

## GUIDING DESIGN CONCEPT

The Hub and Spoke Concept Map is a conceptual exhibit illustrating key destinations and their connections with neighborhoods. This Concept is used in many transportation systems and represents the wheel with a central hub and spokes radiating out. This system is utilized for efficiencies within transportation systems.

This concept is utilized during the development of the preliminary route plan to determine where routes are needed to serve the neighborhoods and destinations. This ensures that every route has a purpose and is not simply built with no connections or destinations in mind.

## THE HUBS

The conceptual plan includes two central hubs for the City of Richmond including one at 7th Street Park and one at Glen Miller Park. The hub is the center of the system and will be the focus for bicycle and pedestrian activities and amenities for the system. The hubs might include infrastructure like bicycle parking, lockers, drinking fountains and restrooms. The facilities at each of these parks, both planned and existing, include amenities which support the hub and spoke concept. These include existing parking, walking paths, water features, picnic areas and playgrounds. These uses provide existing momentum which will be utilized to extend the bicycle and pedestrian system by creating awareness and connections.

The hubs will also be the central location for programs surrounding the bicycle and pedestrian system. This includes activities such as bicycle rallies, fun runs, education programs, and training specific for use of the bicycle and pedestrian improvements.

## THE SPOKES

The spokes, shown as red arrows, illustrate the connections from neighborhoods to key destinations. The destinations were identified through the community survey and through the public input process. Key destinations include schools, parks and recreation centers, shopping centers and employment centers. The beginning point of many bicycle and pedestrian trips is most often the home. Therefore, neighborhoods are also identified as a major destination to connect with the central hub of the system. Regional connections are shown with an orange arrow and reflect the importance

of providing these larger connections to create a complete and comprehensive system.

## NEIGHBORHOOD CONNECTIONS

Another important component to the Hub and Spoke Concept are the connections from neighborhood to neighborhood. The green rings on the concept map illustrate these connections. It is important to remember that many of the users are the young and families. Making connections between friends' and families' homes will add to the success of the overall system. The green rings represent connections to neighborhoods not just at the ends of the radius but all along the length of the conceptual connection.



Bicycle and Pedestrian Amenities



Morrison-Reeves Library



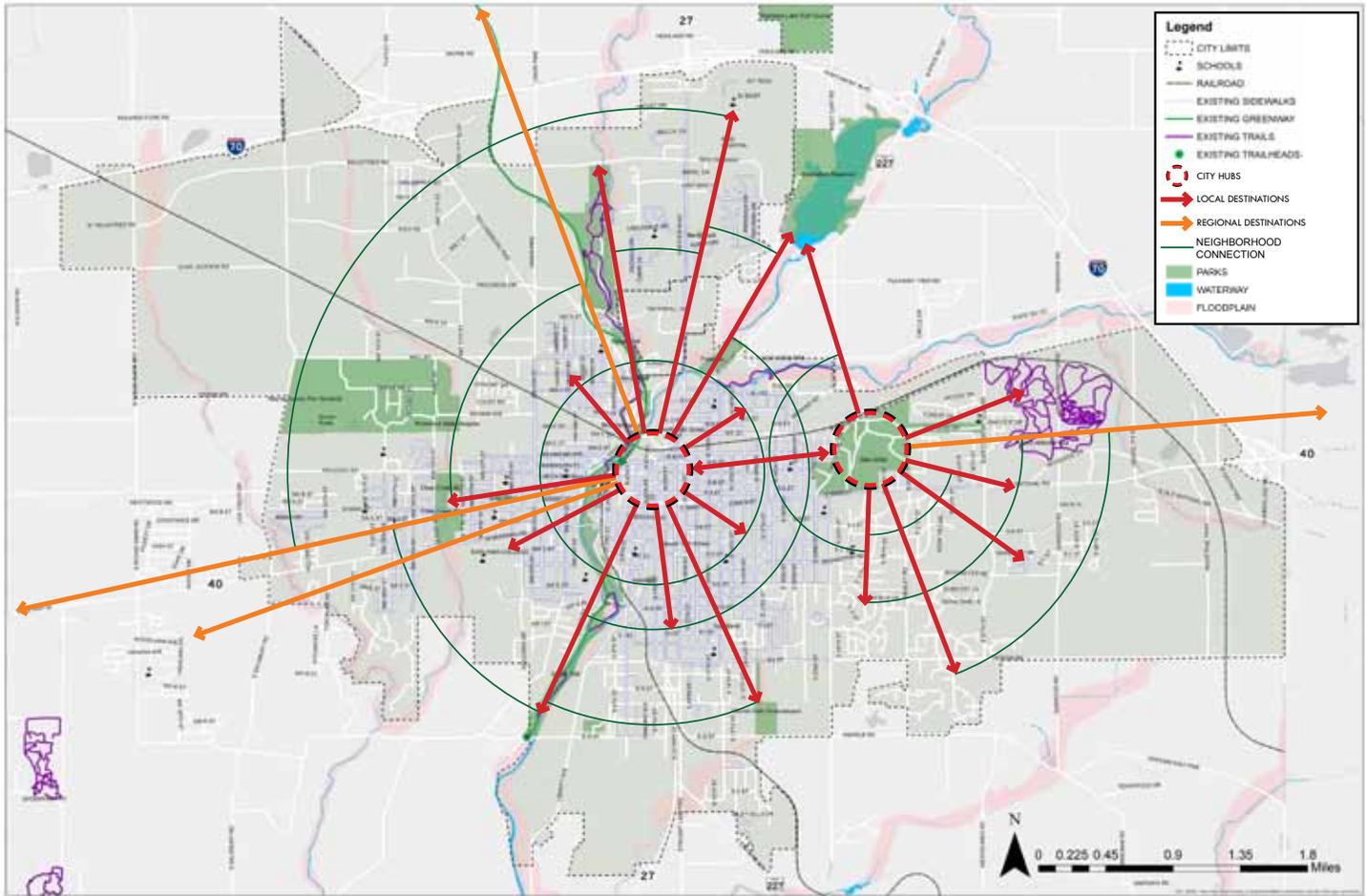
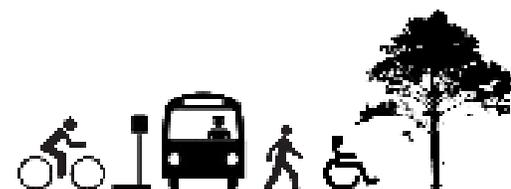


Figure 7 - Hub and Spoke Concept Map 7 (See CD in back sleeve for detailed map)

The Hub and Spoke Concept map illustrates the design concept utilized to develop priorities for the bicycle and pedestrian system. The two hubs in the concept include the 7th Street Park Hub and the Glen Miller Park Hub. These hubs represent the most intense use for bicycle and pedestrians within the network. The arrows represent connections to be made between the hubs and key destinations.



## INTRODUCTION

The current system of bike paths, greenways and sidewalks has encouraged many residents of Richmond to bike and walk for recreation and exercise. However, this system is disjointed and not connected in several areas. The system serves local residents that happen to live close to the built facilities. Providing a complete and comprehensive system will provide opportunities for more residents and visitors to Richmond to bike and walk around the city. This will provide better quality of life in addition to better health for those that utilize the system. Also, a greater variety of people will be able to use the system including for running errands and traveling to work.

The network of facilities creates regional connections, cross-town connections and local connections and loops. This hierarchy of network loops and connections creates opportunities for residents to create smaller loops close to home by bicycle or walking, create regional connections to parks and work centers, and to create longer recreational trips between home and parks and also from park to park.

The hubs for the system are shown at 7th Street Park and Glen Miller Park. Facilities radiate out from this hub to connect with the destinations identified in the Hub and Spoke Concept. A variety of facilities have been provided to meet the needs of bicyclists and walkers of different skill levels. Facilities included in the system include:

- Multi-use paths
- Sidewalk
- Greenway
- Bike Lane
- Shared Lane Markings

The system of bicycle and pedestrian facilities connects the neighborhoods where people live to the places they work, shop, play, or go to school. An emphasis is placed on regional bikeway connections centered around the major activity centers located at 7th Street Park and Glen Miller Park. This is done through two main types of facilities, the pedestrian network and the bicycle network.

## PEDESTRIAN NETWORK

The major elements of the pedestrian network are sidewalks, multi-use paths and street crossings. The sidewalk is where people do most of their traveling by foot and is the space where they should be able to walk feeling safe and secure from vehicles. The goal for the pedestrian network is to provide an attractive walking environment while allowing for streetscape amenities (benches, light poles and trash cans) and utilities. Vehicular conflicts at driveways should be minimized where possible. Street crossings should improve pedestrian safety and comfort through better design of intersections and pedestrian signals. Providing adequate crossing opportunities and minimizing delay at traffic signals will reduce jaywalking and improve safety for all users of the roadway. Sidewalks are considered a basic requirement of Complete Streets and will be a high priority throughout Richmond.

## BICYCLE NETWORK

The major elements of the bicycle network are multi-use paths, cycle tracks, bicycle lanes and shared lane markings. The proposed bicycle network will better accommodate bicyclists traveling in the City of Richmond. The majority of bicyclists in Richmond are currently younger and less comfortable with riding on the roadways. For this reason, the largest facility provided for bicyclists is the multi-use path. However, future riders are also accommodated through on-road bike facilities such as the bike lanes and bike routes which include traffic calming and shared lane markings. Regional connections are provided for bikes with signed routes creating cross-town connections. Intersection improvements are also an integral part of the proposed bicycle network.



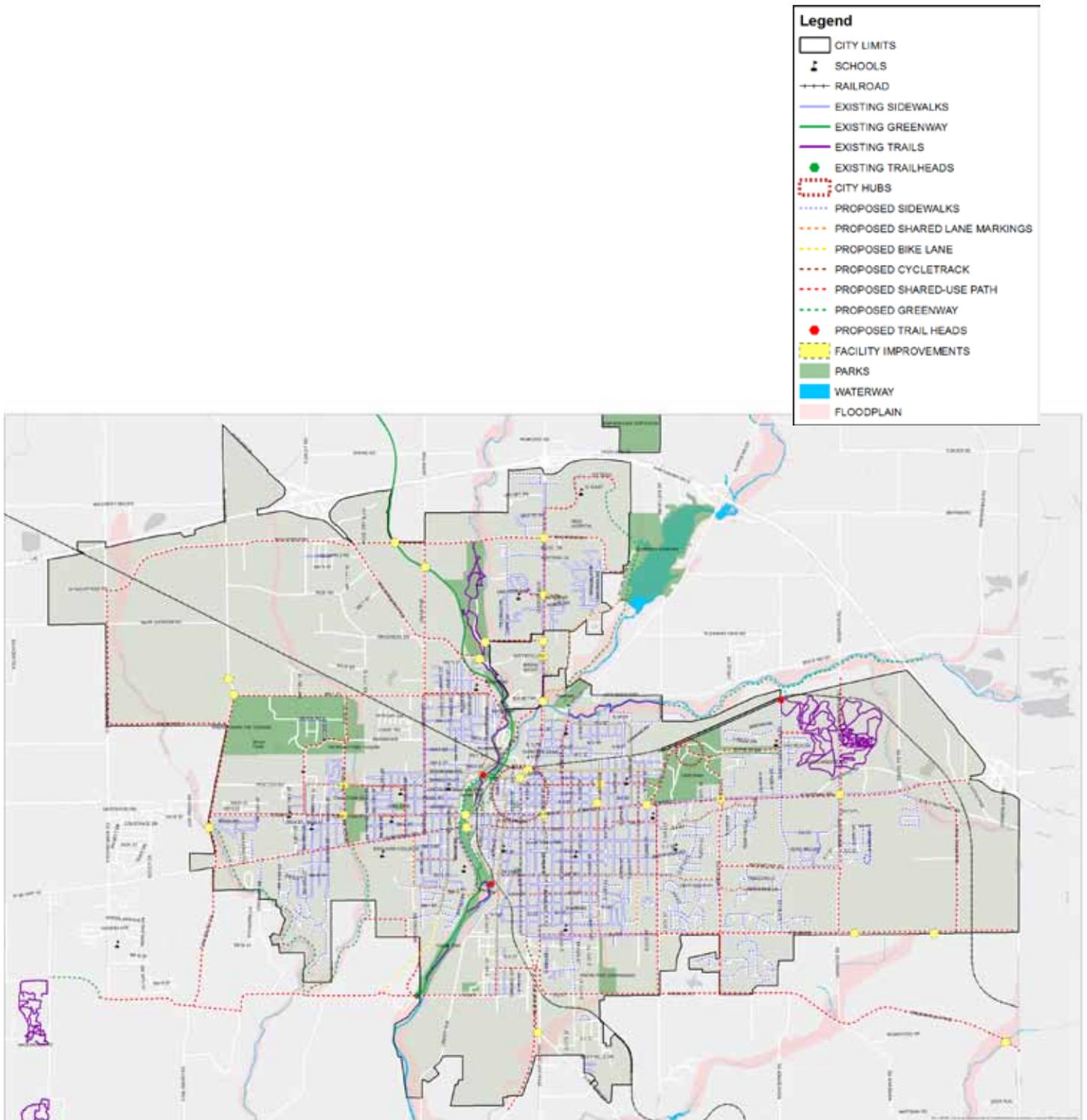


Figure 8 - Proposed Route Map (See CD in back sleeve for detailed map)



## NORTHWEST QUADRANT PROPOSED ROUTES

The focus of the Northwest Quadrant for the proposed routes is to fill in gaps in the existing system by connecting neighborhoods to downtown and the north side of the city while also providing connections for longer trips whether they are recreational or utilized for commuting. This area of the study area is more rural in nature with homes spread out and farms dotting the landscape

The majority of facilities within this area are off-road shared-use pathways. East-west routes are provided along Industries Road, and Northwest L Street. North-south routes are provided along Roundbarn Road and Union Pike. The multi-use paths in this area of the City will connect existing neighborhoods and provide a recreational asset which may attract new residential development within the Northwest area of the City. In addition the multi-use path along Northwest L Street will provide an off-road, family friendly connection between downtown and the soccer complex and fairgrounds.

Neighborhoods lacking sidewalks have been identified as priorities for construction of sidewalks. Sidewalks are considered one of the most basic facilities for the bicycle and pedestrian network and will be a priority for connecting the network. The proposed sidewalks are recommended where they will serve a greater number of residents.

The Cardinal Greenway provides a strong north-south route through Richmond. The scenic quality of the greenway through the Gorge provides a quiet environment for bicyclists and pedestrians while connecting the community to regional destinations to the north. Facilities within this quadrant are provided to connect to the Cardinal Greenway to further increase use of this community asset. Connections made to Cardinal Greenway also provide connections to the trail system within the Gorge Park.

The proposed network provides a variety of facility types to meet the needs of a variety of users with different skill levels. The variety of facility types also provide opportunities for a variety of experiences from recreational to natural to connections for commuters.



Monon Rail-Trail, Indianapolis

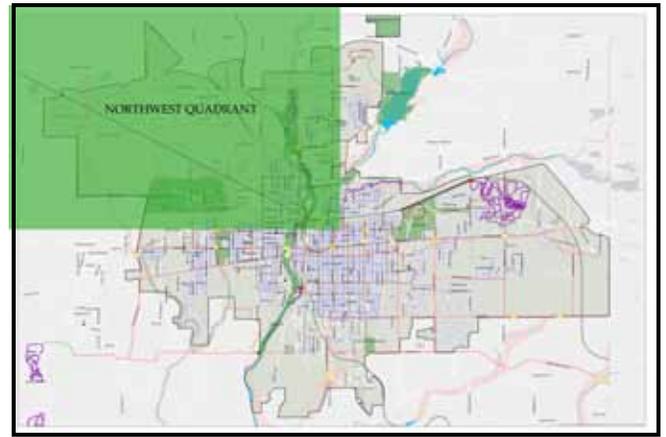


Cardinal Greenway



Gorge Trail, Richmond





MAP KEY

- Legend**
- CITY LIMITS
  - SCHOOLS
  - RAILROAD
  - EXISTING SIDEWALKS
  - EXISTING GREENWAY
  - EXISTING TRAILS
  - EXISTING TRAILHEADS
  - CITY HUBS
  - PROPOSED SIDEWALKS
  - PROPOSED SHARED LANE MARKINGS
  - PROPOSED BIKE LANE
  - PROPOSED CYCLETRACK
  - PROPOSED SHARED-USE PATH
  - PROPOSED GREENWAY
  - PROPOSED TRAIL HEADS
  - FACILITY IMPROVEMENTS
  - PARKS
  - WATERWAY
  - FLOODPLAIN

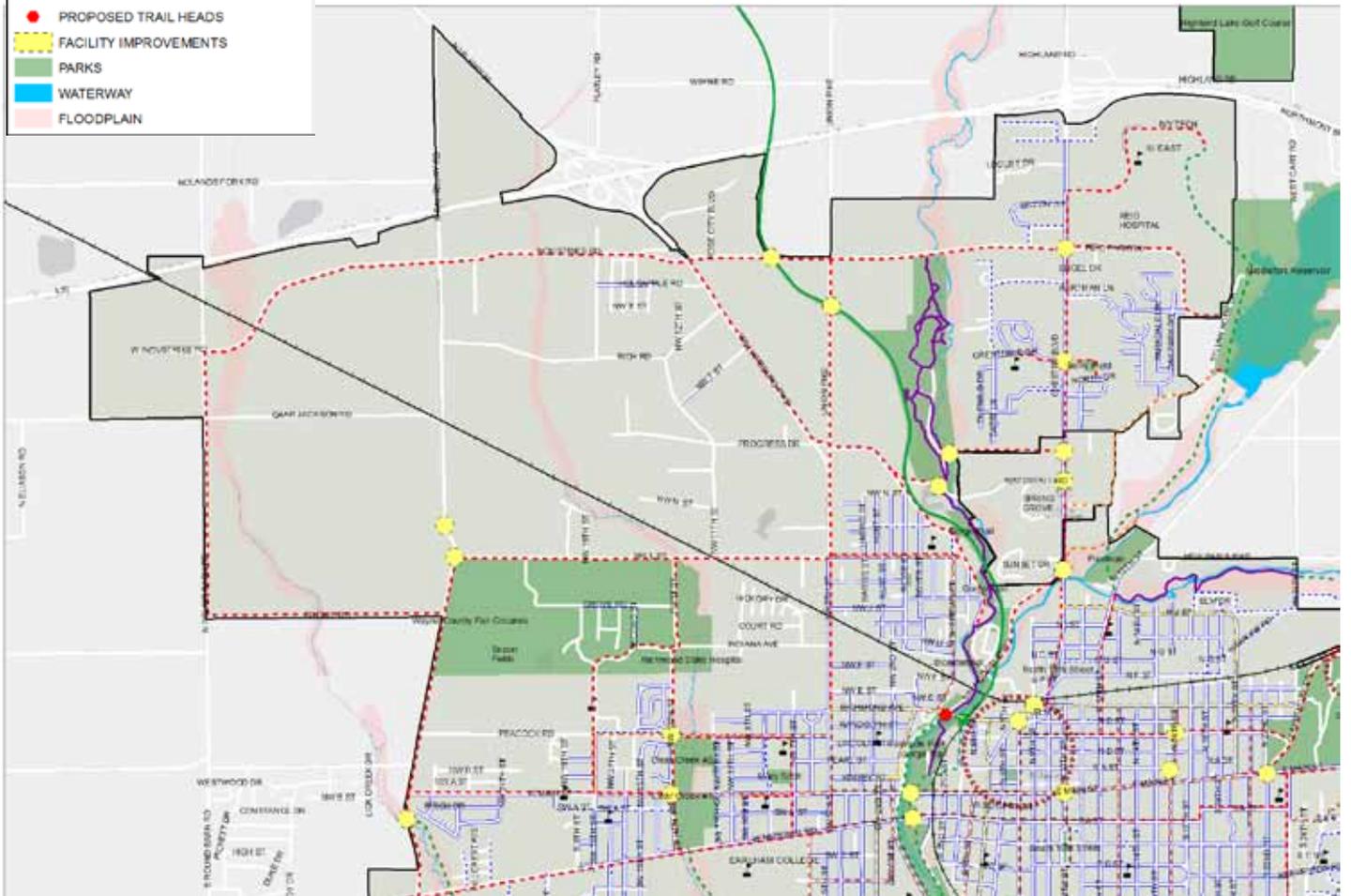


Figure 9 - Northwest Quadrant Proposed Route Map



## NORTHEAST QUADRANT PROPOSED ROUTES

The focus of the Northeast Quadrant, in addition to connecting communities with destinations, is to provide connections between the college campus of Indiana University East and Ivy Tech to the downtown. The planning process heard a strong demand for bicycle and pedestrian connections between the campuses and the downtown. Two main routes were provided to create this connection.

The first route would include the addition of a multi-use path running parallel with Chester Boulevard. Although there are grade constraints and challenges with many driveway curb cuts, this route was identified over and over again as the most desired route for students to reach downtown. In addition, there are many residential areas which lie adjacent to Chester Boulevard who will be served by this multi-use path. Although the current sidewalks provide a facility for pedestrians the lack of facilities for bicyclists has caused some conflicts on the sidewalk between bicyclists and pedestrians. Intersection improvements will be necessary along Chester Boulevard and are key to the success of this facility.

The second route which would connect the campuses and the north side of town would be a greenway which would run from the east side of the Indiana University East campus through Middlefork Reservoir following the river down to Freeman Park and connecting with a multi-use path that would connect with downtown. Although this route is less direct it is still an important route especially when thinking about the health and recreational benefits that the greenway would provide for students on the campuses as well as a connection to Reid Memorial Hospital.

An important east-west connection to the adjacent county land and eventually to the State of Ohio is a proposed greenway along the East Fork of the White River. Although only a small portion of the greenway lies within the city limits, constructing this portion of the greenway could provide the catalyst needed to spur construction of the greenway to the state line. Building the greenway in this eastern direction will also provide connections to both Glen Miller Park and Hayes Arboretum on a more scenic route than what you would find along US Route 40.



Glen Miller Park

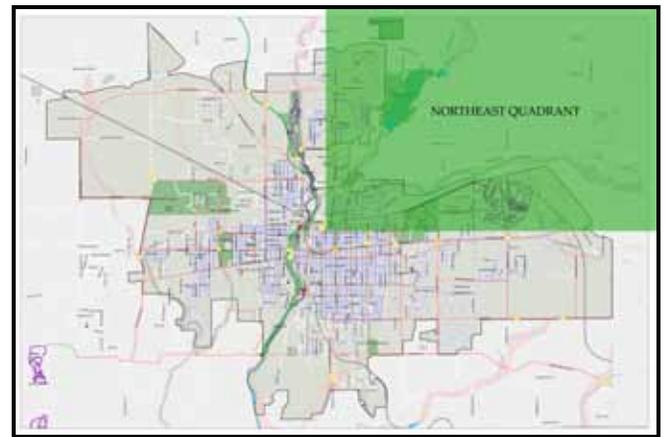


Monon Rail-Trail



Indiana University East





MAP KEY

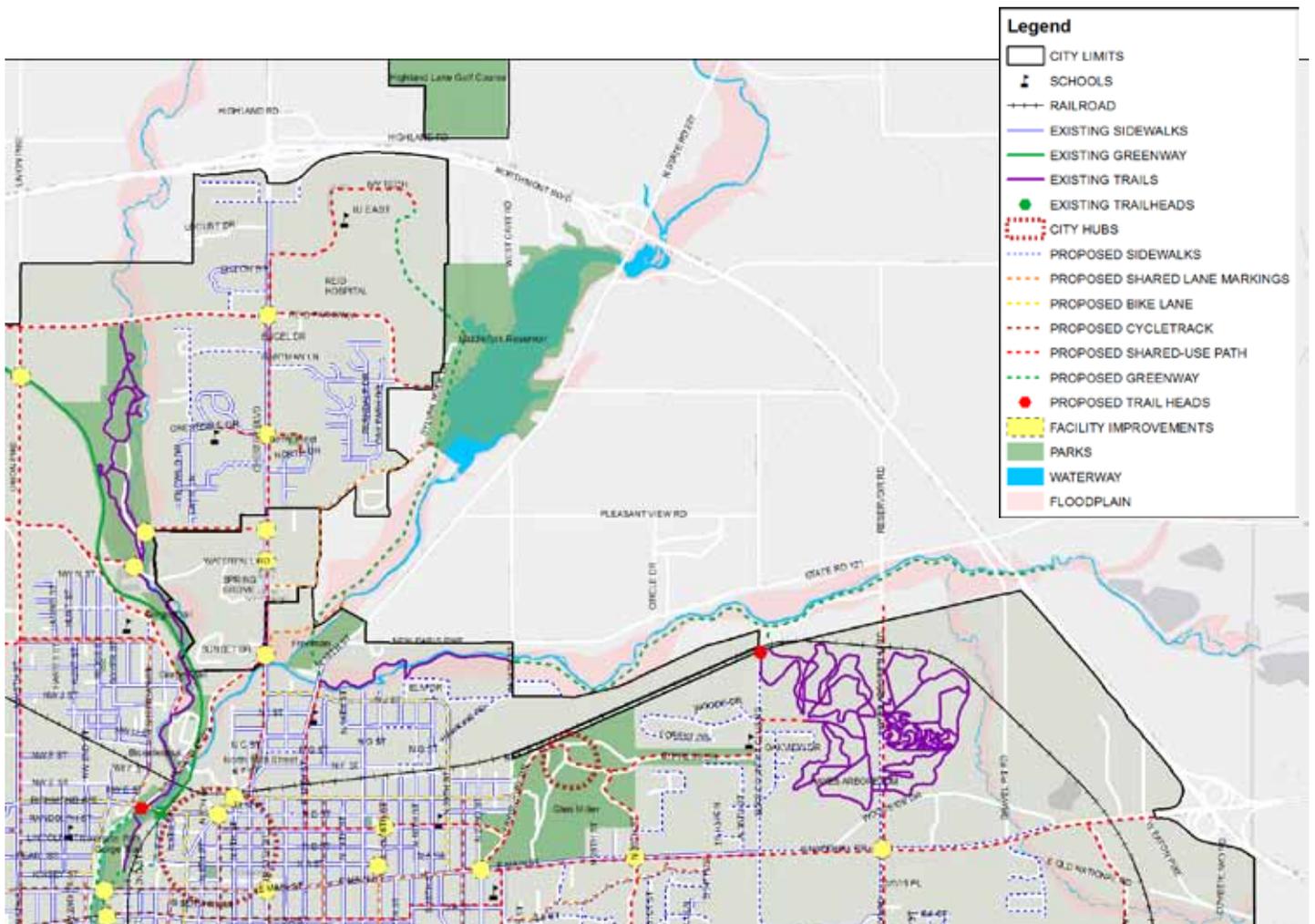


Figure 10- Northeast Quadrant Proposed Route Map



## SOUTHWEST QUADRANT PROPOSED ROUTES

The Southwest quadrant detail area includes the downtown hub at 7th Street Park. There are many routes radiating out from the hub to connect the other areas of the project with this key destination. This quadrant includes many land use types. Because of this many types of bicycle and pedestrian facilities are proposed for this area. These facilities include bike lanes, shared-lane markings, sidewalks, cycle-tracks and shared-use paths. This will create a network providing facilities which can be utilized by users of all skill and comfort levels.

There are a number east-west routes proposed for this area of the City. These include a multi-use path along West Main Street, a multi-use path along West US 40 and a multi-use path along South Q Street. Again, only a small portion of the route along South Q Street lies within the City limits and would be included as a project for the City, it is an important connection between the City and the Cope Environmental Center to the west. Coordination with the adjoining county to complete construction of this multi-use path along South Q Street will be beneficial to not only the City of Richmond but also to the Cope Environmental Center.

North-south routes are provided in the Southwest Quadrant through two proposed greenways. These greenways would be provided in the floodway of Lick Creek and Clear Creek. These routes not only provide important north-south connections but also connect neighborhoods to Clear Creek park and the aquatic facilities.

There are a number of infrastructure improvement projects that are identified within this quadrant of the City. These include intersection improvements at Clear Creek Park on West Main Street and Peacock Road. Two other infrastructure improvement projects include the bridges over the Gorge. These bridges currently provide minimal facilities for bicyclists and pedestrians. Studies are necessary to design improvements to the bridges to fully accommodate both bicyclists and pedestrians along these routes. These provide important and needed improvements to fully connect the west side of the City with the east side.



Mural in Depot District



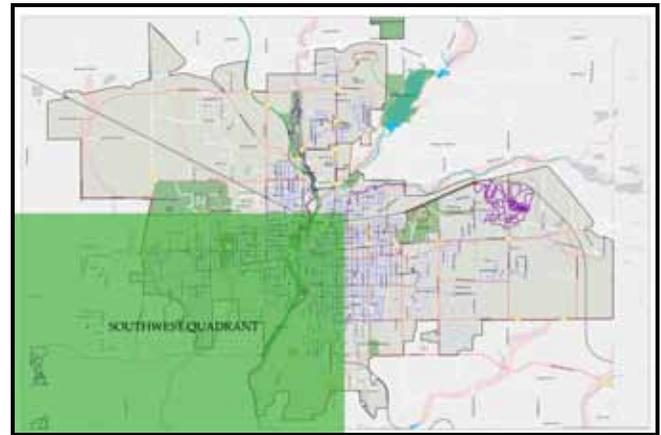
Earlham College



Depot District



- Legend**
-  CITY LIMITS
  -  SCHOOLS
  -  RAILROAD
  -  EXISTING SIDEWALKS
  -  EXISTING GREENWAY
  -  EXISTING TRAILS
  -  EXISTING TRAILHEADS
  -  CITY HUBS
  -  PROPOSED SIDEWALKS
  -  PROPOSED SHARED LANE MARKINGS
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  -  PROPOSED CYCLETRACK
  -  PROPOSED SHARED-USE PATH
  -  PROPOSED GREENWAY
  -  PROPOSED TRAIL HEADS
  -  FACILITY IMPROVEMENTS
  -  PARKS
  -  WATERWAY
  -  FLOODPLAIN



MAP KEY

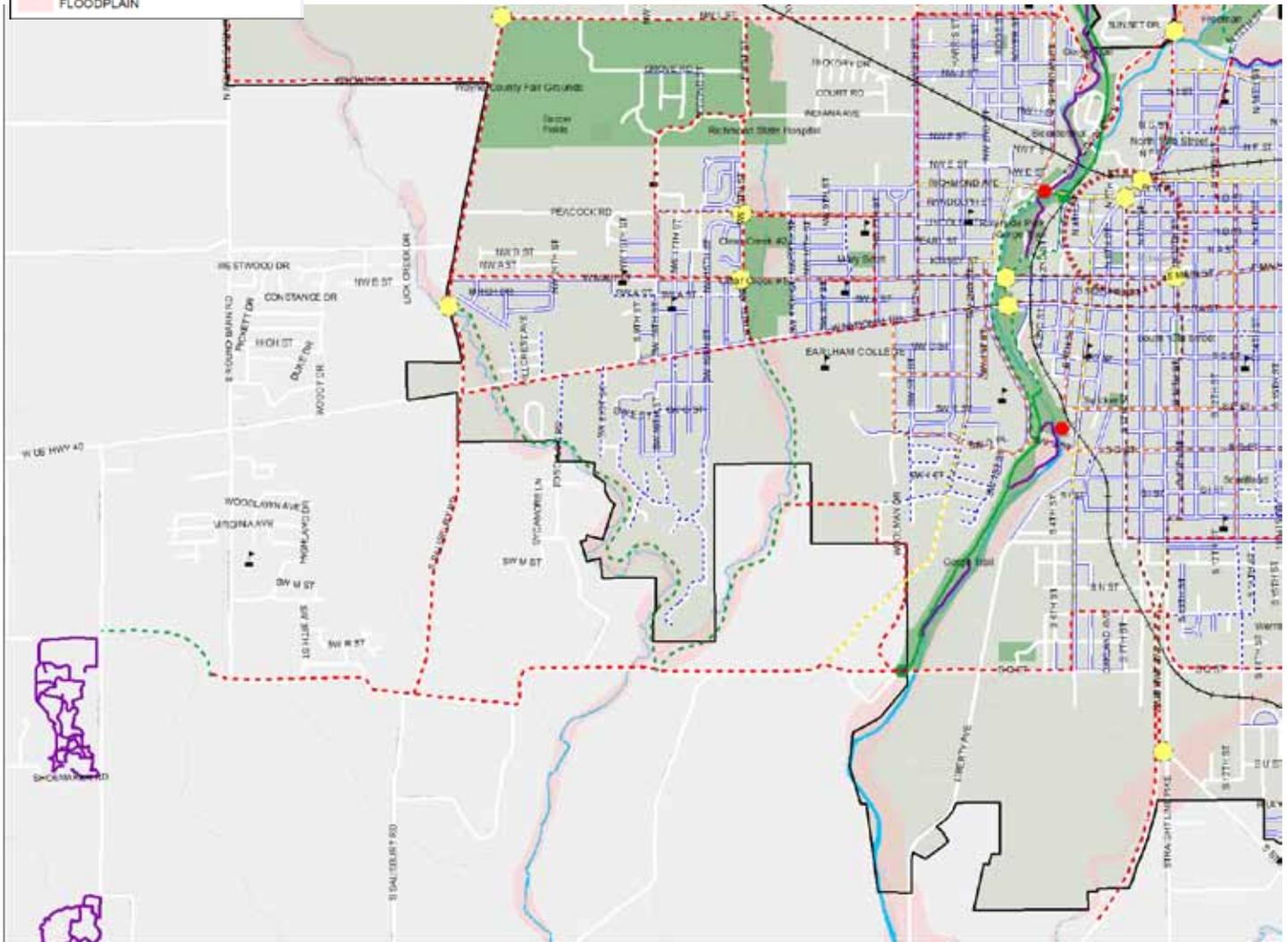


Figure 11 - Southwest Quadrant Proposed Route Map



## SOUTHEAST QUADRANT PROPOSED ROUTES

The Southeast Quadrant includes the second hub for the bicycle and pedestrian network at Glen Miller Park. The existing parking, playground and recreational facilities within the park create an already existing hub of activity. Small modifications can be made to create a more bicycle and pedestrian focused hub within the park. The current use of the park will provide established visits which can be capitalized upon for momentum with bicycle and pedestrian awareness and encouragement.

The Southeast Quadrant includes areas with high demand for bicycle and pedestrian facilities to connect existing neighborhoods to shopping areas within the quadrant. In addition, many of these neighborhoods would like to connect with the downtown.

One of the highest priority facilities for this quadrant include providing facilities along US 40 to connect shopping areas. A multi-use path is proposed along one side of US 40 with a sidewalk proposed on the other side. US 40 has existing sidewalks when it gets closer to downtown but is lacking in sidewalks further to the east. Intersection improvements will be needed to provide safe and convenient access between shopping on the north and south side of the road.

Other east-west routes are provided along Hodgin Road and Wernle Road. Wernle Road includes identification of the potential to continue the route eastward to the State Line. These routes connect the east end neighborhoods with downtown.

North-south routes are provided along Industrial Parkway, Garwood Road, Henley Road, and South 25th Street. More neighborhoods are located to the south of US 40 within this quadrant creating a greater demand for north-south routes to connect with US 40.

Shared-lane markings are proposed within the more urban areas of the Southeast Quadrant. These facilities are located on lower volume, slower speed roadways and include markings on the pavement and signage to alert motorists and bicyclists to the routes through this portion of the City.



Indianapolis Cultural Trail, Cycle Track



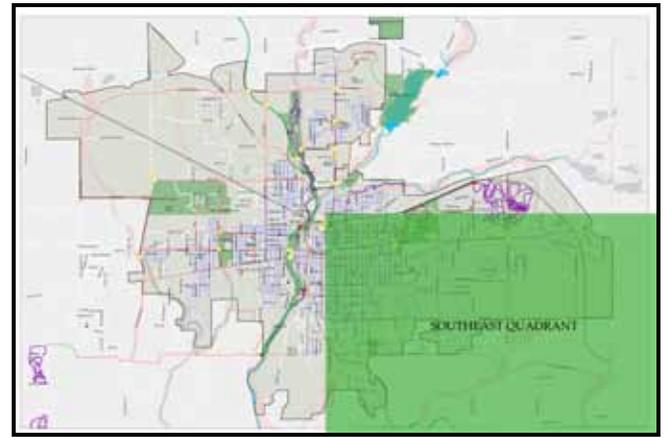
Glen Miller Park



Shared Lane Marking



- Legend**
-  CITY LIMITS
  -  SCHOOLS
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  -  EXISTING SIDEWALKS
  -  EXISTING GREENWAY
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  -  PARKS
  -  WATERWAY
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MAP KEY

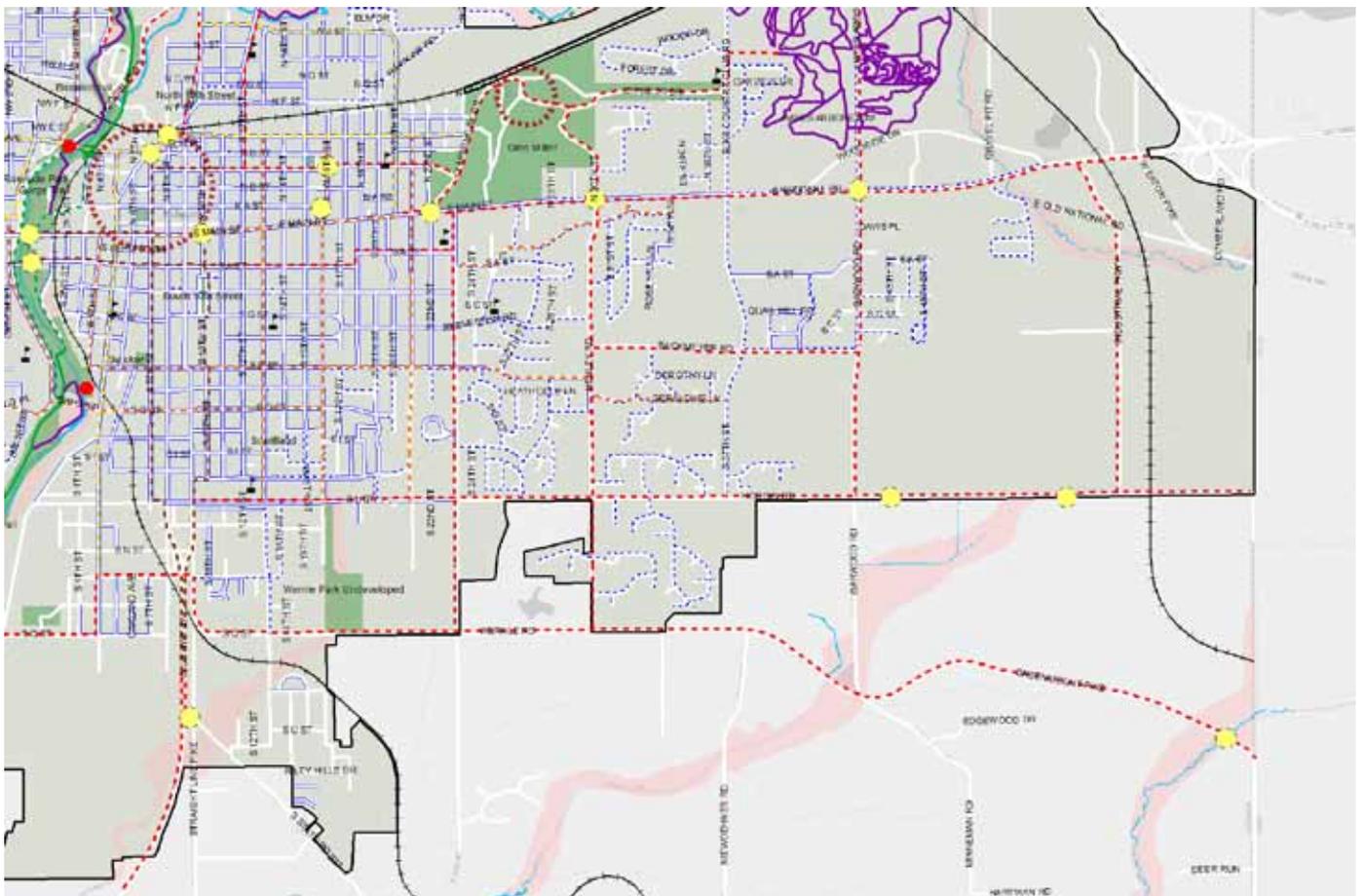


Figure 12 - Southeast Quadrant Proposed Route Map



## DOWNTOWN PROPOSED ROUTES

The Downtown Detail Map provides a more detailed look at the proposed improvements for the downtown area. The downtown will be the hub of activity for the network. In addition, there are many opportunities for Richmond to provide unique facilities connecting destinations around downtown. These improvements will build the bicycle and pedestrian friendly character of the City.

One of the key features of the bicycle and pedestrian network within the downtown area includes a connected system of cycle-track. These separated facilities will be located along North 7th Street, North 10th Street and portions of East Main Street. The cycle track is proposed to continue south of East Main Street along South 7th Street and South 10th Street to connect with 10th Street Park.

East Main Street is narrow and constricted in the core of the downtown between North 4th Street and North 16th Street. Due to these constraints, the main east-west routes through the downtown will be located on adjacent parallel streets including North C Street and

South A Street. Bicyclists are accommodated through downtown with shared-lane markings on this portion of East Main Street. Where conditions allow, the cycle track continues on East and West Main Street.

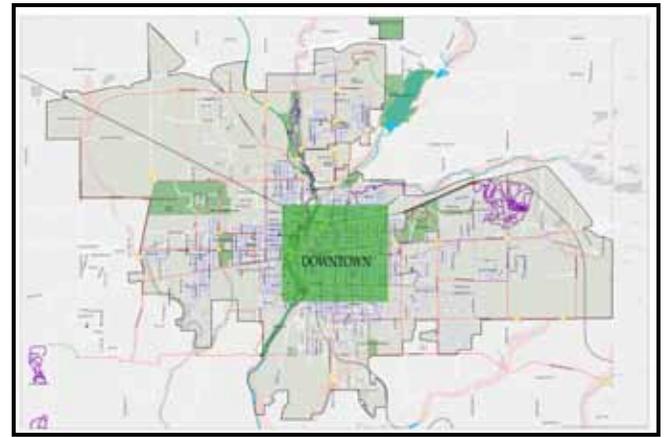
Improvements within the downtown area include the addition of bike lanes to provide both north-south routes and east-west routes. Bike lanes are proposed along Richmond Avenue, North E Street, Southwest 2nd Street and South 5th Street.

Shared-lane markings are proposed within the downtown area to further connect the system. Shared-lane markings include a bike sharrow symbol on the pavement and bicycle signage. The shared-lane markings routes are located on lower volume, lower speed streets but do provide another facility for bicyclists who are more comfortable on the road. Shared-lane marking routes include Southwest 1st Street, South 13th Street, North 13th Street, South 16th Street, North 16th Street, and Sheridan Street.



Indianapolis Cultural Trail, Cycle Track





MAP KEY

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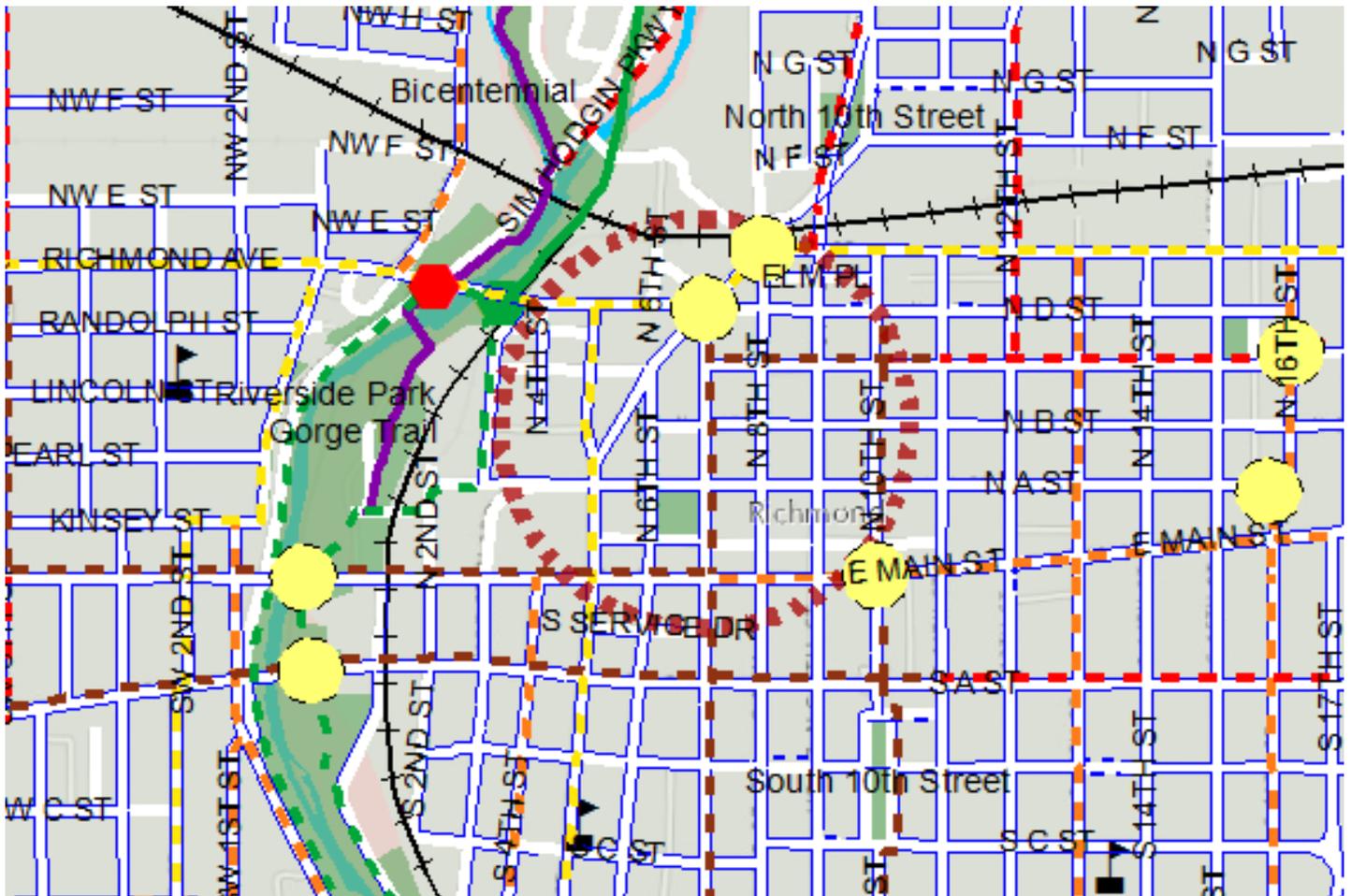


Figure 13 - Downtown Proposed Route Map

