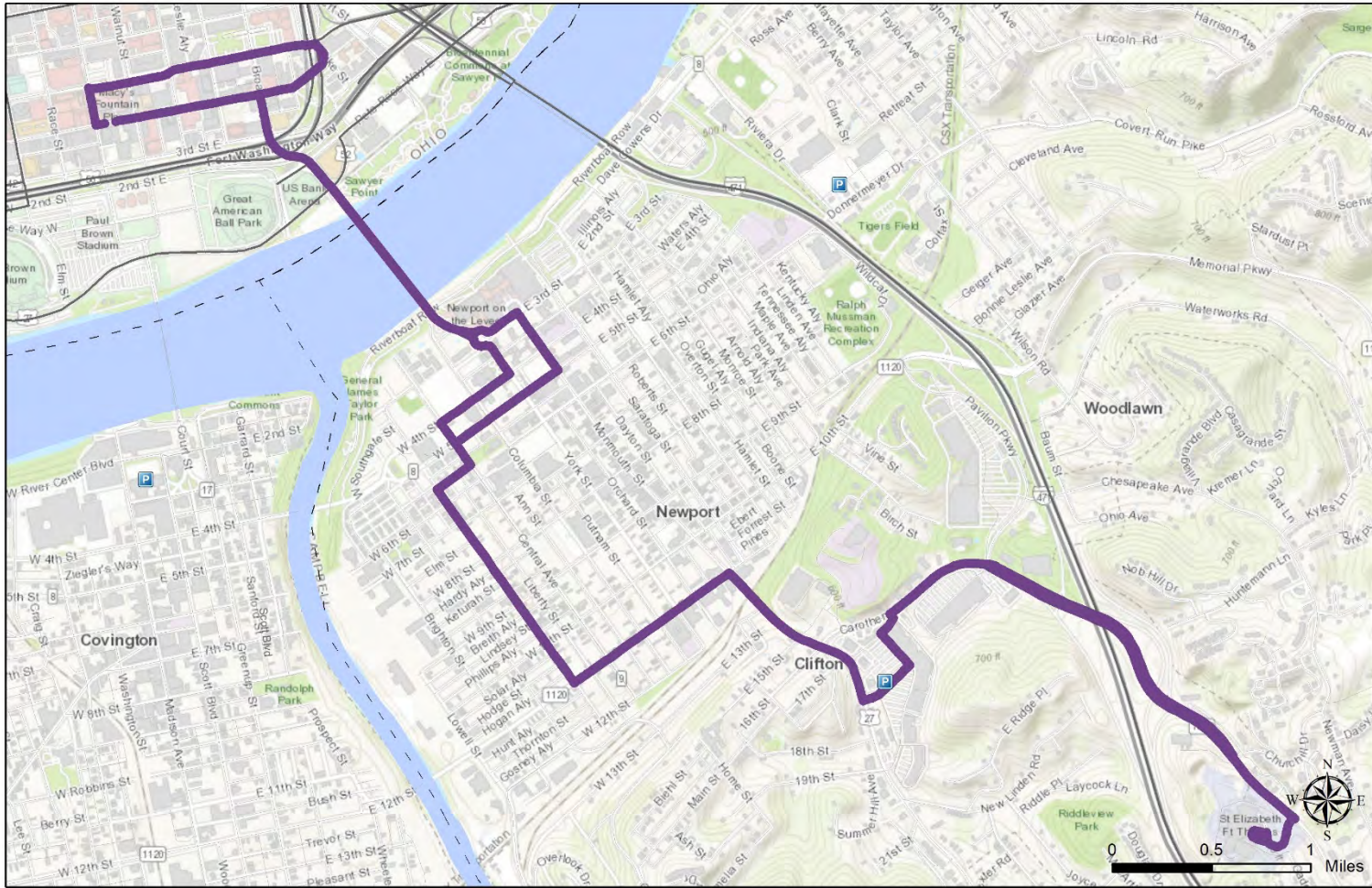
**Table 20-17: Route 16 – West Newport: Net Changes**

Existing Route		Proposed Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
9,552	\$528,512	5,056	\$279,748	-4,496	-\$248,764

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



Map 20-15: Proposed Route 16 – West Newport



<p><b>Existing Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Proposed Route</b></p> <p> Route 16</p>	<p>Route 16 - West Newport</p>
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#### 20.1.2.2.4 Route - Healthline

Currently, Route 33 is a linehaul route that provides service from Cincinnati and Downtown Covington to St. Elizabeth Hospital Edgewood Campus, Thomas More College, and Crestview Hills Town Center. Route 33 has significant overlap with other routes traveling in and out of the downtowns along Madison Avenue and Scott Street. In addition, Route 33 has below average on-time performance, likely due to congestion in Cincinnati and Downtown Covington. Route 33 also travels on corridors with little to no development that generates no ridership (e.g., Horse Branch Road).

The project team and TANK staff developed a new route (Healthline) that eliminates redundancy and improves frequency and on-time performance. The new Healthline route will operate as a local route serving Crestview Hills Town Center, Thomas More College, and the medical complexes surrounding St. Elizabeth Edgewood Campus. Riders will need to transfer from Route 1, which will have consistent 20-minute frequency on weekdays and 30-minute frequency on the weekends. Map 20-16 displays the new Healthline route.

The new Healthline route will operate weekdays, Saturday, and Sunday. Since the Healthline route is only a portion of the existing Route 33, annual service will decrease by 3,338. The new Healthline route will have 30-minute headways on the weekdays and 30-minute headways on the weekends, as shown in Table 20-18. Table 20-19 shows the changes in annual service hours and costs between the existing Route 33 and the redesigned Healthline route.

**Table 20-18: Proposed Route - Healthline: Schedule**

Day	Weekday		Saturday		Sunday	
Time	6:00 AM	10:00 PM	8:00 AM	10:00 PM	8:00 AM	10:00 PM
Headways (Minutes)	30		30		30	

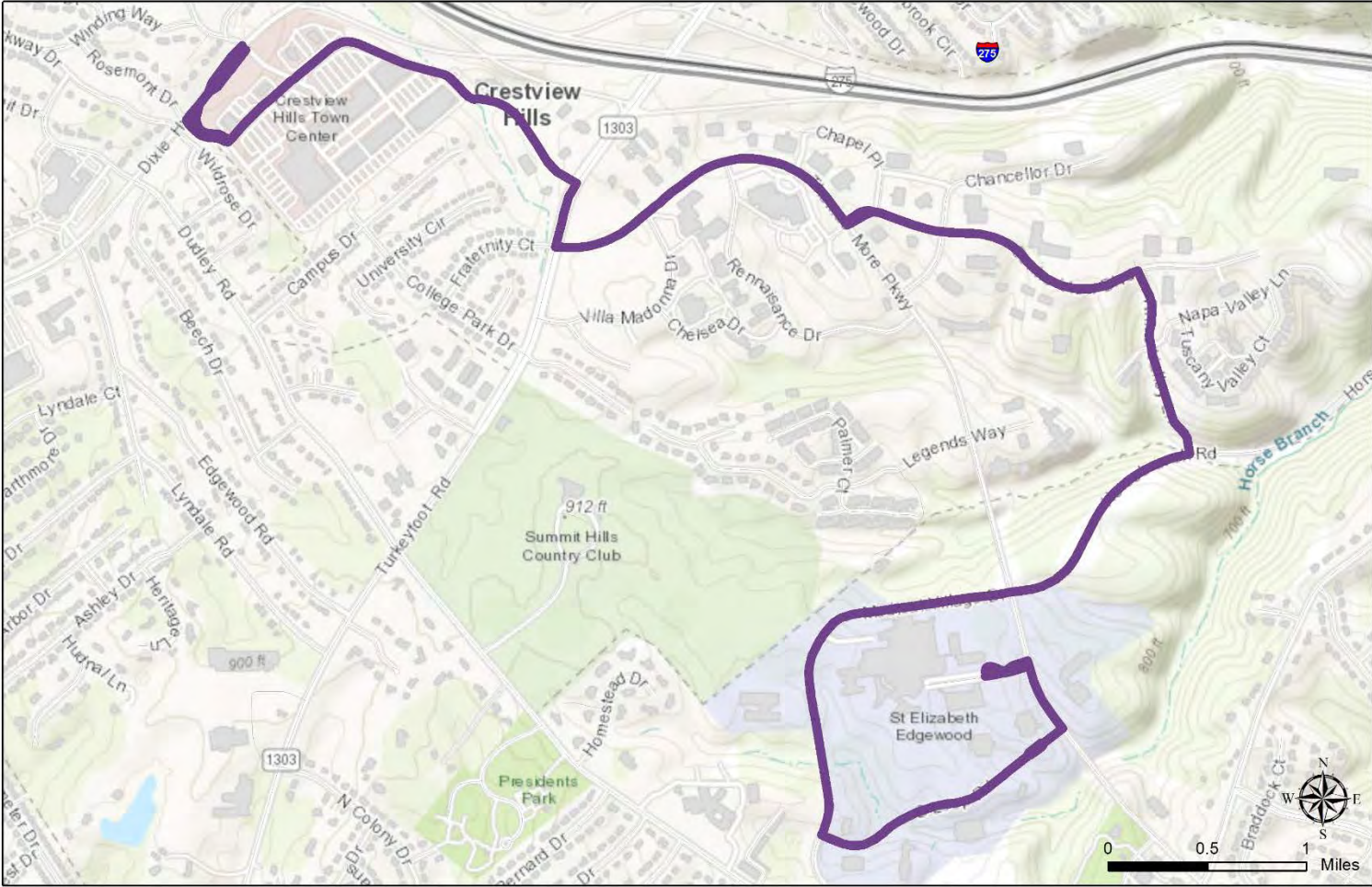
**Table 20-19: Route - Healthline: Net Changes**


Existing Route		Proposed Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
8,660	\$479,158	5,322	\$294,466	-3,338	-\$184,692

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



Map 20-16: Proposed Route - Healthline



<p><b>Existing Transit Services</b></p> <ul style="list-style-type: none"> <li> Park &amp; Ride Lots</li> <li> Healthline</li> </ul>	<p>Healthline</p> 
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### 20.1.2.3 TANK Jobs Express Recommendations

The new TANK Jobs Express network includes three major express routes that provide direct access to jobs in Hebron, as well as park-and-rides in the area. Two of the routes are scheduled around shift changes to provide frequent access to jobs. Other areas served include Florence and industrial complexes along Empire Drive and Dixie Highway. This section examines the modifications and improvements applied to the three new routes in the Jobs Express network.

#### 20.1.2.3.1 Route – Boone / Florence Express

Route 1X provides express service from Cincinnati and Downtown Covington to Target, Houston Park-and-Ride, Airport Exchange, and other industrial uses in Erlanger. This route is below the system average on-time performance, likely due to length and congestion on Donaldson Highway. The project team examined ways to make more logical interconnectedness with Route 2X, while using segments of Routes 1 and 1X to implement a new express service to reduce redundancy.

In addition, the current Route 1 circulates around the commercial uses on Houston Road and Mall Road, and industrial uses along Empire Drive. Route 1 is the best performing route in the TANK service; however, the deviations in Florence make it difficult for new riders to comprehend its many trip variations and likely cause the route to have poor on-time performance.

The project team and TANK staff determined this route should provide express service to Cincinnati from the Florence Hub Park-and-Ride rather than duplicating service near CVG or providing service on Donaldson Highway. The new Boone/Florence Express will stay on I-71/I-75 until Mall Road. The new Boone/Florence Express will also serve Empire Drive via Industrial Road, as well as Main Street via Dixie Highway before traveling inbound to Cincinnati. This service will offer improved frequency and connections to the Florence industrial uses as well as to riders who utilize the Florence Hub Park-and-Ride. The new Boone/Florence Express will also offer transfer opportunities to Route 1 at the Florence Hub Park-and-Ride and areas along Main Street. Map 20-17 displays the new Boone/Florence Express.

The new Boone/Florence Express will operate on weekdays, Saturday, and Sunday. The new Boone/Florence Express will have 30-minute peak headways and 60-minute off-peak headways on the weekdays. On weekends, the Boone/Florence Express will have 60-minute headways, as shown in Table 20-20. Table 20-21 shows the changes in annual service hours and costs between the existing Route 1X and the redesigned Route 1X.



**Table 20-20: Proposed Route – Boone/Florence Express: Schedule**

Day	Weekday		Saturday		Sunday	
Time	5:00 AM	8:00 PM	5:00 AM	7:45 PM	5:00 AM	7:45 PM
Headways (Minutes)	30 AM/PM Peak, 60 Off-Peak		60		60	

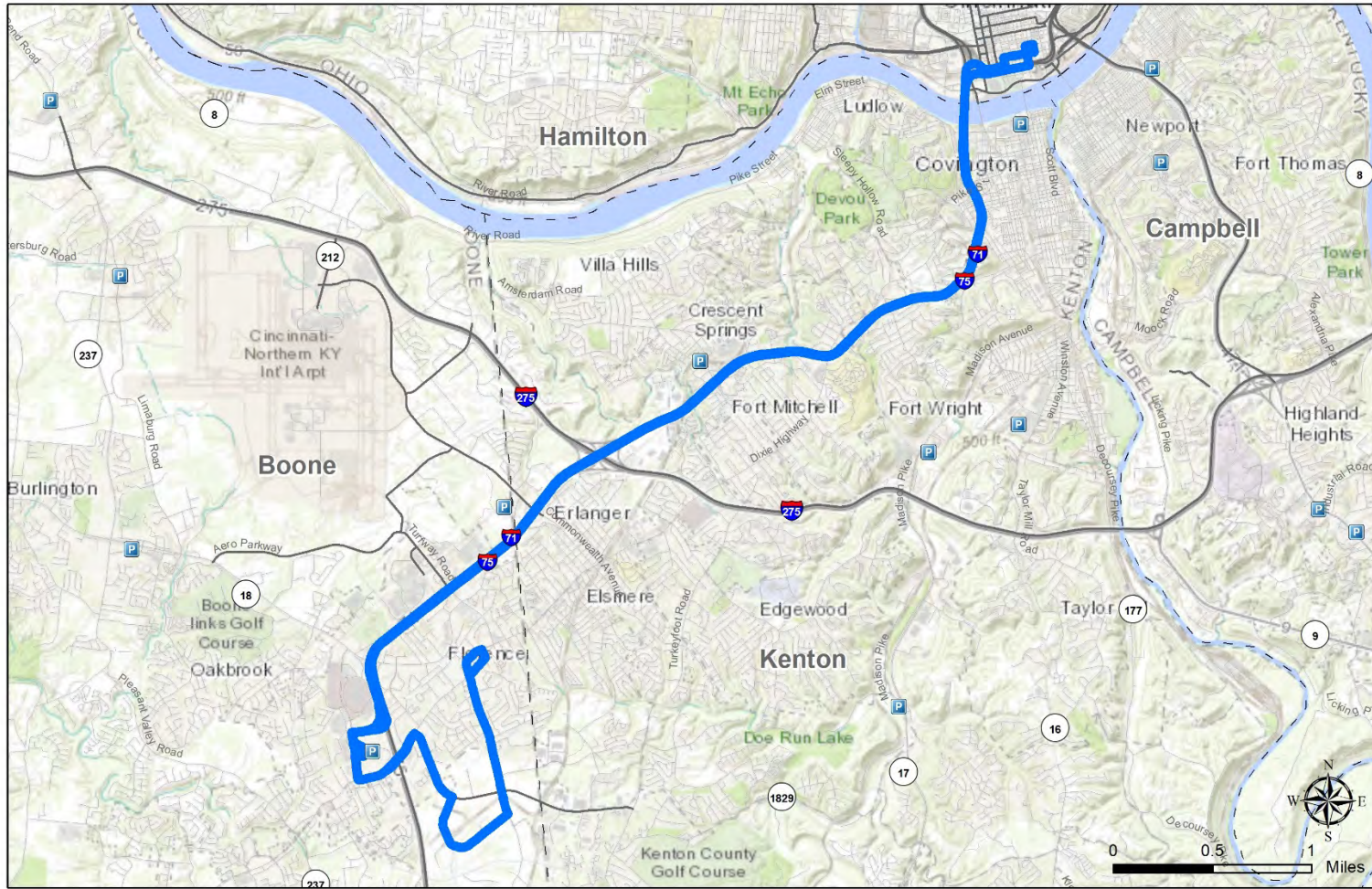
**Table 20-21: Route – Boone/Florence Express: Net Changes**

Existing Route		Proposed Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
5,798	\$320,803	10,781	\$596,513	4,983	\$275,709

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



Map 20-17: Proposed Route – Boone / Florence Express



<p><b>Existing Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Proposed Route</b></p> <p> Boone/Florence Express</p>	<p>Boone / Florence Express</p>
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### 20.1.2.3.2 Route 39X – Petersburg Road / South Hebron Express

Route 39X is a productive express route that provides service between Hebron, Downtown Covington, and Cincinnati. Ridership on Route 39X is growing as new industrial uses continue to develop around CVG. On the downside, Route 39X has below system average on-time performance, which is likely due to length and operational constraints in the downtown areas.

The new Route 39X is consistent with what is operated by TANK today. However, in order to improve frequency and on-time performance, the project team redesigned the downtown alignments. On the inbound trip, Route 39X will serve Cincinnati via 2<sup>nd</sup> Street. On the outbound trip, Route 39X will serve CTC in Downtown Covington via the Clay Wade Bailey Bridge before traveling back to Hebron. Riders who board Route 39X in Downtown Covington will have a more direct ride to Hebron rather than stopping in Cincinnati on the outbound trip. Map 20-18 displays the new Route 39X Petersburg Road / South Hebron Express.

Route 39X will operate weekdays, Saturday, and Sunday. In addition, based on the proposed changes to the span and operational characteristics, the annual service hours will increase by 295. On the weekdays, the new Route 39X will have 30-minute headways in the morning and 35-minute headways in the evening. On Saturday and Sunday, Route 39X will have 81-minute headways in the morning and 41-minute headways in the evening. Table 20-22 shows the new span and frequency characteristics of Route 39X. Table 20-23 shows the changes in annual service hours and costs between the existing Route 39X and the redesigned Route 39X.

**Table 20-22: Proposed Route 39X – Petersburg Road / South Hebron Express: Schedule**

Day	Weekday		Saturday		Sunday	
Time	5:15 AM	7:15 AM	6:00 AM	7:06 AM	6:00 AM	7:06 AM
	2:00 PM	6:00 PM	5:30 PM	6:00 PM	5:30 PM	6:00 PM
Headways (Minutes)	30 (AM)		81 (AM)		81 (AM)	
	35 (PM)		41 (PM)		41 (PM)	

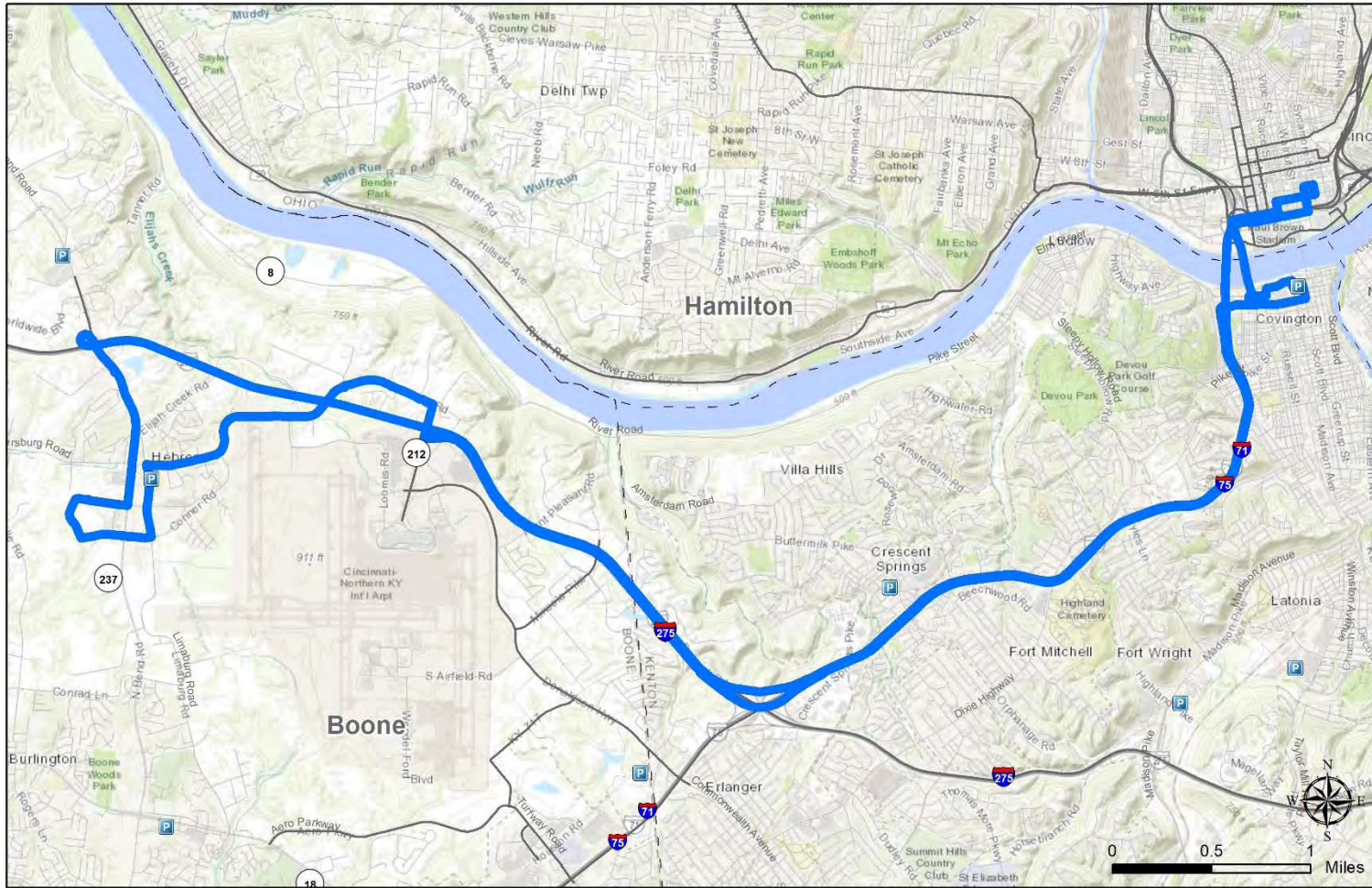
**Table 20-23: Route 39X – Petersburg Road / South Hebron Express: Net Changes**

Existing Route		Proposed Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
4,777	\$264,311	5,072	\$280,634	295	\$16,322

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



**Map 20-18: Proposed Route 39X – Petersburg Road / South Hebron Express**



<p><b>Existing Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Proposed Route</b></p> <p> Route 39X</p>	<p>Route 39X - Petersburg Rd / South Hebron Express</p>
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### 20.1.2.3.3 Route 40X – Worldwide Boulevard / North Hebron Express

Currently, Route 40X is a major linehaul route that provides express service to the North Bend Park-and-Ride and other industrial uses in south Francisville. Route 40X is a very productive express route compared to other express routes in the TANK service. Route 40X is struggling with on-time performance like Route 39X due to inbound and outbound alignments in the downtown areas.

The new Route 40X is consistent with what is operated by TANK today. However, in order to improve frequency and on-time performance, the project team redesigned the downtown alignments. On the inbound trip, Route 40X will serve Cincinnati via 2<sup>nd</sup> Street. On the outbound trip, Route 40X will serve CTC in Downtown Covington via the Clay Wade Bailey Bridge before traveling back to Francisville. Riders who board Route 40X in Downtown Covington will have a more direct ride to Hebron rather than stopping in Cincinnati on the outbound trip. If riders are using Route 40X to get to Cincinnati from CTC, they are encouraged to use the new Southbank Shuttle. The project team also removed Global Way from the new Route 40X, which did not yield much ridership. Map 20-19 displays the new Route 40X Worldwide Boulevard / North Hebron Express.

The redesigned Route 40X will operate weekdays, Saturday, and Sunday. Based on the proposed changes to the span and operational characteristics, the annual service hours will decrease by 1,250. On the weekdays, Route 40X will have 15-minute headways in the morning and 30-minute headways in the evening. On Saturday and Sunday, Route 40X will have 30-minute headways in the morning and 86-minute headways in the evening. Table 20-24 shows the new span and frequency characteristics of Route 40X. Table 20-25 shows the changes in annual service hours and costs between the existing Route 40X and the redesigned Route 40X.

**Table 20-24: Proposed Route 40X – Worldwide Boulevard / North Hebron Express: Schedule**

Day	Weekday		Saturday		Sunday	
Time	5:00 AM	6:30 AM	5:10 AM	5:40 AM	5:10 AM	5:40 AM
	2:00 PM	5:45 PM	5:20 PM	6:53 PM	5:20 PM	6:53 PM
Headways (Minutes)	15 (AM)		30 (AM)		30 (AM)	
	30 (PM)		86 (PM)		86 (PM)	

**Table 20-25: Route 40X – Worldwide Boulevard / North Hebron Express: Net Changes**

Existing Route		Proposed Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
7,209	\$398,874	5,959	\$329,711	-1,250	-\$69,163

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



Map 20-19: Proposed Route 40X – Worldwide Boulevard / North Hebron Express



<b>Existing Transit Services</b>	<b>Proposed Route</b>	<b>Route 40X - Worldwide Blvd / North Hebron Express</b> 
Park & Ride Lots	Route 40X	



#### 20.1.2.4 TANK Commute Express Recommendations

The new TANK Commute Express network includes five major express routes that provide direct access to park-and-rides in the area, as well as to some industrial uses. This section examines the modifications and improvements applied to the five modified routes in the Commute Express network.

##### 20.1.2.4.1 Route 17X – Buttermilk Pike Express

Route 17X is a short express route that provides express service from Buttermilk Park-and-Ride to Cincinnati and Downtown Covington. Currently, Route 17X has ridership at or close to the express route system average, but on-time performance suffers, likely due to congestion in the downtown areas.

The project team, with direction from TANK staff, modified the alignment around Buttermilk Park-and-Ride by eliminating Royal Drive, which had very low ridership. In addition, the project team redesigned the downtown alignments to improve frequency and on-time performance. The changes to Route 17X will improve performance and allow park-and-ride users a more reliable way to get to/from Cincinnati and Downtown Covington. Map 20-20 displays the new Route 17X Buttermilk Pike Express.

The new Route 17X will operate on weekdays in the morning and afternoon to serve the Buttermilk Park-and-Ride. In addition, based on the proposed changes to the Route 17X, the annual service hours will decrease by 120. The new Route 17X will have 25-minute headways on the weekdays, as shown in Table 20-26. Table 20-27 shows the changes in annual service hours and costs between the existing Route 17X and the redesigned Route 17X.

**Table 20-26: Proposed Route 17X – Buttermilk Pike Express: Schedule**

Day	Weekday	
Time	6:15 AM	8:30 AM
	3:30 PM	6:00 PM
Headways (Minutes)	25	

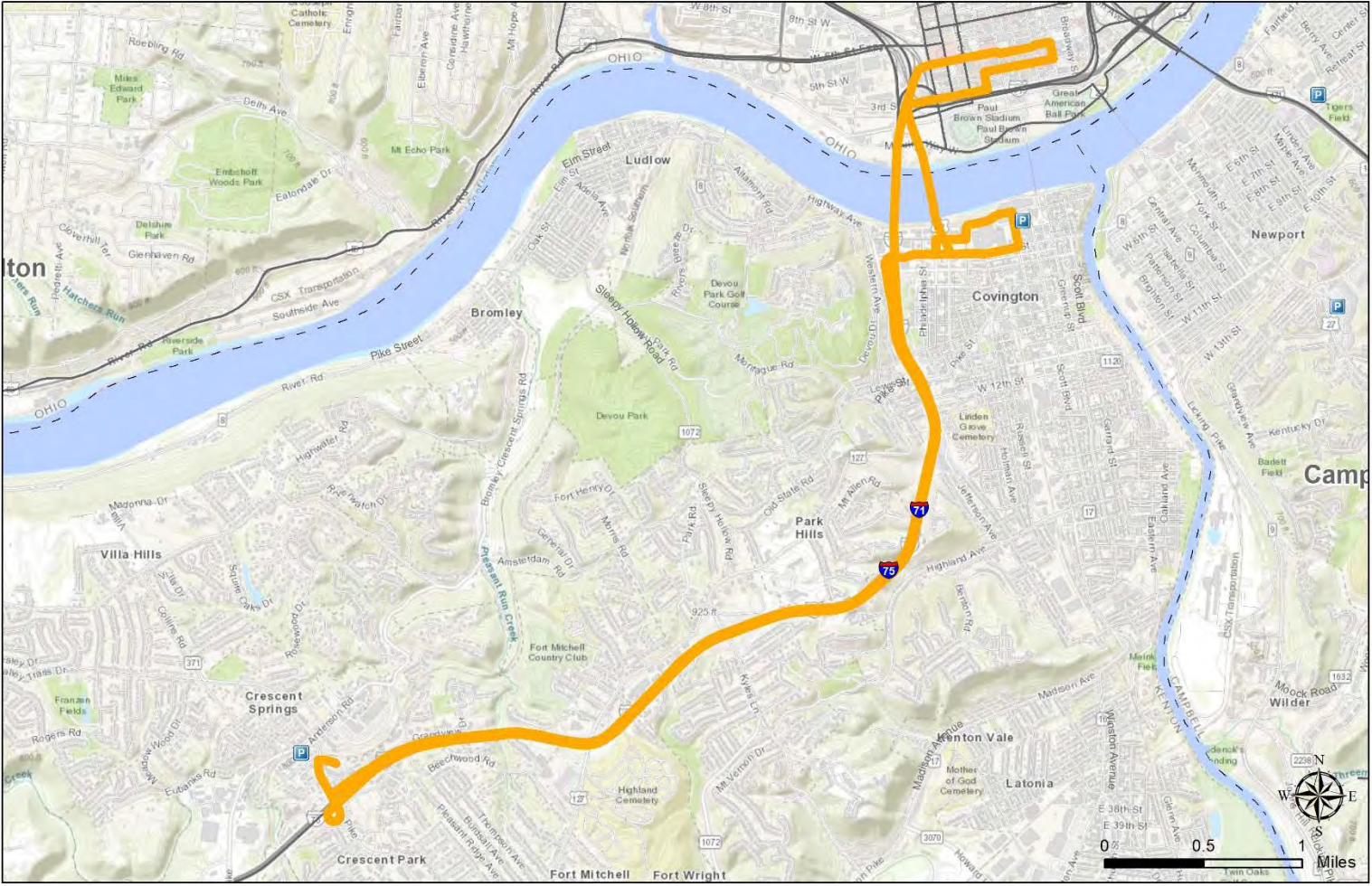
**Table 20-27: Route 17X – Buttermilk Pike Express: Net Changes**

Existing Route		Proposed Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
2,673	\$147,897	2,553	\$141,257	-120	-\$6,640

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



Map 20-20: Proposed Route 17X – Buttermilk Pike Express



<p><b>Existing Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Proposed Route</b></p> <p> Route 17X</p>	<p>Route 17X - Buttermilk Pike Express</p>
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#### 20.1.2.4.2 Route 22X – Mt. Zion Express

Route 22X is a lengthy express route that provides express/local service from Union Baptist Park-and-Ride to Cincinnati. This route does not provide service to Downtown Covington. This route operates on I-71/I-75 between Florence and Cincinnati. Currently, Route 22X has very low ridership, but is on-time for 70 percent of the time.

The project team, with direction from TANK staff, kept this route the same except for where it terminates. The new Route 22X will terminate at the Mt. Zion Park-and-Ride rather than traveling down Dixie Highway to Union Baptist Park-and-Ride. The southern half of the current route travels through a rural area with low density and little commercial development making it a poor investment for transit potential. Instead, the new changes to Route 22X will improve frequency and allow park-and-ride users a more reliable way to get to/from Cincinnati. Map 20-21 displays the new Route 22X Mt. Zion Express.

The new Route 22X will operate on weekdays in the morning and afternoon to serve the Mt. Zion Park-and-Ride. In addition, based on the proposed changes to the Route 22X, the annual service hours will decrease by 264. The new Route 22X will have 32-minute headways on the weekdays, as shown in Table 20-28. Table 20-29 shows the changes in annual service hours and costs between the existing Route 22X and the redesigned Route 22X.

**Table 20-28: Proposed Route 22X – Mt. Zion Express: Schedule**

Day	Weekday	
Time	6:10 AM	7:55 AM
	4:10 PM	6:10 PM
Headways (Minutes)	32	

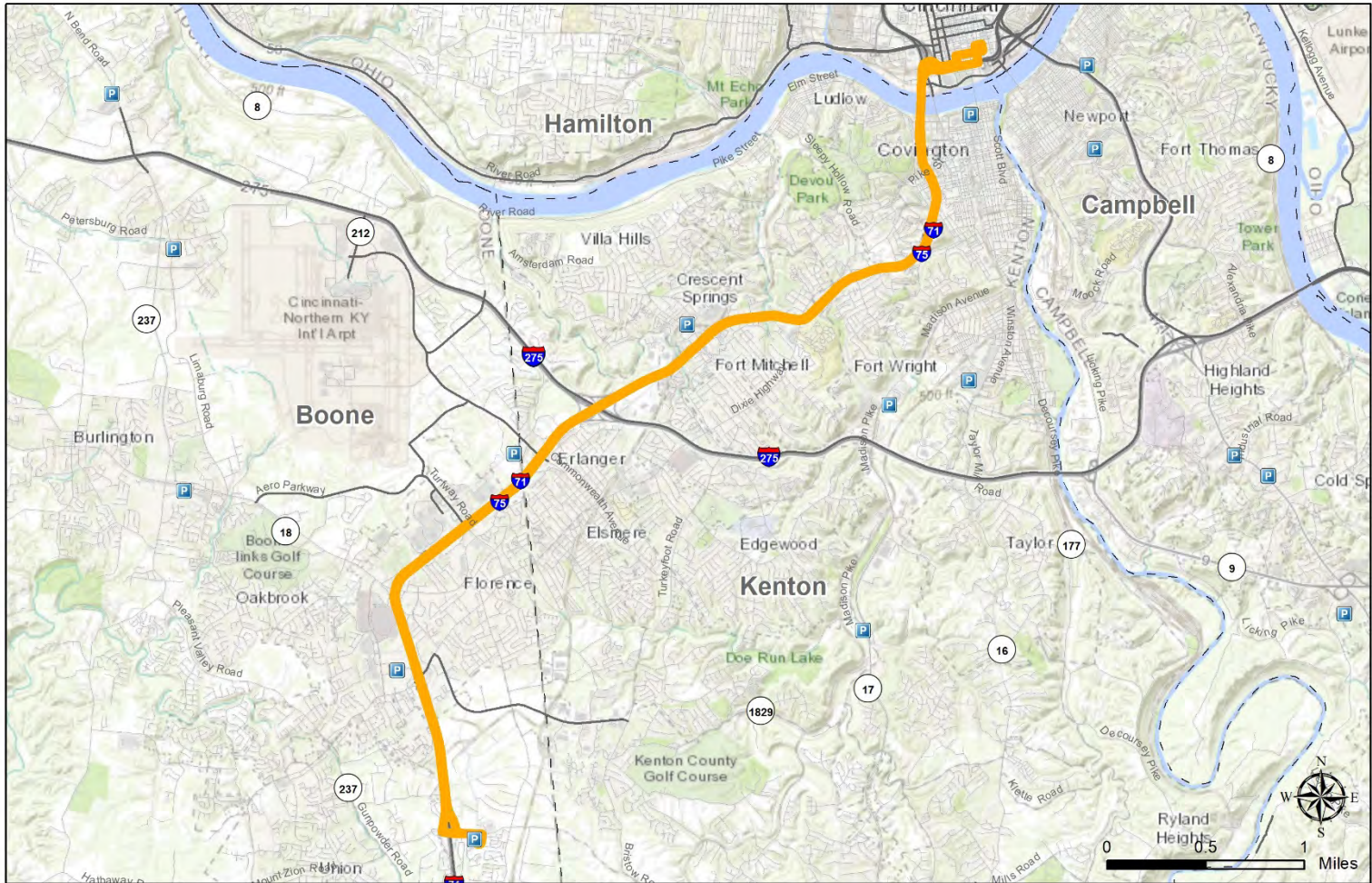
**Table 20-29: Route 22X – Mt. Zion Express: Net Changes**

Existing Route		Proposed Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
1,330	\$73,589	1,066	\$58,982	-264	-\$14,607

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



Map 20-21: Proposed Route 22X – Mt. Zion Express



<b>Existing Transit Services</b>	<b>Proposed Route</b>	Route 22X - Mt. Zion Express
Park & Ride Lots	Route 22X	





### 20.1.2.4.3 Route 25X – Alexandria Express

The current Route 25X provides express service from Cincinnati to areas along Alexandria Pike south of I-275. Currently, this route truncates at the Alexandria Pike Park-and-Ride. This route has below average on-time performance, likely due to the length of the route and congestion in Cincinnati. In addition, this route duplicates a portion of Route 25, which is the second most productive route in the TANK system in terms of trips per mile.

Since this is the only express route serving Campbell County, the project team redesigned this route to improve frequency and on-time performance. Other than the alignment in Cincinnati, the only major change to the new Route 25X is where the alignment terminates. The new Route 25X is truncated at the Meijer just south of highway AA, which is also where the new Route 25 will be truncated. By truncating the route at Meijer, TANK staff proposed developing a new park-and-ride location there to serve the park-and-ride users who previously utilized Alexandria Pike Park-and-Ride (or the Village Green Shopping Center Park-and-Ride), which is approximately four miles south of Meijer on Alexandria Pike. Map 20-22 displays the new Route 25X Alexandria Express.

The redesigned Route 25X will operate on weekdays in the morning and afternoon to serve areas south of I-275 in Campbell County. In addition, based on the proposed changes to the Route 25X, the annual service hours will decrease by 530. The new Route 25X will have 30-minute headways on the weekdays, as shown in Table 20-30. Table 20-31 shows the changes in annual service hours and costs between the existing Route 25X and the redesigned Route 25X.

**Table 20-30: Proposed Route 25X – Alexandria Express: Schedule**

Day	Weekday	
	Time	5:52 AM
	3:55 PM	5:54 PM
Headways (Minutes)	30	

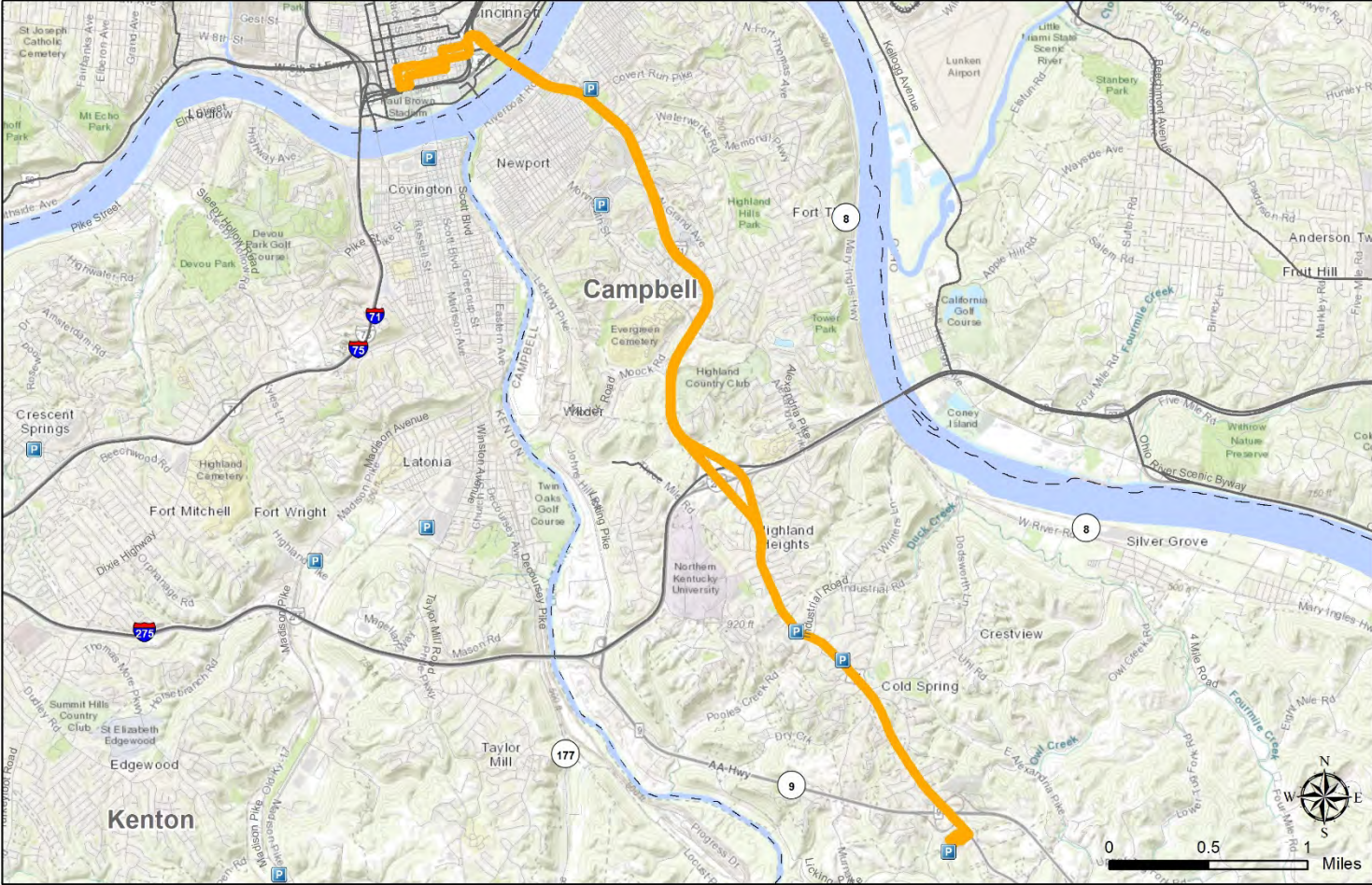
**Table 20-31: Route 25X – Alexandria Express: Net Changes**

Existing Route		Proposed Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
1,989	\$110,051	1,459	\$80,726	-530	-\$29,325

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



Map 20-22: Proposed Route 25X – Alexandria Express



<b>Transit Services</b> Park & Ride Lots	<b>Proposed Route</b> Route 25X	Route 25X - Alexandria Express 
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#### 20.1.2.4.4 Route 30X – Fort Wright / Rolling Hills Express

Currently, Route 30X and Route 31X duplicate service on Madison Pike from Cincinnati to Rolling Hills Drive. The only major difference is that Route 30X serves Cincinnati and travels past Rolling Hills Drive to serve the Kroger Park-and-Ride farther south in Independence. Route 30X has the second highest on-time performance, but ridership is below the express route system average. In addition, Route 31X has extremely low ridership compared to the express system average and has below average on-time performance despite the shorter route length.

The new Route 30X will provide service to Cincinnati via I-71/I-75, which is consistent with what is operated today. However, the new Route 30X will truncate at Club Chef rather than traveling further south on Madison Pike. These minor changes will drastically improve frequency and on-time performance for riders at the Fort Wright Hub and at Club Chef. Map 20-23 displays the new Route 30X Fort Wright / Rolling Hills Express.

The newly designed Route 30X will operate on weekdays in the morning and afternoon to serve the Fort Wright Hub and Club Chef. Based on the changes to Route 30X, the annual service hours will decrease by 199. The new Route 30X will have 30-minute headways on the weekdays, as shown in Table 20-32. Table 20-33 shows the changes in annual service hours and costs between the existing Route 30X and the redesigned Route 30X.

**Table 20-32: Proposed Route 30X – Fort Wright / Rolling Hills Express: Schedule**

Day	Weekday	
	Time	6:00 AM
	4:00 PM	6:30 PM
Headways (Minutes)	30	

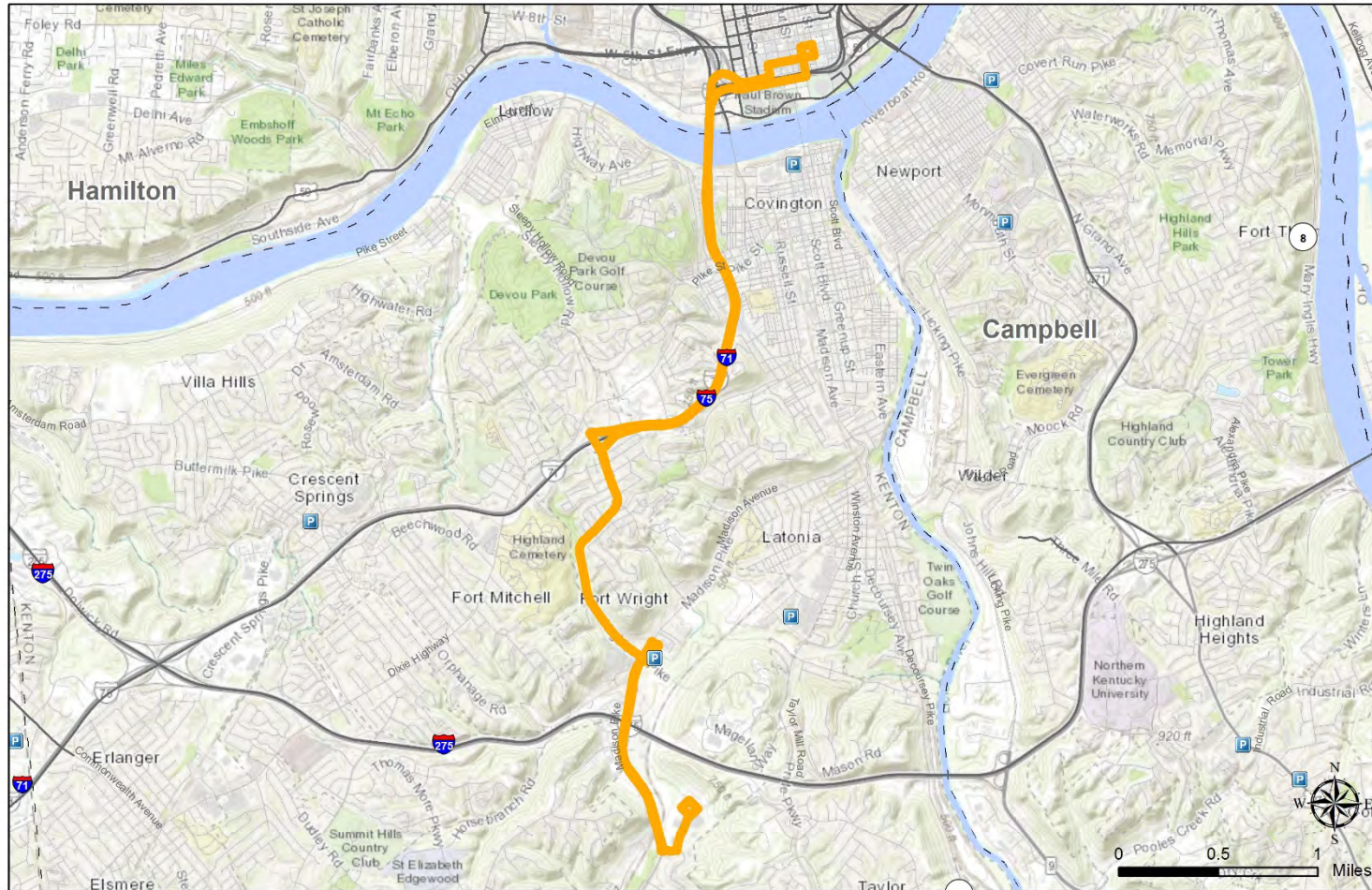
**Table 20-33: Route 30X – Fort Wright / Rolling Hills Express: Net Changes**

Existing Route		Proposed Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
1,714	\$94,836	1,515	\$83,825	-199	-\$11,011

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



Map 20-23: Proposed Route 30X – Fort Wright / Rolling Hills Express



<p><b>Existing Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Proposed Route</b></p> <p> Route 30X</p>	<p>Route 30X - Fort Wright / Rolling Hills Express</p>
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#### 20.1.2.4.5 Route 32X – Burlington Express

Route 32X operates as express route serving Burlington Park-and-Ride and Cincinnati. This is the only route that serves Burlington and Limaburg west of Florence. In addition, the Burlington Park-and-Ride is well utilized and is a major trip generator for the route. However, the route productivity is below the express system average, but the on-time performance is above the express system average.

For the most part, the project team and TANK staff determined to keep Route 32X as is. The only change that will affect operational characteristics of the new Route 32X is how it serves Cincinnati, which is consistent with other express route operational recommendations. Map 20-24 displays the new Route 32X Burlington Express.

Route 32X will operate on weekdays in the morning and afternoon serving Burlington Pike Park-and-Ride. Based on the proposed changes to the Route 32X, the annual service hours will slightly decrease by 80. The new Route 32X will have 40-minute headways on the weekdays, as shown in Table 20-34. Table 20-35 shows the changes in annual service hours and costs between the existing Route 32X and the redesigned Route 32X.

**Table 20-34: Proposed Route 32X – Burlington Express: Schedule**

Day	Weekday	
Time	6:00 AM	8:15 AM
	4:00 PM	6:15 PM
Headways (Minutes)	40	

**Table 20-35: Route 32X – Burlington Express: Net Changes**

Existing Route		Proposed Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
1,109	\$61,375	1,029	\$56,935	-80	\$4,440

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



Map 20-24: Proposed Route 32X – Burlington Express



<p><b>Existing Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Proposed Route</b></p> <p> Route 32X</p>	<p>Route 32X - Burlington Express</p>
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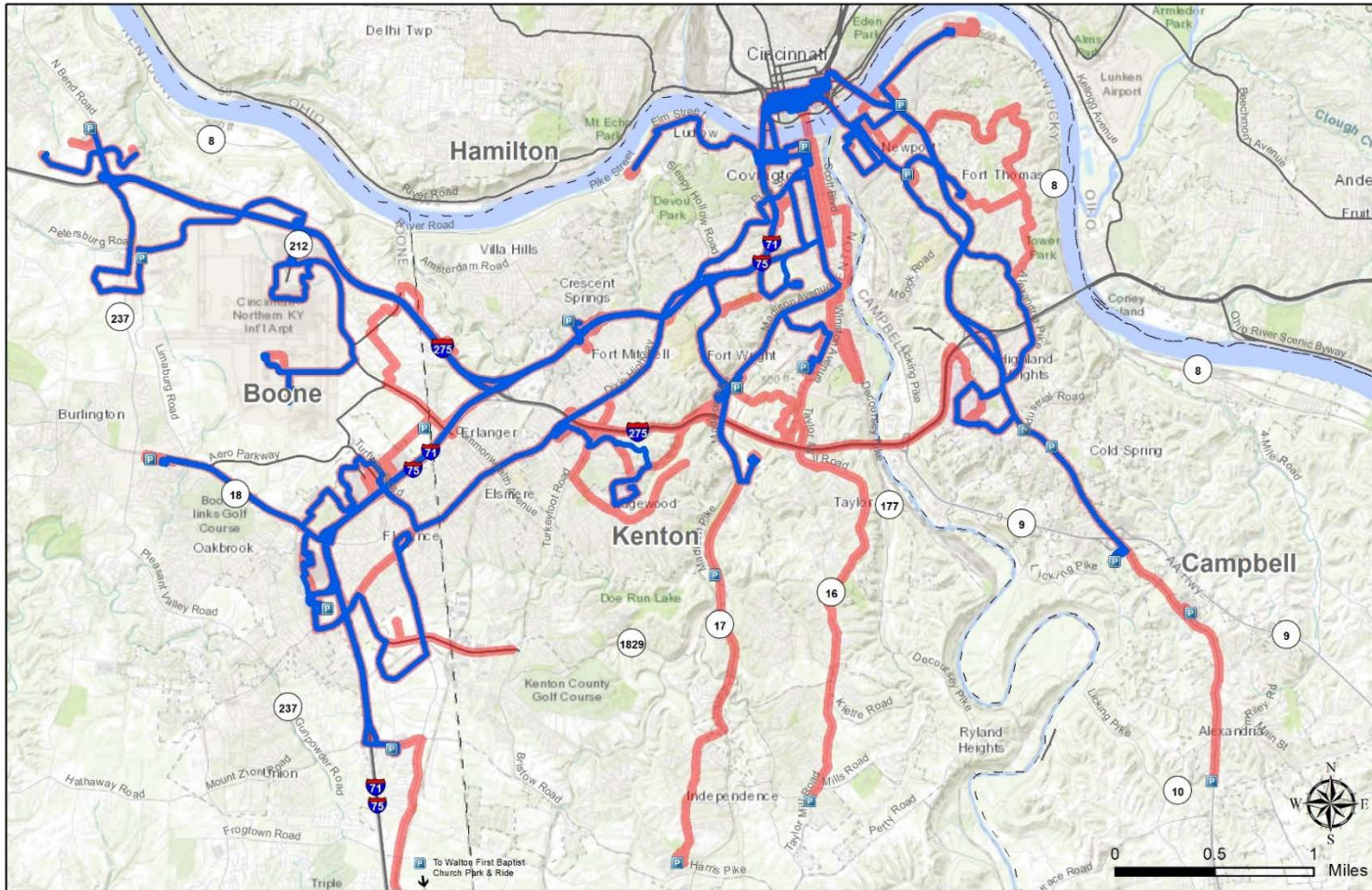


#### 20.1.2.5 TANK 2020 Redesign Network Overlay

Map 20-25 displays a network overlay, which compares the Proposed 2020 Redesign Network to TANK’s existing network. Routes were modified or truncated where current application of system resources was not warranted. This freed resources for other routes in the TANK system. As shown, the Proposed 2020 Redesign Network focuses on interconnectivity in Northern Kentucky rather than connections to park-and-ride lots in low ridership areas, such as Cherokee Shopping Center Park-and-Ride and Alexandria Park-and-Ride.



Map 20-25: Proposed 2020 Redesign Network Overlay



<ul style="list-style-type: none"> <li><span style="color: blue;">—</span> Proposed 2020 Redesign Network</li> <li><span style="color: red;">—</span> Existing Network</li> <li> Park-and-Ride Lots</li> </ul>	<p>Proposed 2020 Redesign Network Overlay</p>
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### 20.1.3 TANK Approved 2020 Redesign Network

As previously mentioned, following the January 2020 workshops, TANK staff opened an extended comment period to allow stakeholders, agencies, and members of the public to provide additional feedback based on the presentation of the Proposed 2020 Redesign Network. TANK staff received over 500 comments, many of which offered input at the individual route level. At the direction of and in conjunction with TANK staff, the project team revised the Proposed 2020 Redesign Network to address the most critical issues and comments raised during this period. The result was a more community-friendly, phased approach that became known as the Approved 2020 Redesign Network, which is shown in Map 20-26. The Approved 2020 Redesign Network still focuses on a slightly more frequent and efficient network, primarily in the core areas where transit is needed the most. However, it also is closer in nature to the existing TANK network, thereby addressing many of the critical concerns that were brought up about some of the proposed route modifications.

Therefore, while the initial Aspirational Network and subsequent Proposed 2020 Redesign Network recommended removing unproductive routes, consolidating redundant routes, and cutting back on overextended coverage to help improve reliability and frequency in the core areas of the community, as a result of the extensive comments about the significant service changes, the Approved 2020 Redesign Network was conceived to lessen the impact of the widespread changes and give the community a network that would not require significant learning curve. Nonetheless, it is important to recognize that the Approved 2020 Redesign Network still decreases the VOMS, considers on-road driver reliefs, reduces redundancy, increases the span of service, and improves frequency.

Similar to the presentation of the Proposed 2020 Redesign Network, the following sections highlight the Approved 2020 Redesign Network recommendations by new service type and describe the specific changes to route schedules and annual service based on updated recommendations that have been vetted by TANK staff. In addition, operating costs are provided for the existing and proposed transit network based on TANK's marginal hourly cost.

New service types include the following, which are described in more detail in the subsequent sections.

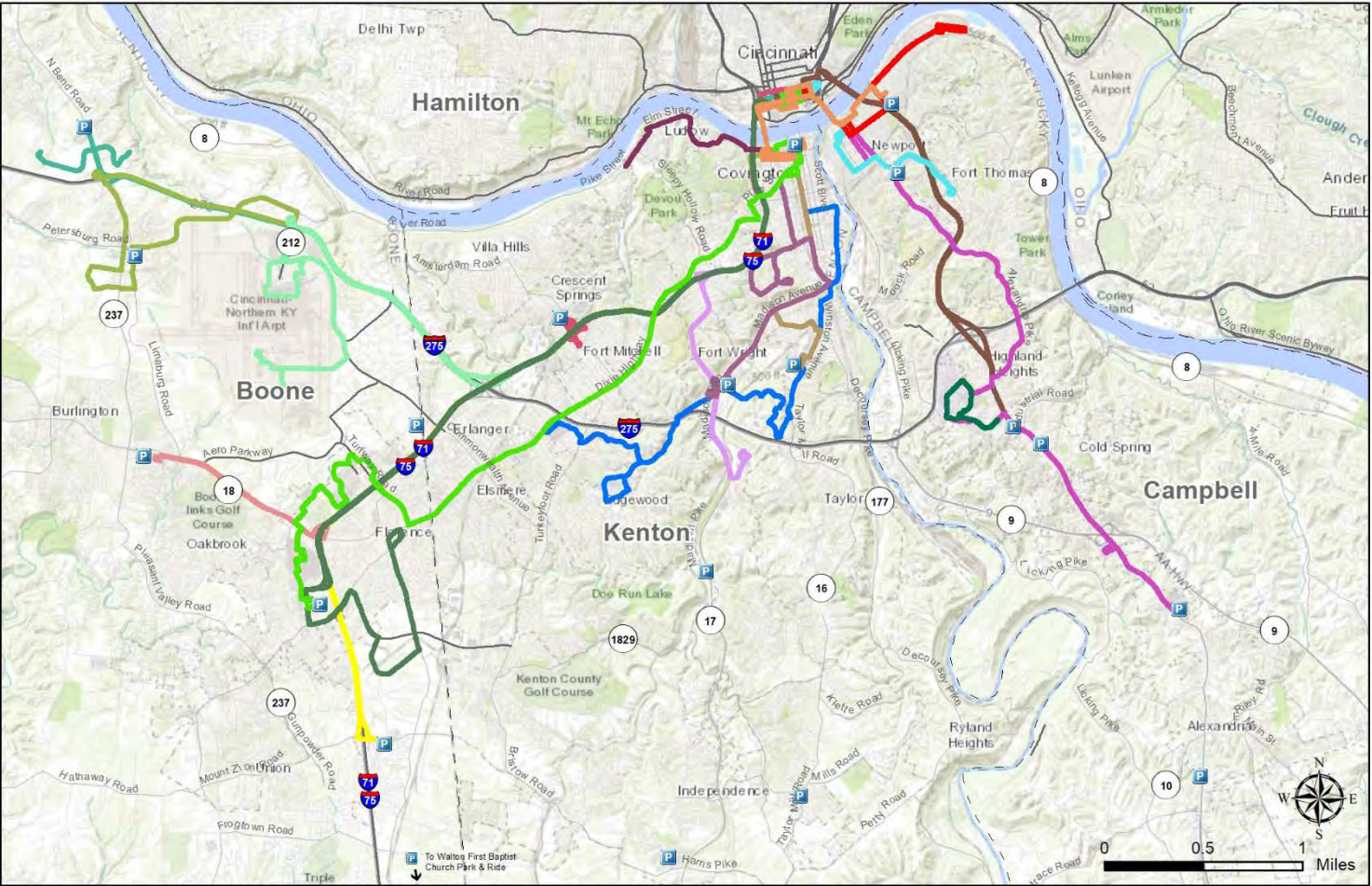
- TANK Frequent Service (see Map 20-27)
  - Route 1 – Dixie Highway / Florence
  - Route 7 – Madison Avenue / Latonia
  - Route 8 – Eastern Avenue / Latonia / Healthline  
(between Cincinnati and Latonia Plaza)
  - Route 25 – US 27 / NKU
  - Route 2X – Airport / Industrial Express
  - Southbank Shuttle
- TANK Neighborhood Service (see Map 20-28)
  - Route 3 – Ludlow / Bromley



- Route 5 – Covington / City Heights
- Route 8 – Eastern Avenue / Latonia / Healthline  
(between Latonia Plaza and Crestview Hills Town Center)
- Route 12 – Bellevue / Dayton
- Route 16 – West Newport
- TANK Jobs Express (see Map 20-29)
  - Route 39X – Petersburg Road / South Hebron Express
  - Route 40X – Worldwide Boulevard / North Hebron Express
  - Route 42X – Florence Express
- TANK Commute Express (see Map 20-30)
  - Route 17X – Buttermilk Pike Express
  - Route 22X – Mt. Zion Express
  - Route 25X – Alexandria Express
  - Route 30X – Fort Wright Express
  - Route 32X – Burlington Express



Map 20-26: TANK Approved 2020 Redesign Network

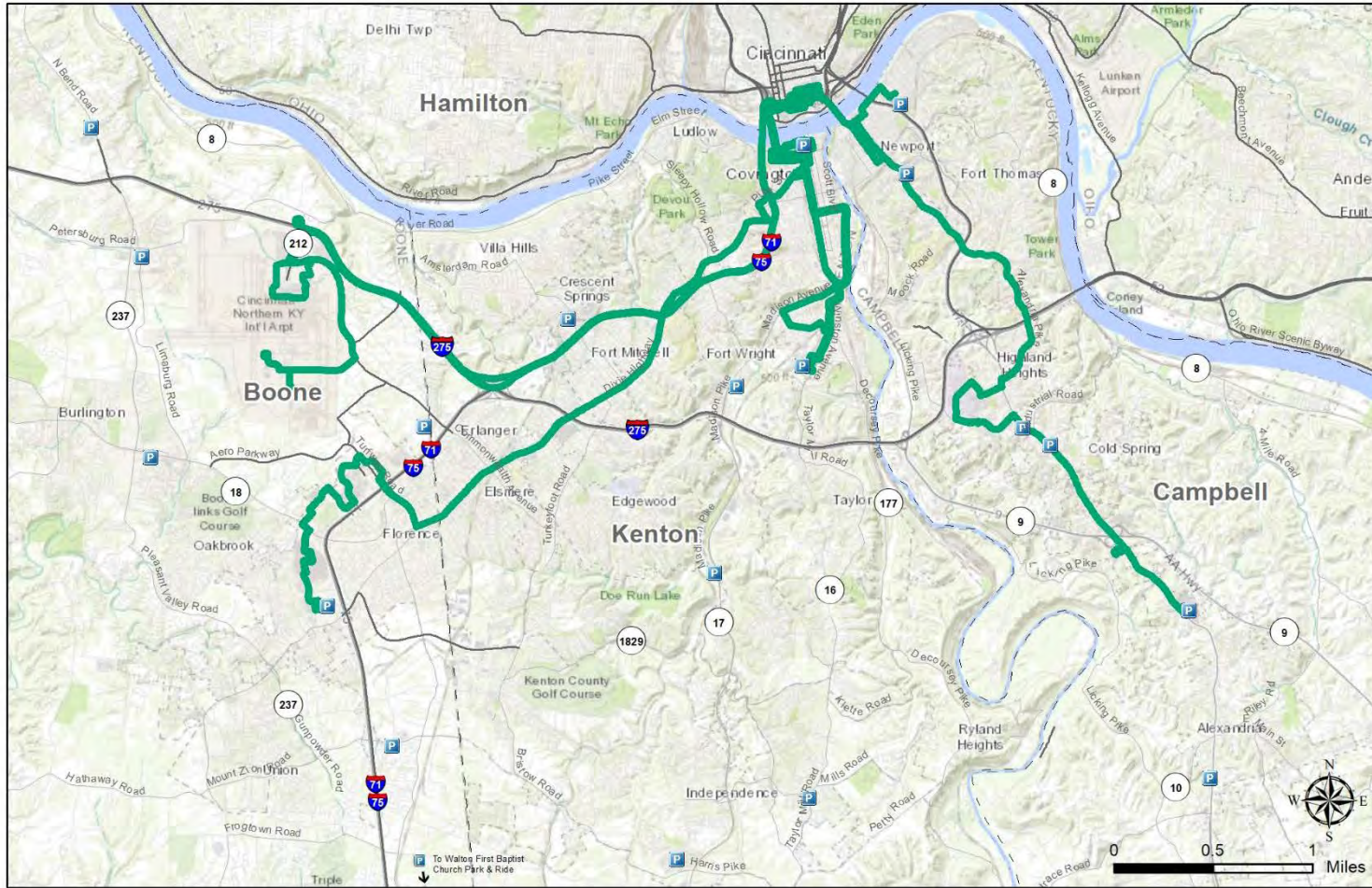


Route 1	Route 7	Route 16	Route 17X	Route 30X	Route 40X
Route 3	Route 8	Route 25	Route 22X	Route 32X	Route 42X
Route 5	Route 12	Route 2X	Route 25X	Route 39X	Southbank Shuttle
					NKU Shuttle
					Park & Ride Lots

Approved 2020 Redesign Network



Map 20-27: TANK Frequent Service

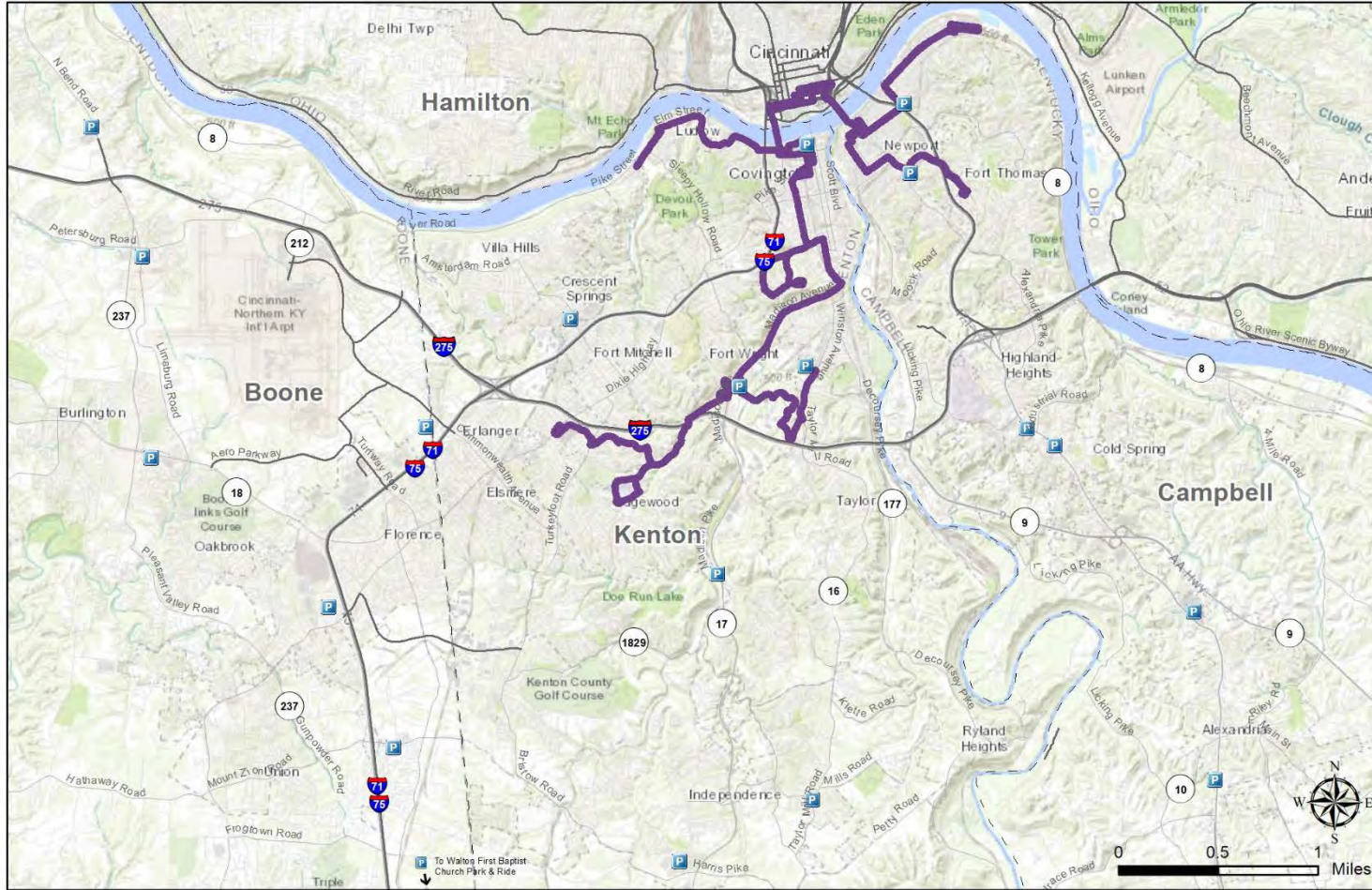


— TANK Frequent Service  
P Park & Ride Lots

Approved 2020 Frequent Service



Map 20-28: TANK Neighborhood Service

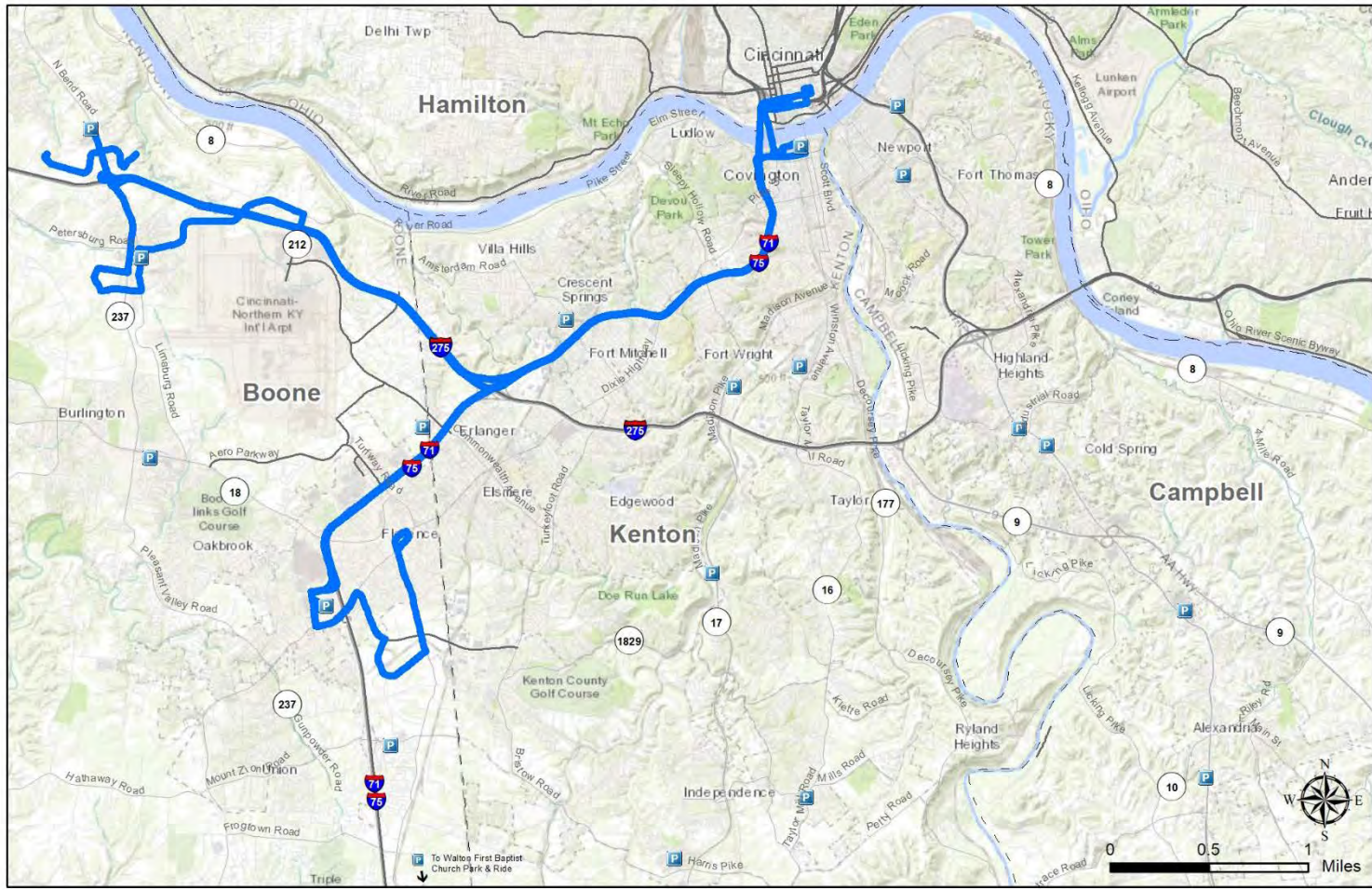


— TANK Neighborhood Service  
P Park & Ride Lots

Approved 2020  
 Neighborhood Service



Map 20-29: TANK Jobs Express

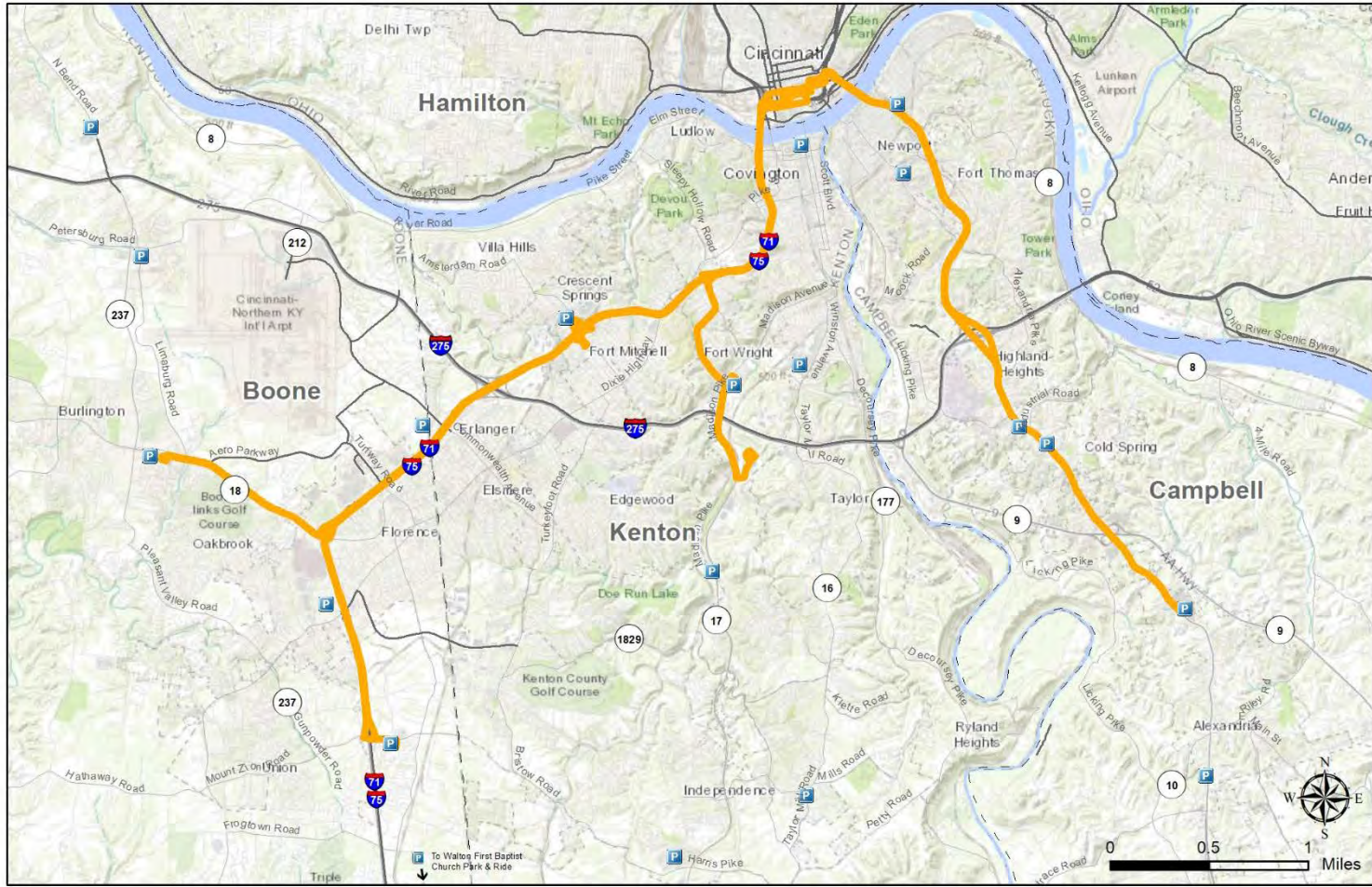


TANK Jobs Express
Park & Ride Lots

Approved 2020  
Jobs Express



Map 20-30: TANK Commute Express



— TANK Commute Express  
P Park & Ride Lots

Approved 2020 Commute Express



### 20.1.3.1 TANK Frequent Service Recommendations

The approved TANK Frequent Service network includes five high frequency routes that provide major linehaul service to Downtown Covington and Cincinnati from CVG, Florence, Bellevue, NKU, and Latonia. The modifications and improvements associated with the routes in the Frequent Service network are described below.

#### 20.1.3.1.1 Route 1 – Dixie Highway / Florence

As shown to the public, the approved Route 1 will maintain connections between Florence and Downtown Covington, as well as Cincinnati. In addition, the approved Route 1 will maintain service to St. Elizabeth Hospital, shops on Houston Road, Florence Mall, and the Florence Park-and-Ride. By truncating the route at Florence Park-and-Ride, the new Route 1 will have improved frequency and on-time performance. Map 20-31 displays the approved Route 1 network.

Route 1 will operate weekdays, Saturday, and Sunday. Compared to existing Route 1 information, the approved Route 1 increases the annual service hours by 4,126. However, the project team was able to lower the number of vehicles operated in maximum service (VOMS) and operate a 20-minute headway from 4:22 AM to 8:00 PM, which is a significant improvement from the existing Route 1 operational characteristics. In addition, the modified Route 1 will have 30-minute headways on the weekends, transitioning to 60-minute headways after 8:00 PM, as shown in Table 20-36. Table 20-37 shows the changes in annual service hours and costs between the existing Route 1 and the proposed Route 1.

**Table 20-36: Approved Route 1 – Dixie Highway / Florence: Schedule**

Day	Weekday		Saturday		Sunday	
Time	4:22 AM	11:46 PM	5:05 AM	11:20 PM	5:40 AM	11:20 PM
Headways (Minutes)	20 AM/PM – 40 PM		30 AM/PM – 60 PM		30 AM/PM – 60 PM	

**Table 20-37: Route 1 – Dixie Highway / Florence: Net Changes**

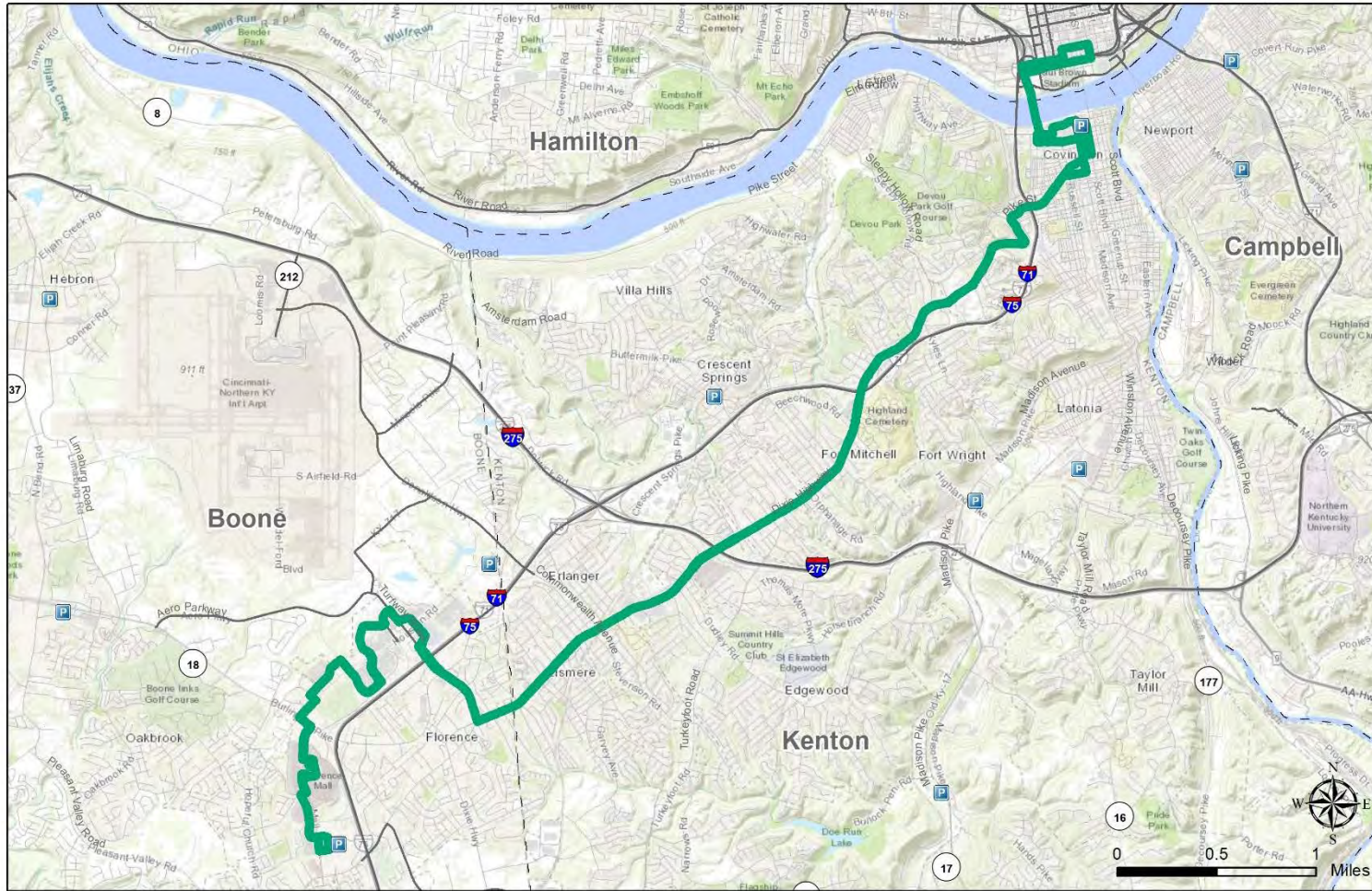
Existing Route		Approved Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
<b>34,975</b>	\$1,935,167	39,101	\$2,163,458	4,126	\$228,292

\*Costs are developed using TANK Hourly Operating Cost (December 2018).





Map 20-31: Approved Route 1 – Dixie Highway / Florence



<p><b>Existing Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Approved Route</b></p> <p> Route 1</p>	<p>Route 1- Dixie Hwy/Florence</p>
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### 20.1.3.1.2 Route 7 – Madison Avenue / Latonia

The approved Route 7 will have 40-minute frequency but will be staggered with Route 8 to achieve 20-minute headways until 8:00 PM. The Route 7 will serve Latonia Plaza and Latonia Centre via Winston Avenue before traveling back to Downtown Covington and then traveling to Cincinnati. Map 20-32 displays the approved Route 7 Madison Avenue / Latonia.

The new Route 7 will operate weekdays, Saturday, and Sunday. Based on the changes to the Route 7, the annual service hours will decrease by -1,910. On weekends, Route 7 will have 40-minute headways until 8:00 PM and 60-minute headways after 8:00 PM, as shown in Table 20-38. The same routing will be on the weekends which will allow Route 7 and Route 8 to achieve 20 and 30-minute headways for the duration of service. Table 20-39 shows the changes in annual service hours and costs between the existing Route 7 and the redesigned Route 7.

**Table 20-38: Approved Route 7 – Madison Avenue / Latonia: Schedule**

Day	Weekday		Saturday		Sunday	
Time	4:35 AM	12:15 AM	5:45 AM	12:00 AM	6:15 AM	10:40 PM
Headways (Minutes)	20 AM/PM – 40 PM		30 AM/PM – 60 PM		30 AM/PM – 60 PM	

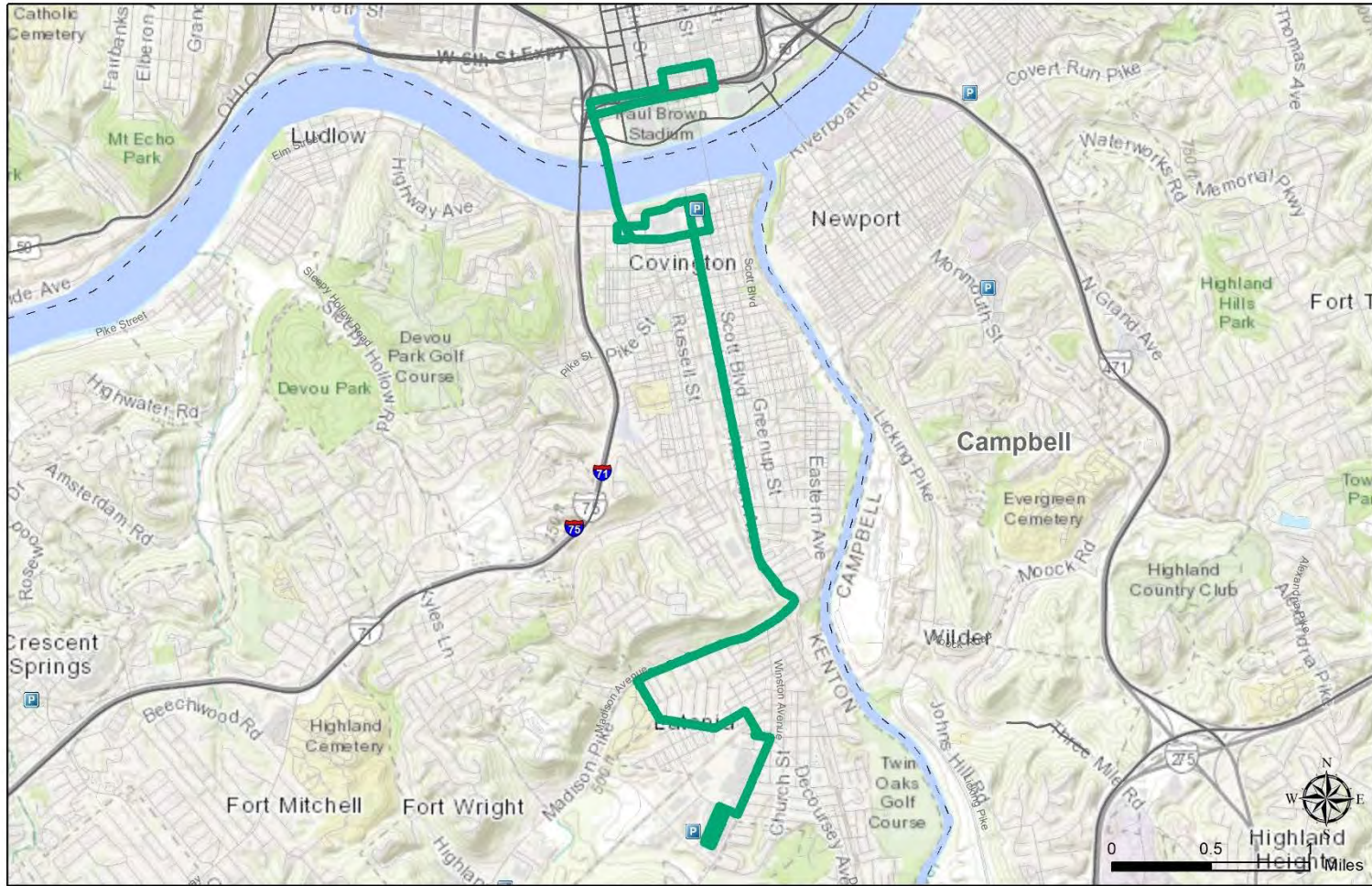
**Table 20-39: Route 7 – Madison Avenue / Latonia: Net Changes**

Existing Route		Approved Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
<b>12,269</b>	\$678,844	10,359	\$573,163	-1,910	-\$105,680

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



Map 20-32: Approved Route 7 – Madison Avenue / Latonia



<p><b>Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Approved Route</b></p> <p> Route 7</p>	<p>Route 7 - Madison Ave / Latonia</p>
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### 20.1.3.1.3 Route 8 – Eastern Avenue / Latonia / Healthline

Based on public feedback and discussion with TANK staff, Route 8 is recommended to be included in the list of routes for the 2020 Redesign Network. The approved Route 8 will maintain service to the eastern portion of Covington, Latonia Center, Cambridge Square Apartments, Fort Wright Hub, and Walmart. Due to the length of the approved Route 8, TANK is encouraged to use street reliefs at the Fort Wright Hub on Highland Pike. In addition, the approved Route 8 will combine the southern half of the existing Route 33, which provides service to Medical Village, Thomas More College, and Crestview Hills via Horse Branch Road. The approved Route 8 will have 40-minute headways but will be staggered with Route 7 to achieve 20-minute headways until 8:00 PM between Cincinnati and Latonia Plaza. The segment from Latonia Plaza to Crestview Hills Town Center will have 40-minute headways until 8:00 PM and then 60-minute headways after 8:00 PM. Map 20-33 displays the approved Route 8 Eastern Avenue / Latonia / Healthline Frequent Service. The additional portion of Route 8, from Latonia Plaza to Crestview Hills Town Center, is shown in a transparent purple for the Neighborhood Service.

The new Route 8 will operate weekdays, Saturday, and Sunday. Based on the changes to the Route 8, the annual service hours will drastically increase by 8,105 due to the length of the route and combination with Route 33. On weekends, Route 8 will have 40-minute headways until 8:00 PM and 60-minute headways after 8:00 PM, as shown in Table 20-40. The same routing will be used on the weekends, which will allow Route 8 and Route 7 to achieve 20- and 30-minute headways for the duration of service between Cincinnati and Latonia Plaza. Table 20-41 shows the changes in annual service hours and costs between the existing Route 8 and the redesigned Route 8.

**Table 20-40: Approved Route 8 – Eastern Avenue / Latonia / Healthline: Schedule**

Day	Weekday		Saturday		Sunday	
Time	4:15 AM	11:55 AM	5:25 AM	11:40 AM	5:55 AM	11:20 PM
Headways (Minutes)	20 AM/PM – 40 PM		30 AM/PM – 60 PM		30 AM/PM – 60 PM	

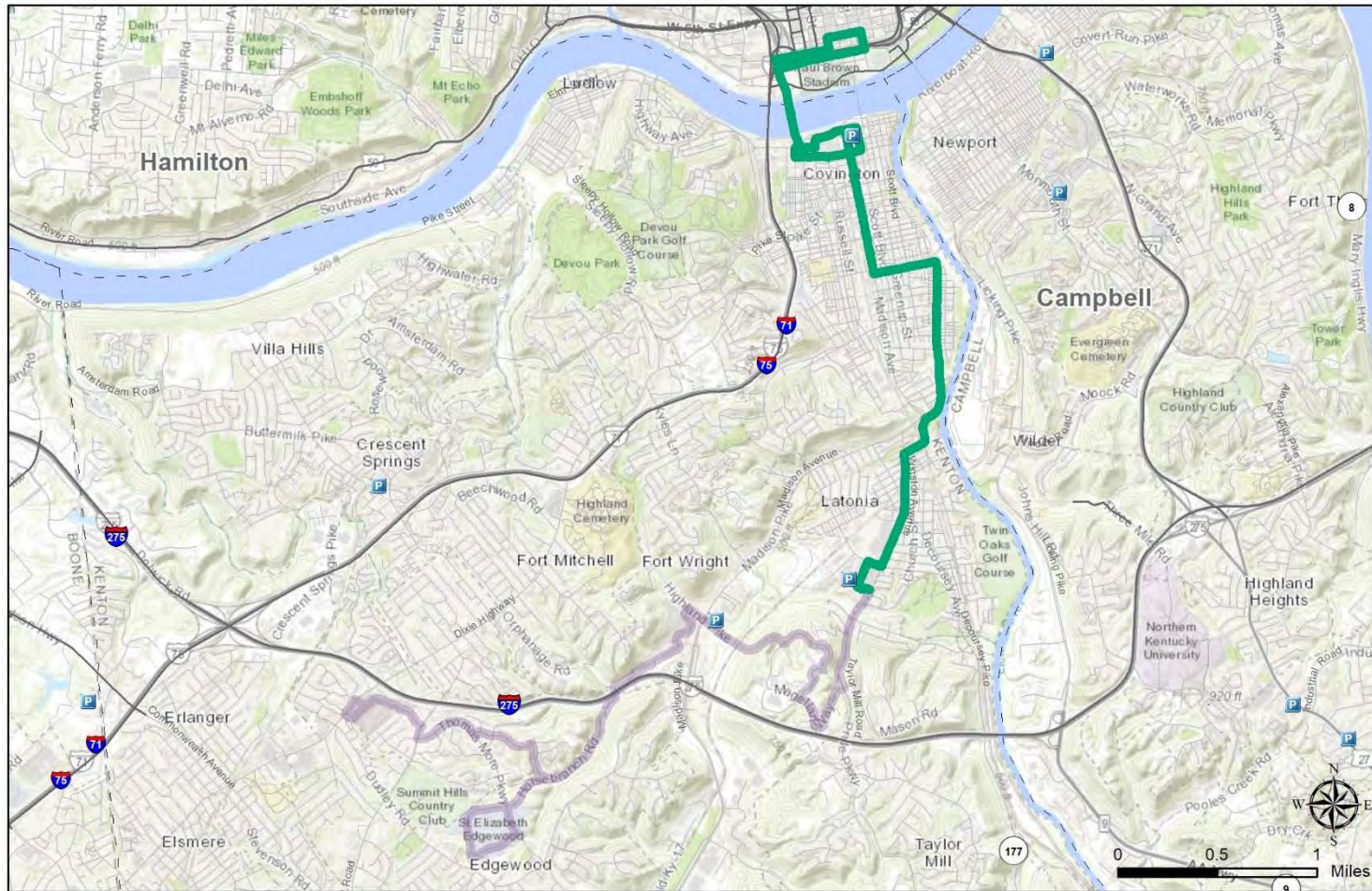
**Table 20-41: Route 8 – Eastern Avenue / Latonia / Healthline: Net Changes**

Existing Route		Approved Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
<b>13,087</b>	\$724,104	21,192	\$1,172,553	8,105	\$448,450

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



**Map 20-33: Approved Route 8 – Eastern Avenue / Latonia / Healthline (Frequent Service)**



<p><b>Existing Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Approved Route</b></p> <p> Route 8 (Frequent Service)</p> <p> Route 8 (Neighborhood Service)</p>	<p>Route 8 - Eastern Ave / Latonia / Healthline</p>
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### 20.1.3.1.4 Route 25 – US 27 / NKU

Based on public feedback, the approved Route 25 will maintain service between Cincinnati and Village Green Park-and-Ride, acting as a major linehaul for Campbell County. Map 20-34 displays the new Route 25 Southgate / Alexandria.

The approved Route 25 will operate weekdays, Saturday, and Sunday. In addition, based on the proposed changes to the Route 25, the annual service hours will increase by 2,806. On weekdays, the approved Route 25 will have 25-minute headways until 8:00 PM and 40-minute headways after 8:00 PM. On weekends, Route 25 will have 45-minute headways until 8:00 PM and 60-minute headways after 8:00 PM, as shown in Table 20-42. Table 20-43 shows the changes in annual service hours and costs between the existing Route 25 and the approved Route 25.

**Table 20-42: Approved Route 25 – US 27 / NKU: Schedule**

Day	Weekday		Saturday		Sunday	
Time	4:00 AM	11:22 PM	6:08 AM	9:28 PM	6:08 AM	8:38 PM
Headways (Minutes)	25 AM/PM – 40 PM		45 AM/PM – 60 PM		45 AM/PM	

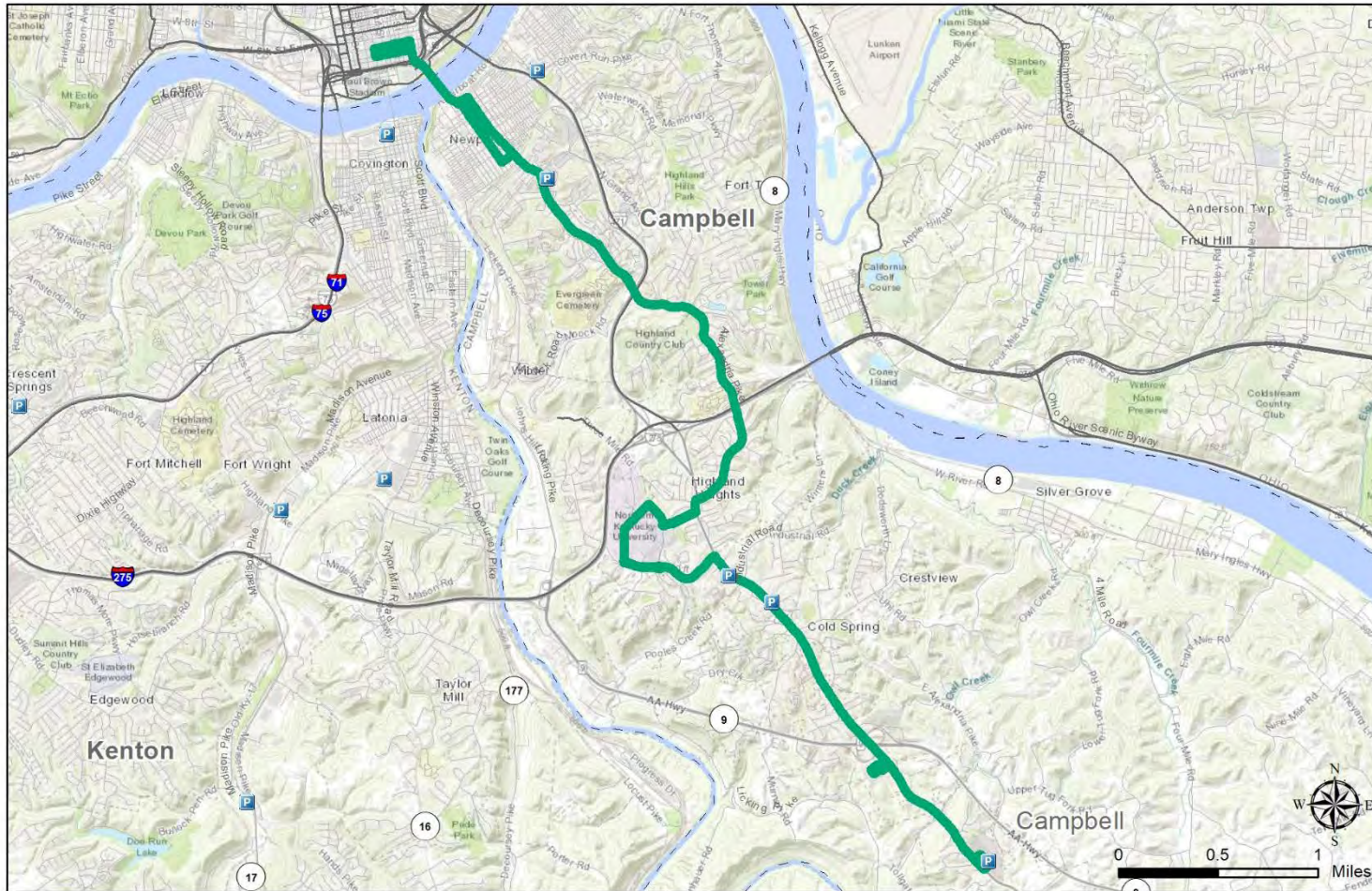
**Table 20-43: Route 25 – US 27 / NKU: Net Changes**

Existing Route		Approved Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
<b>16,587</b>	\$917,759	19,393	\$1,073,015	2,806	\$155,256

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



Map 20-34: Approved Route 25 – US 27 / NKU



<p><b>Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Approved Route</b></p> <p> Route 25</p>	<p>Route 25 - US 27 / NKU</p>
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### 20.1.3.1.5 Route 2X – CVG / Industrial Express

The approved Route 2X will provide direct service to CVG and then to airport employment centers off Lincoln Road before serving CVG Centre, DHL, and Amazon. Eliminating repetitive trips to Downtown Covington will improve on-time performance and route reliability. Map 20-35 displays the new Route 2X CVG / Industrial Express.

Route 2X will operate weekdays, Saturday, and Sunday. Based on the proposed changes to the Route 2X, the annual service hours will increase by 7,097, but the new route will operate earlier and later to better serve shift times of nearby industrial uses and flights arriving/departing from CVG. The new Route 2X will have 30-minute headways on the weekdays and 30-minute headways on the weekends, as shown in Table 20-44. Table 20-45 shows the changes in annual service hours and costs between the existing Route 2X and the approved Route 2X.

**Table 20-44: Approved Route 2X – CVG / Industrial Express: Schedule**

Day	Weekday		Saturday		Sunday	
Time	5:00 AM	12:00 AM	4:53 AM	11:35 PM	4:53 AM	11:47 PM
Headways (Minutes)	30		30		30	

**Table 20-45: Route 2X – CVG / Industrial Express: Net Changes**

Existing Route		Approved Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
<b>13,144</b>	\$727,258	20,241	\$1,119,935	7,097	\$392,677

\*Costs are developed using TANK Hourly Operating Cost (December 2018).





Map 20-35: Approved Route 2X – CVG / Industrial Express



<p><b>Existing Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Approved Route</b></p> <p> Route 2X</p>	<p>Route 2X - CVG / Industrial Express</p>
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### 20.1.3.1.6 Route – Southbank Shuttle

Following the public comment period, TANK staff advised delaying the implementation of the proposed Southbank Shuttle alignment option, which combined the Southbank Shuttle and the Route 12. Instead, this implementation will be phased in at a later time. For more information on the combined Southbank Shuttle and Route 12 service, refer to Section 20.1.2.1.5. In the interim, the approved Southbank Shuttle has similar operational characteristics as the existing Southbank Shuttle. However, due to weight limits, the approved Southbank Shuttle will use Clay Wade Bailey Bridge to access Cincinnati or Downtown Covington. Once the Southbank Shuttle travels across the Clay Wade Bailey Bridge it will use 5<sup>th</sup> Street to access CVG, but on the outbound commute the Southbank Shuttle will use 4<sup>th</sup> Street.

Additionally, the project team and TANK staff propose a park-and-ride at Riviera Drive and Donnermeyer Drive to serve commuters from Campbell County. Map 20-36 displays the approved Southbank Shuttle.

The approved Southbank Shuttle will operate weekdays, Saturday, and Sunday. The Southbank Shuttle will continue to have 15-minute headways on weekdays, Saturday, and Sunday. In addition, the shuttle route will have an increase number of revenue hours (4,056) from the existing 23,000. Table 20-46 shows the approved span for the Southbank Shuttle. Table 20-47 shows the changes in annual service hours and costs based off the redesigned Southbank Shuttle.

**Table 20-46: Approved Route – Southbank Shuttle: Schedule**

Day	Weekday		Saturday		Sunday	
Time	6:00 AM	12:00 AM	7:00 AM	12:00 AM	7:00 AM	10:00 PM
Headways (Minutes)	15		15		15	

**Table 20-47: Route – Southbank Shuttle: Net Changes**

Existing Route		Approved Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
<b>23,000</b>	\$1,272,590	27,056	\$1,497,008	4,056	\$224,418

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



Map 20-36: Approved Route – Southbank Shuttle



<p><b>Existing Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Approved Route</b></p> <p> Southbank Shuttle</p>	<p>Route - Southbank Shuttle</p>
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### 20.1.3.2 TANK Neighborhood Service Recommendations

The new TANK Neighborhood Service network includes four major lifeline routes that provide convenient connections to retail and access to Downtown Covington and Cincinnati. Other areas served include Bromley, Madison Avenue, City Heights, Dayton, Newport, Bellevue, Dayton, Crestview Hills, Thomas More University, St. Elizabeth Edgewood Campus. This section examines the modifications and improvements applied to the four new routes in the Neighborhood Service network.

#### 20.1.3.2.1 Route 3 – Ludlow / Bromley

The approved Route 3 will be truncated at Pleasant Street and Oak Street in Bromley. In addition, the Route 3 will operate as a local route providing service to Downtown Covington, where riders can transfer to the Southbank Shuttle or most of the other routes in the TANK service. Map 20-37 displays the approved Route 3.

As proposed the approved Route 3 will operate weekdays, Saturday, and Sunday. Compared to existing Route 3 statistics, the new Route 3 decreases the annual service hours by 777. The new Route 3 will have 40-minute and 60-minute headways on the weekdays and 60-minute headways on the weekends, as shown in Table 20-11. Table 20-12 shows the changes in annual service hours and costs between the existing Route 3 and the approved Route 3.

**Table 20-48: Approved Route 3 – Ludlow / Bromley: Schedule**

Day	Weekday		Saturday		Sunday	
Time	5:20 AM	10:00 PM	7:45 AM	10:00 PM	7:45 AM	10:00 PM
Headways (Minutes)	40 AM/PM – 60 PM		60		60	

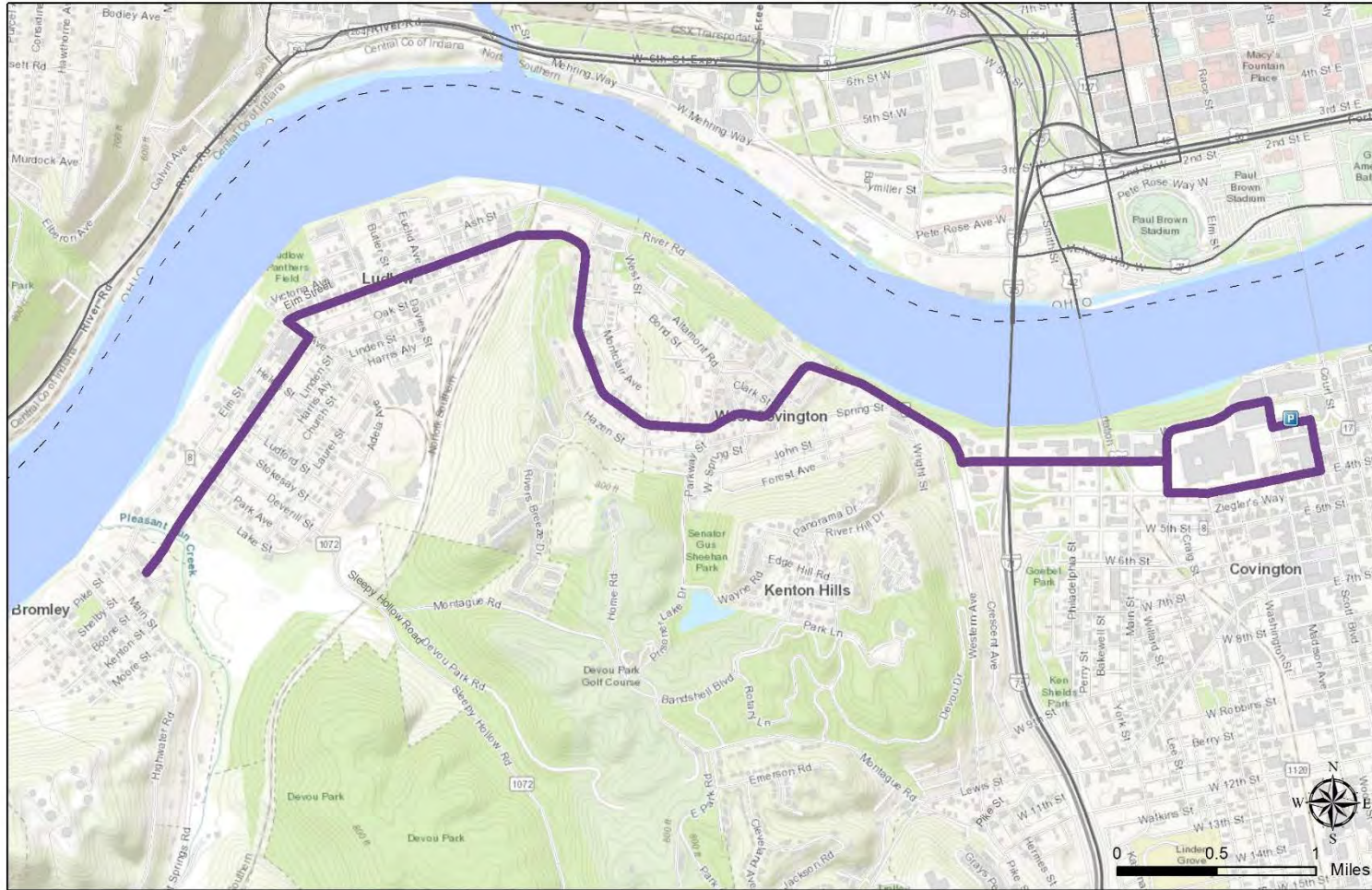
**Table 20-49: Route 3 – Ludlow / Bromley: Net Changes**

Existing Route		Approved Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
<b>4,749</b>	\$262,762	3,972	\$219,771	-777	-\$42,991

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



Map 20-37: Approved Route 3 – Ludlow / Bromley



<p><b>Existing Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Approved Route</b></p> <p> Route 3</p>	<p>Route 3 - Ludlow / Bromley</p>
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### 20.1.3.2.2 Route 5 – Covington / City Heights

The approved Route 5 will maintain service to City Heights, Fort Wright, Walmart, Downtown Covington, and Cincinnati. Map 20-38 shows the new Route 5 Covington/City Heights.

The new Route 5 will operate weekdays, Saturday, and Sunday. Compared to existing Route 5 statistics, the modified Route 5 increases the annual service hours by 1,885. The new Route 5 will have 40-minute and 60-minute headways on the weekdays and 60-minute headways on the weekends, as shown in Table 20-50. Table 20-51 shows the changes in annual service hours and costs between the existing Route 5 and the proposed Route 5.

**Table 20-50: Approved Route 5 – Covington / City Heights: Schedule**

Day	Weekday		Saturday		Sunday	
Time	4:38 AM	9:35 PM	7:00 AM	9:12 PM	8:42 AM	9:12 PM
Headways (Minutes)	40 AM/PM – 60 PM		60 PM		60 PM	

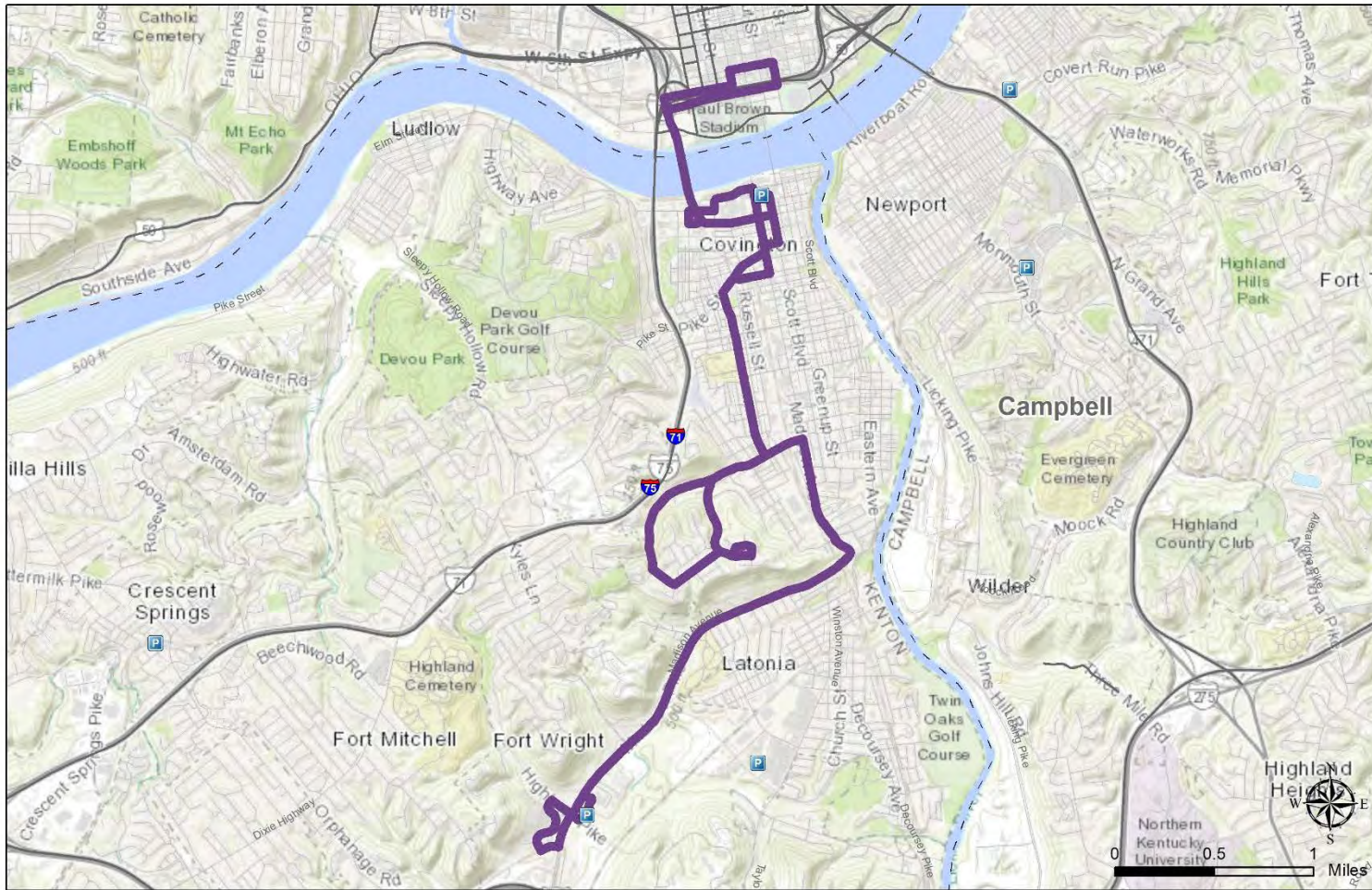
**Table 20-51: Route 5 – Covington / City Heights: Net Changes**

Existing Route		Approved Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
<b>11,960</b>	\$661,747	13,845	\$766,044	1,885	\$104,297

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



Map 20-38: Approved Route 5 – Covington / City Heights



<p><b>Existing Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Approved Route</b></p> <p> Route 5</p>	<p>Route 5 - Covington / City Heights</p>
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### 20.1.3.2.3 Route 8 – Eastern Avenue / Latonia / Healthline

As previously mentioned, Route 8 is recommended to be included in the list of routes for the Approved 2020 Redesign Network. The approved Route 8 is also included in the Neighborhood Service because it will operate the southern half of the existing Route 33, which provides service to Medical Village, Thomas More College, and Crestview Hills via Horse Branch Road. This portion of Route 8 will have 40-minute headways until 8:00 PM and 60-minute headways after 8:00 PM, between Latonia Plaza and Crestview Hills Town Center. Map 20-39 displays the approved Route 8 Eastern Avenue / Latonia / Healthline Neighborhood Service. The additional portion of Route 8, from Latonia Plaza to Cincinnati, is shown in a transparent green for the Frequent Service, as shown on Map 20-33.

As previously mentioned, the new Route 8 will operate weekdays, Saturday, and Sunday. The annual service hours will drastically increase by 8,105 due to the length of the route and combination with Route 33, which serves Crestview Hills Town Center. On weekdays, between Latonia Plaza and Crestview Hills Town Center, Route 8 will have 40-minute headways until 8:00 PM and 60-minute headways after 8:00 PM. However, the segment between Cincinnati and Latonia Plaza will have 20- and 30-minute headways because the route will be offset with Route 7, as shown in Table 20-52. Table 20-53 shows the changes in annual service hours and costs between the existing Route 8 and the redesigned Route 8.

**Table 20-52: Approved Route 8 – Eastern Avenue / Latonia / Healthline: Schedule**

Day	Weekday		Saturday		Sunday	
Time	4:15 AM	11:55 AM	5:25 AM	11:40 AM	5:55 AM	11:20 PM
Headways (Minutes)	20 AM/PM – 40 PM		30 AM/PM – 60 PM		30 AM/PM – 60 PM	

**Table 20-53: Route 8 – Eastern Avenue / Latonia / Healthline: Net Changes**

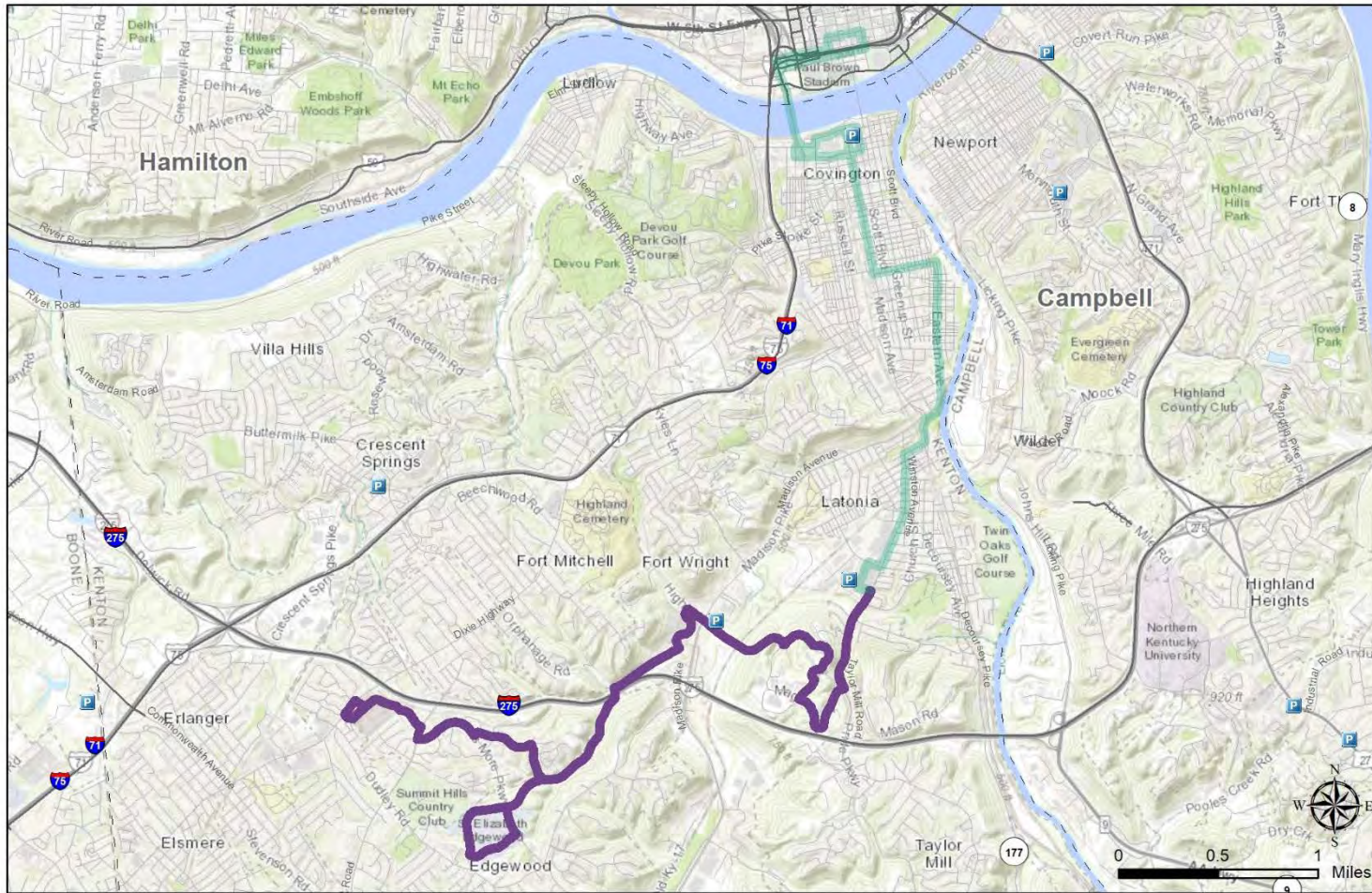
Existing Route		Approved Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
<b>13,087</b>	\$724,104	21,192	\$1,172,553	8,105	\$448,450

\*Costs are developed using TANK Hourly Operating Cost (December 2018).





**Map 20-39: Approved Route 8 – Eastern Avenue / Latonia / Healthline (Neighborhood Service)**



<b>Existing Transit Services</b>	<b>Approved Route</b>	<b>Route 8 - Eastern Ave / Latonia / Healthline</b> 
Park & Ride Lots	Route 8 (Neighborhood Service) Route 8 (Frequent Service)	



### 20.1.3.2.4 Route 12 – Bellevue / Dayton

Following the open comment period, TANK staff chose to delay the implementation of the proposed Southbank Shuttle, which recommended combining the Southbank Shuttle and Route 12. Instead, this implementation will be phased in at a later time. For more information on the combined Southbank Shuttle and Route 12 service, refer to Section 20.1.2.1.5. In the interim, the approved Route 12 will now truncate in Downtown Covington. In addition, the Route 12 will maintain service to Bellevue and Dayton. Map 20-40 shows the new Route 12 Bellevue/Dayton.

The Route 12 will operate weekdays, Saturday, and Sunday. Compared to existing Route 12 statistics, the modified Route 12 increases the annual service hours by 186. The approved Route 12 will have 40-minute and 60-minute headways on the weekdays and 60-minute headways on the weekends, as shown in Table 20-54. Table 20-55 shows the changes in annual service hours and costs between the existing Route 12 and the approved Route 12.

**Table 20-54: Approved Route 12 – Bellevue / Dayton: Schedule**

Day	Weekday		Saturday		Sunday	
Time	4:30 AM	11:45 PM	7:45 AM	8:45 PM	7:15 AM	8:00 PM
Headways (Minutes)	40 AM/PM – 60 PM		60 PM		60 PM	

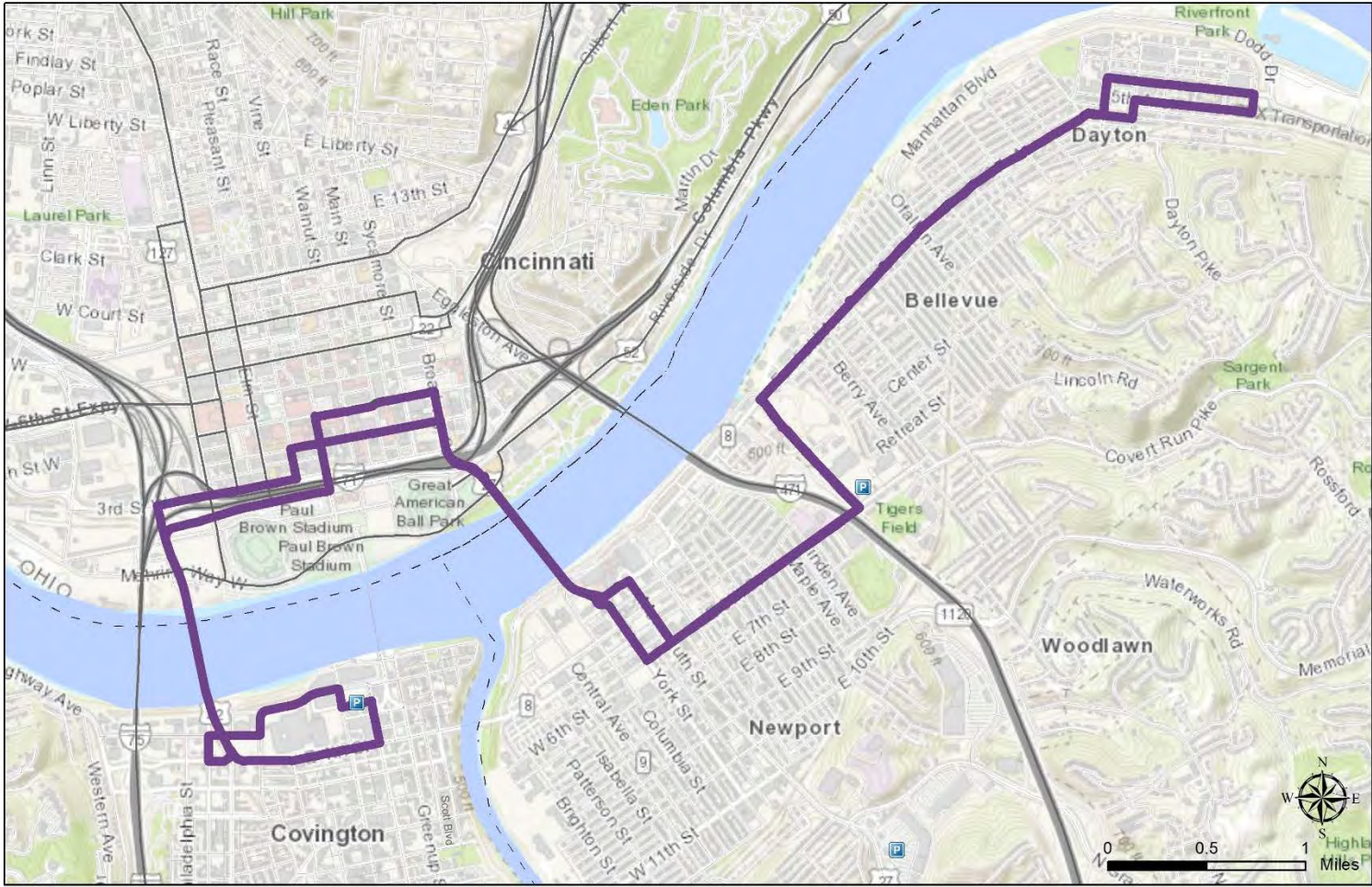
**Table 20-55: Route 12 – Bellevue / Dayton: Net Changes**

Existing Route		Approved Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
<b>10,168</b>	\$562,595	10,354	\$572,887	186	\$10,291

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



Map 20-40: Approved Route 12 – Bellevue / Dayton



<p><b>Existing Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Approved Route</b></p> <p> Route 12</p>	<p>Route 12 - Bellevue / Dayton</p>
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### 20.1.3.2.5 Route 16 – West Newport

The approved Route 16 will truncate in Cincinnati before traveling outbound to St. Elizabeth Ft. Thomas. In addition, the Route 16 will be truncated at St. Elizabeth Ft. Thomas Hospital in Campbell County. Map 20-41 displays the approved Route 16 West Newport.

Route 16 will operate weekdays, Saturday, and Sunday. Based on the approved changes to the Route 16, the annual service hours will decrease by 4,709. The new Route 16 will have 40-minute to 60-minute headways on weekdays and 60-minute headways on the weekends, as shown in Table 20-56. Table 20-57 shows the changes in annual service hours and costs between the existing Route 16 and the approved Route 16.

**Table 20-56: Approved Route 16 – West Newport: Schedule**

Day	Weekday		Saturday		Sunday	
Time	6:06 AM	10:00 PM	6:53 AM	10:00 PM	8:35 AM	10:00 PM
Headways (Minutes)	40 AM/PM – 60 PM		60		60	

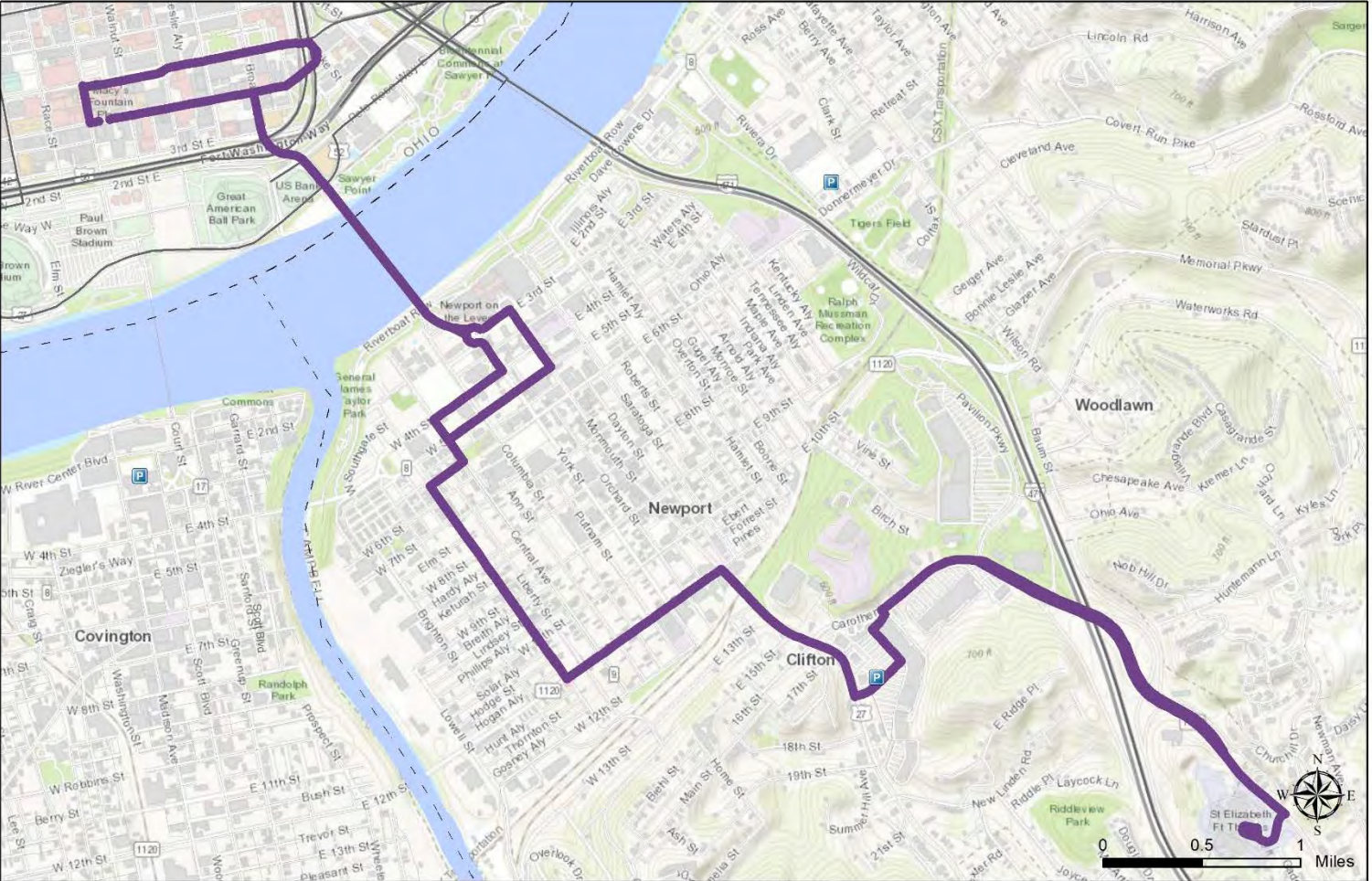
**Table 20-57: Route 16 – West Newport: Net Changes**

Existing Route		Approved Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
9,552	\$528,512	4,843	\$267,963	-4,709	-\$260,549

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



Map 20-41: Approved Route 16 – West Newport



<p><b>Existing Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Approved Route</b></p> <p> Route 16</p>	<p>Route 16 - West Newport</p>
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### 20.1.3.3 TANK Jobs Express Recommendations

The approved TANK Jobs Express network includes three major express routes that provide direct access to jobs in Hebron, as well as park-and-rides in the area. Two of the routes are scheduled around shift changes to provide frequent access to jobs. Other areas served include Florence and industrial complexes along Empire Drive and Dixie Highway.

#### 20.1.3.3.1 Route 39X – Petersburg Road / South Hebron Express

The approved Route 39X is consistent with what is operated by TANK today with some modification to downtown alignments. Map 20-42 displays the approved Route 39X Petersburg Road / South Hebron Express.

Route 39X will operate weekdays, Saturday, and Sunday. In addition, based on the approved changes to the span and operational characteristics, the annual service hours will increase by 295. On the weekdays, Route 39X will have 30-minute headways in the morning and 35-minute headways in the evening. On Saturday and Sunday, Route 39X will have 81-minute headways in the morning and 41-minute headways in the evening. Table 20-58 shows the approved span and headway characteristics of Route 39X. Table 20-59 shows the changes in annual service hours and costs between the existing Route 39X and the approved Route 39X.

**Table 20-58: Approved Route 39X – Petersburg Road / South Hebron Express: Schedule**

Day	Weekday		Saturday		Sunday	
Time	5:05 AM	7:15 AM	6:00 AM	7:06 AM	6:00 AM	7:06 AM
	2:00 PM	6:00 PM	5:30 PM	6:00 PM	5:30 PM	6:00 PM
Headways (Minutes)	30 (AM)		81 (AM)		81 (AM)	
	35 (PM)		41 (PM)		41 (PM)	

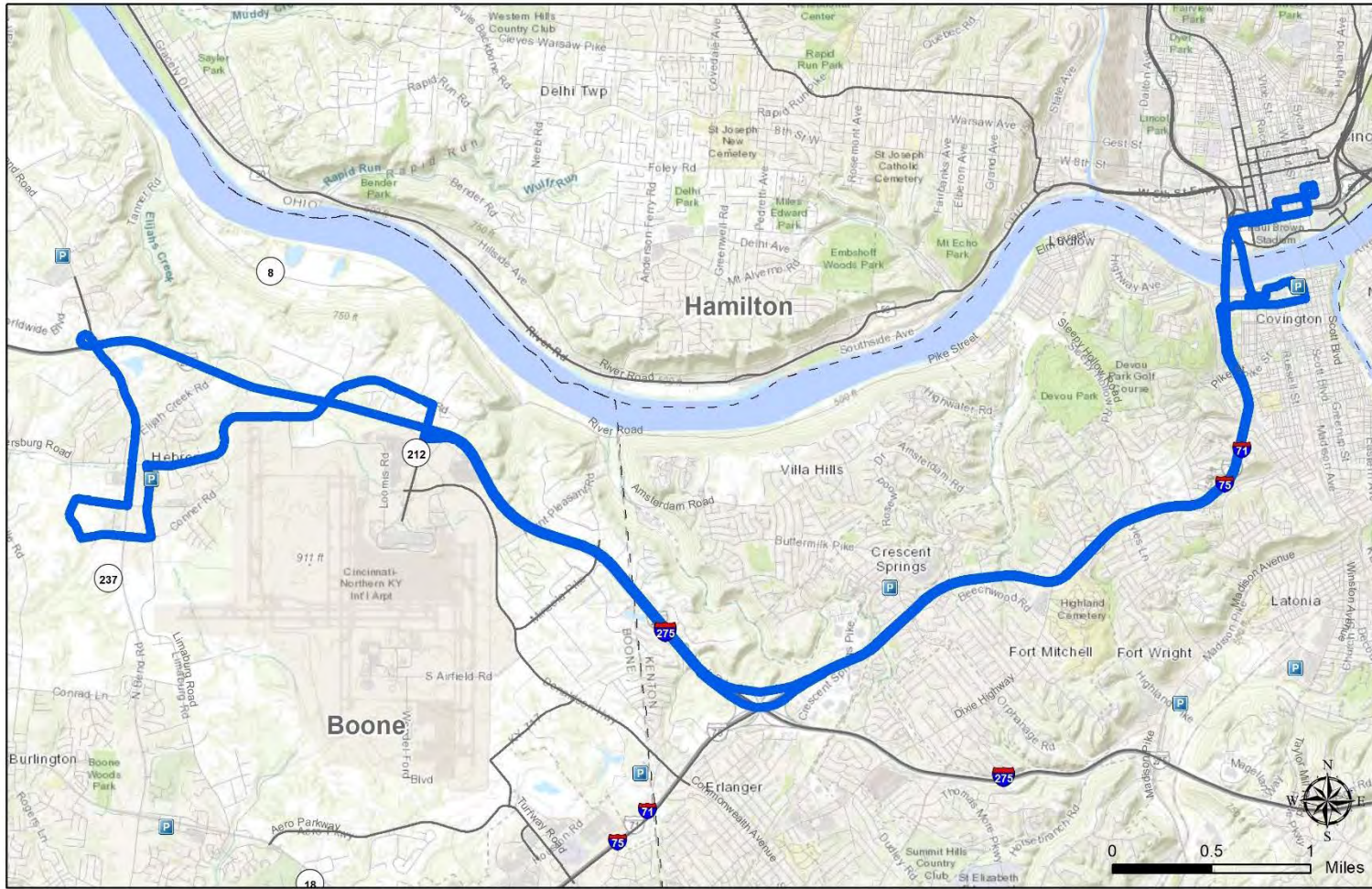
**Table 20-59: Route 39X – Petersburg Road / South Hebron Express: Net Changes**

Existing Route		Approved Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
<b>4,777</b>	\$264,311	5,072	\$280,634	295	\$16,322

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



**Map 20-42: Approved Route 39X – Petersburg Road / South Hebron Express**



<p><b>Existing Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Approved Route</b></p> <p> Route 39X</p>	<p>Route 39X - Petersburg Rd / South Hebron Express</p>
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### 20.1.3.3.2 Route 40X – Worldwide Boulevard / North Hebron Express

Similar to Route 39X, the approved Route 40X is consistent with what is operated by TANK today. However, in order to improve frequency and on-time performance, the project team redesigned the downtown alignments. Map 20-43 displays the new Route 40X Worldwide Boulevard / North Hebron Express.

The approved Route 40X will operate weekdays, Saturday, and Sunday. Based on the approved changes to the span and operational characteristics, the annual service hours will decrease by 1,102. On the weekdays, Route 40X will have 15-minute headways in the morning and 30-minute headways in the evening. On Saturday and Sunday, Route 40X will have 30-minute headways in the morning and 86-minute headways in the evening. Table 20-60 shows the new span and headway characteristics of Route 40X. Table 20-61 shows the changes in annual service hours and costs between the existing Route 40X and the redesigned Route 40X.

**Table 20-60: Approved Route 40X – Worldwide Boulevard / North Hebron Express: Schedule**

Day	Weekday		Saturday		Sunday	
Time	5:00 AM	6:30 AM	5:10 AM	5:40 AM	5:10 AM	5:40 AM
	2:00 PM	5:45 PM	5:20 PM	6:53 PM	5:20 PM	6:53 PM
Headways (Minutes)	15 (AM)		30 (AM)		30 (AM)	
	30 (PM)		86 (PM)		86 (PM)	

**Table 20-61: Route 40X – Worldwide Boulevard / North Hebron Express: Net Changes**

Existing Route		Approved Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
<b>7,209</b>	\$398,874	6,107	\$337,900	-1,102	-\$60,974

\*Costs are developed using TANK Hourly Operating Cost (December 2018).





**Map 20-43: Approved Route 40X – Worldwide Boulevard / North Hebron Express**



<p><b>Existing Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Approved Route</b></p> <p> Route 40X</p>	<p>Route 40X - Worldwide Blvd / North Hebron Express</p>
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### 20.1.3.3.3 Route 42X – Florence Express

The approved Route 42X will provide express service to Cincinnati from the Florence Hub Park-and-Ride rather than duplicating service near CVG or providing service on Donaldson Highway. Route 42X will also serve Empire Drive via Industrial Road, as well as Main Street via Dixie Highway before traveling inbound to Cincinnati. Map 20-44 displays the approved Route 42X.

Route 42X will operate on weekdays, Saturday, and Sunday. Route 42X will have 30-minute peak headways and 60-minute off-peak headways on the weekdays. On weekends, Route 42X will have 30-minute headways in the peak and 60-minute headways during the off-peak, as shown in Table 20-62. Table 20-63 shows the changes in annual service hours and costs between the existing Route 42X and the approved Route 42X.

**Table 20-62: Approved Route 42X –Florence Express: Schedule**

Day	Weekday		Saturday		Sunday	
Time	5:00 AM	8:00 PM	5:00 AM	7:45 PM	5:00 AM	7:45 PM
Headways (Minutes)	30 AM/PM Peak, 60 Off-Peak		60		60	

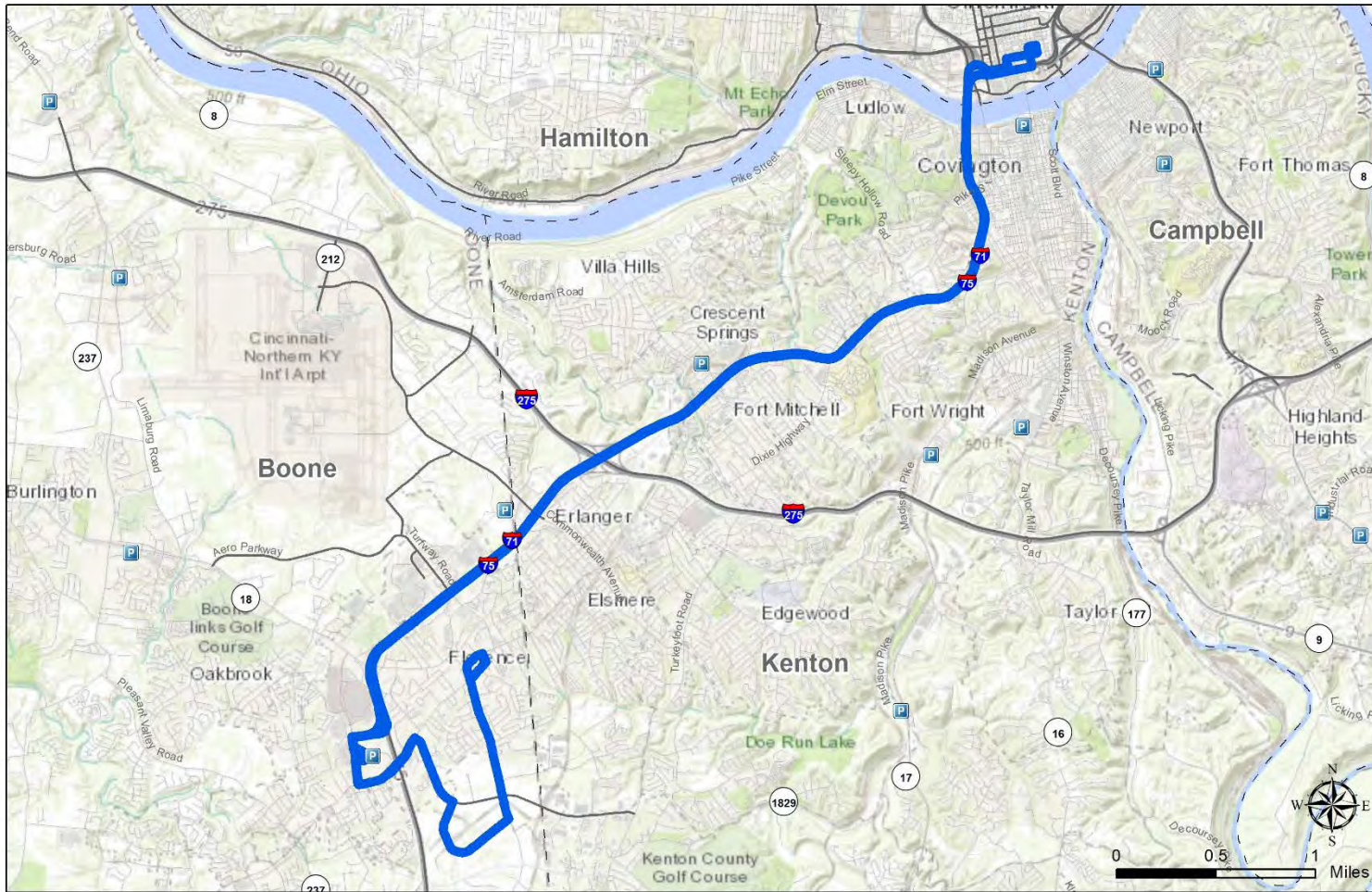
**Table 20-63: Route 42X –Florence Express: Net Changes**

Existing Route		Approved Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
<b>2,979</b>	\$164,828	10,781	\$596,513	7,802	\$431,685

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



Map 20-44: Approved Route 42X – Florence Express



<p><b>Existing Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Approved Route</b></p> <p> Route 42X</p>	<p>Route 42X - Florence Express</p>
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### 20.1.3.4 TANK Commute Express Recommendations

The approved TANK Commute Express network includes five major express routes that provide direct access to park-and-rides in the area, as well as to some industrial uses. This section examines the final modifications, if any, applied to the five approved routes in the Commute Express network.

#### 20.1.3.4.1 Route 17X – Buttermilk Pike Express

The project team, with direction from TANK staff, modified the alignment around Buttermilk Park-and-Ride to include Royal Drive on the first and last stops on the route. Map 20-45 displays the approved Route 17X Buttermilk Pike Express.

The new Route 17X will operate on weekdays in the morning and afternoon to serve the Buttermilk Park-and-Ride. In addition, based on the proposed changes to the Route 17X, the annual service hours will decrease by 148. The new Route 17X will have 25-minute headways on the weekdays, as shown in Table 20-64. Table 20-65 shows the changes in annual service hours and costs between the existing Route 17X and the approved Route 17X.

**Table 20-64: Approved Route 17X – Buttermilk Pike Express: Schedule**

Day	Weekday	
	Time	6:15 AM
	3:30 PM	6:00 PM
Headways (Minutes)	25	

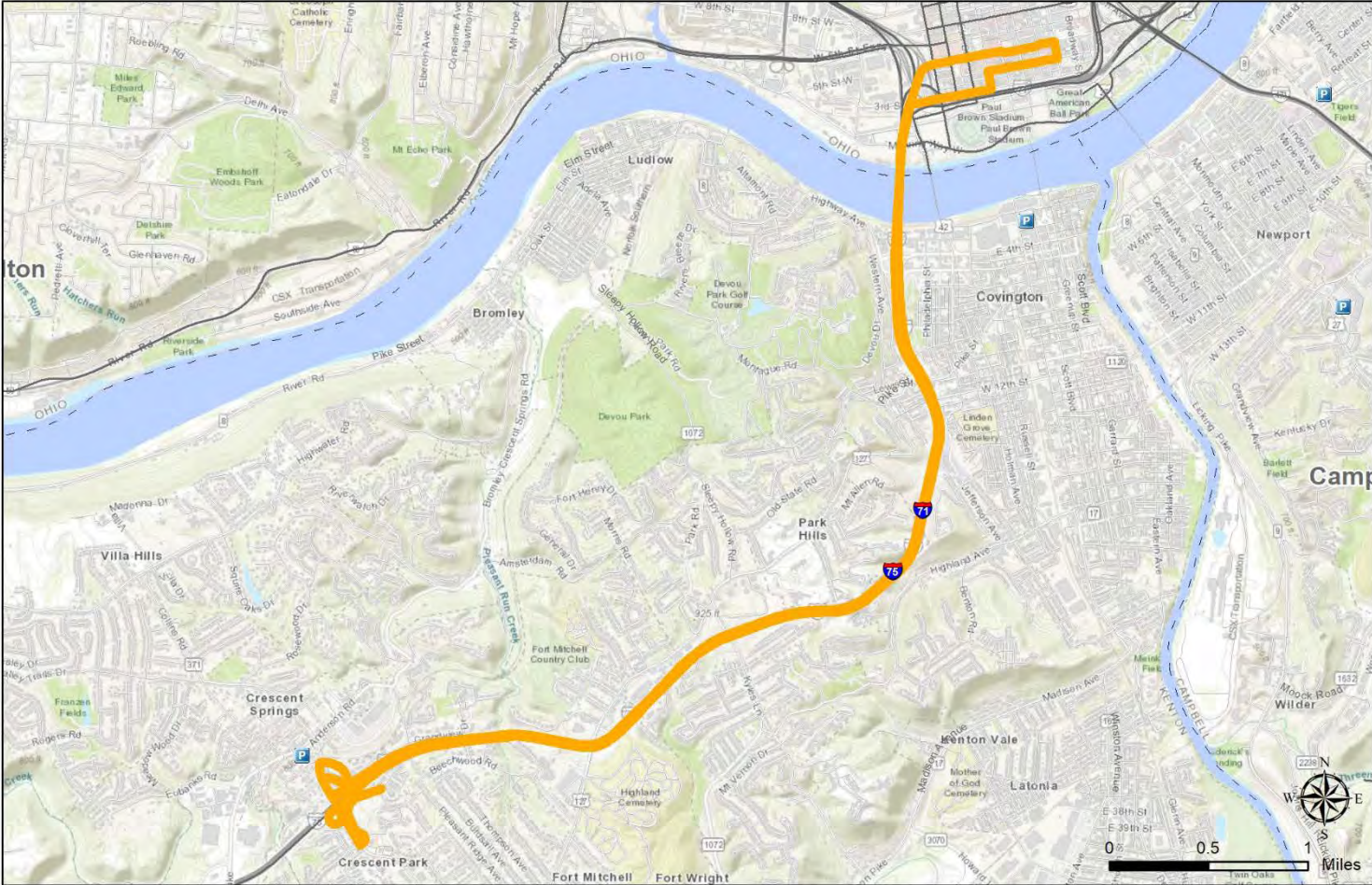
**Table 20-65: Route 17X – Buttermilk Pike Express: Net Changes**

Existing Route		Approved Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
<b>2,673</b>	\$147,897	2,309	\$127,800	-148	-\$8,189

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



Map 20-45: Approved Route 17X – Buttermilk Pike Express



<b>Existing Transit Services</b> Park & Ride Lots	<b>Approved Route</b> Route 17X	<b>Route 17X - Buttermilk Pike Express</b>



### 20.1.3.4.2 Route 22X – Mt. Zion Express

The project team, with direction from TANK staff, kept this route the same based off the number of responses received during the open comment period. The approved Route 22X will improve frequency and allow park-and-ride users a more reliable way to get to/from Cincinnati. Map 20-46 displays the approved Route 22X Mt. Zion Express.

Route 22X will operate on weekdays in the morning and afternoon to serve the Mt. Zion Park-and-Ride. In addition, based on the proposed changes to the Route 22X, the annual service hours will decrease by 264. The new Route 22X will have 32-minute headways on the weekdays, as shown in Table 20-66. Table 20-67 shows the changes in annual service hours and costs between the existing Route 22X and the approved Route 22X.

**Table 20-66: Route 22X – Mt. Zion Express: Schedule**

Day	Weekday	
Time	6:10 AM	7:55 AM
	4:10 PM	6:10 PM
Headways (Minutes)	32	

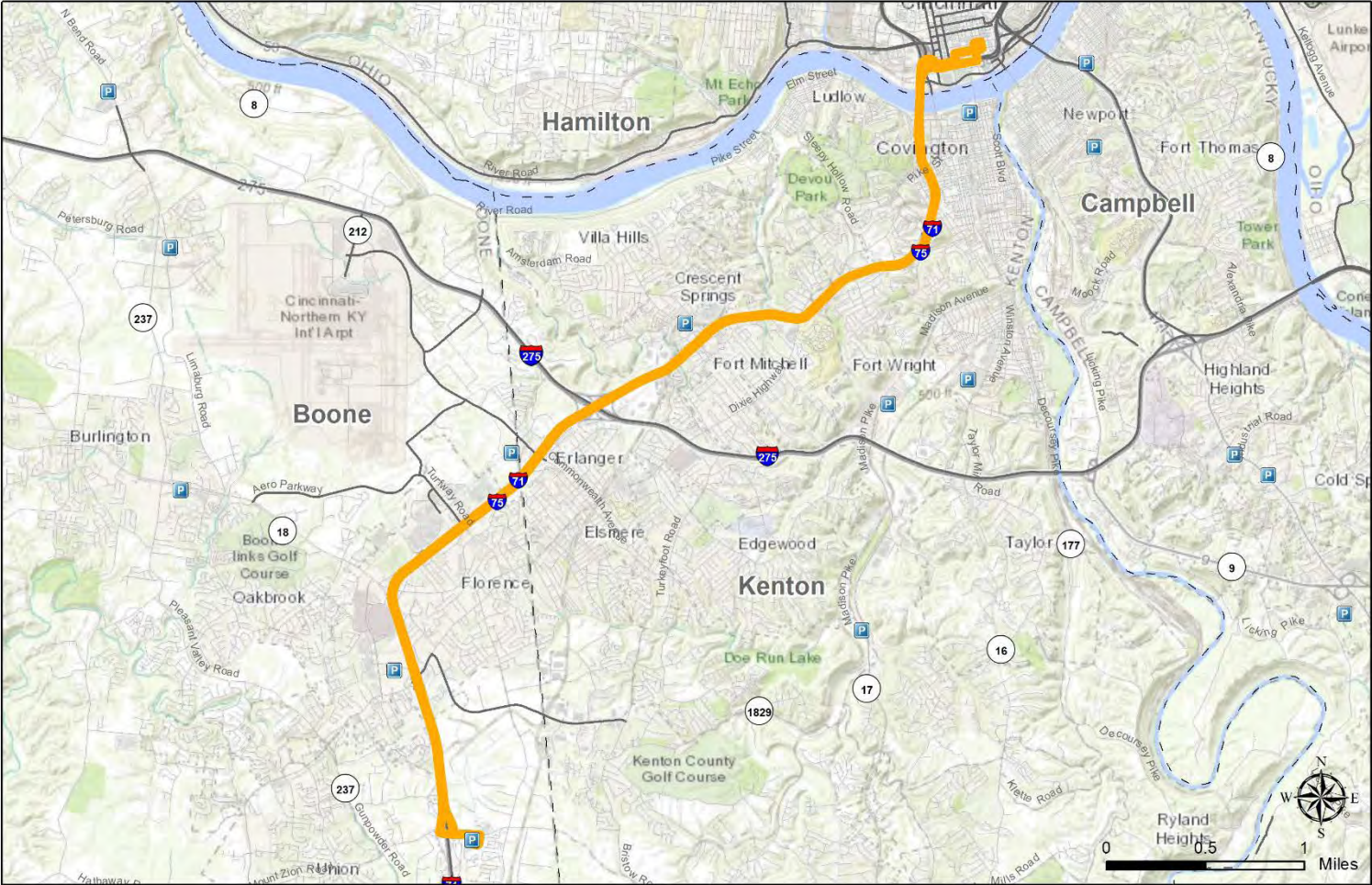
**Table 20-67: Route 22X – Mt. Zion Express: Net Changes**

Existing Route		Approved Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
1,330	\$73,589	1,066	\$58,982	-264	-\$14,607

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



Map 20-46: Approved Route 22X – Mt. Zion Express



<p><b>Existing Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Approved Route</b></p> <p> Route 22X</p>	<p>Route 22X - Mt. Zion Express</p>
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### 20.1.3.4.3 Route 25X – Alexandria Express

Since this is the only express route serving Campbell County, the project team redesigned this route to improve frequency and on-time performance. Subsequent to the open comment period, TANK staff suggested extending Route 25X to the Village Green Shopping Center. Map 20-47 displays the approved Route 25X Alexandria Express.

The Route 25X will operate on weekdays in the morning and afternoon to serve areas south of I-275 in Campbell County. In addition, the annual service hours will decrease by 652. The approved Route 25X will have 30-minute headways on the weekdays, as shown in Table 20-68. Table 20-69 shows the changes in annual service hours and costs between the existing Route 25X and the redesigned Route 25X.

**Table 20-68: Approved Route 25X – Alexandria Express: Schedule**

Day	Weekday	
Time	5:52 AM	8:06 AM
	3:55 PM	6:30 PM
Headways (Minutes)	30	

**Table 20-69: Route 25X – Alexandria Express: Net Changes**

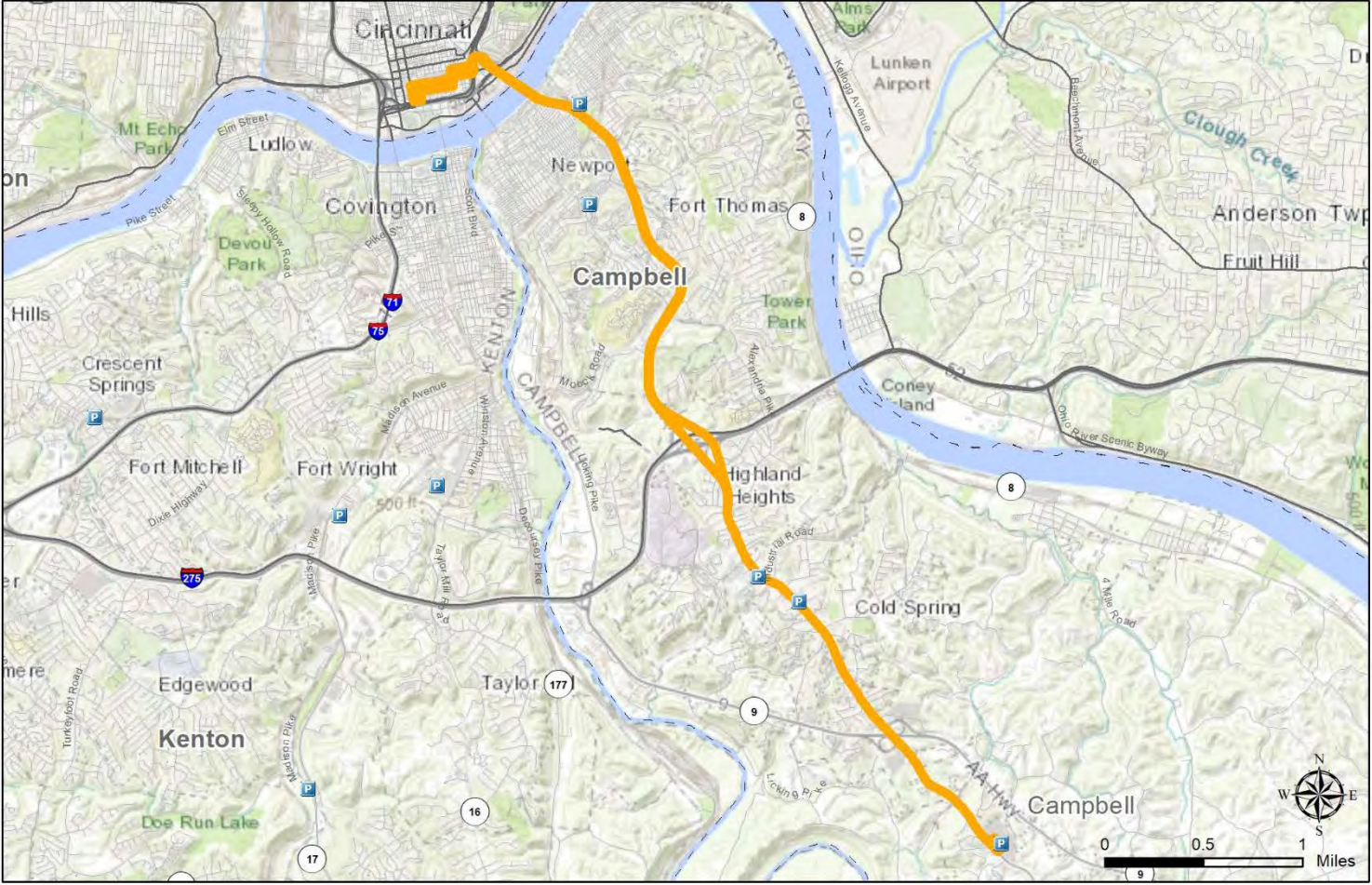
Existing Route		Approved Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
1,989	\$110,051	1,337	\$73,976	-652	-\$36,075

\*Costs are developed using TANK Hourly Operating Cost (December 2018).





Map 20-47: Approved Route 25X – Alexandria Express



<p><b>Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Approved Route</b></p> <p> Route 25X</p>	<p>Route 25X - Alexandria Express</p>
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#### 20.1.3.4.4 Route 30X – Fort Wright / Rolling Hills Express

TANK staff made minor changes to Route 30X following the open comment period, but the approved schedule and frequency remained the same. The changes approved for Route 30X will improve frequency and on-time performance for riders at the Fort Wright Hub and at Club Chef. Map 20-48 displays the approved Route 30X Fort Wright / Rolling Hills Express.

The approved Route 30X will operate on weekdays in the morning and afternoon to serve the Fort Wright Hub and Club Chef. Based on the changes to Route 30X, the annual service hours will decrease by 199. The new Route 30X will have 30-minute headways on the weekdays, as shown in Table 20-70. Table 20-71 shows the changes in annual service hours and costs between the existing Route 30X and the redesigned Route 30X.

**Table 20-70: Approved Route 30X – Fort Wright / Rolling Hills Express: Schedule**

Day	Weekday	
	Time	6:00 AM
	4:00 PM	6:30 PM
Headways (Minutes)	30	

**Table 20-71: Route 30X – Fort Wright / Rolling Hills Express: Net Changes**

Existing Route		Approved Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
<b>1,714</b>	\$94,836	1,384	\$76,577	-330	-\$18,259

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



**Map 20-48: Approved Route 30X – Fort Wright / Rolling Hills Express**



<p><b>Existing Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Approved Route</b></p> <p> Route 30X</p>	<p>Route 30X - Fort Wright / Rolling Hills Express</p>
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### 20.1.3.4.5 Route 32X – Burlington Express

TANK staff did not recommend any changes to the Route 32X following the open comment period. The Route 32X will serve park-and-ride users who park at the Burlington Pike Park-and-Ride. Map 20-49 displays the approved Route 32X Burlington Express.

Route 32X will operate on weekdays in the morning and afternoon serving Burlington Pike Park-and-Ride. Based on the proposed changes to the Route 32X, the annual service hours will slightly decrease by 80. The new Route 32X will have 40-minute headways on the weekdays, as shown in Table 20-72. Table 20-73 shows the changes in annual service hours and costs between the existing Route 32X and the redesigned Route 32X.

**Table 20-72: Route 32X – Burlington Express: Schedule**

Day	Weekday	
Time	6:00 AM	8:00 AM
	4:00 PM	6:30 PM
Headways (Minutes)	40	

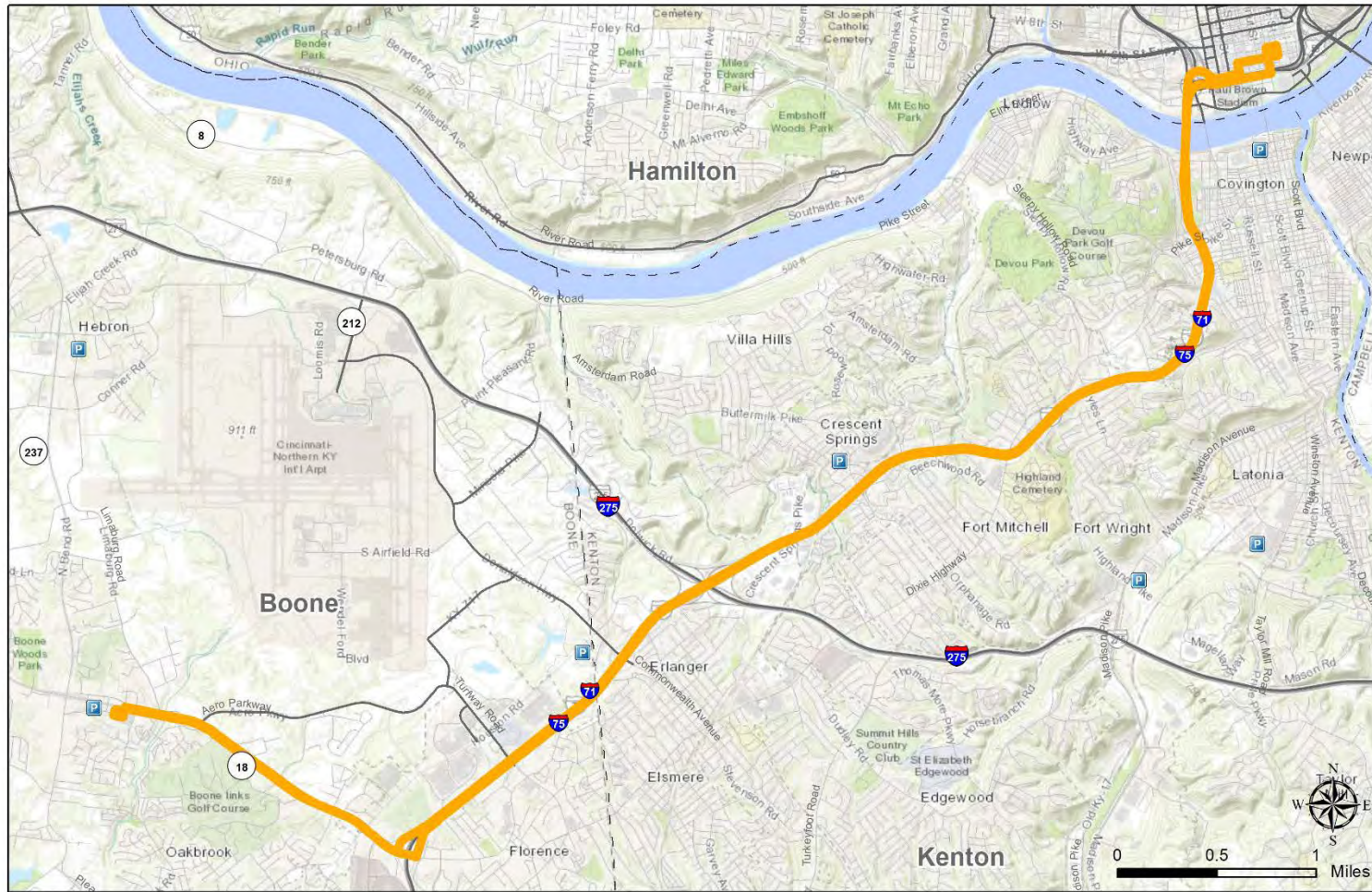
**Table 20-73: Route 32X – Burlington Express: Net Changes**

Existing Route		Proposed Route		Net Change	
Service Hours	Costs	Service Hours	Costs	Service Hours	Costs
1,109	\$61,375	1,029	\$56,935	-80	-\$4,440

\*Costs are developed using TANK Hourly Operating Cost (December 2018).



Map 20-49: Approved Route 32X – Burlington Express



<p><b>Existing Transit Services</b></p> <p> Park &amp; Ride Lots</p>	<p><b>Approved Route</b></p> <p> Route 32X</p>	<p>Route 32X - Burlington Express</p>
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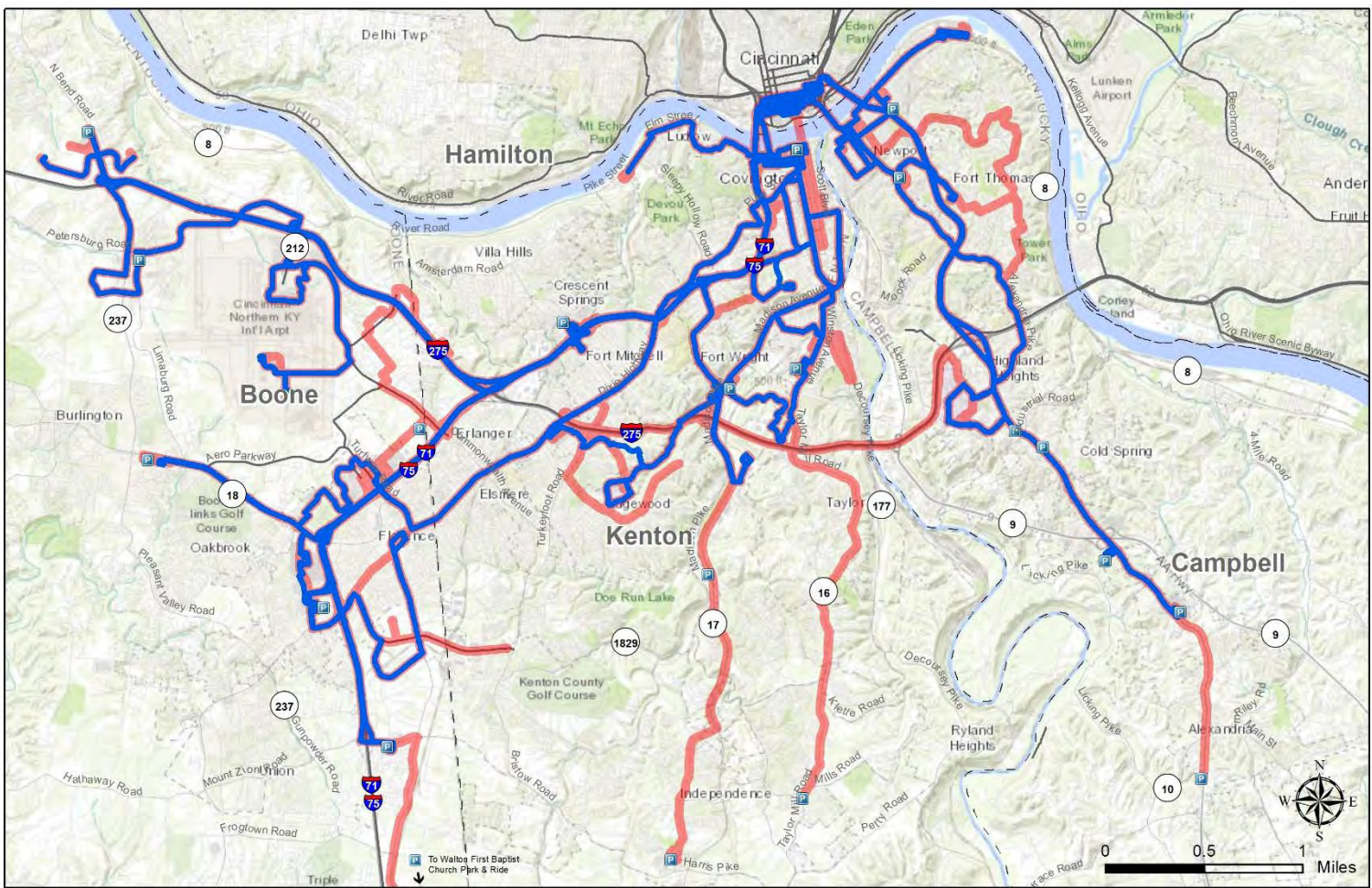


### 20.1.3.5 TANK 2020 Redesign Network Overlay

Map 20-50 displays a network overlay, which compares the Approved 2020 Redesign Network to TANK’s existing network. As shown, the Approved 2020 Redesign Network focuses on interconnectivity in Northern Kentucky rather than connections to park-and-ride lots in low ridership areas. Focusing on interconnectivity in higher ridership areas facilitates higher frequencies and improved on-time performance to major destinations in the TANK service area, which should generate ridership growth and result in more efficient use of resources.



**Map 20-50: Approved 2020 Redesign Network Overlay**



Approved 2020 Redesign Network	Approved 2020 Redesign Network Overlay 
Existing Network	
Park-and-Ride Lots	



## SECTION 21: PHASED IMPLEMENTATION PLAN

This section presents the proposed implementation plan for the System Redesign Study to help guide TANK in the phased start-up of its various elements.

### 21.1 Implementation Plan

The recommended improvements included in the System Redesign Study resulted from an extensive network evaluation and data review/evaluation process, as presented throughout this document. The improvements identified fall into the categories of Service, Capital/Infrastructure, and Policy. This plan outlines specific service improvements for a 5-year period beginning toward the end of calendar year 2020, as shown in Table 21-1. Frequency improvements are based on the Approved 2020 Redesign Network, which also will be refined based on travel patterns, congestion, land use, and other factors that affect the way transit and transportation systems evolve and operate with the approved route modifications. Table 21-2 through Table 21-4 show the frequency implications by route for weekday, Saturday, and Sunday.

**Table 21-1: Phased Implementation Plan**

Fiscal Year>	2020		2021	2022	2023	2024	2025
<b>Weekday Peak Fleet</b>	51		51	51	51	51	51
<b>New/Modified Routes</b>	Title VI Analysis for Approved 2020 Redesign Network	Local Routes: 1, 3, 5, 7, 8, 12, 16, 25, Southbank Shuttle Express Routes: 2X, 17X, 22X, 25X, 30X, 32X, 39X, 40X, 42X					
	Implement ADA Service Area Changes						
<b>Weekday Frequency Modifications</b>	<ul style="list-style-type: none"> <li>•15-minute Frequency: Southbank Shuttle, Route 40X (AM)</li> <li>•20-Minute Frequency: Routes 1, 7, 8</li> <li>•21-30: Minute Frequency: Routes 25, 2X, 17X, 25X, 30X (PM), 39X (AM), 40X (PM), 42X (peak)</li> <li>•31-40 Minute Frequency: Routes 3, 5, 8, 12,16, 22X, 30X (AM), 32X, 39X (PM)               <ul style="list-style-type: none"> <li>•40-Minute Evening Frequency: Routes 1,25,</li> </ul> </li> <li>•Greater than 40-Minute Frequency: Routes 42X (off-peak)               <ul style="list-style-type: none"> <li>•60-Minute Evening Frequency: Routes 3, 5, 12, 16</li> </ul> </li> </ul>						
	Implement Saturday and Sunday frequency modifications						
<b>Eliminated Routes</b>	Local Routes: 9, 11 Express Routes: 1X, 18X, 28X, 31X, 33, 35X						
<b>Planning + Capital</b>	Bus Stop Consolidation or Feasibility Study	Implement bus stop changes					
<b>Estimated Service Hours</b>	201,538			201,538	201,538	201,538	201,538





**Table 21-2: Frequency Implications – Weekday (minutes)**

Fiscal Year>	2020	2021	2022	2023	2024	2025
Route 1	20 / 40	20 / 40	20 / 40	20 / 40	20 / 40	20 / 40
Route 3	40 / 60	40 / 60	40 / 60	40 / 60	40 / 60	40 / 60
Route 5	40 / 60	40 / 60	40 / 60	40 / 60	40 / 60	40 / 60
Route 7	40 / 60	40 / 60	40 / 60	40 / 60	40 / 60	40 / 60
Route 8	40 / 60	40 / 60	40 / 60	40 / 60	40 / 60	40 / 60
Route 12	40 / 60	40 / 60	40 / 60	40 / 60	40 / 60	40 / 60
Route 16	40 / 60	40 / 60	40 / 60	40 / 60	40 / 60	40 / 60
Route 25	25 / 40	25 / 40	25 / 40	25 / 40	25 / 40	25 / 40
Route 2X	30	30	30	30	30	30
Route 17X	25	25	25	25	25	25
Route 22X	32	32	32	32	32	32
Route 25X	30	30	30	30	30	30
Route 30X	32 / 30	32 / 30	32 / 30	32 / 30	32 / 30	32 / 30
Route 32X	40	40	40	40	40	40
Route 39X	30 / 35	30 / 35	30 / 35	30 / 35	30 / 35	30 / 35
Route 40X	15 / 30	15 / 30	15 / 30	15 / 30	15 / 30	15 / 30
Route 42X	30 / 60	30 / 60	30 / 60	30 / 60	30 / 60	30 / 60
Southbank Shuttle	15	15	15	15	15	15

**Table 21-3: Frequency Implications – Saturday (minutes)**

Fiscal Year>	2020	2021	2022	2023	2024	2025
Route 1	30 / 60	30 / 60	30 / 60	30 / 60	30 / 60	30 / 60
Route 3	60	60	60	60	60	60
Route 5	60	60	60	60	60	60
Route 7	40 / 60	40 / 60	40 / 60	40 / 60	40 / 60	40 / 60
Route 8	40 / 60	40 / 60	40 / 60	40 / 60	40 / 60	40 / 60
Route 12	60	60	60	60	60	60
Route 16	60	60	60	60	60	60
Route 25	45 / 60	45 / 60	45 / 60	45 / 60	45 / 60	45 / 60
Route 2X	30	30	30	30	30	30
Route 17X						
Route 22X						
Route 25X						
Route 30X						
Route 32X						
Route 39X	81 / 41	81 / 41	81 / 41	81 / 41	81 / 41	81 / 41
Route 40X	30 / 86	30 / 86	30 / 86	30 / 86	30 / 86	30 / 86
Route 42X	60	60	60	60	60	60
Southbank Shuttle	15	15	15	15	15	15



**Table 21-4: Frequency Implications – Sunday (minutes)**

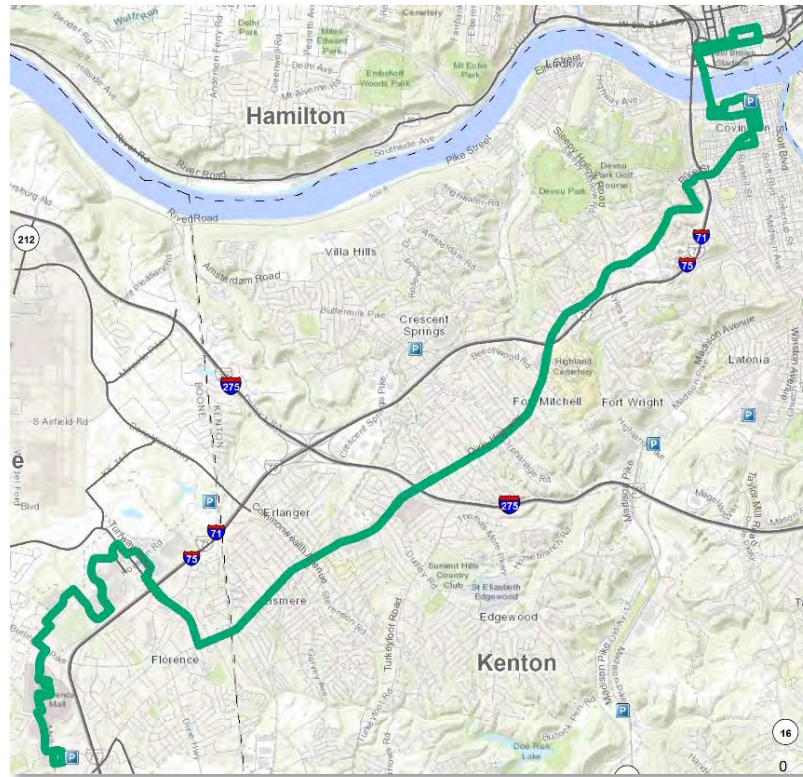
Fiscal Year>	2020	2021	2022	2023	2024	2025
Route 1	30 /60	30 /60	30 /60	30 /60	30 /60	30 /60
Route 3	60	60	60	60	60	60
Route 5	60	60	60	60	60	60
Route 7	40 /60	40 /60	40 /60	40 /60	40 /60	40 /60
Route 8	40 /60	40 /60	40 /60	40 /60	40 /60	40 /60
Route 12	60	60	60	60	60	60
Route 16	60	60	60	60	60	60
Route 25	45	45	45	45	45	45
Route 2X	30	30	30	30	30	30
Route 17X						
Route 22X						
Route 25X						
Route 30X						
Route 32X						
Route 39X	81 / 41	81 / 41	81 / 41	81 / 41	81 / 41	81 / 41
Route 40X	30 / 86	30 / 86	30 / 86	30 / 86	30 / 86	30 / 86
Route 42X	60	60	60	60	60	60
Southbank Shuttle	15	15	15	15	15	15

**21.1.1 Service Improvements**

*Route 1 Dixie Highway / Florence* – The project team and TANK staff ultimately determined that the new Route 1 should serve Cincinnati, Downtown Covington, Florence Mall, and the Florence Hub. The new Route 1 will terminate at the Florence Hub rather than serving Empire Drive and operating the Florence loop. The new service will provide convenient linehaul service to employment services and retail establishments in Northern Kentucky, as well as in Cincinnati. The service is recommended to operate with 20-minute frequency from 4:22 AM to 8:00 PM and 40-minute frequency from 8:00 PM to 11:46 PM on weekdays. On Saturday, the service is recommended to operate 30-minute frequency from 5:05 AM to 8:00 PM and 60-minute frequency from 8:00 PM to 11:20 PM. Sunday has the same frequency but starts at 5:40 AM rather than 5:05 AM. Figure 21-1 shows the new Route 1.

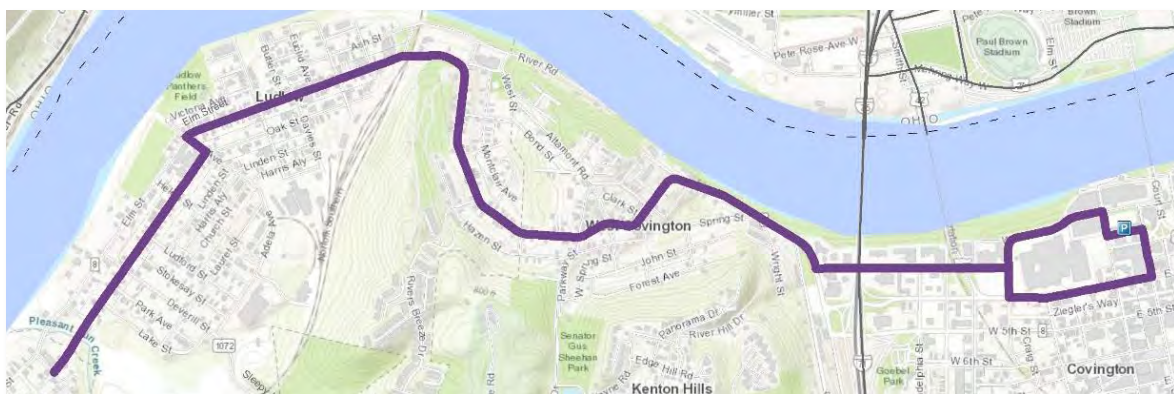


**Figure 21-1: Route 1 – Dixie Highway / Florence**



*Route 3 Ludlow / Bromley* – It was recommended that this route maintain service to Bromley but be removed from Cincinnati, as shown in Figure 21-2. Instead, riders will transfer to other routes at CTC. On weekdays, the new Route 3 will have 40-minute frequency from 5:20 AM to 8:00 PM and 60-minute frequency from 8:00 PM to 10:00 PM. Saturday and Sunday will have 60-minute frequency from 7:45 AM to 10:00 PM.

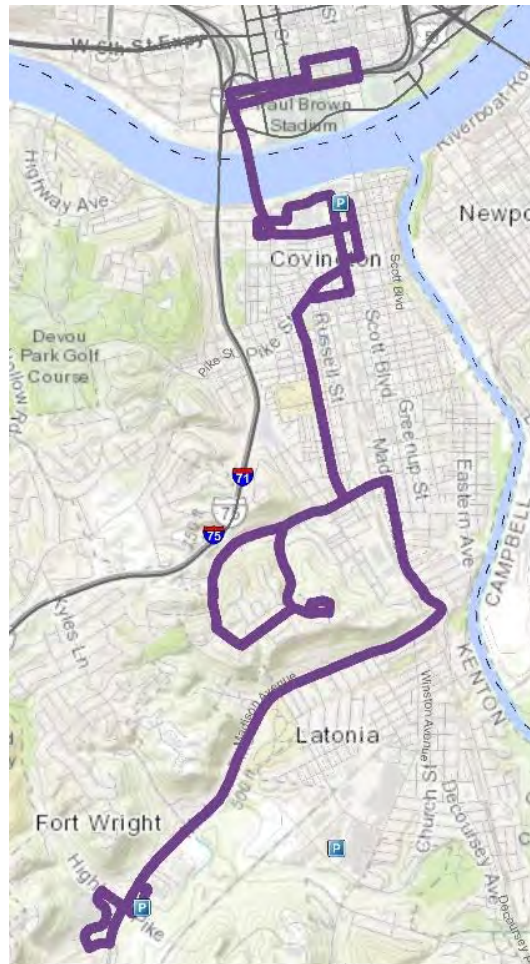
**Figure 21-2: Route 3 – Ludlow / Bromley**





*Route 5 Covington / City Heights* – It was recommended that the new Route 5 maintain service between Fort Wright and Cincinnati and Downtown Covington via Madison Avenue rather than Highland Pike, as shown in Figure 21-3. It also was recommended that the new Route 5 operate with 40-minute frequency from 4:38 AM to 8:00 PM and 60-minute frequency from 8:00 PM to 9:35 PM. Weekend service will operate 60-minute frequency. It also was recommended that Saturday service operate from 7:00 AM to 9:12 PM, while Sunday service will operate from 8:42 AM to 9:12 PM.

**Figure 21-3: Route 5 – Covington / City Heights**





*Route 7 Madison Avenue / Latonia* – The project team and TANK staff determined that Route 7 should serve Latonia Plaza and Latonia Centre via Winston Avenue before traveling back to Downtown Covington and then traveling to Cincinnati. It was recommended, on weekdays, that Route 7 operate with 40-minute frequency from 4:35 AM to 8:00 PM and 60-minute frequency from 8:00 PM to 12:15 AM. On Saturday, it was recommended that Route 7 operate 40-minute frequency from 5:45 AM to 8:00 PM and 60-minute frequency from 8:00 PM to 12:00 AM. On Sundays, Route 7 will operate 40-minute frequency from 6:15 AM to 8:00 PM and 60-minute frequency from 8:00 PM to 10:40 PM. Figure 21-4 shows the approved Route 7. It should be noted also that the approved Route 7 and Route 8 both will have 40-minute frequencies, but will be staggered to achieve an effective 20-minute frequency where the routes overlap until 8:00 PM.

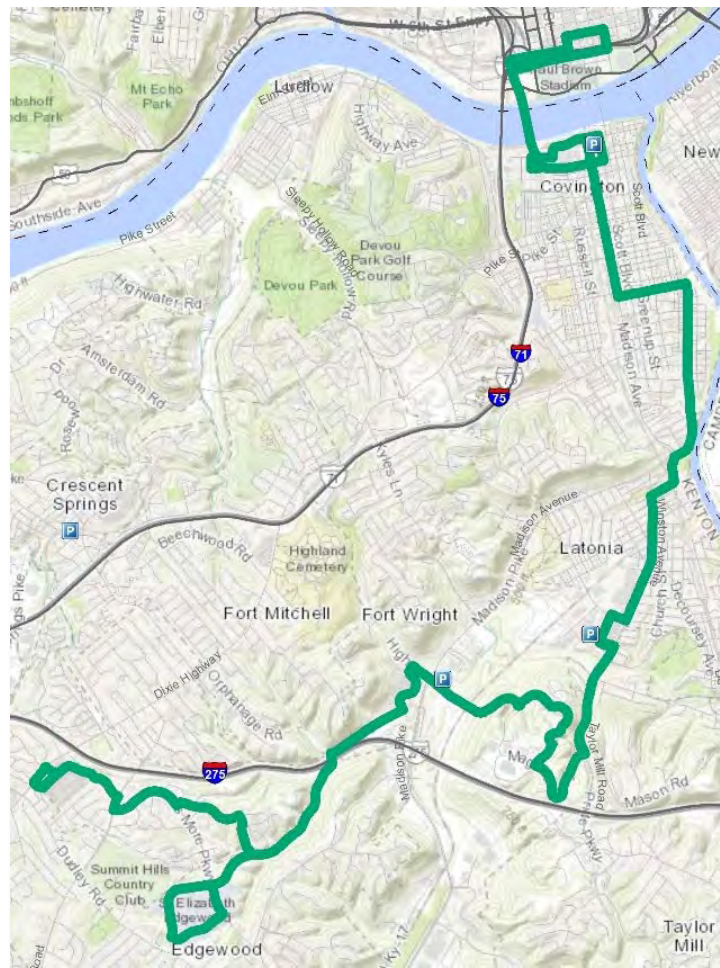
**Figure 21-4: Route 7 – Madison Avenue / Latonia**





**Route 8 Eastern Avenue / Latonia / Healthline** – The recommended Route 8 will maintain service to the eastern portion of Covington, Latonia Center, Cambridge Square Apartments, Fort Wright Hub, and Walmart. In addition, Route 8 will provide service to Medical Village, Thomas More College, and Crestview Hills via Horse Branch Road, as shown in Figure 21-5. On weekdays, Route 8 will have 40-minute frequency from 4:15 AM to 8:00 PM and 60-minute frequency from 8:00 PM to 11:55 PM. On Saturday, it was recommended that Route 8 operate 40-minute frequency from 5:25 AM to 8:00 PM and 60-minute frequency from 8:00 PM to 11:40 PM. On Sundays, Route 8 will operate 40-minute frequency from 5:55 AM to 8:00 PM and 60-minute frequency from 8:00 PM to 10:20 PM. As noted for Route 7, Routes 7 and 8 will be staggered to achieve an effective 20-minute frequency where the routes overlap until 8:00 PM.

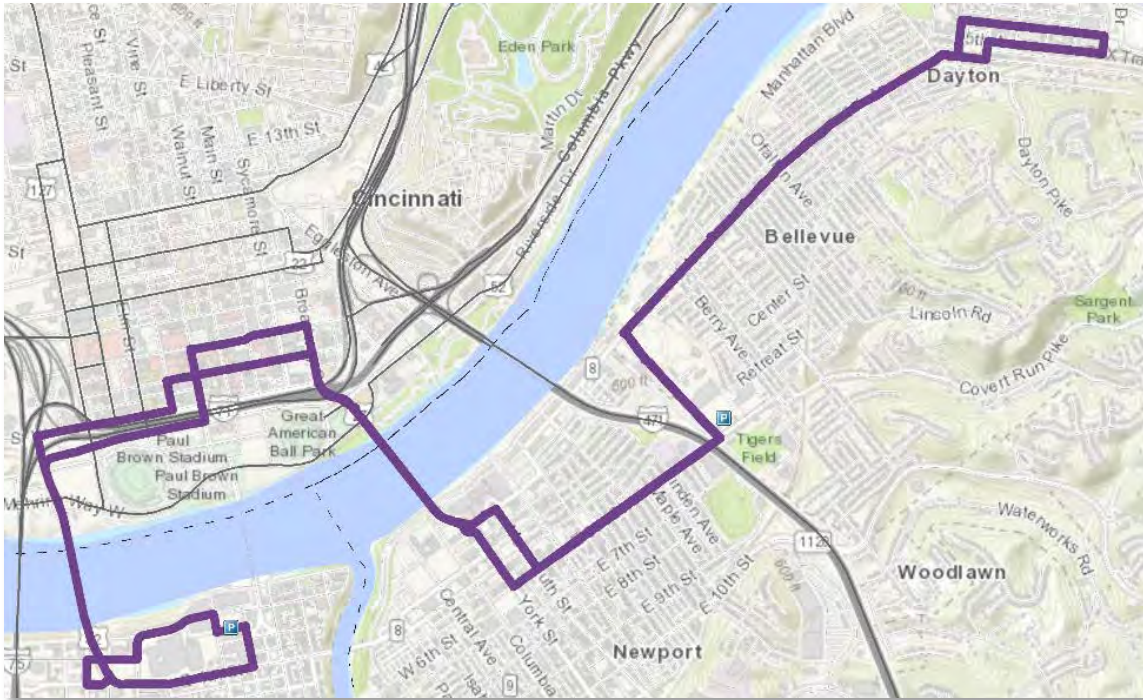
**Figure 21-5: Route 8 – Eastern Avenue / Latonia / Healthline**





*Route 12 Bellevue / Dayton* – TANK staff and the project team recommended terminating Route 12 in Downtown Covington rather than Cincinnati, as shown in Figure 21-6. On weekdays, Route 12 will operate 40-minute frequency from 4:30 AM to 8:00 PM and 60-minute frequency from 8:00 PM to 11:45 PM. On Saturday, Route 12 will operate 60-minute frequency from 7:15 AM to 8:45 PM. On Sunday, Route 12 will operate 60-minute frequency from 7:15 AM to 8:00 PM.

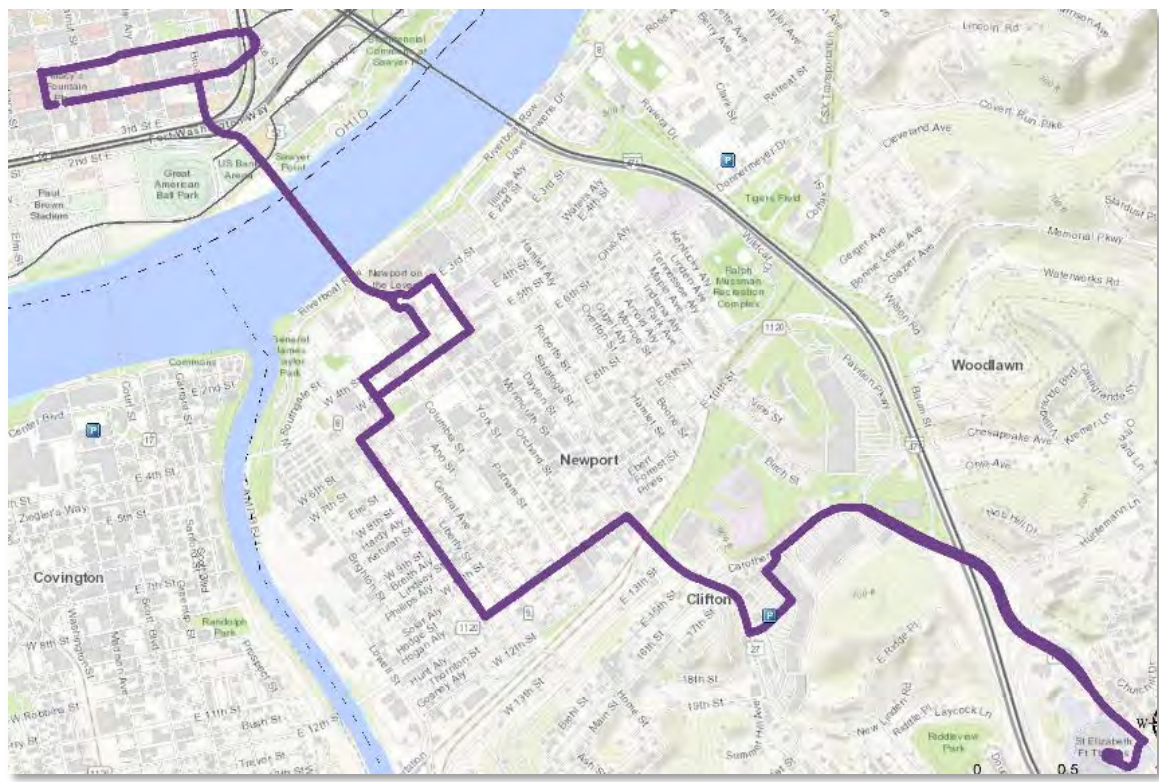
**Figure 21-6: Route 12 – Bellevue / Dayton**





**Route 16 West Newport** – The recommended Route 16 will terminate in Cincinnati before traveling outbound to St. Elizabeth Ft. Thomas. Weekdays, Route 16 will operate 40-minute frequency from 6:06 AM to 8:00 PM and 60-minute frequency from 8:00 PM to 10:00 PM. On Saturday, Route 12 will operate 60-minute frequency from 6:53 AM to 10:00 PM. On Sunday, Route 12 will operate 60-minute frequency from 7:15 AM to 10:00 PM. Figure 21-7 shows the approved Route 16.

**Figure 21-7: Route 16 – West Newport**

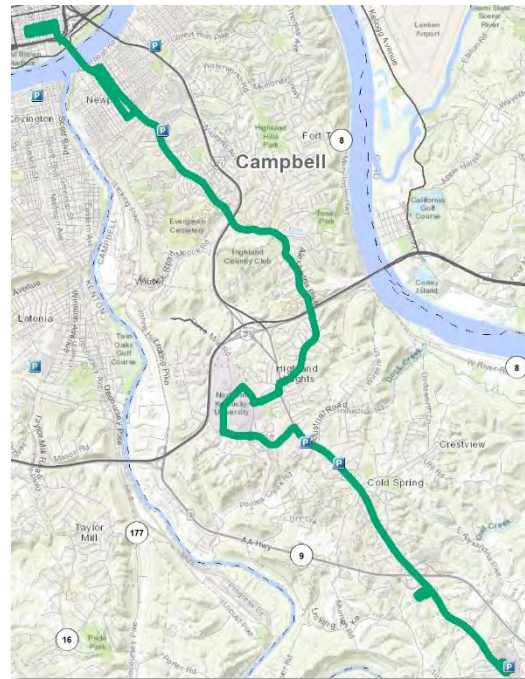


**Route 25 US 27 / NKU** – Route 25 will maintain service between Cincinnati and Village Green Park-and-Ride, acting as a major linehaul for Campbell County, as shown in Figure 21-8. On weekdays, Route 25 will operate 25-minute frequency from 4:00 AM to 8:00 PM and 40-minute frequency from 8:00 PM to 11:22 PM. On Saturday, Route 25 will operate 45-minute frequency from 6:08 AM to 8:00 PM and 60-minute frequency from 8:00 PM to 9:28 PM. On Sunday, Route 25 will operate 45-minute frequency from 6:08 AM to 8:38 PM.





**Figure 21-8: Route 25 – US 27 / NKU**



*Route 2X CVG / Industrial Express* – The recommended Route 2X will provide direct service to CVG and then to airport employment centers off Lincoln Road before serving CVG Centre, DHL, and Amazon. Frequency for Route 2X will be 30-minutes on weekday, Saturday, and Sunday. On weekdays, Route 2X will operate from 5:00 AM to 12:00 AM. On Saturday, Route 2X will operate 4:53 AM to 11:35 PM, and on Sunday, Route 2X will operate from 4:53 AM to 11:47 PM. Figure 21-9 shows the recommended Route 2X.

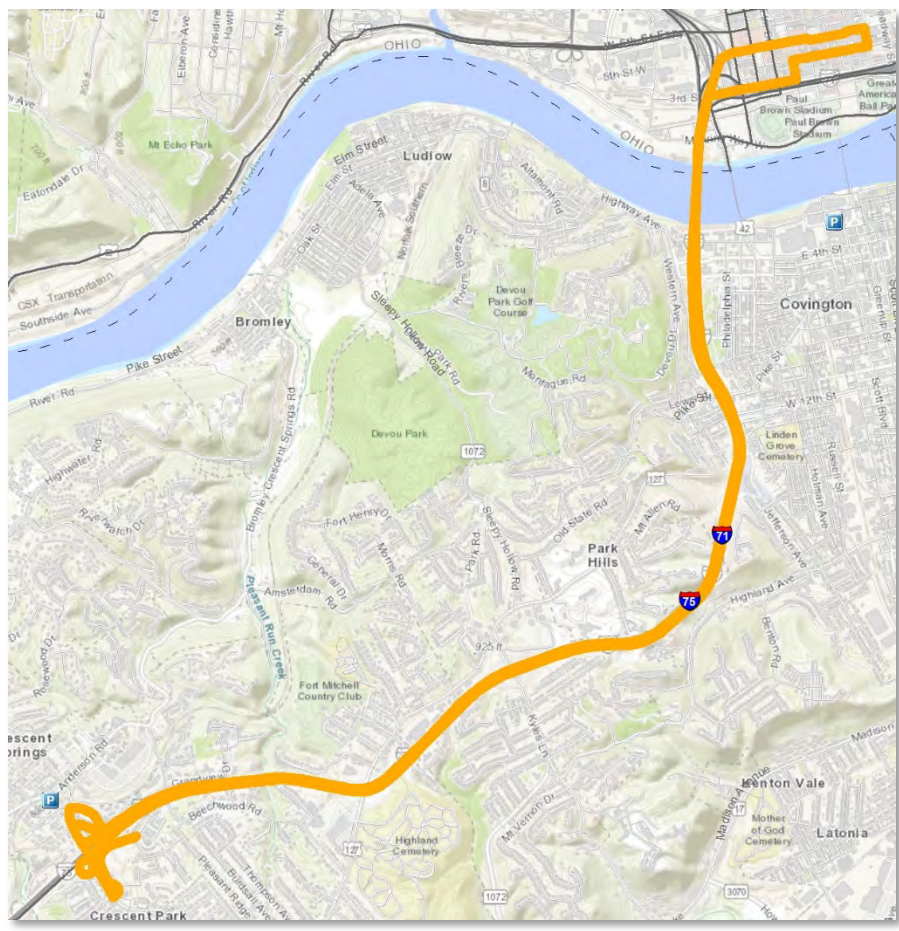
**Figure 21-9: Route 2X – CVG / Industrial Express**





*Route 17X Buttermilk Pike Express* – The recommended Route 17X will continue to serve Buttermilk Park-and-Ride, as well as Royal Drive on the first and last stops on the route. In addition, Route 17X will operate only on weekdays from 6:15 AM to 8:30 AM and again at 3:30 PM to 6:00 PM. Route 17X will have 25-minute frequency during the span of service. Figure 21-10 shows the Route 17X.

**Figure 21-10: Route 17X – Buttermilk Pike Express**



*Route 22X Mt. Zion Express* – The project team and TANK staff agreed to pull this route back to the Mt. Zion Park-and-Ride to serve commuters using the park-and-ride facility to access Cincinnati. Route 22X will have 32-minute frequency from 6:10 AM to 7:55 AM and from 4:10 PM to 6:10 PM. Route 22X will operate only on weekdays. Figure 21-11 shows the recommended Route 22X.

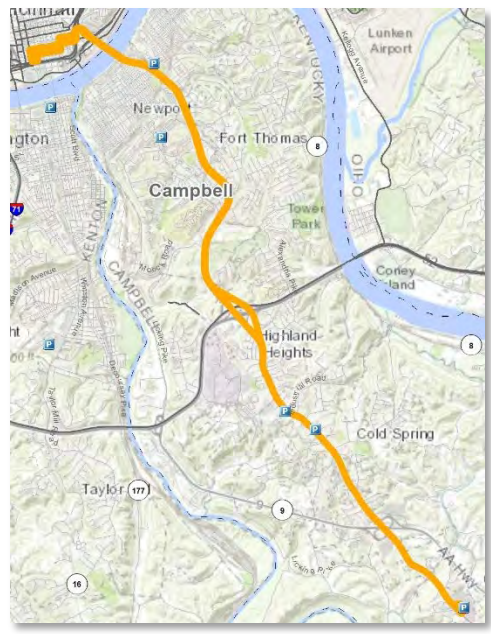


**Figure 21-11: Route 22X – Mt. Zion Express**



*Route 25X Alexandria Express* – TANK staff and the project team agreed to terminate Route 25X at the Village Green Shopping Center to serve the park-and-ride facility there, as shown in Figure 21-12. This will be the only express route serving Campbell County. Route 25X will operate on weekdays from 5:52 AM to 8:06 AM and again from 3:55 PM to 6:30 PM. Route 25X will have 30-minute frequency during the hours of operation.

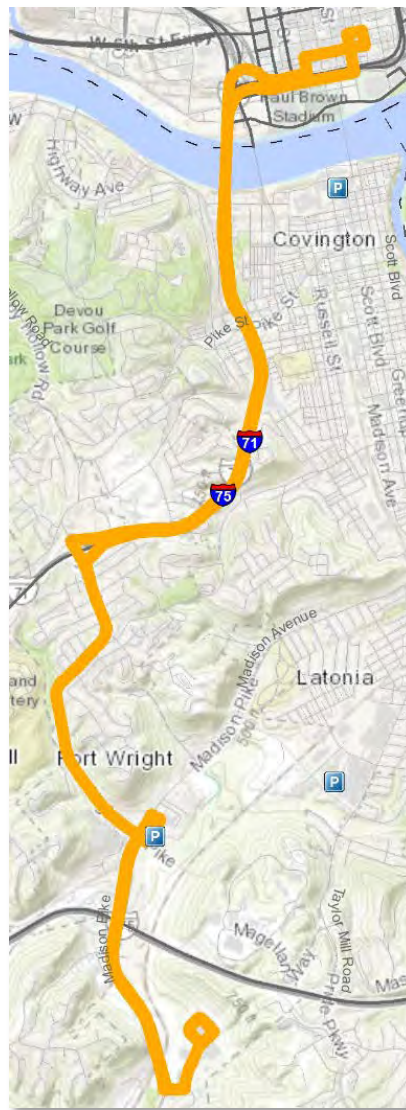
**Figure 21-12: Route 25X – Alexandria Express**





*Route 30X Fort Wright / Rolling Hills Express* – The recommended Route 30X will provide express service to the Fort Wright Hub and Club Chef. Route 30X will operate on weekdays from 6:00 AM to 8:30 AM and in the afternoon from 4:00 PM to 6:30 PM. Route 30X will have 30-minute frequency for the morning and afternoon service spans. Figure 21-13 shows the recommended Route 30X.

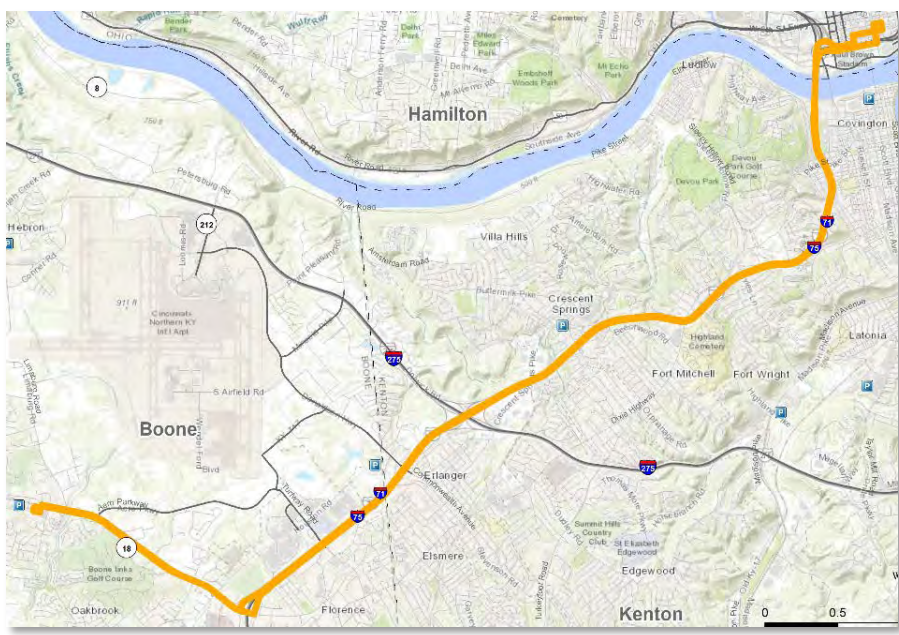
**Figure 21-13: Route 30X – Fort Wright / Rolling Hills Express**



*Route 32X Burlington Express* – For the most part, Route 32X will stay the same. However, the recommended Route 32X will now operate from 6:00 AM to 8:00 AM and again from 4:00 PM to 6:30 PM. In addition, Route 32X will have 40-minute frequency on weekdays during the span of service. Figure 21-14 shows the Route 32X.



**Figure 21-14: Route 32X – Burlington Express**



*Route 39X Petersburg Road / South Hebron Express* – The recommended Route 39X will still serve Downtown Covington and Cincinnati, as well as industrial uses in Hebron, as shown in Figure 21-15. Route 39X will operate on weekdays, Saturday, and Sunday. On weekday mornings, Route 39X will operate from 5:05 AM to 7:15 AM with 30-minute frequency. On weekday afternoons, Route 39X will operate from 2:00 PM to 6:00 PM with 35-minute frequency. On Saturday and Sunday mornings, Route 39X will operate from 6:00 AM to 7:06 AM with 81-minute frequency. On Saturday and Sunday evenings Route 39X will make one trip from 5:30 PM to 6:00 PM.

**Figure 21-15: Route 39X – Petersburg Road / South Hebron Express**





*Route 40X Worldwide Boulevard / North Hebron Express* – Route 40X is fairly consistent with what is operated by TANK today with the exception of Global Way, as shown in Figure 21-16. TANK staff recommended removing Global Way from Route 40X due to lack of ridership on that segment. Route 40X will operate on weekdays, Saturday, and Sunday. On weekday mornings, Route 40X will operate from 5:00 AM to 6:30 AM with 15-minute frequency. On weekday afternoons, Route 40X operate from 2:00 PM to 5:45 PM with 30-minute frequency. On Saturday and Sunday, Route 40X will operate from 5:10 AM to 5:40 AM with 30-minute frequency, and again from 5:20 PM to 6:53 PM with 86-minute frequency.

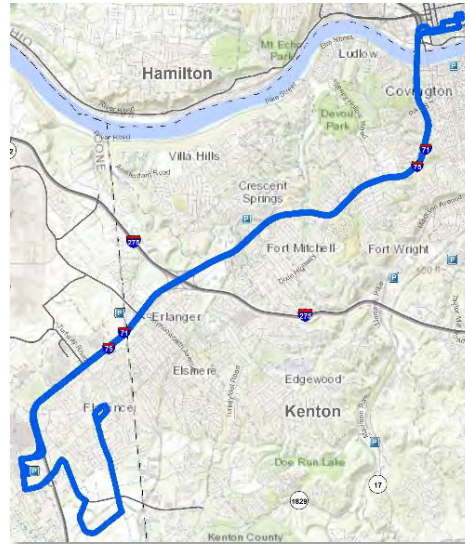
**Figure 21-16: Route 40X – Worldwide Boulevard / North Hebron Express**



*Route 42X Florence Express* – The recommended Route 42X will provide express service to Cincinnati from the Florence Hub Park-and-Ride rather than duplicating service near CVG or providing service on Donaldson Highway, as shown in Figure 21-17. Route 42X also will serve Empire Drive via Industrial Road, as well as Main Street via Dixie Highway before traveling inbound to Cincinnati. Route 42X will operate on weekdays, Saturday, and Sunday. On weekdays, Route 42X will operate from 5:00 AM to 8:00 PM with 30-minute frequency during the peak and 60-minute frequency during the off-peak. On Saturday and Sunday, Route 42X will operate from 5:00 AM to 7:45 PM with 60-minute frequency.

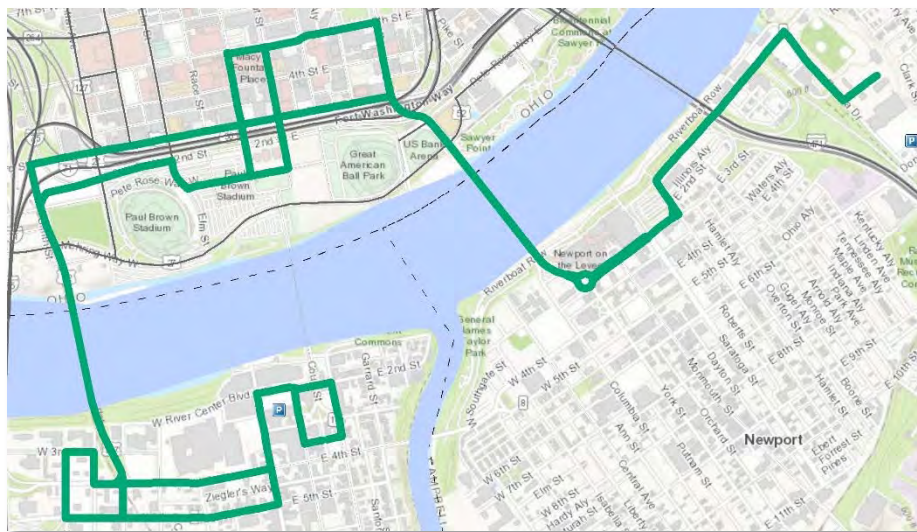


**Figure 21-17: Route 42X – Florence Express**



*Route Southbank Shuttle* – The proposed modified Southbank Shuttle has similar operational characteristics as the existing Southbank Shuttle. However, due to weight limits, the modified Southbank Shuttle will use Clay Wade Bailey Bridge to access Cincinnati or Downtown Covington, as shown in Figure 21-18. Once the Southbank Shuttle travels across the Clay Wade Bailey Bridge it will use 5<sup>th</sup> Street to access CTC, but on the outbound commute the Southbank Shuttle will use 4<sup>th</sup> Street. The Southbank Shuttle will continue to operate on weekdays, Saturday, and Sunday with 15-minute frequency. On the weekdays, the Southbank Shuttle will operate from 6:00 AM to 12:00 AM. On Saturday, the Southbank Shuttle will operate from 7:00 AM to 12:00 AM. On Sunday, the Southbank Shuttle will operate from 7:00 AM to 10:00 PM.

**Figure 21-18: Route – Southbank Shuttle**





## SECTION 22: FINANCIAL AND OPERATING PLAN

This section presents the operating cost estimates associated with the Approved 2020 Redesign Network compared to the existing TANK network, as shown in Table 22-1. This table also shows the estimated total number of peak vehicles (VOMS) needed for all routes compared to the existing TANK network. In addition, this section also includes a summary of the approved span of service by route and frequencies associated with each route, as shown in Table 22-2.

Overall, the approved network is estimated to save 31 VOMS on weekdays, while on Saturday and Sunday, the VOMS increase only by 1 and 4 vehicles, respectively. Additionally, the annual service hours are expected to decrease by 1,801 and the total fixed-route operating cost to decrease by nearly \$100,000.

As desired by the aforementioned study goals for the redesign effort, the Approved 2020 Redesign Network is anticipated to minimize impacts to existing ridership while increasing operational efficiencies, reducing redundancy to better utilize resources, and preserving coverage to the extent feasible.

**Table 22-1: TANK Financial Plan**

Fiscal Year>	Existing (2018)	2020	2021	2022	2023	2024	2025
<b>Planned Peak Fleet</b>							
<b>Weekday</b>	82	51	51	51	51	51	51
<b>Saturday</b>	30	31	31	31	31	31	31
<b>Sunday</b>	27	31	31	31	31	31	31
<b>Estimated Operating Cost* (Adj.)</b>	\$11,238,809	\$11,151,098	\$11,485,630	\$11,830,199	\$12,185,105	\$12,550,659	\$12,927,178
<b>Annual Service Hours</b>	203,123	201,538	201,538	201,538	201,538	201,538	201,538

\*Based on TANK marginal cost per service hour







## Appendix A: Field and Route Notes from Initial Site Visits

During the site visit, several meetings were held with various key TANK staff on different days/times, including the following individuals:

- Andrew Aiello, General Manager
- Frank Busofsky, Manager of Planning
- Kail Clifton, Manager of Special Services
- Gina Douthat, Deputy General Manager/EEOC Officer
- Gary McCulley, Manager of Scheduling
- Lyndi Whiteker, Performance Analyst

The following bullets highlight key items discussed during the various meetings held with key TANK staff. The information is provided in the order in which it came up during each discussion. The notes are summarized by staff participants and dates.

### June 17, 2019, Meeting with Frank Busofsky

- For scheduling, TANK has been using Sched21 since 2008, when it was acquired. Prior, they used pen and paper to schedule routes by hand.
- TANK has entered into a contract with Clever Devices which now uses MAIOR's scheduling software (an Italian scheduling software company that Clever acquired in 2017).
- August 2017 was the time of the last significant service cuts.
- Hebron is a large unincorporated area that has developed north of the Cincinnati/Northern Kentucky International Airport (CVG). Most of the ridership in this area is on Worldwide Boulevard. Ridership has increased 25% since the addition of DHL and Amazon Prime.
- Amazon has at least 10 different warehouses around CVG and the company has been requesting service on Litton Road for 3 years.
- The Airporter provides service connecting CVG to Covington and Cincinnati.
- The challenge that TANK has had in the CVG area is getting to all the industrial centers and finding out their respective shift changes.
- County shares of TANK's budget are based on a 1-mile buffer around the routes for population and amount of service provided.
- Consolidating service on Madison Avenue, including the existing one-way pair of Scott Boulevard and Greenup Street in Covington, was a recommendation in the last network update study.
- City Heights is a public housing facility that is difficult to serve, but generates healthy ridership.
- The Roebling Bridge linking Covington and Cincinnati is currently closed for repair due to falling stonework. The bridge now has a weight limit and standard transit buses cannot use it. Only the smaller trolley vehicles used for the Southbank Shuttle (SBS) service are allowed on the bridge (and it is possible that this too may change in the future due to the age and condition of the bridge).
- TANK really does not work with the counties on planning review. As a result, TANK does not have a role in development review approvals. Having a review and comment role would help improve pedestrian and transit accessibility.
- Dixie Highway (Route 1) needs to be streamlined (especially the industrial portion of the route).
- TANK is interested in finding opportunities to consolidate the express routes.



- TANK owns only 3 of the 18 park-and-ride lots being used currently, and the maintenance department is struggling to take care of them.
- The Dixie Corridor is a sort of Bus Rapid Transit (BRT) “lite” operating along Dixie Highway. It has branded signage and shelters, but no other real BRT elements.
- Bus stop branding and placement needs to be more standardized and recommendations for both stop placement and customer amenities are desired.
- TANK also is interested in receiving guidance for bus stop spacing standards as well as recommendations for bus stop consolidation.
- TANK has a service request process for adding new or moving bus stops. The current thresholds are 16 daily boardings for a shelter and 12 daily boardings for a bench.
- TANK would like to develop a new schedule design.
- TANK does not have a great level of communication or coordination with the various municipalities.
- TANK does not currently have any applications of signal priority (not even along the Dixie Corridor).
- TANK wants to improve the frequency of some of its routes (e.g., the Airporter).
- The CVG area may be good for a first mile/last mile flex service pilot.
- Large industrial partners currently include Amazon, Wayfair, and DHL.

#### June 18, 2019, Meeting with Frank Busofsky

- TANK has been catering to the hospitals in the planning of its routes and services.
- TANK understands that its shelter stock should be uniform. Crestview Hills is the only municipality currently that designs and purchases its own shelters.
- The Richwood Business Association (Route 22X) has indicated a need for service, but TANK has not yet found an efficient way to do it.
- Other than for the SBS, TANK does not do street reliefs. This requires several routes (like the Route 28X) to track back to the TANK facility to accommodate operator changes. Although inefficient, this practice is turning deadhead to revenue service.
- TANK would like the current stop at CVG to be examined as it is in a poor location. The preference is to create a CVG transit hub. CVG is planning a new rental car facility and this may serve as a transportation hub.
- About 70-80% of the riders going to the industrial areas around CVG are from the western side of Cincinnati, so most are already on their second bus. This represents a heavy reverse commute to CVG to access employment at the warehouses. Bridge access is a constraint.
- Routes 30X and Route 31X are mostly the same with highest demand on both at Club Chef, so there may be an opportunity to truncate service at Club Chef.
- Ridership on the Route 39X and Route 40X has started to decline.
- The Buttermill Park-and-Ride is one of the facilities owned by TANK.
- The Route 35X serves Northern Kentucky University (NKU). Its ridership drops during the summer when there are fewer students on campus.
- Sometimes there are bus overcrowding issues at the Covington Transit Center (CTC).
- It makes most sense for all express services to terminate in Cincinnati and not the CTC.
- It would be great to have the Route 7 at the Fort Wright hub.
- Discussed potential for a South Bank consolidation of SBS and Route 12.



- Need to address transit service in context of the urban/rural dichotomy in Campbell County. Most of the county is rural, but northern Campbell County is urban and has transit needs.

June 19, 2019, Meeting with Andrew Aiello, Frank Busofsky, Gina Douthat, and Gary McCulley

- The primary purpose for this meeting was to review the study scope and discuss the possibility of revising some subtasks to better accommodate the change in the project’s focus from long-range planning to network redesign. Other discussion occurred and the following bullets highlight the other topics raised.
- Transit purpose is threefold: commuters to Cincinnati; residents to Cincinnati for events; tourists and business travelers along the riverfront.
- It was clarified that street reliefs do occur on a limited basis, but only for the SBS and at NKU (i.e., at ends of lines).
- On the Campbell County side, TANK currently brings all local routes directly into Cincinnati and not the CTC. Only Route 35X does something different.
- Staff likes the idea of directly connecting Campbell County to Covington.
- There is support for terminating express routes in Cincinnati and local routes at the CTC; however, it also is important to staff that key “trunk” lines among the local routes (e.g., Route 1) also continue to go into Cincinnati.
- It was mentioned that NKU is largely a commuter college and is served by Route 35X, which runs east-west.
- Route 35X was indicated as a good concept to provide east-west connectivity, but it has poor ridership.
- Route 1 operates several variations or patterns. It was discussed that an option to consider is creating a Route 1 trunk line route that would be complemented by a separate local circulator route to serve activities around the mall.
- Creating connections between Route 1 and new developments to the west was discussed, including connections with Routes 39X and 40X.
- It was indicated that there is an “unofficial” park-and-ride at Blessed Redeemer.
- It was discussed that the sole purpose of Route 17X from Buttermilk Park-and-Ride is to connect to Cincinnati.
- Paratransit service was discussed with the recognition that the service as it is provided goes well beyond the ADA mandated requirements.
- Discussed opportunities to streamline Route 5.
- The patrons in the City Heights facility are going to Walmart and Downtown Covington so there is need to connect this community to these uses (e.g., perhaps connect to Walmart via Madison Park).
- The only “sacred cow” noted by staff is CVG. TANK recognizes the need to serve the CVG area well, but staff believes that they are not serving it at a level now that it needs to be served.
- Staff noted that Boone County has seen the most growth in employment (and therefore revenue), Campbell County the least, and Kenton County is in the middle.

June 20, 2019, Meeting with Frank Busofsky

- Gina Douthat is TANK’s contact for NKU and the student UPass.
- The NKU Shuttle was designed by the university so it should not be included among the proposed route changes. Campus shuttles do not operate when school is out.



- Kenton Avenue on the NKU campus may become pedestrian only in the future.
- Route 16 terminates at NKU, while Route 25 goes through.
- There have been many requests for service from the apartment complexes along Moock Road in Campbell County, but there are no pedestrian facilities, so it is unsafe. It may be a potential microtransit territory.
- Boone County has the most uniform development pattern.
- Bellevue in Campbell County has requested that the SBS be extended to that city. Frank says that this would add another vehicle.
- Route 11 meanders; it used to be all-day route to NKU that eventually was recommended for elimination. Instead, it ended up being shortened with some service hours being shifted to Route 16, which has a little more transit “feel.” One option is to make it an express on I-471.
- There are two park-and-rides near NKU, as well as two more farther south on Alexandria Pike. It may be possible to consolidate all of these facilities at a single location closer to NKU. One possibility is creating a new park-and-ride at the Cold Spring Shopping Center near AA Highway. Frank mentioned that the Meijer grocery store across the street has requested a transit stop and has apparent capacity for a park-and-ride facility. So, it may be possible to strike a deal with Meijer to move the Alexandria Park-and-Ride to this location and then terminate the Route 25X there, with Route 25 terminating at NKU.
- In the airport area, TANK has not pushed back about serving the CVG Centre, although it seems to be better served by an airport-run shuttle. With Amazon expanding in the area, there may be an opportunity for a subsidized “TANK Prime” service. Demand at DHL justifies service, but not really at CVG Centre.
- Wendell Ford Parkway will be extended off the airport, coming out near Aero Parkway and Ted Bushelman. Given this, it may be possible to extend Route 2X.

June 20, 2019, Meeting with Gary McCulley and Lyndi Whiteker

- Gary is TANK’s scheduler. He worked his way up from driver to scheduling assistant to scheduler, but has his hands on a lot of other tasks.
- Lyndi is TANK’s performance analyst and deals with the agency’s data.
- The scheduling software that TANK is going to be using is called M-Tran (originally from MAIOR in Italy), and it is coming from Clever Devices. The new software will be completely web-based with planning, scheduling, and bidding modules. Clever Devices’ contract kickoff is July 1st. Frank, Lyndi, and Gary will cross-train. Everything is supposed to go live September 29th, but it probably will be more like end of October.
- Gary has had lots of challenges with Sched21 since much of the work must be done by hand. He uses Microsoft Excel to clean things up.
- The only formal training that Gary has had is through Arthur Gaudet’s runcutting course.
- He indicated that rosters would sometimes violate the 12-hour break rule, usually Sunday into Monday. Paddles often have 4 to 5 different routes since schedules are tight. Operators request routes in picks, but this does not come out of the program. During picks, 8 to 10 operators pick per day. Payroll puts picks into its software. This information is imported into the Orb system, then sent out to buses (with some errors).
- TANK uses FleetNet as its payroll/financial software.
- TANK does 3 cycles for operator off-days so that they get a 4-day weekend every third week.



- Gary brought part-time operators back.
- Lyndi is having to deal with fixing poor input data into TANK’s CAD/AVL and APC system. As a result, the data show poor on-time performance (OTP) that may not reflect reality appropriately.
- Many of the express routes have only 2 time points (which also may help create OTP and scheduling issues).
- Lots of interlining occurs at Covington and Cincinnati. The last two stops on one route are the first two on another (e.g., 2X starts outbound trip in Covington). It is recognized that interlining could cause confusion concerning actual loads (set to 0 at end of route?).
- Currently, the interlines include Route 8 with Route 25, Route 3 with Route 16, and Route 7 with Route 12. The 2X kind of interlines with itself. Routes 5 and 16 interline on the weekends only.
- Some of the interlines are creating issues with OTP, as well.
- TANK has no current standards for assigning APC buses. A total of 15 out of 90 buses (peak) have APCs. TANK staff also can complete manual checks via video.
- For paratransit scheduling, the output is runs. Operators pick AM or PM and can pick days of week.
- It was stated that there is no easy way to do a bus stop audit.
- Frank indicated that TANK schedules around traffic/congestion and that different time-of-day running times are desirable. Currently, running times are different when school is out.
- Gary asked whether there is a tool to use that can help accommodate congestion in the scheduling process.
- TANK recently joined the NEORide Consortium to participate in mobile ticketing.
- Scott Boulevard and Greenup Street are a one-way pair currently, but there has been discussion about making both streets two-way between the river and 15<sup>th</sup> Street.
- TANK wants to make Madison Avenue the main transit corridor, especially for Routes 7, 8, 9, and 33. Currently, Route 7 is on Madison, with Routes 8, 9, and 33 on Scott Boulevard (OB) and Greenup Street (IB). If all four were on Madison, it could create effective 15-minute frequency service on the corridor.
- CTC is one-way from Madison Avenue to Scott Boulevard. All routes enter from Madison and all routes except Route 7 turn right on Scott when leaving. Route 7 goes left to cycle back to Madison.
- The portion of Route 33 on Orphanage Road and Horse Branch Road is poor for fixed-route service (possibly a better microtransit zone). Is it possible to re-route Route 33 via I-275 and end it at the St. Elizabeth Hospital in Edgewood?
- The Hebron Lutheran Church Park-and-Ride near CVG is a “double-edged sword.” It provides reverse commute parking for Route 39X, but demand is all out in the hinterlands. Route 2X ridership is up, but that for other express routes is declining. TANK has done employer-funded pilots to outlying work locations, but they have not always worked (the Route 31X terminating at Club Chef is an exception).
- Route 40X may be worth running only on Worldwide Boulevard, and ridership should be studied to determine if service is needed on South Park Drive and Global Way. Also, this route needs an extra bus at shift changes during the holidays.
- Route 42X is the main driver of demand at the Florence Hub; Route 1 is not busy there.
- Consider whether the Route 1X should extend down Houston Road and possibly combine with Route 1?



- Route 17X loops via Royal Drive in long turnaround to get to the Buttermilk Crossing Park-and-Ride, even though it is easier to get there directly from I-75.
- There is a portion of Crescent Springs with apartments and lower incomes that TANK does not currently serve.
- Routes 17X and 42X serve generally most of the same I-75 corridor. Route 17X is peak period service only and terminates at the Buttermilk Crossing Park-and-Ride, while Route 42X extends farther south to the Florence Hub Park-and-Ride.

#### June 20, 2019, Meeting with Kail Clifton

- It was reiterated that the paratransit service area has been expanded by policy; however, staff is supportive of limiting the paratransit service area boundaries to federal definitions and the ¾-mile limit. In addition, demand for this service is up and down.
- Redwood (near Orphanage Road) is a sort of “daycare” facility for adults with severe cognitive disabilities. Its patrons can use paratransit but not fixed route. Also, New Perceptions has special service via an extra bus.
- The four main area hospitals used to be St. Luke’s East and West, and St. Elizabeth North and South. St. Elizabeth bought out St. Luke’s and others (e.g., Patient First). TANK’s fixed routes serve the four hospitals; however, in the cases of Routes 5 and 16, they detour for at least 5 minutes to reach them. It was requested that the detour on Route 5 to the hospital (on Hewson Street) be examined to determine its necessity.
- Medicaid service is provided by the Federated Transportation Service of the Bluegrass State (FTSB).
- The Northern Kentucky Redevelopment District handles the coordinated system for Senior transportation.
- When companies fold, people look to TANK. They are fare-paying and reimbursable.
- TANK is strict in serving the ¾-mile ADA buffer in Cincinnati, except the Cincinnati Association of the Blind (on the west side of downtown by Union terminal), which falls outside this buffer but is still served. This agency was grandfathered in by TANK.
- TANK also provides weekend paratransit service in places that have no fixed-route service on weekends.
- TANK recertifies its passengers every 3 years. The agency also does in-person assessments for the certification process.

#### June 21, 2019, Random Comments from Various Staff

- The demographic characteristics of Crescent Springs north of Buttermilk Pike should be examined as there are some lower income areas there.
- Much of the Route 1X ridership comes from the industrial businesses along Airport Exchange.
- Aero Parkway is going to be a big deal in terms of new development out by Burlington.
- The Cold Springs Park-and-Ride is very hard to identify from the road; it occupies a small parking lot on the east side of Alexandria Pike located between a salon and Bob’s Sweeper Shop near the Bob Evans restaurant.



## A.1 Route Field Review Notes

One of the primary reasons for the initial site visit was to drive all the TANK routes and gain valuable context and insight into the service areas in which they operate. During this “windshield survey” of the routes, which was conducted over the entire week of the visit, members of the project team discussed various aspects of each route, including both positive and negative issues noted for each, and began developing potential concepts for improvements. Following is a synopsis of the primary observations that were made about the routes, bus stop infrastructure, elements of operation, and/or connectivity of the network during the five days of field review completed.

## A.2 Route Observations

*Note: Route observations are listed in numerical order based on route number, and do not necessarily align with the order in which the routes were reviewed in the field.*

- Route 1 has a significant number of variations in the south around the St. Elizabeth Florence Hospital and Walmart, as well as near the BAWAC facility. Currently, this portion of the route takes too long. Dependent on what the stop-level ridership data show, the route is likely a candidate for a circulator service or a shuttle, which would terminate at the Florence Mall. It was also noted that major congestion occurred on Houston Road and Burlington Pike during peak hours.
  - TANK staff mentioned this route deadheads from the Florence Mall to Cincinnati during one or more trips.
  - TANK staff also mentioned this route operates as two routes, Turfway Road and Industrial Road.
  - Dependent on what the stop-level ridership data show, the segment that operates within the St. Elizabeth Florence Hospital is likely to be adjusted to improve frequency.
- Route 5 operates as a local service between Fort Wright Hub and Cincinnati. The inbound segment between 4<sup>th</sup> Street/Scott Street and Holman Avenue/Pike Street needs to be further examined for operational concerns. Further, review of Route 5 south of Hanser Drive needs to be reviewed. It may be feasible to truncate this service and have an alternate route operate the segment from City Heights to the Fort Wright Hub.
- Dependent on what the stop-level ridership data show, it may be beneficial to have Route 7 turn at 40<sup>th</sup> Street rather than 45<sup>th</sup> Street.
- Route 8 operates as a local route providing transit service along Taylor Mill Road and Winston Avenue before traveling into Covington. Currently, this route provides transit to Fidelity and the Cambridge Square Apartments of Covington. Dependent on what the stop-level ridership data collected at the Cambridge Square Apartments show, it seems that this portion of the route is not needed. If removed, the route could use Howard Litzer Drive (serving the Covington Public Works Department or Mueller Roofing Distributors) or use Latonia Avenue (serving residential and several employment opportunities) to return back to the Fort Wright Hub.
- Route 9 is characterized as a local route but operates in peak periods only. It is long and terminates in the south at the Cherokee Shopping Center Park-and-Ride. Most of the service area south of I-275 is suburban in nature with low density, large parcels, and multi-vehicle homes. Dependent on what the stop-level ridership data show, the route is likely a candidate for





truncation at the shopping center (Remke) at the intersection of Taylor Mill Road and Old Taylor Mill Road.

- Route 12 operates as a local route providing service to Covington, Cincinnati, and northern portions of Campbell County. It should be considered that this route use the 4<sup>th</sup> or 12<sup>th</sup> Street bridges to return to Covington. In addition, it also is possible to incorporate this route into the SBS service in some fashion, as noted later.
- Dependent on what the stop-level ridership data show, it may be more productive for Route 18X to provide service to the medical complexes rather than operating on Dudley Road. If not, then Route 18X may be a candidate for deletion since it appears to be operating in a non-transit supportive area.
- Dependent on what the stop-level ridership data show, Route 22X is likely a candidate for truncation at Mount Zion Park-and-Ride. If not, Route 22X should be adjusted to operate on I-75 from Mount Zion Road to Mary Grubbs Highway.
- Route 25X operates as an express/local service providing transit service from the Alexandria Park-and-Ride to Cincinnati. At minimum, this route should be truncated to terminate at the existing Village Green Shopping Center Park-and-Ride. This change would require Park-and-Ride users who utilize the TANK service to drive an additional 2.9 miles. However, as noted previously on p. 2-5 in a bullet related to the Park-and-Rides near NKU, the consolidation of all the Park-and-Rides south of NKU should be considered, either at the Cold Spring Shopping Center near AA Highway or the Meijer grocery store across the street.
- Route 28X operates as both local and express service. It may make sense for time points A through E to operate as local service, while time points F through H operate as a shuttle. The segment operating from Cincinnati to Erlanger should operate as an express route on I-71/I-75.
- Routes 30X and 31X both operate on Madison Pike using the same route between Cincinnati and Club Chef. The only difference between them is that Route 30X continues to the Independence Park-and-Ride. Dependent on what the stop-level ridership data show, the route is likely a candidate for truncation at Club Chef or the Fort Wright Hub Park-and-Ride.
- Route 33 needs to be further examined. The segment between Walmart and St. Elizabeth Hospital Edgewood campus (primarily along Orphanage Road and Horse Branch Road) does not appear to be a transit-supportive environment that generates much ridership.

The SBS should serve as a frequent connector/circulator service between Covington and Cincinnati. To do this, it may be feasible to revamp the service as two reverse-direction loops that extend out along the South Bank, thereby combining with some portions of Routes 3 and 12. Since Bellevue has requested trolley service from the SBS, this may help address this request

### A.2.1 Network Observations

- Routes that serve remote park-and-rides need to be further reviewed. Dependent on what the stop-level ridership data show, the routes that serve remote park-and-rides may be adjusted.
- No service was provided over the 4<sup>th</sup> or 12<sup>th</sup> Street bridges.
- Based on the field review, express routes also operate as local routes throughout the service area.

### A.2.2 Infrastructure Observations

- Some stops are located in areas that are inaccessible, could create traffic issues when a bus stops, and/or too close to adjacent stops. It is recommended that stop placement should be



reviewed once routes are adjusted. In addition, it also is recommended that a stop placement policy be created to regulate the distance between stops.

- During the field review, the project team noticed the consistent shelter designs implemented by Crestview Hills. TANK should examine similar consistency of shelter design throughout the rest of its service area, perhaps with architectural or artistic embellishments that may help differentiate between the counties and/or municipalities.
- Park-and-Ride signs were placed an adequate distance away to notify users. However, it was difficult to locate some of the Park-and-Ride locations at shopping centers. If the number of Park-and-Rides are reduced through possible route truncations, it will be prudent to develop appropriate signpage plans for the final set of Park-and-Rides being applied to the redesign.

### A.2.3 Operations Observations

- Relief options need to be further examined.
- A further review of routes that deadhead back to Cincinnati (i.e., Route 1) should be considered. This may be eliminated with the implementation of relief vehicles.



## Appendix B: Sign-in Sheets for Stakeholder Group, 2019

Meeting Purpose: TANK - System Redesign Stakeholder Meeting  
 Date/Time: August 28, 2019 / 11 AM - 1 PM  
 Location: Covington Career Center

**SIGN-IN SHEET PLEASE PRINT** \* \*

#	NAME	ADDRESS	CITY/ZIP	PHONE	EMAIL
1	Brian Painter ①			859 760-8178	bms_painter@yahoo.com
2	Fernando Figueroa ②			505-936-5646	Fernando.Figueroa@kctcs.edu
3	JEFF EALSHINE ③			859 339 3 120	JEFF@WINE@BOONECOUNTYKY.ORG
4	Laura Thompson ④			859-801-1098	Laura.Thompson@toyota-boshoku.com
5	Joe Shirer ①			859-329-1420	joe.shirer@kentonschools.org
6	Kris Kacelaban ②			859-835-7000	Kris.Kacelaban@kentonschools.org
7	Khaled Shamoun ②			614-441-2037	kshamoun@go-me.tre.com
8	Sybil Murphy ③			859-992-9329	smurphy@cvgairport.com
9	Karen Finnan ④			859-620-3583	kfinnan@NKRegionAlliance.org
10	Tanya Frye ①			859-441-8303	tfrye@burchcenter.com
11	Beth Sewell ③			859-655-9840	beth.sewell@kentoncounty.org
12	Tom DiBello ④			859 803 0790	TOM@GREATNORTHKENTUCKY.ORG
13	Eric Summe ①			859 655 4157	esumme@metcity.com
14	TRAVIS GYSEGEN ②			859-380-7045	trgysegen@thecountyfind.org
15	Lisa Mulcahy ③			859 393 4638	Lmulcahy@NKYChamber.com



Meeting Purpose: TANK - System Redesign Stakeholder Meeting  
 Date/Time: August 28, 2019 / 11 AM - 1 PM  
 Location: Covington Career Center

**SIGN-IN SHEET**  
PLEASE PRINT

#	NAME	ADDRESS	CITY/ZIP	PHONE	EMAIL
1	Maart Elberfeld (4)	1008 Manmouth St	Newport Ky	859-547-1805	Melbae1d@comcast.net
2	Josh Wice (1)	8100 Ewing Blvd	Florence Ky	647-8777	jod.wice@florence-ky.gov
3	Jesse Brewer (2)			609-620-8001	Jbrewer@boonecountyky.org
4	Scott Gwenther (3)	4011 W. Park St. Bldg	Covington, Ky	859-468-8756	SGWENTHER@ASINDLAN.COM
5	Andrew Jones (4)			859-344-0040	amj@northkentuckyusa.com
6	Rashida Manuel (2)		Cinti, OH	513-541-1538	Rashida@greenumbrella.org
7	Rabyn Parnett (1)				Rabyn@cedars.org
8	Bacia Effen (2)	280 E 4th North			
9	Amanda Greenwell (3)	2140 Chamber Cir.	Ft. Mitchell Ky	525-6817	amanda.greenwell@wags.org
10	Kristin Bellman (2)			502 370 5600	Kbellman@nkydollar.com
11	Adam Cassel (1)			859 509 6735	cas4162@nkc.edu
12	Joe Meyer (4)			242-2217	Jmeyer@Livingtenky.gov
13	Pete Mels (3)				pmels@cincinnati-chamber.com
14	Carr Hardy (1)			513-227-9498	Carr@betterbuscoalition.org
15					



## Appendix C: Sign-in Sheets for Discussion Group, 2019

 Meeting Purpose: TANK - System Redesign Discussion Group Meeting Date/Time: August 29, 2019 / 10 AM - 12 PM Location: Covington Career Center		SIGN-IN SHEET PLEASE PRINT			
#	NAME	ADDRESS	CITY/ZIP	PHONE	EMAIL
1	SUZANN GETTYS			859-292-2141	sgettys@covingtonky.gov
2	MATT DOWLING			859-344-7911	Dowling@cityofEISmere.com
3	Tom Weck			859-292-2163	tweck@covingtonky.gov
4	Matt Kremer			859-393-4565	matthew.kremer@cityofcaberger.com
5	Will Weber			859-541-1806	WillWeber@CampbellCountyKY.gov
6	James Fausz			859-331-8980	jfausz@pdskc.org
7	Brian Dehner			331-5910	bdehner@clayco.ky.gov
8	Larisa Sims			292-3664	LSIMS@newportky.gov
9	Scott Seelmak			(859) 655-1753	scott.seelmak@steliasbki.com
10	Jason Brooks			859-334-6561	jbrooks@nyc.org
11	Jason Ashbolic			859-288-1885	jason.ashbolic@nkead.org
12	Candace Kleier			859-835-204	candace.kleier@chamber.com
13	Chris Bearzbauer			859-655-7306	cbearzbauer@hacov.org
14	Jody Robinson			859-292-4220	jody.robinson@bellevueky.org
15	Ron Dill			859 441-1055	RDill@ffthomas.org



**TANK**  
TRANSIT AUTHORITY OF NORTHERN KENTUCKY

Meeting Purpose: TANK - System Redesign Discussion Group Meeting  
 Date/Time: August 29, 2019 / 10 AM - 12 PM  
 Location: Covington Career Center

**SIGN-IN SHEET  
PLEASE PRINT**

#	* NAME	ADDRESS	CITY/ZIP	* PHONE	* EMAIL
1	Jan Johannemann			859-655-4125	jans@alexandriaky.org
2	Starr Smith			859-640-5926	ssmith@hdcwv.org
3	Tim Williams			859-341-7373	twilliams@crestbuttehills.com
4	Correy Eimer	KY Career Center		859-292-2638	correy.eimer@ky.gov
5	Bob Jonas	Boone Co. Planning Comm.		859-334-2196	jonas@boonecountyky.org
6	DANE BLACKBURN	421 BUTTERFIELD PK	41017	859-341-2700	dane.blackburn@ky.gov
7	Shamhi Reddy	2355 Dixie Highway	41017	859-931-1212	sreddy@fortmitchell.org
8	Cindy Minter	1098 Monmouth Ave	41071	859-299-3880	cminter@campbellcountyky.org
9	Jon Adkins	2300 Madison Ave.	COV 41014	859-655-7316	JADKINS@HACOV.ORG
10	Jeanne Pettit	170 Johns Hill Rd	Highland HTS 41026	859-441-8575	jpettit@hhky.com
11	Jim Hamberg	1326 Electric	SUNTINGATE	859-441-0075	JHAMBERG@SUNTINGATE.COM
12	Bill Bailey	409 Kyles Lane	Ft. Wright	859-424-3100	jbbailey@fortwright.com
13	Bob Yoder			461.1600 914?	yoder@daytonky.com
14	Ryan Salzman			817.994.4610	ryansalzman@gmail.com
15					



Meeting Purpose: TANK - System Redesign Public Meeting  
 Date/Time: August 29, 2019 / 4 - 7 PM  
 Location: Covington Career Center

**SIGN-IN SHEET  
PLEASE PRINT**

#	NAME	ADDRESS	CITY/ZIP	PHONE	EMAIL
1	Tyler Mobary	726 S. Gans Ave	Ft. Thomas	859-866-1883	tyMotech@live.com
2	Sam Turner	800 Penner Hwy	Ft. Wright	859-341-0587	psmtur@psmtur.net
3	Eric Dillaney	10069 Indian Hill Dr	Union Ky 41091	859-384-0642	egdulane@yahoocom
4	Jack Moorehead	425 York	Newport	859-655-7700	J.Moore@SouthlandPark.com
5	Patrick Hogem	246 Fuch Ave	Bellvue		Hogemkcs@mail.com
7	Sue Breivik	2109 Glenway	Covington	859-513-2185	sbreivik@brightoncenter.com
8	MARY WELLS			859-261-3928	
9	Joe Klare	506 E 4th	Newport, KY	859-496-0301	jklare@gmail.com
10	Julia Pile	6201 Fox Run Ln	Florence 41042	859-488-1548	j.pile@stingermedall.com
11	Paul See	2908 Ten Mile Rd	Melbourne KY 41659	859-216-6443	p.see@fcc.com
12	Jody Johnson	209 Nemmer Ave	Fort Thomas Ky	(859) 992-5836	jjohnsonac@gmail.com
13	April Birkley	3168 Woodwood	Erinsburg Ky	513-207-0845	abirkley@aol.com
14	SCOTT POSTON				
15					



**TANK**  
 TRANSPORTATION AUTHORITY OF NORTHERN KENTUCKY

Meeting Purpose: TANK - System Redesign Public Meeting  
 Date/Time: August 29, 2019 / 4 - 7 PM  
 Location: Covington Career Center

**SIGN-IN SHEET  
PLEASE PRINT**

#	NAME	ADDRESS	CITY/ZIP	PHONE	EMAIL
1	Dorothy Holloway	2111 Howell	Cov Ky 4014	859 581 0751	
2	David Ellis	319 Werk Rd Apt 2 Cov OH 45211	Cov OH 45211	613-206-9630 WP 513-661-5249	Davidellis@captions.com
3	JOE SCHWERLING	15 MARFIELD AVE FR PROMAS KY 40175	FR KY 40175	423-0966	TIJJOEKY@GMAIL.COM
4	JONATHAN WEINMAN			513 895 8771	JONATHAN.WEINMAN@GMAIL.COM
5	JILL CONNIFF			957.220.6026	jconniff@psdkc.org
6	Margaret Rain	2655 crescent Springs Rd Er Langen	41017	859-777-2526	margaret.rain@svidparky.com
7	Jennifer Boblitt	209 Newmarket Ave. Forest Hills	41075	859-466-6666	boblitt.j@usvc@gmail.com
8	Scott Poston	315 EAST 18th	COV	708-477-5000	
9	Brian Edmonson	937 Highland	COV	859-739-9367	
10	Michelle Smith	3 S. Brushwood Ct.	Alex 41001	859-620-7076	Michelle.smith@aec.com
11	Karl Oberjohn	841 Aberdeen Rd Park Hills	Hills 41011	859-468-2835	kwoberjohn@yahoo.com
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**TANK**  
TRANSIT AUTHORITY OF NORTHERN KENTUCKY

Meeting Purpose: TANK - System Redesign Public Meeting  
 Date/Time: August 29, 2019 / 4 - 7 PM  
 Location: Covington Career Center

**SIGN-IN SHEET**  
PLEASE PRINT

#	NAME	ADDRESS	CITY/ZIP	PHONE	EMAIL
1	Gary Foose	1111 N. Ft Thomas Ave	Ft Thomas 41075	513 484 2203	foosegj@hotmail.com
2	Margorie Hull	—	Ft Thomas	—	mar.j.hull@fuse.net
3	Blake Ethridge	6189 Oaklawn Dr	Cincy 45237	(410) 371.9961	blake.d.ethridge@gmail.com
4	Don Brockmeier	560 Palmor Ct.	<sup>H1017</sup> Crestview Hills KY	—	erlangewrangler@yahoo.com
5	Paul Miller	322 Elm St Ludlow	41016	513 206 4622	Paul@Bircus.com
6	Charlisa Daniels	907 Trellises Dr	Florence 41042	—	charlisa.daniels@gmail.com
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**TANK**  
TRANSIT AUTHORITY OF NORTHERN KENTUCKY

Meeting Purpose: TANK - System Redesign Public Meeting  
 Date/Time: August 29, 2019 / 4 - 7 PM  
 Location: Covington Career Center

**SIGN-IN SHEET  
PLEASE PRINT**

#	NAME	ADDRESS	CITY/ZIP	PHONE	EMAIL
1	Paula Schul	2136 Castle Ct	Burlington 41005	859 5861650	paulaschul@yahoo.com
2	Cari Gungwer	3027 Silverbrook Dr	Burlington	859 251 5531	Cari.gungwer@duke-energy.com
3					
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## Appendix D: Flyer Noticing Public Meeting #1



# PUBLIC MEETING

## Redesign of TANK Bus System

**TANK is starting the process of Redesigning the Northern KY Bus System and we need your input!**

We are seeking public comment on everything from current service, future needs and your ideas about what TANK should do as part of the service redesign. Here's how you can provide your feedback!

1. Come to the TANK Public Meeting (Open House style):
  - **DATE: August 29, 2019**
  - **TIME: 4:00 - 7:00 PM (with a brief presentation on the half hour)**
  - **LOCATION: Kentucky Career Center, 1324 Madison Ave, Covington**
2. Visit the Redesign page on the TANK website ([www.tankbus.org](http://www.tankbus.org)) to stay informed on the process, plan and ideas generated.
3. Send your comments to us at [info@tankbus.org](mailto:info@tankbus.org)





## Appendix E: Sign-in Sheets for Public Meeting #1

### TANK Plans a Redesign Of the Bus System

From the website: "TANK is starting the process of redesigning the Northern Kentucky bus system and we need your input! We are seeking public comment on current service, future needs and your ideas about what TANK should do as part of the service redesign."

Come to the TANK Public Meeting (Open House style):

- DATE: Thursday, August 29, 2019
- TIME: 4:00 - 7:00 PM (with a brief presentation at 4:30 pm, 5:30 pm and 6:30 pm)
- LOCATION: Kentucky Career Center, 1324 Madison Ave, Covington, KY

**Your voice matters!**

Name - please print	Current street where you board / depart #11	Frequency of Riding Route #11 Daily est. # /month	Importance of transit access to Cincinnati Rate 1 - 10 (10 = Most important)
MARJORIE HULL	N. Ft. Thomas	5+/week	10
David W...	N. Ft. Thomas	5+/week	10
Gary Foose	N Ft Thomas	4 / month	10
Liz Zaebst	N Ft Thom	8 / month	10
Emily Anderson	<del>Clayton</del> Clover Ridge	daily	10
DAVE BROOKS	Clover Ridge	20 / month	10
Miranda Hoskins	N. Ft Thomas	4 / week	10
Katrina Marshall	Washington	5 / week	10
Jacqui Killen	N. Ft Thomas Ave	20 / month	10
RYAN KIRK	LUMLEY - NTA	20 / month	10
Eric Lohbeck	N. Ft. Thomas	20+ / month	10
Stan Ross	N. Ft Thomas	10 / mo	10
John Howell	N. Ft Thomas	10 / week	10
Cathy Farkas	Washington	10 per week	10



## Appendix F: Handouts for Public Meeting #1



# AGENDA

## Public Meeting, August 29, 2019

### Redesign of TANK Bus System

#### SIGN-IN TABLE

Please be sure to sign in and pick up our project handouts. The sign-in sheets will help us keep you updated on the Redesign Study.

#### PRESENTATION

A brief presentation will be shown on the half hour (4:30, 5:30 and 6:30 PM). The same information will be presented at each.

#### STATIONS

There are 4 stations throughout the room that provide you an opportunity to provide us with important input, including information on where you live, where you regularly travel and how you would like to see TANK improve.

#### FEEDBACK FORM

We'd like to know how we did today, so please take time to complete the feedback form and return it to the sign-in table or to a staff member.





# FACT SHEET August/September 2019

## Redesign of TANK Bus System

### What is a “Redesign” Study?

To help create a more efficient and effective bus system for our tri-county area, the Transit Authority of Northern Kentucky (TANK) is undertaking a study to help re-imagine the agency’s current bus route system. Basically, TANK is striving to update its network of bus routes to create a new structure that will better meet the mobility needs of the region.

### Will the “redesign” effort remove all current bus routes?

Not necessarily. The study will look at each current route in TANK’s system to determine whether it has sufficient demand and use to warrant being maintained as is, or if it needs to be improved and/or changed. So, some routes will stay the same, while others may be “tweaked” a bit, and still others may be extended, shortened, realigned or removed. As part of this process, it will also be important to consider the best type of transit that would best meet the needs of riders.

### What is the purpose of doing this type of study?

The purpose of this study is to identify a financially-sustainable system that will provide community-supported transit to an array of customers with varying needs and to support the continuing growth in the region. With public input, TANK wants to ensure safe, convenient, and accessible public transportation for as many residents, workers, and visitors as possible.

### Will the public have an opportunity to weigh in on the System Redesign Study?

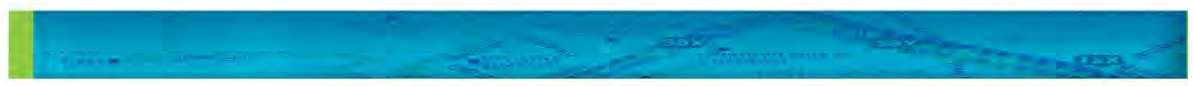
Absolutely! Our staff and Consultant Team are developing ways to involve the public to hear their comments and concerns. A public meeting is being held on August 29<sup>th</sup>, and an online survey will be created and distributed through various outlets. TANK’s web site also has information and provides ways in which the public can comment: <https://www.tankbus.org/learn/2020-system-redesign>

### When will the Study be completed?

It is the goal of TANK to have the draft plan completed by late 2019 to present to the public for final comments. Once all comments are received, the plan will be revised to incorporate any changes deemed necessary by TANK and its Board of Directors. The final plan is anticipated to be completed by January 2020, with adoption in February/March 2020.

### Will the new system be permanent or reviewed again in 3-5 years?

It is essential that the new system be sustained and available to citizens on a long term basis, especially since most major system changes take at least three years for riders to become fully accustomed to them. Nevertheless, it is important for transit agencies to regularly review their services, so TANK will continue to monitor its system and performance of its routes over time in case additional adjustments will be beneficial in the future.





# PUBLIC MEETING FEEDBACK FORM

## Redesign of TANK Bus System

Please take a few moments to fill out this feedback form. Once completed, please return to the registration table or send by September 29, 2019 to:

Karen Simon, Simon Resources, Inc. • 3946 Tonbridge Lane • Winston-Salem NC • 27106

Or email to: [simonresrc@gmail.com](mailto:simonresrc@gmail.com)

**TELL US ABOUT YOURSELF!** Your information will not be shared for any other purpose.

Your Name: \_\_\_\_\_

Email Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

1. Was the meeting location easily accessible to you?

- YES
- NO - If no, why?

\_\_\_\_\_

2. Was the information presented in a way that made it easy to understand?

- YES
- NO - If no, what information was confusing and how can we make it easier to understand?

\_\_\_\_\_

\_\_\_\_\_

3. Was the "station format" a good way to present the information today?

- YES
- NO - If no, what type of format would you have preferred?

\_\_\_\_\_

4. Is there information you would like to know that was not included today (please be specific)?

\_\_\_\_\_

\_\_\_\_\_

<https://www.tankbus.org/learn/2020-system-redesign>

[info@tankbus.org](mailto:info@tankbus.org)



## Appendix G: Sign-in Sheets for Stakeholder and Discussion Groups, 2020

		Meeting Purpose: TANK - Draft Recommendations Discussion Group Date/Time: January 8, 2019 / 10 AM - 12 PM Location: Covington Career Center				
SIGN-IN SHEET PLEASE PRINT						
#	NAME	ADDRESS	CITY/ZIP	PHONE	EMAIL	
1	Brian DeLeon	<del>385 Dunlop</del>	Edgewood	331-5910	bdeleon@edgewoodky.gov	
2	Caitlyn Clark	SM		935-7104	NKChamber	
3	Jason Ashbank	22 Spital Dr. #10	Florence	203-1805	jason.ashbank@nksad.org	
4	James Farsz					
5	Larisa Sims					
6	Conney Eimer	K4 Career Center	Covington	292-2638	conneyeimer@ky.gov	
7	Jan Johanna Maria	Alexandria				
8	Tim William	Crescent Hills				
9	Ron Bill	Fort Thomas				
10	Jim Hamberg	Spartanburg				
11	Robert Joder	Dayton				
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**TANK**  
TRANSIT AUTHORITY OF NORTHERN KENTUCKY

Meeting Purpose: TANK - Draft Recommendations Stakeholder Meeting  
Date/Time: January 7, 2019 / 11 AM - 1 PM  
Location: Covington Career Center

**SIGN-IN SHEET  
PLEASE PRINT**

#	NAME	ADDRESS	CITY/ZIP	PHONE	EMAIL
1	Bance Applegate	City of Covington	Covington	765-414-1572	bapplegate@covingtonky.gov
2	Wade Johnston	5030 Oaklawn Dr	Cincinnati; 45227	513-541-1538	wade@greenumbrellas.org
3	Laura Thompson	TANK			
4	Kris Kaschelman	Kent Co. h		857-835,500	
5	Joe Shiver	'c		'c	
6	Beth Sewell	Kenton County	Covington 4014	859-620-9661	beth.sewell@kentoncounty.org
7	Christine Russell	300 Sutherland Pike	St. Mitchell 4017	513-675-8093	CMR@NorthernKentuckyusa.com
8	Mary-Pamela Schul	NPU	HHS	859-572-5122	schulh@nku.edu
9	Steph Shover	Brigades Center	Newport Ky	859-750-5510	ssshover@brigadescenter.com
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**TANK**  
TRANSIT AUTHORITY OF NORTHERN KENTUCKY

Meeting Purpose: TANK - Draft Recommendations Stakeholder Meeting  
Date/Time: January 7, 2019 / 11 AM - 1 PM  
Location: Covington Career Center

**SIGN-IN SHEET  
PLEASE PRINT**

#	NAME	ADDRESS	CITY/ZIP	PHONE	EMAIL
1	Mark Elbert	CCAC			melbert@campbellcountyky.gov
2	Dale Nelz	Cincinnati Chamber			dnelz@cincinnati-chamber.com
3	Kayla Boncatt	DKI			kboncatt@dki.org
4	KHALED SHAMMOUT	SORTA			
5	Jesse Brewer	Boone Co			
6	Brian Painter	Campbell Co FC			
7	Joe Shriver	Kenton County			bpainter@campbellcountyky.org Joe.Shriver@KentonCounty.org
8	Lisa Mulcahy	NKY Chamber			lmulcahy@nkychamber.com
9	ERIC SWANIE	medtnky			eswanie@medtnky.com
10					
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**TANK**  
TRANSIT AUTHORITY OF NORTHERN KENTUCKY

Meeting Purpose: TANK - Draft Recommendations Stakeholder Meeting  
 Date/Time: January 7, 2019 / 11 AM - 1 PM  
 Location: Covington Career Center

**SIGN-IN SHEET  
PLEASE PRINT**

#	NAME	ADDRESS	CITY/ZIP	PHONE	EMAIL
1	Fernando Figueroa	Gateway CTC	NKY	215-916-5646	Fernando.Figueroa@kcs.edu
2	Cathryn Bowman-Thomas	NKCAL		157.684.7275	Cboman-thomas@nkcal.org
3	Kenneth Webb	1632 Greenway	NKY	859-261-3783	Kwebb@nnp-public-bus.com
4	Shannon Ratterman	Center for Great Neigh.	Covington	859 866 7524	shannon@greatneighborhoods.org
5	JEFF EAKLYWINE	BOONE COUNTY F-C	41005	334-3120	JEFF@NMCBOONECOUNTY.ORG
6	TRAVIS SYSTEM	The catalytic fund	41011	859 380 2045	t.g.system@thecatalyticfund.org
7	Scott Guenther	TANK	41011	859-468-8256	SGUENTH@PRC.ASNWDLAW.COM
8	Brian Elker	TANK			
9	Tony Fry	Brighten Center	41071		tfry@brightencenter.ca
10	Suzanne Gettys	20 W. Pike City of Covington	41011	292-2141	sgettys@covingtonky.gov
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Meeting Purpose: TANK - Draft Recommendations Discussion Group  
 Date/Time: January 8, 2019 / 10 AM - 12 PM  
 Location: Covington Career Center

**SIGN-IN SHEET  
PLEASE PRINT**

#	NAME	ADDRESS	CITY/ZIP	PHONE	EMAIL
1	Scott Sedmak	1 Medical Village, Elsewood	41017		scott.sedmak@state.k2a.net.ky.com
2	Shamikh Reddy	2355 Dixie Highway	41017	859.831.1212	
3	Will Weber	CCFC	41071	859-620-6268	
4	Mike Doly	Crescent Springs	41071	859-341-3417	
5	Paul Conway				
6	Ryan Steinhilber	218 Va			
7	Sandy Brodes				
8	PANE BLACKBURN	KVC			
9	Jill Bailey	COFW	41011	859426-3100	jcbaily@fortwright.com
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## Appendix H: Flyer Noticing Public Meeting #2



# PUBLIC MEETING- OPEN HOUSE

## Redesign of TANK Bus System

***DRAFT RECOMMENDATIONS are ready to share with you!***

After much analysis, public and stakeholder involvement, and review of comments and input, TANK and the Consultant Team have developed draft recommendations for a redesigned TANK. Some major changes are proposed! Please join us at a public meeting to learn more about the recommendations and provide your thoughts.

- **DATE: January 7, 2020**
- **TIME: 4:00 PM - 7:00 PM**
  - **Brief Presentation at 4:30 PM and 6 PM, followed by Q&A session**
  - **Staff will be available to explain specific routes before and after the presentations**
- **LOCATION: Kentucky Career Center, 1324 Madison Ave, Covington**

If you cannot make the meeting, you can view the recommendations on TANK's website at [www.tankbus.org](http://www.tankbus.org) and send your comments to us at [info@tankbus.org](mailto:info@tankbus.org).





## Appendix I: Sign-in Sheets for Public Meeting #2

**Meeting Purpose:** TANK - Draft Recommendations Public Meeting  
**Date/Time:** January 7, 2019 / 4 - 7 PM  
**Location:** Covington Career Center

**SIGN-IN SHEET  
PLEASE PRINT**

#	NAME	ADDRESS	CITY/ZIP	PHONE	EMAIL
1	Raymond Watkins	4526 Clifton Ave	Covington 41015	859-307-1709	myspidergins@gmail.com
2	Jill Conniff	1840 Simon Kenton	Covington 41017	859-331-8980	jconniff@postk.org
3	Mike Hills	115 Tremont Ave	Fl. Thomas 11078	859-663-7391	michael.hills@fortthomas.kyschools.us
4	MIKE CHUM	1075 Russell St A1	Covington 41011	859-789-2088	SCAPE CONSULTING @ GMAIL.COM
5	Kaw Kerstin	18 Bright	NWPA	859-280-2262	
6	Clayton Frank	31 Highland Ave.	Fl Thomas 41025	859-801-2880	baracalay@gmail.com
7	Darryl Burton	325 Trevor St	Covington 41011	859-581-3246	N/A
8	RAM MULLINS	1232 GARRARD ST	Covington 41011	859-750-2098	
9	Vanola O'Matthews	229 Foothill Apt. 1	Dayton Ky 45404	859-878-3208	angelsnot9016@yahoo.com
10	Hayley				
11	Sybil Brown	123 Lynn St	MO 41011		
12	Jeffrey Gulland	3015 Catherine	Edgewood 41011	017859-341-8673	<del>JEFFREY</del>
13	Shawn Dikes	401 W Main St. 500	Low KY 40202	502-777-1971	Traveling by a Busse 2017
14	Melinda Ford	3480 Moffett Rd	Morrisview 41063	859-292-2632	Melinda.ford@kiddieland.com
15	Steve & Tracy (2)	217 6th Ave	Dayton 41074		tracy@speci.com

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**TANK**  
 Meeting Purpose: TANK - Draft Recommendations Public Meeting  
 Date/Time: January 7, 2019 / 4 - 7 PM  
 Location: Covington Career Center

**SIGN-IN SHEET  
 PLEASE PRINT**

#	NAME	ADDRESS	CITY/ZIP	PHONE	EMAIL
1	Jennifer Lampert	256 Gilbert Ave A	Cincinnati 45206		jplampert@adsposure.com
2	Melinda Lampke	3904 Locke St	CON 41015	859.750 9732	
3	Melissa Jenkins	99310 Yich Highway	Florence		
4	Donald M. Reese	3027 Mint Ave	Cincinnati 513 227-7756		
5	DOUG GRIBBONS	1860 Queen City 422	CINCINNATI	(513) 828-2522	
6	Mary Thompson		Dayton, OH		
7	Justin Bandenburg	1817 Greenup St	Covington		justin.r.bandenburg@gmail.com
8	April Birkley	3188 Woodward	Erving	513-207-0845	abirkley@ad.com
9	Bill Wells	110 CRISTAL AVE	CON	513-582-3878	bill4cov@gmail.com
10	Paulina Smolenski	613 E. 2nd St Covington	OH	(859) 431-2228	
11	Manana Keiron	444 Chase Avenue Erving, KY	41018	859-342-5838	makinc@y2koo.com
12	Nathan Perin	1936 Eastern Ave	Covington/41014	859-512-0681	nathaniefperin@gmail.com
13	Nat Donermeyer	33 Summit Ave	FT. Thomas 41075	(859) 628-9595	natalie.donermeyer@earthlink.com
14	Kathy Donermeyer	33 Summit	FT. Thomas 41075	859 802 8903	kd57sunny@gmail.com
15	Margaret M. Neer	219 Adams Ave	Covington, KY	513-502-3763	mm.neer@gmail.com
	Brian Goussak	"	"	513-300-8743	b.goussak@gmail.com



Meeting Purpose: TANK - Draft Recommendations Public Meeting  
 Date/Time: January 7, 2019 / 4 - 7 PM  
 Location: Covington Career Center

**SIGN-IN SHEET  
PLEASE PRINT**

#	NAME	ADDRESS	CITY/ZIP	PHONE	EMAIL
1	Tyler Mobony	426 S. Grand Ave	41077	659-866-7883	tylermobony@llor.com
2	Raffi Kay Emerson	402 E 20th St Cov.	41014	859 628 2019	originales@prosebooks@gmail.com
3	Cristian Spicer	305 East 34th Street	Cov. 41015	859-786-9218	cspicer-comics@gmail.com
4	Wilma Giv. Pitt	1416 Russell St. St.	NOV. 41015	513-616-3945	
5	Juanita Grant	405 Kenton St	Dayton 41074	513 904 2276	nita.333rose@gmail.com
6	BEV HOLIDAY	6014 MONROE ST	NEWPORT 41071	859-512-0360	BEV.HOLIDAY@NEWSLETTER.GOV
7	Janice Ramos	140 Ashland Drive	Cov 41015	859 380 3323	Janiceramos@yahoo.com
8	JOE SCHWERTLIN	192 HOLIDAY LANE	FT 41075	859-442-0966	TMTDEXY@GMAIL.COM
9	Florence Parker	720 E. Pete Rose Way	Cinti 45203	513.619.7686	fparker@okio.org
10	Margie Hull	28 Sterling Ave	41075	513.307.3009	Marg.Hull@fuse.net
11	D. Holloway	2111 Howell		581-0751-1815	
12	Tommy Hayden	902 29th St	Cov. 41015	859-903-3040	Tommyhayden65@yahoo.com
13	Michele & Steve Bradley	126 Krausmelpman Dr Ft Mitchell	41011	859-308-8810	sbrand859@gmail.com
14	Jason Kramb	627 Linden Ave	Newport	734-383-6042	krambjas@umich.edu
15	Mary Tucker	800 Brothers	FT WRIGHT	859 341-0577	marytucker@pro.com

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**TANK**  
TRANSIT AUTHORITY OF NORTHERN KENTUCKY

Meeting Purpose: TANK - Draft Recommendations Public Meeting  
 Date/Time: January 7, 2019 / 4 - 7 PM  
 Location: Covington Career Center

**SIGN-IN SHEET  
PLEASE PRINT**

#	NAME	ADDRESS	CITY/ZIP	PHONE	EMAIL
1	Jonathan Barnes	21 Indiana Dr	Covington 41015	859 360 2042	jonleebarnes1961@gmail.com
2	Rick Lutz	2525 WATKINS	Crescent Springs	859.391.9081	RLUTZ1953@YAHOO.COM
3	Ken Bowman	60 Atamont Ct.	Fr. Thomas	513-543-4230	KBOWMAN@F4THOMAS.ORG
4	Michael J Evans	Evans 2 Circle #1 Drive	Flanagan 41042	859-818-3451	
5	ANTONIO MIRARCHI	940 CENTRAL AVE	NEWPORT 41071	859 757 9052	TONYMIRARCHI@G-MAIL.COM
6	RICHARD DICKMAN	316 E. 3RD	Cov. 41011	859 749-5073	RICHARD@SMOKEJUSTICE.COM
7	JERRY R. RECUSO	CITY OF NEWPORT			
8	Sr. Janet Bucher	246 E. 10th St.	Cov. 41011	859-491-5872	jbucher@fuse.net
9	Brian Edmonson	937 Highland Ave	Cov. 41011	859-739-9367	
10	Beverly Colmar	411 Patten St. #213	Cov 41014		
11	Nick Grub	175 Cave Run	Flanges 41018	859-962-8391	nistrub@yahoo.com
12	Glenn Jensen	418 E 18th St	Cov 41014	859 966 3747	
13	John Flesch	215 STREET AVE	Cov 41014	859-547-7200	JJFlesch@aol.com
14	Wade Eads	611 VINE STREET	Dayton 41074	859-957-3579	VIPER88338@gmail.com
15	STEM PENNINGTON	4911 CORN ROW CT	WHEEL 41051	859-308-7862	STEM.PENNINGTON@HORUSL.COM



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#	NAME	ADDRESS	CITY/ZIP	PHONE	EMAIL
1	Jue Moberg	2420 Memorial	Covington, KY	859-635-4902	KYMOBERG@gmail.com
2	MATT KOENIG	26 MEMORY LAKE	FT. THOMAS	859-912-2566	MKOENIG@HISPOSURE.COM
3	MARY WELER	327 E. 17TH	COVINGTON	859-261-0908	
4	Gordon Henry	922 Park Ave	Newport	859-803-8835	Gordon.lee.henry@gmail.com
5	MARY CLIFTON	3800 LAKE ST CHRISTINE BUILDING	COV	859-240-9209	MARY.C.LIFTON@SMI.L
6	Jasmine Sims	350 Pike St. Apt. #1	Covington 41011	(859) 444-9085	Jazziegr17@yahoo.com
7	Lynita Wadley	11 Ridgeview Ave.	# 41042	859-957-3324	
8	Mark Looy	1598 Battery Circle	Hebron 41048		mlooy@juna.com
9	Bob Porter	2917 Sequoia Dr.	Edgewood	859-393-4608	bob.porter@mail.house.gov
10	TERESA OSBORN	722 LeHamer	COV	512-8410	NO ONE
11	Tom Guidugli	409 WASHINGTON	NEWPORT	859-613-0311	tom@vote.guidugli.com
12	ROBERT HARINE	524 E. SOUTHFRAN	COV	859-653-0032	rbharne3@gmail.com
13	Rachel Roberts	608 Monroe St.	Newport	970-274-4400	rachel@theroberts.com
14	BOB JONAS	2950 Wash. St	Burl., KY 41005	859-334-2196	sjonase.boonecountyky.org
15	Chris Schneider	1840 Simon Kn	COV		<del>Chastota</del> Schneider@pskcc.org



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#	NAME	ADDRESS	CITY/ZIP	PHONE	EMAIL
1	Jeanne Beach	909 Shuman St 3113 Wren Rd Apt 2	Covington KY 40311	502-909-8891	
2	David Ellis		Cynth Ohio	513-206-9630 videophone	Davidellis@Cynco.or.com
3	Erica Albrecht	401 W Main	Louisville	502-909-3245	erica.albrecht@ndvnc.com
4	Gary Foose	1111 N. Ft Thomas Ave	Ft Thomas	513-484-2203	foosegje@hotmail.com
5	Ken Duffin	PO Box 7296	Norwood	859-966-9880	
6	MARCA JOHNSON	1402 KENDALL ST	COUNINGTOW	859-443-6467	marjay457@gmail.com
7	Fawn Braden	8 W 32nd St	41015	859-322-8443	fbraden@y2koo.com
8	Beth Raum	2315 Royal Dr. #15	41017	859-446-2216	braum@brightoncenter.com
9	Marco Rodriguez	4601 Decoursey Ave	41015	859-978-8009	marregre2@gmail.com
10	Ruyton Rodriguez	4601 Decoursey Ave	41015	859-977-6220	gilliganp1@icloud.com
11	Open House	721 Oakland Dr	41015	431-5626	
12	Stephen H. Collins Jr.	100 Alexander Ave. #29	41071	317-213-4703	collins.stephen@stcglub.com
13	Jerry Padgett	18 Orchard Hill Rd.	41075	513-910-8485	jerry.padgett@outlook.com
14					
15					



## Appendix J: Handouts for Public Meeting #2



# AGENDA

## Public Meeting, January 7, 2020

### Redesign of TANK Bus System

#### SIGN-IN TABLE

Please be sure to sign in as the sheets will help us keep you updated on the Redesign Study.

#### PRESENTATION

A brief presentation will be shown at 4:30 and, if necessary, again at 6:00 PM. The same information will be presented at each.

#### STATIONS

There are 4 stations throughout the room that show the proposed changes to the bus system; these include routes to jobs, for commuting, in neighborhoods and express service. Please stop by the stations and talk to a TANK staff person or Consultant Team member.

#### FEEDBACK FORM

We'd like to know how you feel about the changes and how they may affect your travel.





## PUBLIC MEETING FEEDBACK FORM

### Redesign of TANK Bus System

Please take a few moments to fill out this feedback form. Once completed, please return to the registration table or mail/email by January 21, 2020 to:

Frank Busofsky, TANK • 3375 Madison Pike, Ft. Wright, KY • 41017 • [info@tankbus.org](mailto:info@tankbus.org)

Your Name: \_\_\_\_\_

Email Address: \_\_\_\_\_ Phone No.: \_\_\_\_\_

- 1. Do you understand the proposed recommendations?
  - YES
  - NO - If no, what can we help clarify the information?

\_\_\_\_\_  
\_\_\_\_\_

- 2. Will the proposed route changes affect you?
  - NO
  - YES - If yes, which route(s) and how will the change(s) affect you?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- 3. Do you feel that the proposed changes are an improvement to the current system?
  - YES
  - NO - If no, why?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

<https://www.tankbus.org/learn/2020-system-redesign>

[info@tankbus.org](mailto:info@tankbus.org)