

# Pedestrian Study

*City of Lawrence*

December, 2009

*Prepared by:*

The Schneider Corporation





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# Introduction

*City of Lawrence Pedestrian Study*



# Introduction

## Purpose of the Project

The purpose of the 2009 Lawrence Pedestrian Study is to illustrate a vision for improved pedestrian and non-vehicular mobility in the City of Lawrence and create connections to neighboring communities of Indianapolis and Hancock county.

This plan will reflect the content of earlier plans, existing built facilities and will help the City to prioritize future improvements.

The end product is a Master Plan map of the city depicting the vision for a network of trails, sidewalks and greenways in Lawrence. Accompanying the Master Plan is a Proposed Improvements Plan depicting portions of the Master Plan that remain to be constructed, as well as typical cross-section drawings of ideal path and sidewalk conditions and intersection improvements. This plan also includes a prioritized list of improvements and cost estimates for these improvements.

These priorities are set out in a 'top ten' list format, not necessarily to be accomplished sequentially, but as a menu of projects to pick from as resources or opportunities present themselves.

## **Project Scope**

The scope of the City of Lawrence Pedestrian Study is the entire City limits of Lawrence, Indiana. While there are numerous planning documents that address pedestrian movement in this area already, the City of Lawrence has identified a lack of vision for its future developments and has prepared this plan as a roadmap for City and private investment.

Pedestrian facilities addressed in this document include sidewalks, multi-use paths, roadway shoulders and greenway trails. These facilities are intended for walkers, joggers, inexperienced and experienced bikers and other non-motorized users.

This plan is conceptual in nature and is intended to provide general routes and connection points and typical design solutions. As each priority is addressed in the future, specific design details should be addressed. One of the key issues addressed is connections to neighboring communities. Connection to Indianapolis, Hancock County and Hamilton County will allow pedestrians to traverse Lawrence on several main routes, both north-south and east-west. These cross-town routes will be complemented by a sidewalk network that connects to additional neighborhoods, schools, parks and other destinations.

## **Project Goals and Objectives**

Goals and Objectives were established that contribute to realizing Lawrence's vision for a bicycle and pedestrian friendly community. Goals established for the project are the following:

1. Cross-town routes need to be identified for in town and visiting users.
2. Routes connecting neighborhoods to schools should be identified.
3. Connectivity to Indy Parks Greenways and Fort Benjamin Harrison State Park is important.
4. Connectivity to a proposed transit stop at Post Road and the railroad tracks.
5. A prioritized menu of improvements that can be addressed over time.
6. Support for certification as a Bicycle Friendly City from the League of American Bicyclists.
7. Improve crosswalks on thoroughfares and arterials.

# Site Inventory and Analysis

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# Site Inventory and Analysis

## Existing Conditions

The existing conditions in Lawrence vary from excellent pedestrian provisions, to none at all. Many of the main streets, such as 56th Street and Pendleton Pike have wide multi-use paths in the ground now and can be used as backbones for the network.

## Analysis

Lawrence, Indiana is located on the northeast side of Indianapolis. It is a community of 45,000 people, which covers 20 square miles. Located inside of Lawrence are a variety of different uses and destinations, which help to create character and define this unique place. These destinations include 12 state and local parks, 15 schools and 4 commercial centers.

Pendleton Pike serves as the main arterial for the area and connects Lawrence to Indianapolis to the west and Hancock county to the east. As well as being the main arterial, Pendleton Pike also serves as the main commercial backbone of Lawrence. Other commercial destinations are located on 56th street between Post Road and Lee Road, 79th and Fall Creek Road, and Oaklandon Road and Fox Road.

Some of the existing pedestrian routes are well planned and maintained, but many of the needed connections in this area are nonexistent. Pendleton Pike, 56th Street, and Lee Road all have wide paths for a portion of their length which can support both pedestrian and bicycle traffic. Other roads are not as equipped, and have narrow right-of-ways and lack even sidewalks to move people safely to their destinations.

## Understanding

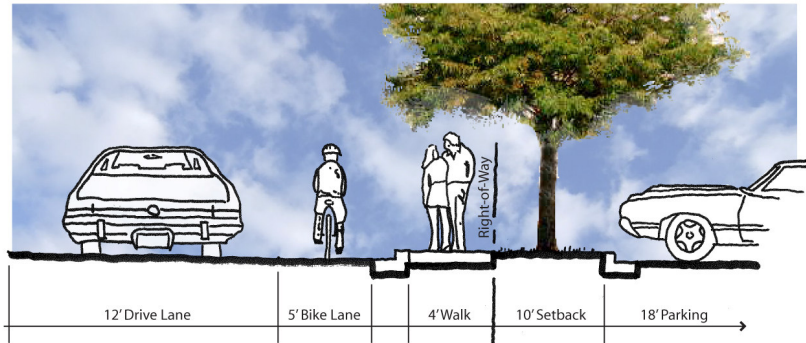
As evaluation of the area progressed, it became clear that there is a need for safe routes to help people move around and move through Lawrence. These routes needed to accommodate both pedestrians and cyclists, and safely connect them to their destinations. To accomplish this, a map of Lawrence was marked with destination points. These destination points included all of the schools, parks, commercial areas and neighborhoods. With all of these destination points defined, a network of potential routes could clearly be defined by connecting the dots.

Each route was then analyzed to determine whether a larger asphalt trail or a sidewalk with a bike lane was more appropriate. The goal was to create a safe route for not only pedestrians, but all forms of non-motorized transportation. Appropriate space should be provided at all times, so two options in a variety of different configurations were created.

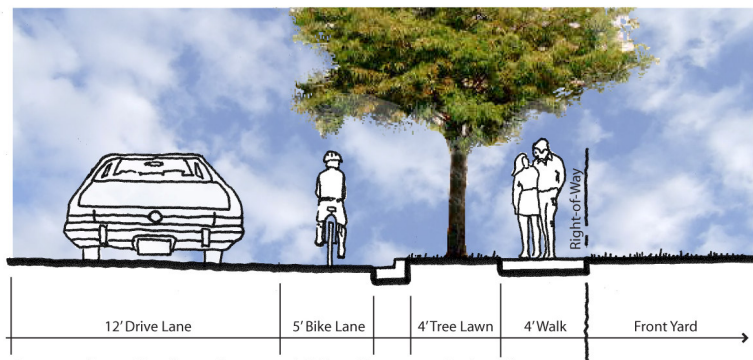
# Typical Cross Sections

Option 1 is a wide 10' asphalt trail that accommodates pedestrians and bicycles within its limits. Option 2 contains a 6' concrete walk for pedestrians and a 5' bike lane. To determine which option was appropriate for each application, the following criteria were taken into consideration: width of existing Right-of-Way, travel lane width, topography, existing pedestrian routes, volume of traffic, volume of potential users, and the Indianapolis Regional Pedestrian Plan recommendations.

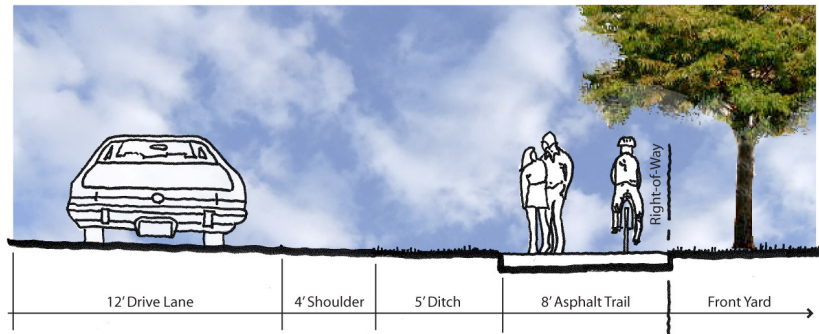
It was important to pair our findings with the Indianapolis Regional Pedestrian Plan for a variety of reasons. This study is focusing on pedestrian circulation in Lawrence, but it is important to keep in mind that not all of the users will be from Lawrence. They might live elsewhere and want to travel here, or just the opposite. Lawrence residents will likewise want to make their way to other destinations, and it is important to design with this in mind.



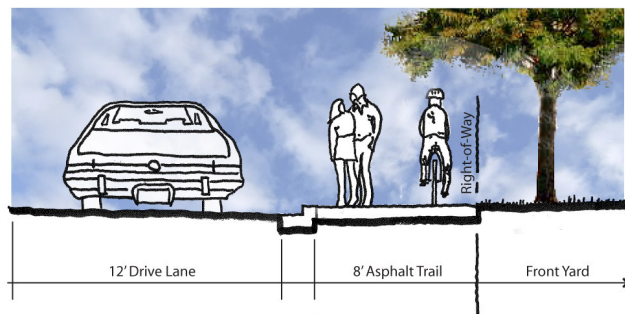
Secondary Pedestrian and Bike Route - Urban  
Scale: 1"=4'



Secondary Pedestrian and Bike Route - Suburban  
Scale: 1"=4'



Primary Pedestrian Path - Suburban  
Scale: 1"=4'



Primary Pedestrian Path - Urban  
Scale: 1"=4'



# Pedestrian Master Plan

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# Master Plan

As mentioned in the introduction, this master plan describes pedestrian facilities for both walkers as well as bicycles. In some cases, as on Fall Creek Greenway and on 56th Street, these facilities are combined into a multi-use path. In other locations there are separate sidewalk and bike lane facilities proposed. This plan includes the ultimate vision for all paths and walks, whether they are existing or proposed. See the later Proposed Improvements Plan for the pieces that remain to be developed.

There are two primary east-west routes identified; one following Pendleton Pike, the other on 56th Street. These are both recommended as multi-use paths that accommodate walkers and bicyclists. These spines will connect the commercial districts on Pendleton Pike and at the 56th & Post intersection to many neighborhoods and Lawrence Central High School.

The Fall Creek Greenway is proposed to extend northeast through Lawrence, ultimately connecting to the Geist Area and beyond. This alignment is proposed to enter the State Park at the Boy Scout Road entrance, pass through the park to the 59th Street Entrance, follow 59th Street and Lee Road back to the Creek at 71st Street.

Connecting Lawrence to this trail will enable residents to access 28 miles of Indianapolis trails including Fall Creek, the Monon Trail, and White River Trail, ultimately reaching downtown Indianapolis.

The Greenway improvements will couple with north-south routes in Lawrence, primarily along Post Road/Lee Road and Indian Creek/Oaklandon Road. These north-south routes are primarily planned as sidewalks combined with on-street bike lanes.

Efforts have been made to connect each School in the city with the nearby neighborhoods. Most Lawrence neighborhoods are constructed with internal sidewalk networks, but these often end at the major collector streets. These collector streets are good candidates for sidewalk/pathway improvement projects. In some cases, right-of-way is not uniform and may not be adequate for pedestrian improvements, requiring right-of-way acquisition. In these cases, care should be taken to coordinate right-of-way requirements for future roadway improvements, to accomplish both needs in one step.

In cases where roadway improvements precede pedestrian improvements, walks or paths should be included as part of the roadway projects. While this is more costly than just improving the road, the costs of dividing the two into separate projects, with separate right-of-way acquisition are far greater.



# Proposed Improvements Plan

The proposed improvements plan highlights the portions of the Master Plan network that remain to be built at this time. Some of these connections are short, such as a segment along 56th Street east of Post Road. Others are lengthy, such as 63rd Street between Lee Road and Oaklandon Road.

Projects such as those along Carroll Road may make sense only as part of roadway improvements, or as part of private development along portions of the roadway. Existing right-of-way is very narrow in this area and acquiring additional for the purpose of pedestrian improvements will likely be cost prohibitive.

Others offer a great pedestrian benefit for a relatively small budget. One example is the sidewalk proposed south of 63rd Street and Sunnyside Road, offering the substantial benefit of connecting Sunnyside Elementary south to the entrance of the Kensington Farms neighborhood. Another example is a short segment of sidewalk on Richardt Avenue that will connect residents south of the school up to Harrison Hill Elementary School.

## Complete Streets

The City of Lawrence endorses the principles of the 'Complete Streets' movement. These principles recommend that every street be designed for all modes of transportation, including pedestrians, buses and bicycles. This approach should be used in every infrastructure project that the City undertakes. Designing with all modes in mind has been shown to result in safer projects for all modes, with very little or no increase in construction costs.

## Bicycle Friendly Community

The City of Lawrence is committed to working to achieve the Bicycle Friendly Community designation from the League of American Bicyclists. This plan is one step in the process of maintaining and developing bicycle facilities in the City. This designation required that the City have a Bicycle Master Plan, which this document will serve as.

In addition to developing additional bicycle safe facilities, guidelines also recommend that the City adopt various ordinances and design standards that accommodate bicycling across bridges, well-maintained bicycle routes, facilities within new developments and even provide bike racks at potential destinations.

# Selected Projects—Prioritized

## 1. Sunnyside Road, 63rd Street to Tolliston Boulevard

Connecting Sunnyside Elementary School to the neighborhoods southwest of the school will benefit a great number of children. These large neighborhoods are near both schools, but have no safe routes to walk there. The School's sidewalks extend to the intersection of Sunnyside and 63rd Street, but no further. The intersection requires the addition of sidewalks, curb ramps and signals. This may require additional right-of-way from the corner properties.

Once through the intersection there is a small amount of right-of-way available on the west side of Sunnyside to connect south to Tolliston Boulevard. This short connection of some 1,000 feet will also serve to connect pedestrians through these neighborhoods to 59th Street and by extension to the State Park and Post Road.

## 2. Richardt Avenue, 48th Street to 46th Street

The neighborhood south of Harrison Hill Elementary has a great opportunity to walk safely to both the elementary and Belzer Middle School without crossing major street. Richardt Avenue has sidewalks on both sides, as do many other streets, north of 48th Street. By extending the walks 1,400 feet on the west side of Richardt Avenue, from 48th Street to 46th Street, including a cross walk at 46th Street, many more homes can be connected to these schools.

## 3. Oaklandon Elementary School Connector to Breckenridge Drive

A small segment of sidewalk will benefit an entire neighborhood by connecting Oaklandon Elementary School to Breckenridge Drive and the River Oaks Neighborhood. This will allow residents to reach the school, playground and ballfields without having to approach 63rd Street, a curving roadway with no sidewalks.

## 4. Oaklandon Road, Amy Beverland School to Camfield Drive

This connection, north and south along Oaklandon Road, will connect several neighborhoods north to several schools and a neighborhood commercial center. A sidewalk should be built on the west side of Oaklandon Road south from Fox Road, a distance of 2,400 feet. This walk will need to cross a small creek in a location where the roadway bridge is narrow and will not accommodate pedestrians. Right of way availability is a concern on both the east and west sides of Oaklandon. The west side is much less developed and will cause less impact on residents where additional right-of-way is acquired.

Pedestrians currently use 79th Street, without sidewalks, to access Oaklandon Road.

Crosswalks should be constructed to reach out to these walkers, even before walks are built on 79th Street. The Oaklandon Road sidewalk should extend south past Admirals Lane to Camfield Drive to allow residents from these two neighborhood access to the schools and commercial center to the north.

In addition, this plan recommends a new crosswalk at Amy Beverland School and new walk west to Sunset Cove Drive. This 400 feet of sidewalk will connect two additional neighborhoods to schools and the commercial district.

#### 5. Post Road, Pendleton Pike to Harrison Park Drive

There are some existing sidewalks on Post Road, but they do not connect well from north to south. This project would propose to complete the connections on both north and south sides from Pendleton Pike to existing walks north of the CSZ railroad tracks. This connection will link the commercial district on Pendleton Pike with the redevelopment efforts at the Fort.

#### 6. Franklin Road, Pendleton Pike to CSX Tracks

There are existing sidewalks on the west side of Franklin Road in this area but they are in very poor condition. There is a gap in the existing walks on the east side of Franklin Road as well. Because of the high residential density north of the CSX tracks and the commercial opportunity on Pendleton Pike, these walks should be repaired, replaced and where necessary created for the first time to properly connect these neighborhoods.

#### 7. Sunnyside Road, Tolliston Boulevard to Pendleton Pike

This sidewalk is an extension of Item #1. A sidewalk extended south 3,000 feet from Tolliston Boulevard, along the west side of Sunnyside Road, will connect several very large neighborhoods to Pendleton Pike. There is little available right-of-way on either side of Sunnyside through this area, but the west side has been chosen because of the potential for tying into walks/paths on 59th Street and existing multi-use paths on Pendleton Pike.

A small creek just south of Tolliston will require a pedestrian bridge, and crossing the CSX tracks will require special coordination with the railroad.

#### 8. 56th Street, Boy Scout Road to Franklin Road

This segment of multi-use path will connect several miles of trail on 56th Street west to three Lawrence Township Schools at 56th Street & Richardt Avenue. The pathway is in front of a portion of Fort Benjamin Harrison State Park, and may require a small amount of right-of-way from the State. The pathway will be extended approximately 1,000 feet at its existing width to the Boy Scout Road intersection. This intersection already has curb ramps and a signal. It appears that push-button activators were anticipated but never installed for pedestrians. They should be as

part of this project, allow safe passage from north to south or vice versa. From this intersection west, sidewalks are in place on both sides of 56th Street.

#### 9. 63rd Street, Forest Glenn Elementary to Twyckenham Drive

This segment of sidewalk will connect Forest Glenn Elementary and Fall Creek Valley Middle School east to several neighborhoods, including Watson Farms and Kensington Farms. There is a small segment of sidewalk west from Twyckenham Drive that ends at a residential parcel. New right-of-way will be required from this parcel, but the remainder of the 2,100 feet of sidewalk can be constructed on School property, with their cooperation. This will connect residents to the two schools as well as farther east to Lee Road, the planned Fall Creek Greenway and ultimately the State Park.

There is also the opportunity to connect these neighborhoods directly into the school's campuses by way of an existing sidewalk at the end of Alexia Drive cul-de-sac. This sidewalk ends abruptly in the Middle School parking lot. It should be extended through the rest of the campus, allowing access to school entrances, playgrounds and Lee Road Park.

#### 10. Franklin Road, Harmon Way to 56th Street

This sidewalk connection from Lawrence Community Park to the existing multi-use paths on 56th Street is difficult because of the steep grade of the roadway and limited right-of-way. The preferred route is for a walk to follow the west side of Franklin Road with a crosswalk to connect the park at Harmon Way. A portion of this walk will likely be constructed on a boardwalk because of steep slopes. There is a paved drainage ditch on the east side of Franklin Road that complicates any connection in this area.

#### 11. Oaklandon Road, CSX Tracks to 71st Street

The downtown district of Oaklandon is well connected with sidewalks, but these stop at the north end of the district, where Oaklandon Road crosses the CSX tracks. A new sidewalk, roughly 2,400 feet long, is proposed on the east side of Oaklandon that will help connect several neighborhoods north of the tracks down to the commercial district, park and Pendleton Pike. In addition, by improving the existing crosswalk, this sidewalk can connect these residents safely to Oaklandon Elementary School.

#### 12. 79th Street, Fall Creek Road to Indian Lake Road

The 79th Street hill across and up from Fall Creek Road is presently very dangerous for pedestrians. Because of the high concentration of residents east of the bridge and the commercial center west of the bridge, this connection is important. In addition it will connect to the planned Fall Creek Greenway corridor and existing gravel trails. The sidewalk should be constructed on the south side of 79th Street, extend-

ing some 2,700 feet from Fall Creek Road to Indian Lake Road. Right-of-way in the south side is adequate for a sidewalk/path, however topography is a challenge. It may be determined that the hill is too steep or difficult to climb. In this event another opportunity exists to pull away from 79th Street and use Hermosa Drive as a connection east to Indian Lake Road. The City retains a narrow strip of right of way that connects Hermosa Drive to 79th Street just east of the Fall Creek Bridge. This solution is in existing City right-of-way but will require communication with neighbors who may believe that it is private property.

## **Pendleton Pike Intersections—Prioritized**

Pendleton Pike serves as the major vehicular spine through Lawrence. In addition it is well equipped with multi-use pedestrian paths and side walks, sometimes on both sides of the roadway. It is the central commercial corridor in the City and attracts a great number of visitors and through traffic every day.

Pendleton Pike has the potential to continue to serve as the commercial core of the City. It is limited however by a complete lack of safe pedestrian crossings. The five intersections below, in priority order, are necessary to connect the north and south sides of Lawrence and allow residents to access the benefits of the other half of the City.

### **1. Pendleton Pike and Franklin Road**

Construction of this intersection is just wrapping up in the fall of 2009. INDOT has included provisions for pedestrians to cross Post Road via curb ramps and crosswalks. There is no provision however for crossing Pendleton Pike. This movement may be accommodated, using existing curb ramps, with the addition of striping and push-button signals. In places, Pendleton Pike is nine lanes wide and will require a long crossing time. .

### **2. Pendleton Pike and Post Road**

This intersection is much like Pendleton Pike & Post Road and should be addressed the same way.

### **3. Pendleton Pike and Oaklandon Road**

When INDOT constructed the intersection at Oaklandon Road, they included crosswalks, curb ramps and crosswalks. There are no push-buttons or pedestrian signals. This would be a simple, cost-effective upgrade to the intersection that would facilitate residents accessing nearby commercial establishments, parks and residential areas.

### **4. Pendleton Pike and Sunnyside Road**

This intersection is of nearly the same design as Oaklandon Road. It was constructed with crosswalks in the east-west direction, but none crossing Pendleton Pike. The addition of north-south crosswalks, configured much like those at Oaklandon Road, along with pedestrian signals will allow pedestrians to cross this busy intersection.

#### 5. Pendleton Pike & 56th Street

Because of the configuration and limited right-of-way on the south side of Pendleton Pike crossing all four legs of this intersection is not possible. This plan recommends crossing Pendleton Pike at Mitthoeffler Road and at the Wal-mart entrance signal north of 56th Street. Crossing 56th Street can be accomplished at the Mitthoeffler Road intersection as well. While this is less than ideal, crossing these roads at the intersection of 56th & Pendleton Pike would not be safe.



# Project Cost Estimates

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## Project Cost Opinion

Schneider has taken a preliminary look at potential costs on the project's selected segments and completed the following cost opinion. It should be noted that these are very preliminary cost opinion numbers and they are subject to change as the project moves forward. Schneider has based information off of existing GIS information provided by the City of Lawrence, as well as maps, aerial photos, and site visits. This information is not assumed to be completely accurate. A detailed survey of the project area will need to be conducted prior to construction drawings being completed before any cost estimates can be finalized.

The project costs are broken down by proposed projects in the study area and include hard costs only. Design fees and land acquisition costs are not included. A 15% contingency has also been added to all construction costs, based on the schematic nature of the designs.

### Selected Projects

1- Sunnyside Road, 63rd Street to Tollison Blvd.....	\$65,064
2- Richardt Avenue, 48th Street to 46th Street.....	\$35,793
3- Oaklandon Elem. School Connector to Breckenridge Drive.....	\$16,682
4- Oaklandon Road, Amy Beverland School to Camfield Drive.....	\$154,393
5- Post Road, Pendleton Pike to Harrison Park Drive.....	\$140,818
6- Franklin Road, Pendleton Pike to CSX Tracks.....	\$135,516
7- Sunnyside Road, Tolliston Boulevard to Pendleton Pike.....	\$143,923
8- 56th Street, Boy Scout Road to Franklin Road.....	\$67,779
9- 63rd Street, Forest Glenn Elementary to Twyckenham Drive....	\$77,947
10- Franklin Road, Harmon Way to 56th Street.....	\$252,045
11- Oaklandon Road, CSX Tracks to 71st Street.....	\$82,305
12- 79th Street, Fall Creek Road to Indian Lake Road.....	\$367,632

### Pendleton Pike Intersection

1- Pendleton Pike and Franklin Road.....	\$33,895
2- Pendleton Pike and Post Road.....	\$35,870
3- Pendleton Pike and Oaklandon Road.....	\$52,372
4- Pendleton Pike and Sunnyside Road.....	\$40,603
5- Pendleton Pike and 56th Street.....	\$52,844

*Prepared for:* **The City of Lawrence, Indiana**

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