INTRODUCTION

The Transit Authority of Northern Kentucky (TANK) initiated this Transit Network Study to assess the effectiveness of its current operations and establish short-range and long-range plans. Results of this study will help TANK meet the ongoing challenges of a growing population and employment base, changing travel patterns and satisfying the diverse mobility needs of its residents, workers and visitors.

The purpose of this report is to outline the Long Term Vision for TANK and provide implementable steps to reach this Vision. An existing conditions report has been prepared and serves as background documentation for this effort. Additionally, as part of the process, short-term recommendations were made relative to existing bus operations and these recommendations are in various stages of implementation.

Public Involvement

This process included input throughout the process. An Advisory Team, made up of representatives of the following organizations, was formed to guide the *Transit Network Study*:

- Boone County
- Campbell County
- Kenton County
- Airport Area Industrial Association
- Boone County Planning Commission
- CVG Airport
- City of Cincinnati
- City of Florence
- Homebuilders Association of Northern Kentucky
- Kentucky Transportation Cabinet
- Metro (SORTA)
- City of Newport
- Northern Kentucky Area Development District
- Northern Kentucky Area Planning Commission
- Northern Kentucky Chamber of Commerce
- Northern Kentucky Independent Health District
- Northern Kentucky Industrial Park Management Council
- Northern Kentucky University
- OKI Regional Council of Governments
- Senior Services of Northern Kentucky

Meetings have been held with the Advisory Committee at major milestones throughout the study to discuss progress, get input to the study, and review materials. The first three Advisory Committee meetings were held on February 1, 2005, April 11, 2005, and June 20, 2005. The final Advisory Committee meeting was held on March 30, 2006.

Public forums were also held in Boone, Kenton, and Campbell County on August 31, 2005 and September 1, 2005 to inform the public about the findings of the study and solicit input on the preliminary service recommendations proposed. Input was also received via the internet and email. Outreach was also done using flyers on TANK buses, newsletters and speaking engagements throughout the region. As a result of this process, hundreds of comments were received.

Project Goals

One of the initial efforts of this study was to establish project goals. Working with the Project Advisory Committee, the following goals were established for this *Transit Network Study*:

- Use resources efficiently and effectively
- Enhance transit to major employers
- Serve people without transportation
- Maximize revenue to expand services
- Provide access to activity centers
- Improve image and awareness
- Encourage transit oriented development
- Expand service for elderly and disabled

Alternatives Selection

The process to reach final approval of the TANK Vision involved the following steps:

- Review Existing Conditions
- Determine Project Goals & Objectives
- Create Alternatives
- Test Alternatives
- Select Alternatives
- Plan for Implementation

The alternatives in the final Vision were reviewed and revised in light of the comments received from the TANK staff and by the Project Advisory Committee. The Vision was approved by the TANK Board.

The remainder of this document is a discussion of TANK's Long Term Vision.

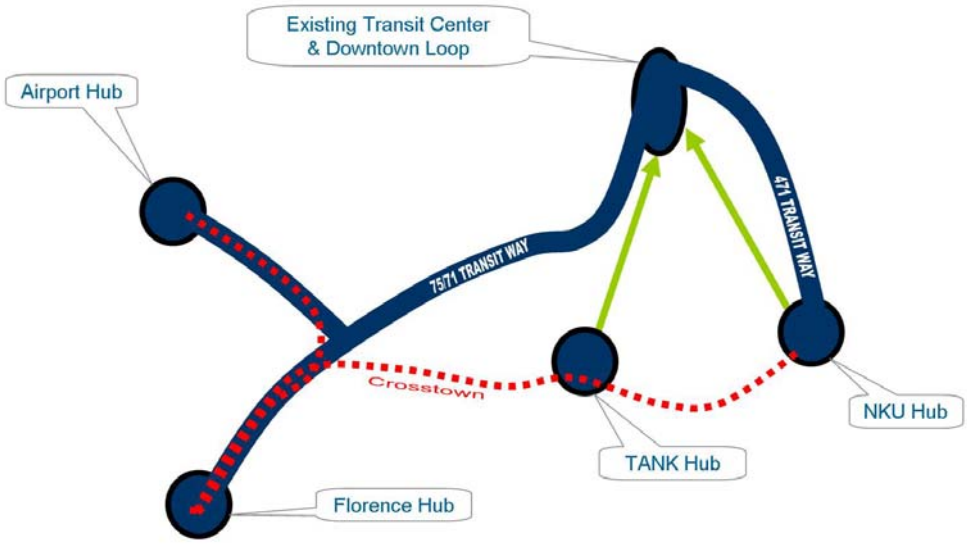
TANK LONG TERM VISION

The TANK Network Study has resulted in a vision that "Links Northern Kentucky Together" and is about "Building Accessibility for Northern Kentucky." This vision includes several key elements:

- Developing major transitways long I-71/75 and I-471;
- Developing on-street Bus Rapid Transit facilities in Covington and Newport;
- Creation of transit hubs/stations throughout the region;
- Attracting choice riders by implementing improved bus technology;
- Bus stop consolidation and enhancements;
- Route adjustments to take advantage of new transitways and Transit Hubs;
- An ITS system;
- Development of Transit-Oriented Development (TOD); and
- Improved travel times and reliability.

Once complete, this vision will create improved mobility throughout the region while encouraging investment around the improved transit system. While this plan is a long-term vision, it is designed so that it can be implemented over time in small or large pieces, depending on available funding and opportunities.

The graphic below illustrates some of the major elements of the vision.



Following is a discussion of each of the plan elements.

Major Transitways

Major transitways are defined as exclusive rights of way for transit vehicles. Transitways may be used for trains, light rail vehicles, or buses.

For the TANK region, there are two major transitways that have been recommended; each would provide express/rapid service that would feed into Downtown Cincinnati. While rail may again be considered in the region in the future, this study focused on providing the optimal service using the latest in bus technology. Since buses are rubber-tired vehicles, they have the flexibility to operate on roadways and, therefore, have a broad range of opportunities for creating exclusive transitways. These include creating exclusive roadways (bus only roadways) either in their own rights of way and alignment or in conjunction with parallel facilities. They may also be created in conjunction with High Occupancy Vehicle (HOV) Lanes, managed or High Occupancy Toll (HOT) Lanes, or shoulder lanes. Whatever the configuration, the transitway is expected to offer attractive, reliable, congestion-free performance.

Shoulder Bus Lanes, High Occupancy Vehicles Lanes and Exclusive Bus Only Roadway

For the TANK Region, two corridors for major transitways have been identified, the I-71/75 Corridor and the I-471 Corridor. Following is a discussion of each.

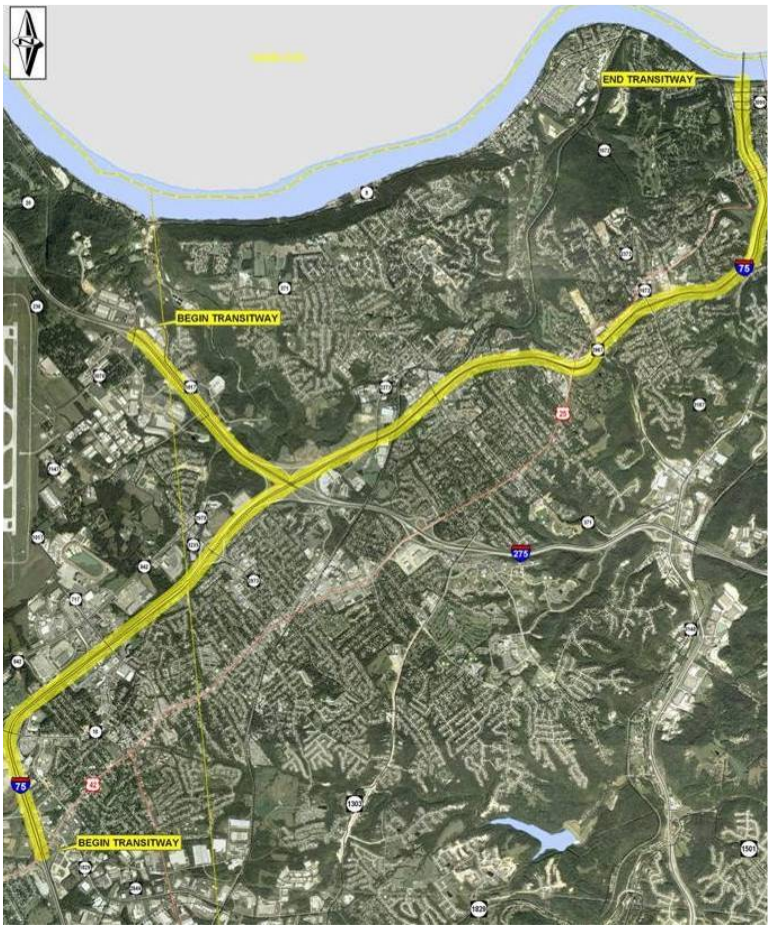
I-71/75 Corridor

The I-71/75 Corridor presents the greatest opportunity to create an exclusive transitway, given the high level of express service already operating in the corridor (1X, 2X, 17X, 18X, 19X, 22X, 28X, 29X, 30X) and the congestion occurring during the peak periods. The overriding vision for this corridor is to have an exclusive transitway within the I-71/75 right-of-way from Florence north over the Ohio River. This transitway would be classified as a Bus Rapid Transit (BRT) facility and would allow for significantly improved travel times along the corridor, which should provide an incentive for people to move from their cars to a bus. In addition to the transitway, several other BRT features would be required to be successful, including modified bus routing, transit hubs/station, improved vehicles, an ITS system, and improved fare collection systems. Possible attributes of this plan are discussed below.

Transitway

Along the I-71/75 corridor, the recommendation is that an exclusive transitway be created. There are four ways this might be accomplished:

1. An exclusive busway within the existing corridor with key exit/entry points to major transit hubs and access to the local streets;
2. A joint use facility with HOV lanes within the existing corridor with key exit/entry points to major transit hubs and access to the local streets;
3. As a component of a Managed Lane within the existing corridor with key exit/entry points to major transit hubs and access to the local streets; and
4. Using the existing shoulder during peak hour, peak direction travel where congestion exists.



The location of the proposed transitway is shown to the right.

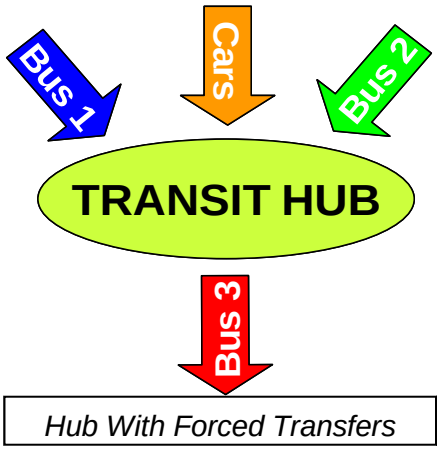
Transit Hub/Stations

The Transit Hub/Station concept has two elements, the Hub (which relates more to how the buses make their way through the facility) and the station amenities that make the area more than just a place to board a bus.

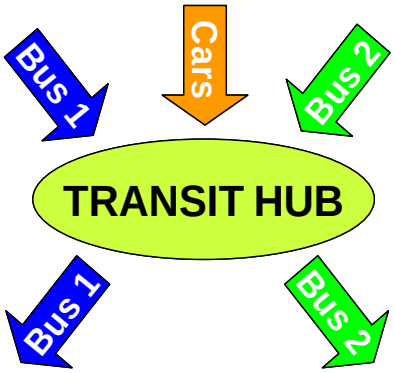
A Hub can operate two ways. The first is strictly a transfer facility and a place to park and get a bus. This concept requires everyone to transfer, which is not desirable and reduces the ability to maximize the number of "one-seat" trips, a goal of an optimal transit service. The second type is a Hub with "through" routing. In this case, instead of having to transfer, the bus stops to pick up people and then continues on to the final destination, in this case, Downtown Cincinnati. This provides for more one seat trips and, if the routes are staggered appropriately, a greater frequency of service for those whose final destination is the Hub.

The second concept, the Hub with through routing, is the preferred method for the TANK region and will be a large contributor to the overall success of the transitway services.

The station component of a Transit Hub/Station is much more than just a painted pole or sign on a street. It is a safe, welcoming place that has the branding of the TANK system. Transit Hub/Station locations and designs are based upon transit operations, area context, and input from the communities. Locations are considered based on proximity to generators of passenger, as well as future development opportunities. Station platform configurations vary depending on the conditions at the Transit Hub/Stations. Transit Hub/Stations would likely have sheltered platforms, and each will have a different level of amenities depending on the anticipated usage, adjoining land use, and neighborhood context. Some, notably those that are expected to have a relatively high ridership, would be expected to have a climate controlled building with restrooms, water fountains, and a waiting area. Associated private retail is possible at these hub/stations, if private businesses and developers express interest to participate. It is anticipated that each hub/station will have signage/gateway treatments to identify the station, lighting and landscaping. Each hub/station will be reviewed for pedestrian accessibility between stations, the existing sidewalk network, and surrounding land uses.



Hub With Forced Transfers



Hub With Through Routing Desired Operations

It is a priority that the proposed transitway and hub/stations are safe for those passengers on the buses, those passengers waiting for the buses, and those passengers walking from one location to another. Every attempt should be made to provide safe space in the station areas and platforms that would minimize opportunities for criminal activity. Design might include station visibility, lighting, landscaping and possible installation of security cameras. Other amenities might include:

- Public Phones
- Informational Kiosks
- Bicycle Racks
- Clock
- Vending Machines
- Bus System Maps
- Bicycle Lockers
- Public Art
- Newspaper Boxes
- Bus Schedules
- Waste Receptacles
- Benches

ITS, including real time messaging, would also be a key component to success and is discussed in a further section.

Along the I-71/75 corridor, the primary location for a Transit Hub is in the Florence area. This will serve as a key point bringing together numerous routes and providing frequent service to Cincinnati. The purpose of a Florence Transit Hub/Station would be to:

- Provide more frequent express service to and from Downtown Cincinnati by coordinating several express routes to service a common point at a constant headway (frequency);
- Enhance reverse commute opportunities to industrial areas in the corridor, and
- Provide "safety-valve" service from Downtown Cincinnati outside of peak service hours.

The location of a Transit Hub should be in an area where transit vehicles can easily ingress and egress an interstate, limited access highway, busway, or Bus Rapid Transit (BRT) corridor.

Ideal features for this facility include an easy connection with I-75 and ample parking based on demand modeling. This Transit Hub/Station should be designed to accommodate a layover for Route #1, Florence Circulator, and bays for 1-2 express service buses.

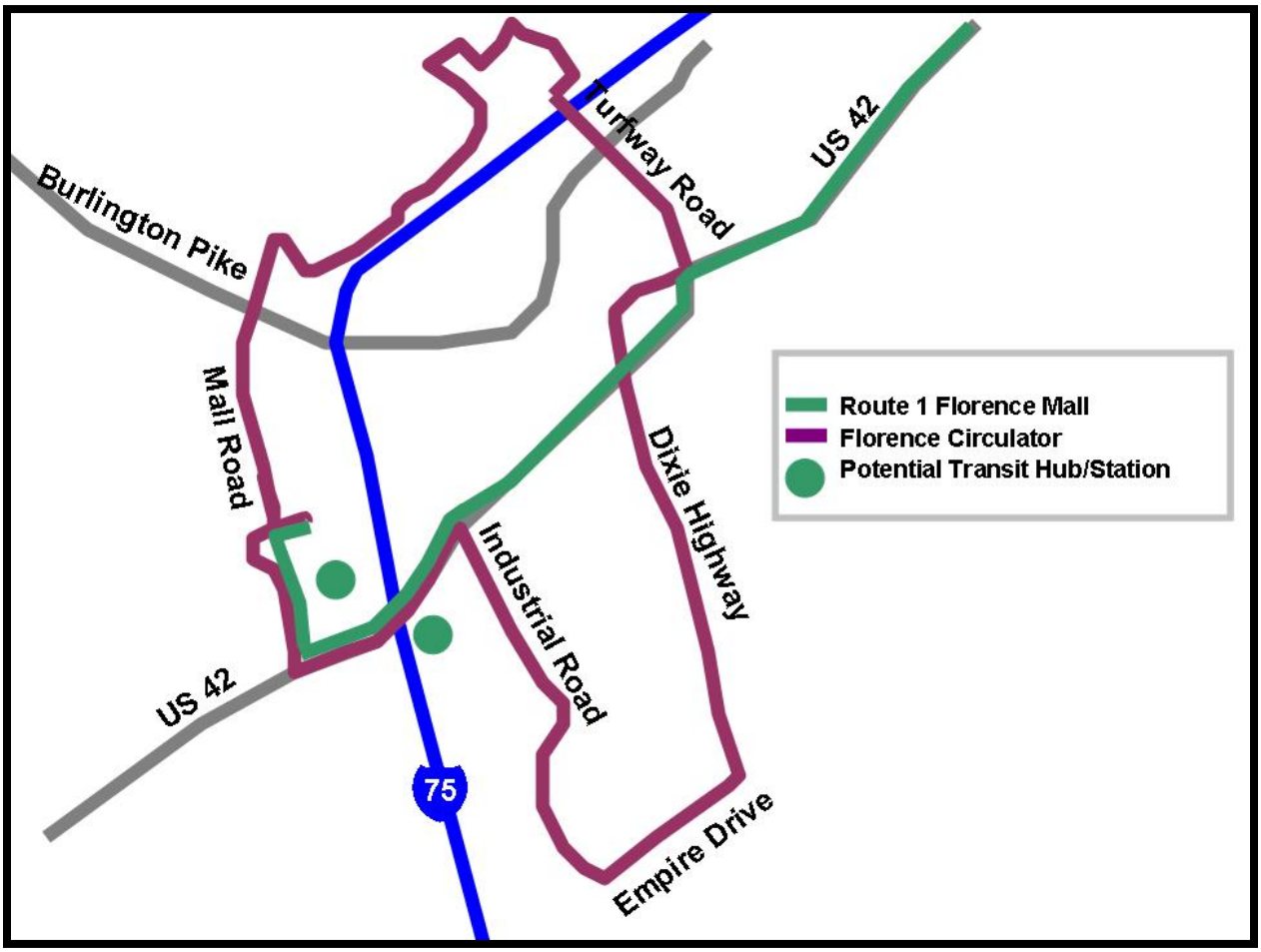
A logistically good location for the Florence Transit Hub/Station would be on Steinburg Drive between Mall Road and I-75. There appears to be ample space available and convenient access to I-75. An additional location would be the area around the existing baseball stadium (see figure to the right.) This topic merits additional study.

Modified Bus Routings

The northern service area for the I-75 Corridor includes TANK's most popular #1 Florence Mall, Route #1X Florence Express, Route #22X Walton Express, Route 28X Empire Drive Express, and Route 32X Burlington Express. Most of the service in this area provides express service to and from Downtown Cincinnati. In addition, there is one reverse commute express route and a local route serving as a collector to relatively dense residential and industrial areas. These routes would have the greatest benefit from changes in routing to take advantage of a new Transit Hub/Station and any new transitway. Services to the south would benefit from the transitway because of decreased travel time, but changes to routings would likely not be required other than those recommended in the short-term recommendations. Following is a discussion of the proposed route modifications.

Route #1 Florence Mall/New Florence Circulator

Route #1 Florence Mall is ranked #1 in terms of weekday ridership, though the southern loop portion of the route has fairly low ridership. With the development of the Florence Transit Hub/Stations, we would recommend that the Route #1 be split into a new Florence Circulator and a Modified Route #1. The rerouted #1 would run from Downtown Cincinnati, down Dixie Highway and Mall Road, to reach the proposed Florence Transit Hub/Station.

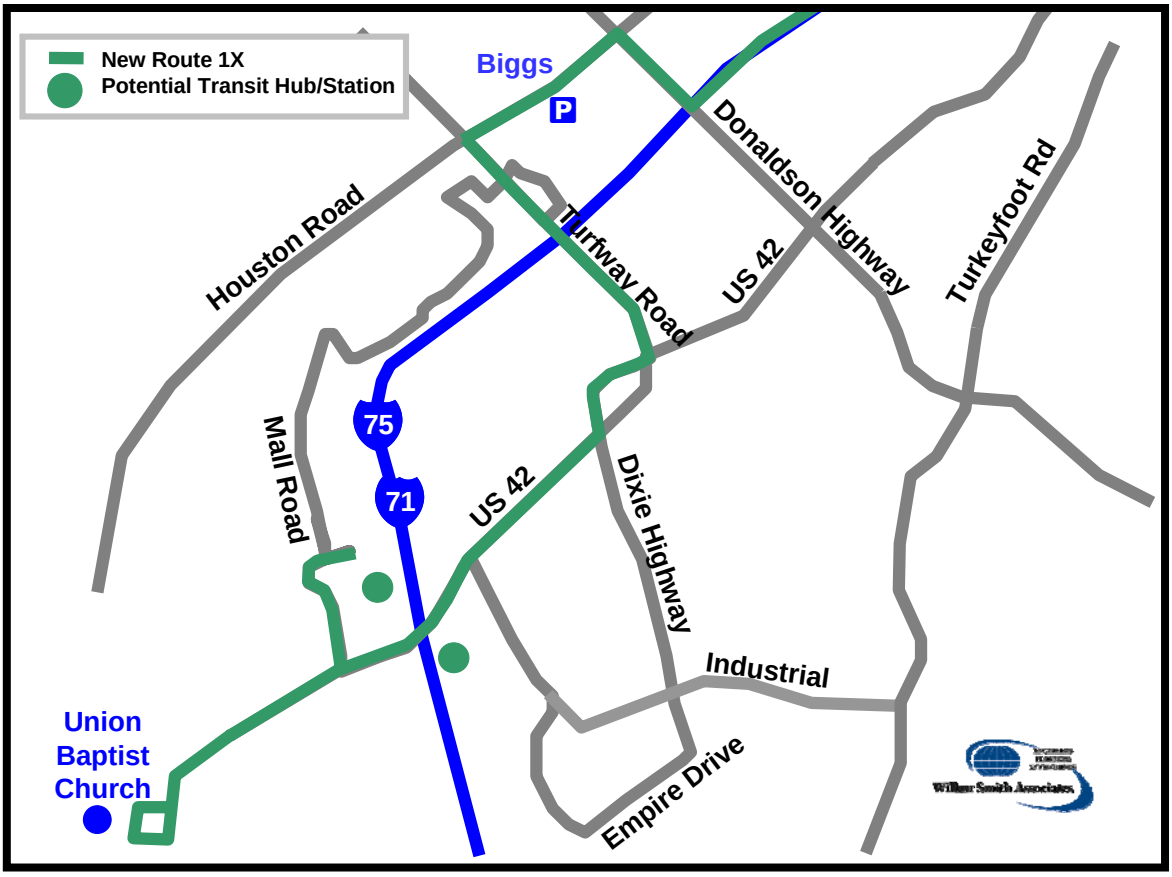


The Florence Circulator will serve as a collector for the apartment complexes and complement the 28X Empire Drive Express reverse commute opportunities in the Florence area. The Florence Circulator routing is currently served by the current #1 in a clockwise/counter clockwise circulation. It is proposed that the Florence circulator operate counter clockwise and service St. Luke Hospital West on all trips. Headways should be designed to pulse with routes servicing the Florence Superstop. Florence Circulator Service hours should be extended to coincide with Route #28X and approximate existing Route 1 Services.

Route #1X Florence Express

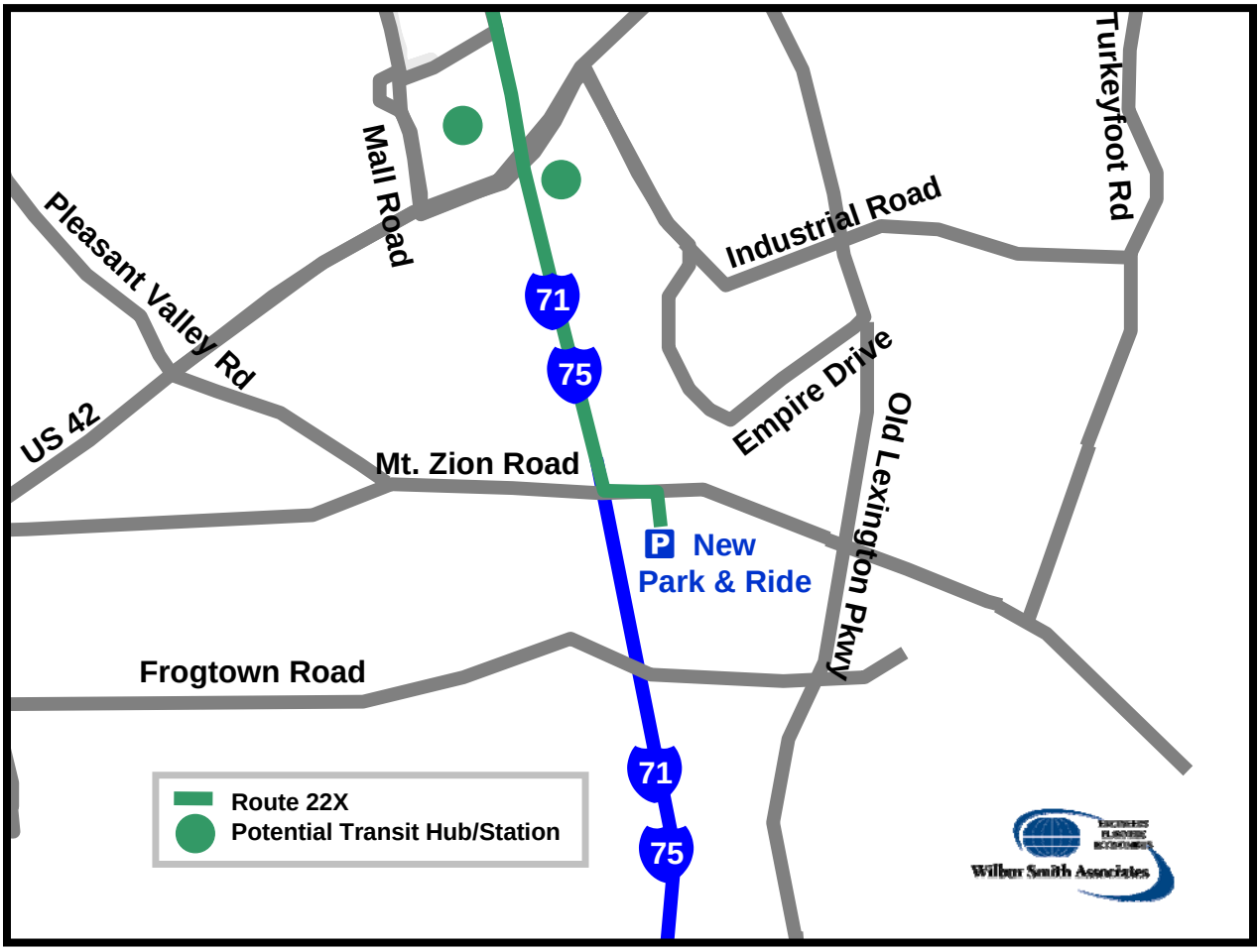
The Route #1 Florence Express currently provides express service south of Gun Powder and Pleasant Valley Roads in the communities of Union and New Haven beginning at Union Baptist Church and continuing to Downtown Cincinnati via I-75.

Ride check analysis revealed that the majority of ridership for the Florence Express comes from Biggs and Turfway Park & Ride Lots. In addition, the route experiences low ridership south of Dixie Highway (less than 1 rider per trip). It is recommended that Route 1X begin Inbound service at the intersection of Main Street and Christian Drive, continuing to Turfway Road, Houston Road and Donaldson Highway to Interstate I-71/75 into Downtown Cincinnati.



Route #22X Walton Express

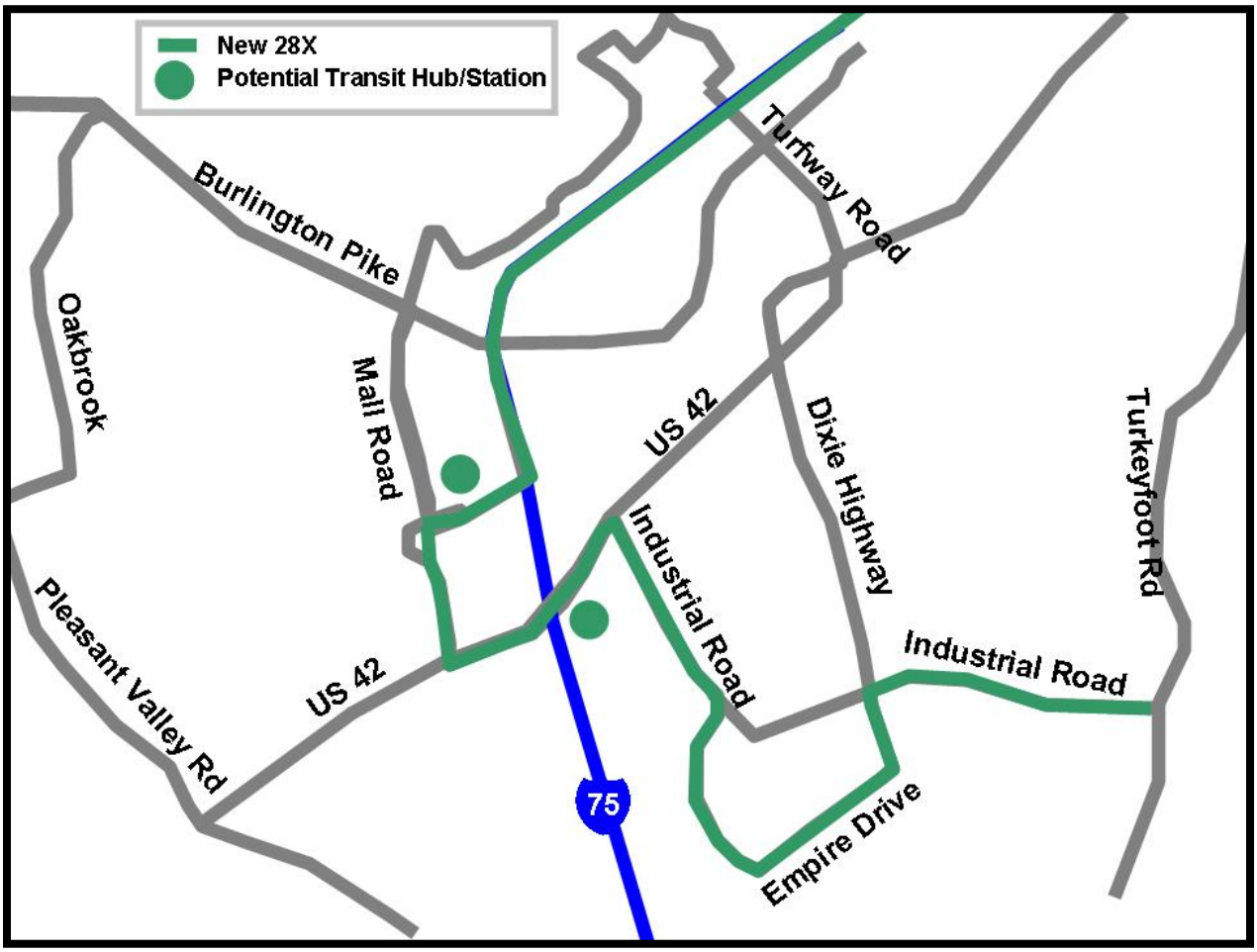
The existing 22X Walton Express serves US 25 just east of the I-75 Corridor continuing into Downtown Cincinnati via I-75. It is anticipated that once the Florence Transit Hub/Station is constructed, the 22X would make a stop there. The Florence Circulator will replace the Walton Express along Industrial Road and Empire Drive.



Route #28X Empire Drive Express

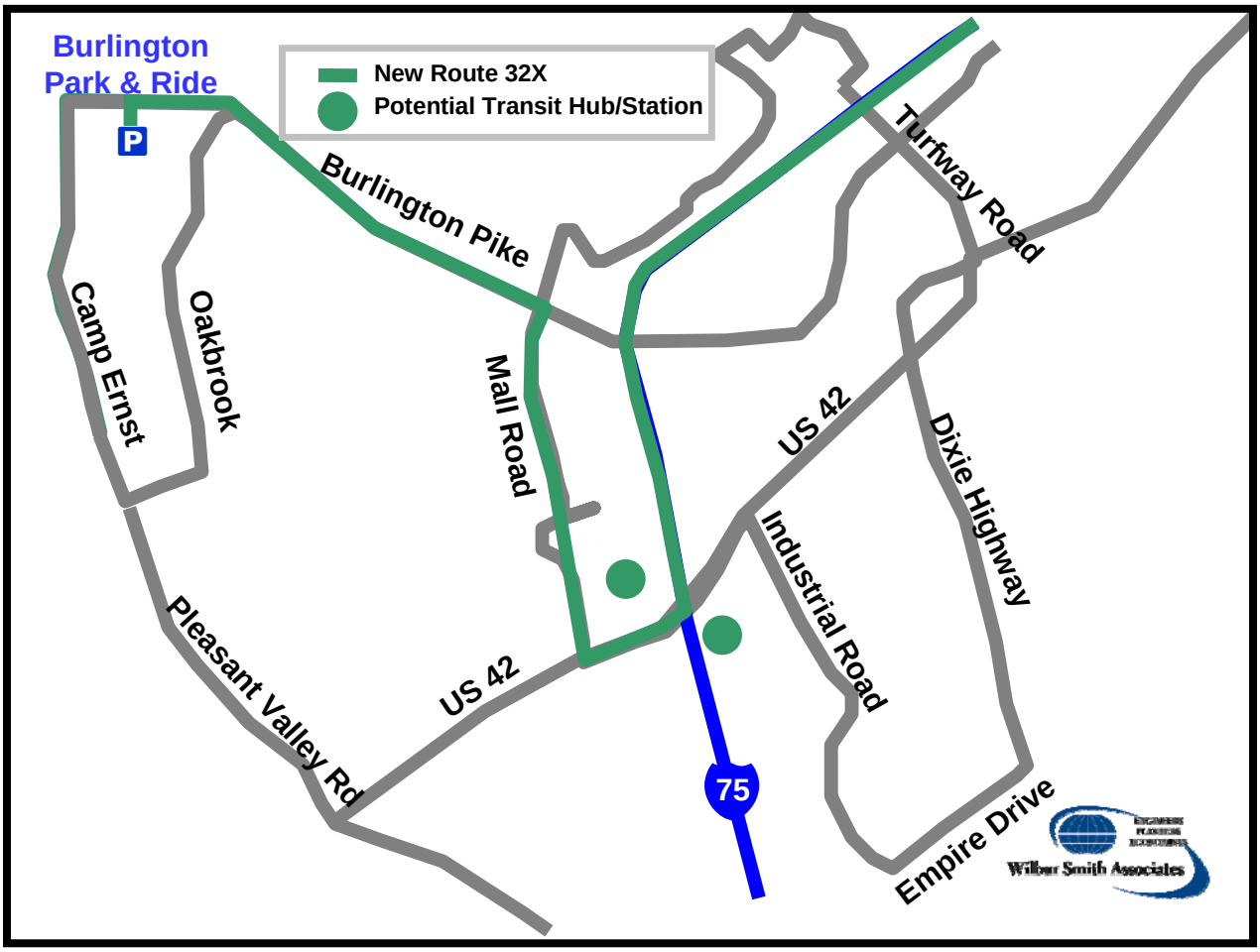
The 28X Empire Drive Express is a reverse commute express serving businesses along Industrial Road, Empire Drive and Turkeyfoot Road, with a connection from Downtown Cincinnati. It is proposed that this route be modified to service the Florence Transit Hub/Station.

Connecting with the Florence Circulator, this route will provide additional reverse commute opportunities to industries in Florence. New routing would exit I-75 at Steinburg Drive continue along Mall Road, US 42 to Industrial Road, Empire Drive, Dixie Highway and Industrial Road; ending at Turkeyfoot Road.



Route #32X Burlington Express

Route 32X Burlington Express connects areas just south of Cincinnati-Northern Kentucky Airport with Downtown Cincinnati. Primarily, its ridership is derived from the Burlington Park & Ride Facility located near Oakbrook and Burlington Pike. It is proposed that this route be modified to service the Florence Transit Hub/Station. Proposed routing goes from Burlington Pike to Mall Road and I-75.



Improved Vehicles

Bus technology continues to change with advances in propulsion systems, aesthetics and comfort. TANK is already moving toward BRT type vehicles with improved propulsion systems that require less fuel or use alternative fuel and have reduced emissions and noise. This trend should continue with the implementation of these recommendations. The better impression the bus leaves with the public, the more likely they are to try them. In addition, the more comfortable they are for the longer trips, the more likely the express routes are to get a premium fare. Things like wireless internet (wifi) service on the buses would also enhance the quality of the service as the trip has more value for the rider. Another consideration is potentially branding the express services to provide the user greater comfort in how the system is used and recognition of the service itself.

Intelligent Transportation Systems (ITS)

TANK already has the beginnings of an ITS infrastructure that includes AVL on all buses, real time reporting to dispatch, and a GIS platform. Integrating these so that the ITS system could provide the following type of information for riders at stations, on the web or in the future on the handheld devices (phones, pda's etc), would be a tremendous service to the users of the system:

- "Next Bus" Technology ("countdown" to the next vehicle);
- Vehicle location;
- Fare, route and travel time information;
- Route planning;
- Service disruption/delay information;
- Transfer information;
- Other real-time information (i.e., date, time, weather); and
- Advertisements.

Improved Fare Collection Systems

Information on BRT fare collection options was based upon *Transportation Cooperative Research Program Report 94: Fare Policies, Structures and technologies: Update, 2002*. Fare collection refers to the manner in which fares are paid or inspected. These options include:

<u>Pay on Boarding</u> – Passengers pay the fare when they board the vehicle through an on board fare box or card processing equipment. This option is used by the bus, BRT and Light Rail Transit modes. Pay on board options can add trip travel time because passengers need to have the exact fare and many board the vehicle looking to get change for the farebox. Fare evasion is encouraged by crowding at the farebox. This option would have the lowest capital cost and the lowest labor costs.

<u>Barrier</u> – Passengers pay upon entering or exiting a station or boarding area. This option involves fare gates, turnstiles, ticket agents or some combination of all three. Entry into the station or boarding area may be controlled and would have to be a part of the station design and an additional cost item. This option is used for the BRT and LRT modes. Fare evasion happens by fare gate or turnstile jumping. Capital costs are higher than pay on board but lower than proof of purchase option.

Self Service/Barrier Free or Proof of Purchase – Passengers must carry a valid ticket or pass while on the vehicle and are subject to random inspection by roving ticket inspectors. Fare evasion would have to be fined or penalized in some manner to discourage this practice and to protect fare revenues. Ticket ending or validating equipment would be required and would be an additional capital cost item. Roving fare inspectors would be a recurring operating cost. Capital costs are similar to the barrier option, while labor costs are higher.

Electronic Fare Payment Strategies are growing in popularity and have facilitated a range of new payment options. However, the following two basic electronic payment technologies have been used in fare collection: magnetic strip cards or tickets, and smart cards, also known as integrated circuit or chip cards.

The read only swipe cards are usually paper, work similar to a credit or debit card, and allow for the automatic determination of a valid fare card. Use of this technology would require the capital investment in card reading machines and require considerable maintenance and cleaning. These cards are inexpensive to produce and are readily vended from machines from which they are purchased. The limited data capacity of these cards restricts their use for multiple agencies and multi-ride options.

Smart cards are often rigid plastic, like a credit card; however, paper versions are being introduced. Cards are purchased or pre-purchased at ticket offices, by mail or via the internet. Cards may also be included as a part of another offer or travel package. Cards are expensive to produce, but their data processing capacity allows for multiple use and purposes. Multiple uses of such a card include the payment of parking, tolls and transit fares.

Early Implementation Items

While this plan identifies a transitway along I-75, changes to routes, a new Transit Hub/Station, and various other amenities, it is possible to develop this plan in stages and small steps. Implementing the Transit Hub/Station and appropriate service changes can happen without the transitway. While an exclusive transitway from Florence to Cincinnati may be the ultimate goal, a shorter term improvement may be to use the shoulders on I-75 during peak congestion time only when speeds are reduced below 30 mph. While some of this effort requires more study, the incremental approach means that funding may be easier to obtain and existing rider experience would be enhanced, while incrementally attracting new riders to the system.

I-471

The need for improved transit service in the I-471/US-27 Corridor becomes a key element to support future growth as development continues into the southern portion of Campbell County, Northern Kentucky University (NKU) continues to grow, and there is an increased emphasis on the Technology Commercialization Triangle. The future vision for this corridor is to provide a transitway from southern Campbell County to the I-471 Bridge over the Ohio River. In addition, a Transit Hub/Station at NKU will help support this transitway and generate opportunities for continues growth around NKU.

There are two express routes, 25X and 26X, which operate along the I-471 corridor from Northern Kentucky University into Downtown Cincinnati. Currently, Routes 25X and 26X have good ridership (4,900 monthly riders) that utilize express services from the Alexandria Park & Ride Lot and the Park & Ride Lot in Grants Lick, respectively.

Transitway

Along the I-471 corridor, the recommendation is that an exclusive transitway be created. There are four ways this might be accomplished:

1. An exclusive busway within the existing corridor with key exit/entry points to major transit hubs and access to the local streets;
2. A joint use facility with HOV lanes within the existing corridor with key exit/entry points to major transit hubs and access to the local streets;
3. As a component of a Managed Lane within the existing corridor with key exit/entry points to major transit hubs and access to the local streets; or
4. Using the existing shoulder during peak hour, peak direction travel where congestion exists.

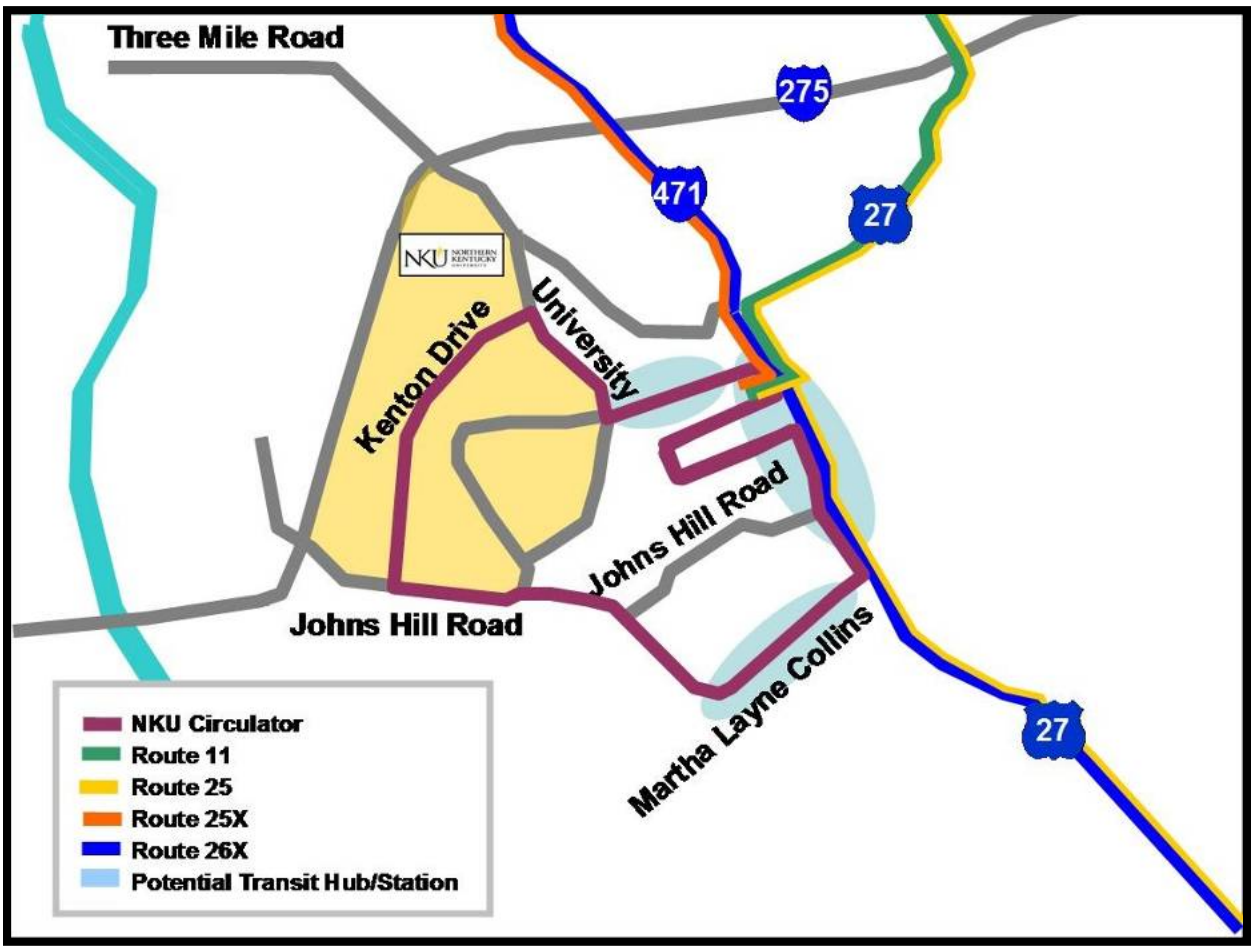
For the segment along US-27 south of the I-471/I-275 interchange, on-street BRT treatments should be considered along those segments where intersection congestion is the worst. This would include the application of queue jump lanes, traffic signal priority, and specific attention to stop locations along US-27 (near side/far side).

Transit Hub/Stations

A logistically good location for a Transit Hub/Station would be on US-27 near NKU. Potential locations for the Transit Hub/Station are shown on the figure to the right. One consideration would be to develop it in conjunction with the new NKU Events Center. This location would be developed assuming some form of NKU circulator is developed, and the 25X and 26X would have easy access to US-27. Routes 11 and 25 would also use this location. The other prime consideration for the location is pedestrian movements to/from the Transit Hub/Station. If it is located on US-27, a pedestrian crossing of US-27 will be a key consideration that must be addressed. The actual location of this Transit Hub/Station merits additional study. The Transit Hub/Station would be developed as discussed for the I-71/75 corridor.

Modified Bus Routings

In conjunction with the Transit Hub/Station, an NKU circulator would be created that follows a similar route of the existing 25 and 11 through campus and to Martha Layne Collins Road. The 11 and 25 would then originate at the transit hub and continue on their existing routes. The 25X and 26X would then only stop at the Transit Hub/Station and continue into Downtown Cincinnati.



Improved Vehicles, ITS and Fare Collection

Whatever is determined to be the standard for TANK on improved fare collection, ITS and fare collection as outlined for the I-71/75 corridor would also apply to the I-471 corridor.

Early Implementation Items

The implementation of the Transit Hub/Station could provide immediate benefits to the existing routes in the area. Additionally, consideration of a NKU/Highland Heights circulator could also merit early action. The transitway itself should be considered as part of the ongoing Ohio Kentucky Indiana (OKI) Regional Council of Governments Southeast Corridor Study.

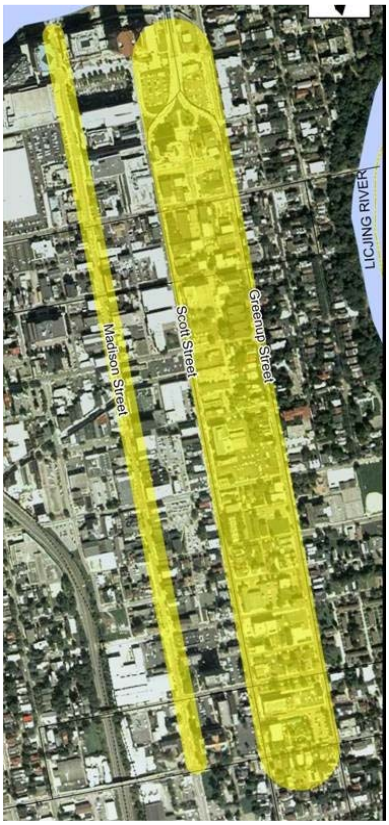
Local Transitways

Major transitways are only one component of the TANK Vision. The urban areas of Northern Kentucky (particularly Covington and Newport) also have several transit routes serving their downtown areas. In order to better address these local services, specific improvements to the corridors would help improve frequency and reliability. In Covington, the Madison Avenue/Scott Boulevard/Greenup Street corridor is a potential location for BRT type improvements to enhance the existing services. In Newport, the Monmouth Street corridor also provides a similar opportunity.

Madison Avenue/Scott Boulevard/Greenup Street Corridor- Covington

This corridor presently is served by the 7, 8, 9 and 33 routes. Route 7 serves several established neighborhoods and a shopping center in Latonia Centre and is considered among TANK's highest ridership routes with 21,900 monthly riders. The 8 is a local route that circulates in Covington while the 9 heads out to Taylor Mill Road into the Park & Ride Lot at the Cherokee Shopping Center. The 33 travels out to Madison Pike and then over to Edgewood and Crestview Hills. These routes come together or parallel each other as they approach the river. The dynamics of this number of services present an opportunity to move them all to one enhanced transit corridor.

Transitway



Since this is primarily a local street corridor, the opportunities for exclusive transitways are limited; however, there are several ways to achieve enhanced transit service in this corridor if the routes are moved to the same roadway, as follows:

1. Close Madison Avenue to traffic and make it a pedestrian and transit roadway from the Convention Transit Center to 12th Street. Then create a traffic signal priority system from there out to Latonia Center.
2. Consolidate the routes to either Madison Avenue or the Greenup Street/Scott Boulevard one-way pair; provide traffic signal priority and queue jump lanes; enhance stations (near side or far side); and set transit stops at appropriate intervals.

While traffic and transit operations need to be considered along these roadways, the opportunities for enhanced transit service are significant in this corridor.

Transit Hub/Stations

Presently the Covington Transit Center would serve as a Transit Hub for this system, but there would likely not be another Transit Hub along this corridor. However, enhanced stations would be anticipated at the drop points along the corridor with amenities in line with the context of that particular station stop.

Modified Bus Routings

The modifications to the actual bus routings will depend on which corridor is picked but would include consolidation of bus stops and improved headways

Improved Vehicles

This corridor would become an ideal application for BRT designed buses.

ITS and Fare Collection

The same ITS and Fare Collection systems that are adopted for the entire region would be applied along this corridor.

Early Implementation Items

The next step in implementing this type of local transitway would be a transit corridor study to determine the most appropriate way to implement the enhanced service, the costs (both operating and capital) and the impacts to the local community.

Monmouth Street/York Street Corridor - Newport

Routes 16 and 25 operate on Monmouth/York Streets serving several major generators in the Newport area. Route 16 services trip generators such as St. Luke East Hospital, Newport Shopping Center, and downtown Ft. Thomas. Route 25, considered one of TANK's longest local routes, connects the Covington Transit Center and downtown Cincinnati with the Alexandria Pike corridor. In addition, the 11, 20 and 23 routes also operate on portions of Monmouth Street. Given the concentration of attractions along Newport on the Levee, Monmouth/York Streets could be developed as a transit corridor by bringing the 11, 16, 23 and 25 onto this corridor and using the 20 as a local circulator.

Transitway

Given the limited number of roadways in the area, this corridor would likely be developed with stop consolidation, traffic signal priority, and stop design (near side, far side).

Transit Hub/Stations

Existing services convene in downtown Newport around the intersection of Monmouth Street and Third Street. The area could be enhanced to be a Transit Hub/Super Stop and serve as a focal point for a Newport circulator.

Modified Bus Routings

The modifications to the actual bus routings will depend on which corridor is picked but would include consolidation of bus stops and improved headways

Improved Vehicles

This corridor would become an ideal application for BRT designed buses.

ITS and Fare Collection

The same ITS and Fare Collection systems that are adopted for the entire region would be applied along this corridor.

Early Implementation Items

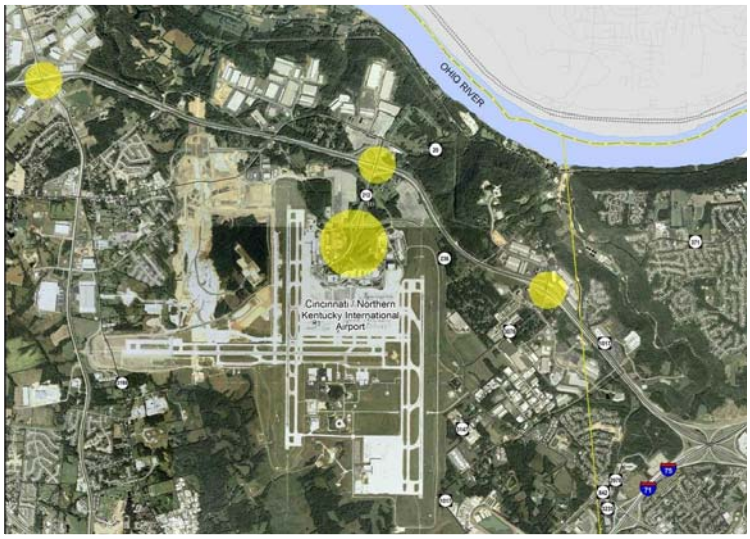
The next step in implementing this type of local transitway would be a transit corridor study to determine the most appropriate way to implement the enhanced service, the costs (both operating and capital) and the impacts to the local community.

Transit Hubs/Stations

Transit Hub/Stations were discussed in detail in the Major Transitways Section, with proposed locations in Florence and at Northern Kentucky University. In addition to these two locations, new locations are proposed in the vicinity of the airport and at the existing TANK Garage. These locations are discussed further below.

Airport Transit Hub/Station

The airport and areas surrounding the airport represent the fastest growing section of Northern Kentucky. Transit service in this area must not only address access to the airport and service to downtown Cincinnati, but also the reverse commute to the development around the airport. Given the complexities of this area, the location of this Transit Hub/Station is difficult to determine. Following would be potential locations:



- At the entrance/exit from the airport
- In the vicinity of the I-275/KY 212 Interchange
- In the vicinity of the I-275/KY 237 Interchange
- In the vicinity of the I-275/Mineola Pike Interchange

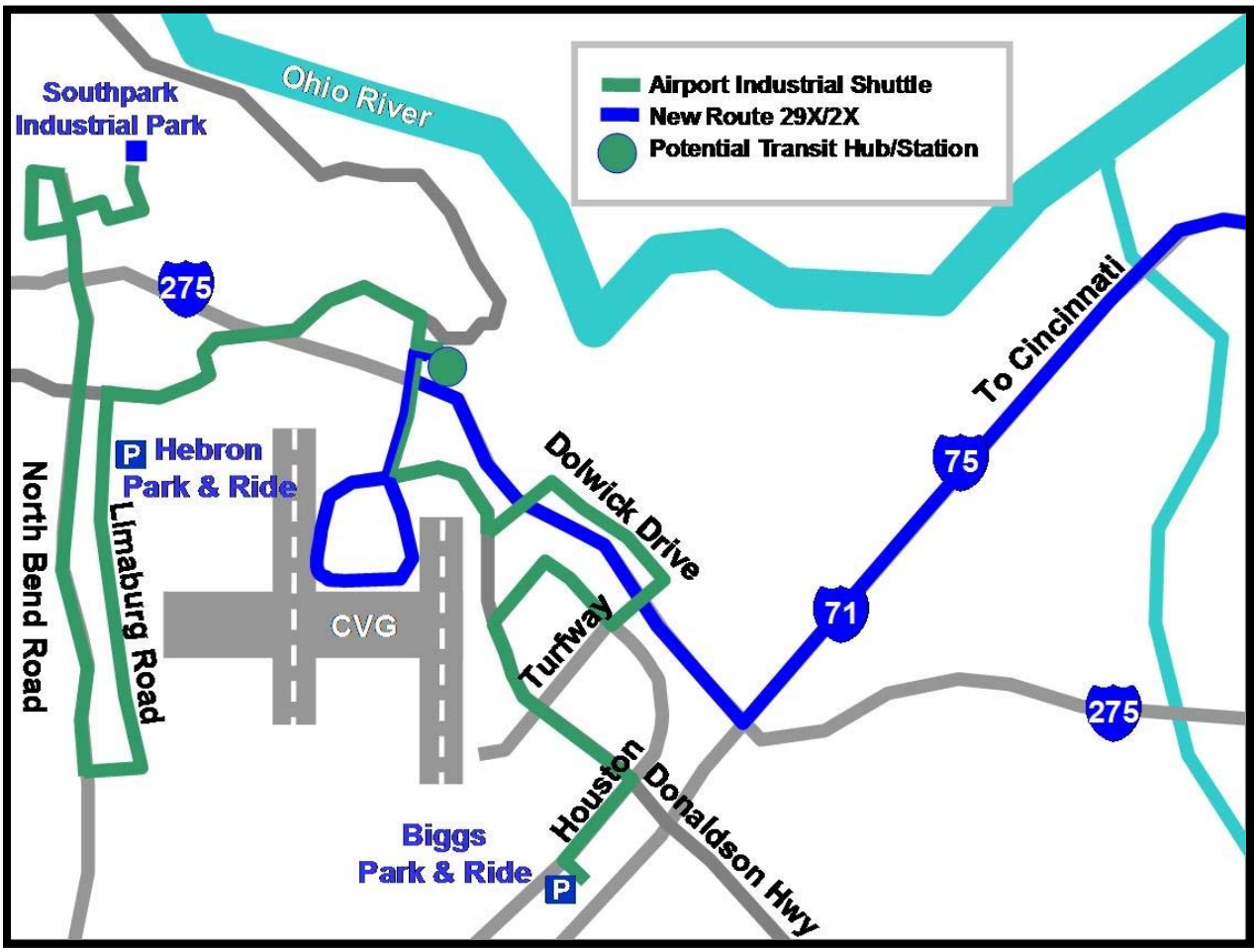
The actual location of the Airport Transit Hub/Station will be determined by the availability of parking, access to I-275, and ability to move buses easily through it.

Transitways

While this section specifically addresses the airport Transit Hub/Station, a spur off the I-71/75 Transitway could be developed along I-275, depending on which location is selected.

Modified Bus Routings

Since this area of Boone County is growing very rapidly, the modifications to the actual bus routings will depend on how development is moving and which Transit Hub/Station location is picked. A conceptual service plan is shown below, assuming a Hub is placed in the general vicinity of the airport:



Improved Vehicles, ITS and Fare Collection

Whatever is determined to be the standard for TANK for improved vehicles, ITS and fare collection as outlined for the I-71/75 corridor would also apply to this corridor.

Early Implementation Items

Other than expanding service because of increased development, the initial implementation step would be to create the Transit Hub/Station and then make the appropriate routing adjustments.

TANK Transit Hub/Station

The existing TANK Facility has a Park & Ride lot that is generally full during the typical day. This location serves both the 33 and 30X routes. As growth continues and the connection of Madison Pike is made to the Fidelity Campus, this location will become a more prominent location and, as such, should be developed as a Transit Hub/Station with increased amenities, more parking, and opportunities for transit oriented development. This location may also become more attractive if the on-street BRT in Covington is developed and the speed and reliability of Route 33 is increased.

Modified Bus Routings

At this time, there would be no modifications anticipated except to keep up with future development and to better connect to the Fidelity Campus

Improved Vehicles, ITS and Fare Collection

Whatever is determined to be the standard for TANK for improved vehicles, ITS and fare collection would also apply for services using this Transit Hub/Station.

Early Implementation Items

As the planned changes are made to the existing TANK facilities, the development of this Transit Hub/Station should be considered. Given the programmed KYTC highway improvements adjacent to this facilities and the planned expansion of the TANK facility, it would seem an opportune time for development of this Transit Hub/Station.

OTHER KEY ELEMENTS TO THE TANK VISION

Attracting Choice Riders by Implementing Improved Bus Technology

Long term success for TANK will rest on the ability to appeal to choice riders, i.e. those who chose to drive but have the option to use transit. Traffic congestion, the cost of gasoline, and parking fees are key reasons why choice riders would have an incentive to take transit. Other key elements that would help increase the ridership would be to provide system amenities to improve the user's experience. Additionally, these riders might be willing to pay a premium fare to support the service at a high level. The type of amenities would include:

- Comfortable and safe stations;
- Comfortable seating on the bus;
- Laptop connections (power and wifi);
- More convenient fare structures and payment systems using electronic "smart cards"; and
- Reliable off-peak service or guaranteed ride home.

The TANK Vision includes the continuation and enhancement of existing express services that could benefit greatly from these improved amenities. By identifying commuters who typically are attracted to travel by transit from their suburban residential neighborhoods to a major generator or employment center, such as industrial parks or hospitals, TANK could design a transit service with fashionable amenities to attract a large number of these types of riders.

Bus Stop Consolidation and Enhancement

TANK has had a long history of adding bus stops to its system, but no program to remove them. TANK is presently identifying all of the bus stops along its routes. Once these are identified, a comprehensive plan of stop consolidation should be undertaken. Additionally, once a consolidation plan is developed, stop enhancements should also be considered. While the sign on the side of the road has served well in the past, better stop amenities mean more confidence in the system and reliability is also increased, particularly with "next bus" information.

An ITS System

TANK is developing a technology plan as part of its next step in ITS implementation. This plan will contain the following elements: Existing Conditions Analysis, Needs Assessment, Alternative Technologies Evaluation, Long-Term Implementation Plan, Hardware/Software Specifications, and Procurement/Support Services. This plan will be a critical component in implementing cost-effective technological advances within the TANK system. The plan implementation will ensure compatibility of future ITS applications and provide:

- Scheduling Software
- Real-Time Information (at stops, on buses and on the web)
- Trip Planning Tools

Cross Town Service

"Cross Town" service has been tried in the past, but it has had little success. As more of the Vision comes into reality, the opportunities for the success of such a service improve. As the Transit Hubs/Stations are developed, these can become key links to a cross-town service. One of the key elements, however, of making this link is how to cross the Licking River. With limited opportunities to cross the river, the design of a successful service would be difficult. Linking up the Airport, Florence, TANK, and NKU Transit Hubs/Stations would likely use the I-275 corridor and would therefore have little ability to provide local service. This could be offset, however, if there are local connections at each of the Transit Hubs/Stations.

For the short-term, "Cross Town" service does not seem feasible but, as development continues and needs for cross town service continue, this service could become an asset to the Northern Kentucky Region.