A Comprehensive Alternative Transportation Plan for the City of Waterloo, Illinois
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Executive Summary

This document represents the Explore Waterloo Comprehensive Alternative Transportation Plan. The objective of this plan is to provide a conceptual framework guiding future on- and off-street bicycle and pedestrian facilities, with the overarching goal to transform the City of Waterloo into an even more bicycle- and pedestrian-friendly community.

This planning process began in Spring 2012 and included two public open houses and a public walking workshop. Multiple surveys were completed by Waterloo residents and comments were solicited and received at every juncture. The vast majority of residents surveyed were in favor of helping make Waterloo’s streets more friendly to people on foot, on bike, and using other forms of non-motorized transportation on trails and on streets. Existing facilities see a high rate of usage and will serve the City well as the foundation of its future connected network. While this is a long-term plan meant to take up to 20 years to implement, it provides the blueprint, in the form of phases, for constant progress. As more phases of this plan are implemented, the more positive impacts will be realized.

It is our hope that this plan, once implemented, will enable users of all skills, interests and needs to get out and Explore Waterloo!
Introduction &
Existing Conditions
**Purpose**

Waterloo is located in the Metro East area of the St. Louis Metropolitan Region. Situated in the Southwestern Illinois county of Monroe, Waterloo is a majority residential community, otherwise known as a “bedroom” community. Nearby towns and villages such as Columbia, Valmeyer, Red Bud and Maestystown help create a unique rural environment, rich in history and heritage.

Waterloo commissioned this study to investigate and determine the most suitable and appropriate routes for residents and visitors to explore the City by bicycle or foot. The results of this citizen-driven process illustrate how the City can grow, plan for and enhance the future of its alternative transportation network.

This planning process and subsequent report were guided by two basic methods of exploration: transportation and recreation. With an increasingly sedentary and overweight national population, access to recreational facilities including trails is becoming more important for many citizens. Additionally, the rising cost of fuel has inspired many people to search for alternative methods of transportation to their workplace and shopping destinations.

This plan builds on the many existing high-quality facilities in Waterloo, as well as those currently under development. This comprehensive, long-range analysis outlines a blueprint for a connected system of both bicycle and pedestrian facilities. Also included is a phased implementation strategy based on citizen- and data-driven priorities. The piece-by-piece approach to the construction of this network will enable the City to be proactive in searching for grant funding, along with leveraging available resources.

**City History**

Waterloo has and long a rich history, beginning in the late 1700’s with the first permanent American settlement in the Northwest Territory–Bellefontaine. Bellefontaine was established as a resting place for travelers of the Kaskasia Trail between the French communities of Kaskasia and Cahokia. The town’s population began to grow and by 1800 had reached 286.

In 1816, the town’s first store, mill, and quarry were established by a man named Emery Peters Rogers. The area became know as Peterstown. According to local legend, the town didn’t become known as Waterloo until 1818 and received its charter as a town on February 12, 1849. The 1840’s were marked as a time of great population growth for Waterloo as the population grew - mostly German immigrants who seized the opportunity to farm the rich fields of the American Bottom. Many of the town’s residents, buildings, and traditions still reflect this German heritage.

Waterloo became the county seat in 1825 and on August 29, 1888 Waterloo was rechartered as a City. Today Waterloo prides itself on being a great place to raise a family: boasting a reputable school system, low crime rate, and superb recreational facilities.
On December 1, 1978 Waterloo’s downtown district was placed on the National Register of Historic Places. The City strives to keep its historic ties to Germany and maintains a “Sister City” relationship with Porta Westfalica, Germany. This includes an annual festival named after the German community and exchange program opportunities.

In 2010, the Illinois Department of Transportation began a study of Route 3 through Waterloo, eventually deciding to widen the highway through the city limits. Per the State’s “Complete Streets” legislation, this project was required to include an analysis of potential bicycle and pedestrian facilities. A 4-mile separated 10 foot-wide trail was added to the design in 2011 and will be constructed from Market Street to the Vanderbrook Subdivision beginning in 2014 (see map at left).

Plans are already also in place to connect the new Route 3 trail to Lakeview Park. A one-mile pedestrian improvement is planned along Lakeview Dr., which serves as the main connector to Lakeview Park and several adjoining neighborhoods.

The location of these new alternative transportation facilities raised awareness for the need of a city-wide plan.

Census Statistics
According to the 2010 Census and the American Community Survey (ACS), the population of Waterloo is 9,811, which is a 29% increase from 2000. Waterloo is approximately 7.5 square miles in size, with a gross residential density of approximately 1,304 persons per square mile, which is well-suited to the provision of alternative transportation modes into the city infrastructure. The population is evenly split with regards to gender, and evenly distributed across age groups: 6% under age 5, 24% under age 18, and 16% over age 65. Historically, bicycle and pedestrian facilities would be targeted at the under 18 and between 18-65 age groups. However, the “baby boomer” generation has shown an increased desire for exercise and recreation opportunities with walking and cycling high on the list of desired activities. Therefore, the target audience for this planning effort is any adolescent or adult who is interested in walking or biking for play, recreation or transportation or any child who, under parental supervision, could benefit from sidewalk and trail portions of the system.
Waterloo is largely a residential community and boasts a homeownership rate of 75%. Additionally, 89% of residents have lived in the same home for over one year, indicating an investment in their community. Ninety percent of residents have a high-school diploma and 25% have earned bachelor’s degrees or higher. The median household income is $61,000 and there are an average of 2.5 people per household. **Thirty-four percent of households have children under the age of 18, according to the American Community Survey of years 2006 -2010.**

The mean travel time to work is 29 minutes, and 80% of residents drive alone. Eleven percent of commuters are carpooling and only 1% utilize public transportation. Five percent of residents work at home and only 2.6% of residents walk to work. The long average travel time to employment destinations is not conducive to a modal switch to cycling or walking as most people will not participate in alternative transportation for commuting if the trip is longer than 10 miles. However, fewer than 20% of all trips are for commuting. Education and encouragement efforts should therefore be focused on social, commercial, recreational and school trips (internal city transportation).

This data indicates an ideal audience for the implementation of a comprehensive alternative transportation network within the City of Waterloo.

**“X” Marks the Spot: Popular Destinations**

Within the City limits, there are a number of destinations that will influence the planned network (see Existing Conditions Map on page 13). The following is a list of these important activity centers:

Shopping Centers
- Walmart Plaza
- Schnucks Plaza
- Rural King/Waterloo Farmer’s Market
- Schneider’s Quality Meats and Area

Parks/Recreation Centers
- Lakeview Park
- Lion’s Memorial Park
- Koenigsmark Park/Skate Park
- Konarcik Park

Education Centers
- Waterloo Public Grade Schools
- Waterloo High School
- Saints Peter & Paul Catholic Grade School
- Gibault High School

Community Centers
- Monroe County YMCA
- Waterloo City Hall
- Monroe County Courthouse
- Mystic Oaks Golf Course
- Monroe County Fairgrounds
- Churches/Places of Worship
- Medical Offices
- Restaurants
Waterloo Park District
The City of Waterloo staff, elected officials, and residents have worked hard to establish the existing parks system. The Waterloo Park District was established over 50 years ago and is responsible for maintaining four well-established, highly regarded, and heavily used parks totaling more than 150 acres of green space. They include Konarcik Park on the east edge of town, Lakeview to the South, and Koenigsmark in the center of town.

These parks provide residents with walking trails, sports fields, playgrounds, fishing areas and covered pavilions. In 2010, in partnership with the Waterloo Optimist Club, a Skate Park was added to Koenigsmark Park, providing even more recreational opportunities to residents (see photo at right). In 2012, the Park District will begin development on new park—William Zimmer Memorial Park—near Rogers Street in the north end of town, adding 4.5 acres to the park system. The park will be easily accessible to many residents along the Rogers Street Trail. This trail is heavily used by walkers, joggers, and cyclists of all ages. It is anticipated Phase I of William Zimmer Memorial Park will be completed by the end of 2012.

Other Motivating Factors: Community Health Needs
The University of Wisconsin’s Population Health Institute has analyzed a series of factors to produce a ranking for counties of Illinois in two categories: health outcomes (premature death, overall morbidity, etc.) and health factors (obesity, smoking, etc.). The analysis is intended to produce a picture of overall community health based on factors like quality of health care, individual behavior, education, employment, and environmental factors. The goal is to capture a picture of both physical and mental health.

The results published in the County Health Rankings: Mobilizing Action Toward Community Health – Illinois 2012 report (countyhealthrankings.org). Monroe County is ranked 13 out of 102 counties (1 being the healthiest and 102 being the least healthy county in Illinois) for Health Outcomes and 2 out of 102 for Health Factors. These rankings indicate a high demand for healthy living in Monroe County communities. Improving active transportation networks will fulfill demand for improved infrastructure and improve safety for residents already walking and biking.

Projected Economic Impact Benefits
In June 2009, the League of Illinois Bicyclists published “The Economic Benefits of Bicycle Infrastructure Investments”. The article highlights the benefits for state and local economies, the benefits for business districts and neighborhoods, and identifies the cost savings for the individual user.

“The evidence demonstrates that investments in bicycle infrastructure make good economic sense as a cost effective way to enhance shopping districts and communities, generate tourism and support business.”

- A study commissioned by the Colorado Department of Transportation in 2000 determined that bicycling contributed $1 billion to the economy from manufacturing, retail, tourism and bike races.
- Maine has made a concerted effort to improve its bicycle infrastructure since 1991 by widening
shoulders and creating shared-use paths, generating $66 million a year in bicycle tourism.

- North Carolina’s Outer Banks spent $6.7 million on bicycle infrastructure and have seen an annual nine to one return on that one-time investment. Expenditures by the 680,000 annual visiting bicyclists support 1,400 jobs in the area.
- As a result of policies that encourage bicycling and maintain urban density, reducing auto-dependency, Portland, Oregon residents save on transportation costs and have more money to spend on things they value. Compared to commuting patterns in the median American city, Portlanders travel 2.9 billion fewer miles and spend 100 million fewer hours, saving $2.6 billion a year.

**Treasure Hunt: Explore Waterloo Data Collection**

Data collection for the Explore Waterloo plan began in February 2012 with the launch of a paper and on-line survey for residents and visitors. Responses to the survey were collected through June 2012 and a total of 73 responses were submitted to the planning team. Of all the respondents, 84% believed the City of Waterloo should consider non-motorized transportation a priority.

When it comes to walking in Waterloo, 36% of the participants rated current walking conditions as poor. Forty percent of respondents walk a few times a week, however 89% said they would walk more if sidewalks, trails, and street crossings were improved for pedestrians. When asked what was keeping them from walking the top responses were: lack of sidewalks (77%), automobile traffic and speed (61%), pedestrian unfriendly streets (55%), and lack of crosswalks at intersections (45%).

Biking in the City of Waterloo is fairly popular - 18% of survey respondents bike a few times per week; and an additional 36% bike a few times per month. Eighty percent indicated they would take more trips by bike if there were more bike routes, lanes, and safer street crossings. Other common discouraging factors included: lack
of bicycle lanes (71%), inadequate shoulder width(s) (67%), lack of off-street trails (58%), high automobile speeds (51%), and crossing busy roads (46%).

The top corridors listed as “need improvement” were: Lakeview Drive, Market Street and Route 3. The top intersections listed as “need improvement” were: Route 3 & North Market, Route 3 & Route 156, and Route 3 & HH/Country Club Lane.

**Open House #1**

On February 28, 2012 the first Explore Waterloo Open House was held at Waterloo City Hall. For the duration of two hours in the early evening residents and visitors stopped by and shared with planners and city officials what they would like to see incorporated into the Explore Waterloo Plan.

Eighteen residents, city staff and elected officials attended the open house, sharing their thoughts and ideas.

**Walking Workshop**

On Saturday, April 14, residents of Waterloo joined the Explore Waterloo planning team to learn more about issues facing pedestrians and to document the typical walking experience in and around downtown Waterloo. The rainy weather that day limited activities but a few residents were able to meet with planners and discuss general concerns about walking and biking in Waterloo. Participants took Walking Workshop checklists with them and three checklists were returned to City Hall at a later date.

**Walkability Checklist - Most Common Problems**

Three completed walkability checklists were provided to the planning team. The checklist asked participants to review and rate their perceptions of safety, driver behavior, adequacy of pedestrian facilities, and overall enjoyment. Out of a possible thirty (30) points, the average score for all three checklists was 24, indicating a positive foundation for alternative transportation growth. The checklist was divided into five categories, each of which is listed below along with the two most common problems from each category, as indicated by participants:
1. Did you have room to walk?
   - Sidewalks or paths started and stopped
   - No sidewalks, paths, or shoulders
2. Was it easy to cross streets?
   - Needed curb ramps or ramps needed repair
   - Traffic signals made us wait too long or did not give us enough time to cross
3. Did drivers behave well?
   - Yes!
4. Was it easy to follow safety rules?
   - Yes!
5. Was your walk pleasant?
   - Dirty air due to automobile exhaust
   - Noisy

Open House #2
The second open house for the Explore Waterloo Plan was held on May 22, 2012 at City Hall. For the duration of two hours in the early evening residents and visitors could stop by and view a summary of survey responses and the draft plan. Comments on the plan were accepted and encouraged at this event. Nine residents, city staff and elected officials attended the open house, sharing their thoughts and ideas.

Aside from the primary task of presenting the draft plan to the public, a major goal of the open house was to collect opinions and feedback on potential priorities for implementation. Comments cards (see example below) were filled out by attendees and these comments assisted the planning team in the construction of the prioritization matrix (see page 34 for results).

Please indicate below which streets, sidewalks, trails or intersections you feel are most important to improve (PLEASE SHARE YOUR TOP THREE CHOICES):

- N. Market + Route 3
- N. 150 + Church (near MT Library)
- Route 3 + Hennepin

Other comments about the DRAFT plan:

- Improvements will be nice!
- Good to see this type of discussion in Waterloo to transition to a more pedestrian friendly community.
Plan Principles
Plan Principles

The primary planned users of Explore Waterloo facilities are what the Federal Highway Administration terms “Group B/C Bicyclists”. These are “Basic Bicyclists” and children. They are described as the following in the FHWA’s document “Selecting Roadway Design Treatments to Accommodate Bicycles” (FHWA-RD-92-073) and the subsequent AASHTO Guide for the Development of Bicycle Facilities:

Group B – Basic Bicyclists: These are casual or new adult and teenage riders who are less confident of their ability to operate in traffic without special provisions for bicycles. Some will develop greater skills and progress to the advanced level, but there will always be many millions of basic bicyclists. They prefer:
- Comfortable access to destinations, preferably by a direct route, using either low-speed, low traffic-volume streets or designated bicycle facilities.
- Well-defined separation of bicycles and motor vehicles on arterial and collector streets (bike lanes or shoulders) or separate bike paths.

Group C – Children: These are pre-teen riders whose roadway use is initially closely monitored by parents. Eventually they are accorded independent access to the system. They and their parents prefer the following:
- Access to key destinations surrounding residential areas, including schools, recreation facilities, shopping, or other residential areas.
- Residential streets with low motor vehicle speed limits and volumes.
- Well-defined separation of bicycles and motor vehicles on arterial and collector streets or separate bike paths.

Generally, group B/C bicyclists will be best-served by a network of neighborhood streets and designated bicycle facilities, which can be provided by:
- Ensuring neighborhood streets have low speed limits through effective speed enforcement or controls and/or by implementing “traffic-calming” strategies.
- Providing a network of designated bicycle facilities (e.g. bicycle lanes, separate bike paths, or side-street bicycle routes) through the key travel corridors typically served by arterial and collector streets.
- Providing usable roadway shoulders on rural highways.

The recommendations made in this plan should be used only as a framework for developing more detailed design-engineering standards and plans during subsequent implementation. The recommended routes and trails are consistent with the bicycle facility design material and typical sections in the Illinois Department of Transportation’s (IDOT’s) Bureau of Design and Engineering Manual (See Appendix). They also reflect the guidance presented in the American Association of State & Highway Transportation Official’s (AASHTO’s) Guide for the Development of Bicycle Facilities and the Manual on Uniform Traffic Control Devices (MUTCD) (See Appendix).

These three documents are fundamental in the current acceptable reference information for developing bicycle facilities. [Note: The full documents should be consulted in the design-engineering/implementation phase of this plan.]
Complete Streets: Illinois Law

According to the American Planning Association (www.planning.org), complete streets accommodate pedestrians, bicyclists, transit, and cars, creating multi-modal transportation networks. In October of 2007, complete streets policy became law in Illinois. It mandates that the principles of complete streets must be incorporated into all new projects receiving state or federal monies and/or projects on state or federal roads and highways. Both requirements relate to projects in urbanized areas. On June 1, 2010, IDOT formally adopted a series of design policy changes to their Bureau of Design and Environment manual, Chapters 5 and 17, in response to the 2007 “Complete Streets” state law.

The planned separated bike path along Route 3 in Waterloo is a result of this policy. IDOT also has jurisdiction on Route 156. However, the principles of complete streets have been applied to all plan recommendations, creating seamless integration of both pedestrian and bicycle accommodations in the implementation guidelines herein.

Based on a combination of factors including available right-of-way and safety, we have recommended six categories of complete streets facility types for the City of Waterloo. They are as follows (see pages 21-26 for illustrations of these facilities):

1. Share-The-Road (STR) Signs
2. Share-The-Road Signs & Shared Lane Markings (Sharrows)
3. Share-The-Road Signs, Shared Lane Markings & Sidewalks
4. Improved Shoulders & Sidewalks
5. Ped Paths
6. Multi-Use Trails

Definitions of Facility Types:

- **Share-The-Road Signs:** The use of signs designates these facilities as recommended on-street bicycle routes for advanced cyclists. The purpose of these signed routes is simply to increase awareness of both the automobile operator and the cyclist to the presence of the other and a reminder of their rights to the roadway. Many of these routes are/will be used by Advanced Cyclists - the recommended signs are strictly to improve safety conditions.

- **Marked Shared Lane:** Otherwise known as “sharrows”, this facility recommends the use of on-street pavement markings that designate Bicycle Routes along with the area of the Shared Lane that is recommended for use by cyclists choosing to ride on the roadway with automobile traffic. Sharrows are most appropriate, according to the AASHTO Guide for roadways with posted speed limits of 35 mph or less. Signs, for awareness, safety and wayfinding, are also used in this facility. The combination of signs and pavement markings (including through intersections) designates these roadways as the City’s “preferred” locations for on-street cycling. They are especially useful in locations where on-street parallel parking is allowed. Depending on posted speed limits, these facilities are recommended for both Advanced and Basic Cyclists, but not for Children.
• **Improved Shoulders:** While the width of the shoulders on the roadways recommended for this facility are more than adequate, their surface materials are not. This recommendation includes replacing the current oil and chip surface with a standard asphalt surface - an extension of the surface used in the roadway. Pavement markings (sharrows) on the repaved shoulders are recommended, as are wayfinding/route signs. The use of this facility eliminates the need for road-widening and related expenses to accommodate bicycle lanes. Due to the high speed and volume of traffic on these roadways, Children are not recommended users.

• **Ped Paths:** This “hybrid” facility is a combination of a sidewalk and a trail. Six feet wide and constructed of a continuous smooth pavement surface, such as asphalt, ped paths operate as bi-directional trails on their own right-of-way, with cyclists and pedestrians on both sides of the roadway moving in the same direction as traffic. These facilities are appropriate for all levels of users and serve to extend the City’s network of facilities both in linear feet and in network connections - often without the need for wide right-of-way acquisition.

• **Multi-Purpose Trail:** Multi-Use Trails are 10-12 feet wide (or greater) with a continuous smooth paved surface such as asphalt or concrete, and accommodate bi-directional flow on their own right-of-way. Recommended for only one side of a roadway, these facilities accommodate all levels of users.

• **Sidewalk:** A minimum five feet wide of hard surface, these facilities are primarily recommended for pedestrian use. Recommended for extensive implementation, properly constructed and well-maintained sidewalks are the main component of a successful alternative transportation network. In areas where certain bicycle facilities are not recommended for Children, sidewalks can and should be used. Keeping the sidewalk clear of low-hanging branches, shrubbery, debris, and other obstacles such as low signage and utility poles & lines, along with maintaining the pavement surface, will encourage novice and advanced children alike to exercise or commute to school.

*Two examples of types of safety and wayfinding signs for bicycle facilities.*
**Connectivity & Accessibility**

Street connectivity is directly related to pedestrian accessibility: the more connected your streets, the easier it is for pedestrians to reach their destination(s). The connectivity of any neighborhood or community can be analyzed using the “link-to-node” ratio. Street segments, or blocks, between intersection are “links.” Intersections, or opportunities for connection between links, are “nodes”. The higher the ratio, the more connected the area is. And here is the kicker: the more connected an area is, the SAFER and HEALTHIER it is, contributing to a more LIVABLE environment. [See page 20 for more information about the link-to-node ratio]

However, there is a market preference for un-connected streets, such as cul-de-sacs: the lack of through traffic creates a quiet neighborhood and a perceived safer environment for children. But such transportation facilities are inefficient and discourage pedestrian/bicycle travel.

**Safety**

A review of fatalities in 24 cities shows that safety grows as street networks become denser. Twenty-four medium-sized cities in California were analyzed (Urban Design International Journal, Vol. 15, Issue 3, 2010), producing the following conclusion: The most unsafe cities in terms of traffic fatalities are those developed primarily after 1950. The cities with the fewest fatalities are those built before 1950.

Newer cities tend to have more branching street networks that include many cul-de-sacs, limiting the movement of traffic through residential areas. They also don’t have as many intersections. The pre-1950 cities, on the other hand, tend to be more grid-like, giving motorists many more routes to choose from. Waterloo includes a combination of these street grid designs - the historic core is on a modified grid system while the newer subdivisions illustrate the branching pattern.

More-connected street networks tend to reduce travel speeds. Even a small reduction in speed can boost safety by reducing the severity of accidents. When average vehicle speeds drop just 5%, injuries drop 10% and fatalities falls 20%. Connected street networks may not have fewer crashes over all, but the crashes that occur are less likely to leave someone dead. What matters most is how many intersections fall in a given land area. The more dangerous cities had 41 percent fewer intersections per square mile.

**Health**

Increasing opportunities and options for active transportation creates healthier communities. According to the Centers for Disease Control, “People who are physically active live longer and have a lower risk for heart disease, stroke, type 2 diabetes, depression, and some cancers. Improving spaces and having safe places to walk can help more people become physically active.” Less than half of all adults get the recommended amount of physical activity, and walking requires no special equipment or training.

**Waterloo scores a 89 out of 100!**

WalkScore.com is a website communities and residents can use to see the walkability of their community or a travel destination. Results are based on a scale of 1-100. The goal is to fall into the 90-100 point range, where your community is considered a “paradise”. Waterloo is “very walkable” and only one point away from paradise. This should be promoted to encourage higher rates of usership. This type of information is being used more frequently by realtors and home buyers to assess the livability of a potential community.
The Link-to-Node Ratio

A connected transportation system provides more choices through connectivity. This can be achieved a number of ways:

- traditional “grid” system
  - provide increased connections (more nodes and shorter links)
- “creative cul-de-sacs”
  - include open space and pedestrian/bicycle facilities built into their design which remove the “roadblocks” to alternative transportation methods
- “hybrid” cul-de-sacs
  - intentionally connect to a system of multi-use trails

All the above are methods of creating more livable neighborhoods. A perfect grid has a ratio of 2.5. A link-node ratio of 1.2 to 1.4, about halfway between extremes, is a good target for planning purposes.

So how do you improve your link-node ratio? When planning for new additions to your community, set a target ratio as a standard for developers. To retrofit older parts of your community consider “as the crow flies” connections that have the biggest impact (such as the recommended connection between the Vanderbrook Subdivision and Lakeview Park). Easements can be a good solution when crossing private property, as is ensuring the new facilities are maintained and patrolled by law enforcement. Safe facilities equal high traffic facilities.

Plan Principles

A one-mile walk in Seattle’s Phinney Ridge takes you through a grid-like street network with a mix of residences and businesses.

A one-mile walk in Bellevue, WA with cul-de-sacs and winding streets has few shops and services within walking distance.
**Recommended Facility Types**

**Improved Shoulders & Sidewalks**

![Typical Existing Condition Cross-Section](image1)

<table>
<thead>
<tr>
<th>Street Name/Label</th>
<th>Feet</th>
<th>Miles</th>
<th>Planned Facility 1</th>
<th>Cost</th>
<th>Planned Facility 2</th>
<th>Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lakeview</td>
<td>7,485</td>
<td>1.4</td>
<td>Shoulders</td>
<td>$1,032,940</td>
<td>Sidewalks</td>
<td>$576,350</td>
<td>$1,609,290</td>
</tr>
</tbody>
</table>

![Proposed Facility Cross-Section](image2)
Recommended Facility Types

Ped Path (One-Way Trail Pair)

Typical Existing Condition Cross-Section

Existing Utility Pole

Street Name/Label | Feet | Miles | Planned Facility 1 | Total Cost
--- | --- | --- | --- | ---
Ped Paths
4th St | 3,857 | 0.7 | Ped Path | $ 370,233
Market | 16,061 | 3.0 | Ped Path | $ 1,541,858

Proposed Facility Cross-Section
### Recommended Facility Types

**Shared Lane Markings & Sidewalks**

![Typical Existing Condition Cross-Section](image)

#### Street Name/Label | Feet | Miles | Planned Facility 1 | Cost | Sharrow | Cost | Planned Facility 2 | Cost | Total Cost
---|---|---|---|---|---|---|---|---|---
**Shared Lanes**
1st St | 2,123 | 0.4 | STR* | $ 1,401 | Y | $ 1,698 | n/a | $ - | $ 3,099
4th St | 2,355 | 0.4 | STR | $ 1,554 | Y | $ 1,884 | n/a | $ - | $ 3,438
Bulldog | 2,349 | 0.4 | STR | $ 1,550 | Y | $ 1,879 | n/a | $ - | $ 3,429
Hamacher | 4,988 | 0.9 | STR | $ 3,292 | Y | $ 3,990 | n/a | $ - | $ 7,282
Illinois | 1,270 | 0.2 | STR | $ 838 | Y | $ 1,016 | n/a | $ - | $ 1,854
Park St | 435 | 0.1 | STR | $ 287 | Y | $ 348 | n/a | $ - | $ 635

**Shared Lanes & Sidewalks**

<table>
<thead>
<tr>
<th>Street Name/Label</th>
<th>Feet</th>
<th>Miles</th>
<th>Planned Facility 1</th>
<th>Cost</th>
<th>Sharrow</th>
<th>Cost</th>
<th>Planned Facility 2</th>
<th>Cost</th>
<th>Total Cost</th>
</tr>
</thead>
</table>
Bellefontaine | 1,539 | 0.3 | STR | $ 1,016 | Y | $ 1,231 | Sidewalk | $ 118,528 | $ 120,775 |
Bradford | 2,707 | 0.5 | STR | $ 1,786 | Y | $ 2,165 | Sidewalk | $ 208,421 | $ 212,373 |
Church | 2,165 | 0.4 | STR | $ 1,429 | Y | $ 1,732 | Sidewalk | $ 105,952 | $ 109,113 |
Columbia | 3,804 | 0.7 | STR | $ 2,511 | Y | $ 3,043 | Sidewalk | $ 292,894 | $ 298,447 |
Hoener/Front | 2,829 | 0.5 | STR | $ 1,867 | Y | $ 2,263 | Sidewalk | $ 217,841 | $ 221,972 |
Library | 7,019 | 1.3 | STR | $ 4,633 | Y | $ 5,615 | Sidewalk | $ 449,757 | $ 460,005 |
Moore | 10,301 | 2.0 | STR | $ 6,799 | Y | $ 8,241 | Sidewalk | $ 273,504 | $ 288,543 |
Morrison | 4,311 | 0.8 | STR | $ 2,845 | Y | $ 3,449 | Sidewalk | $ 266,882 | $ 273,176 |
Osterhage | 2,751 | 0.5 | STR | $ 1,816 | Y | $ 2,201 | Sidewalk | $ 211,829 | $ 215,846 |
Ridge Rd | 2,887 | 0.5 | STR | $ 1,905 | Y | $ 2,309 | Sidewalk | $ 222,269 | $ 226,484 |
Vanderbrook | 4,147 | 0.8 | STR | $ 2,737 | Y | $ 3,318 | Sidewalk | $ 197,505 | $ 203,560 |
Veterans | 1,346 | 0.3 | STR | $ 888 | Y | $ 1,077 | Sidewalk | $ 103,650 | $ 105,616 |
Westview Acres | 4,586 | 0.9 | STR | $ 3,027 | Y | $ 3,669 | Sidewalk | $ 353,135 | $ 359,831 |

*Share-The-Road
Recommended Facility Types

Shared Lane Markings & Sidewalks (cont.)

Plan Principles

Proposed Facility Cross-Section
Recommended Facility Types

Share-The-Road Signs

Typical Existing Condition Cross-Section

<table>
<thead>
<tr>
<th>Street Name/Label</th>
<th>Feet</th>
<th>Miles</th>
<th>Planned Facility</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share-The-Road Signs (STR) Only</td>
<td>2,112</td>
<td>0.4</td>
<td>STR</td>
<td>$1,394</td>
</tr>
</tbody>
</table>

Proposed Facility Cross-Section
**Recommended Facility Types**

**Multi-Use Trail**

**Typical Existing Condition Cross-Section**

<table>
<thead>
<tr>
<th>Street Name/Label</th>
<th>Feet</th>
<th>Miles</th>
<th>Planned Facility</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Multi-Use Trails</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Country Club</td>
<td>2,788</td>
<td>0.5</td>
<td>Trail</td>
<td>$ 189,551</td>
</tr>
<tr>
<td>Illinois Route 3</td>
<td>8,674</td>
<td>1.6</td>
<td>Trail</td>
<td>$ 589,832</td>
</tr>
<tr>
<td>Konarcik Park Connector</td>
<td>550</td>
<td>0.1</td>
<td>Trail</td>
<td>$ 37,426</td>
</tr>
<tr>
<td>Lakview Park Connector</td>
<td>534</td>
<td>0.1</td>
<td>Trail</td>
<td>$ 36,332</td>
</tr>
<tr>
<td>Legion</td>
<td>5,243</td>
<td>1.0</td>
<td>Trail</td>
<td>$ 356,493</td>
</tr>
<tr>
<td>Library</td>
<td>2,756</td>
<td>0.5</td>
<td>Trail</td>
<td>$ 187,437</td>
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<tr>
<td>Market</td>
<td>1,681</td>
<td>0.3</td>
<td>Trail</td>
<td>$ 114,318</td>
</tr>
<tr>
<td>Rogers</td>
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<td>0.5</td>
<td>Trail</td>
<td>$ 175,309</td>
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<td>511</td>
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<td>Trail</td>
<td>$ 34,731</td>
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<td>Waterloo/SPPS Fields</td>
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<td>0.3</td>
<td>Trail</td>
<td>$ 102,765</td>
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**Proposed Facility Cross-Section**
### Explore Waterloo Complete Streets Plan (20-year implementation timeline)

#### Estimated Preliminary Expenses

<table>
<thead>
<tr>
<th>Street Name/Label</th>
<th>Feet</th>
<th>Miles</th>
<th>Planned Facility 1</th>
<th>Cost</th>
<th>Sharrow Cost</th>
<th>Planned Facility 2</th>
<th>Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Improved Shoulders &amp; Sidewalks</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lakeview</td>
<td>7,485</td>
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<td>Shoulders</td>
<td>$ 1,032,940</td>
<td>N</td>
<td>-</td>
<td>Sidewalk</td>
<td>$ 576,350</td>
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<tr>
<td><strong>Ped Paths</strong></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>4th St</td>
<td>3,857</td>
<td>0.7</td>
<td>Ped Path</td>
<td>$ 370,233</td>
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<td><strong>Share-The-Road Signs (STR) Only</strong></td>
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<td>STR</td>
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<td>Y</td>
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<td><strong>Shared Lanes &amp; Sidewalks</strong></td>
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<td><strong>Multi-Use Trails</strong></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Country Club</td>
<td>2,788</td>
<td>0.5</td>
<td>Trail</td>
<td>$ 189,551</td>
<td>N</td>
<td>-</td>
<td>n/a</td>
<td>-</td>
</tr>
<tr>
<td>Illinois Route 3</td>
<td>8,674</td>
<td>1.6</td>
<td>Trail</td>
<td>$ 589,832</td>
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<tr>
<td>Konarick Park Connector</td>
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<td>Trail</td>
<td>$ 37,426</td>
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<td>n/a</td>
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</tr>
<tr>
<td>Lakview Park Connector</td>
<td>534</td>
<td>0.1</td>
<td>Trail</td>
<td>$ 36,332</td>
<td>N</td>
<td>-</td>
<td>n/a</td>
<td>-</td>
</tr>
<tr>
<td>Legion</td>
<td>5,243</td>
<td>1.0</td>
<td>Trail</td>
<td>$ 356,493</td>
<td>N</td>
<td>-</td>
<td>n/a</td>
<td>-</td>
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<tr>
<td>Library</td>
<td>2,756</td>
<td>0.5</td>
<td>Trail</td>
<td>$ 187,437</td>
<td>N</td>
<td>-</td>
<td>n/a</td>
<td>-</td>
</tr>
<tr>
<td>Market</td>
<td>1,681</td>
<td>0.3</td>
<td>Trail</td>
<td>$ 114,318</td>
<td>N</td>
<td>-</td>
<td>n/a</td>
<td>-</td>
</tr>
<tr>
<td>Rogers</td>
<td>2,578</td>
<td>0.5</td>
<td>Trail</td>
<td>$ 175,309</td>
<td>N</td>
<td>-</td>
<td>n/a</td>
<td>-</td>
</tr>
<tr>
<td>State Rt 156</td>
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<td>1.0</td>
<td>Trail</td>
<td>$ 373,973</td>
<td>N</td>
<td>-</td>
<td>n/a</td>
<td>-</td>
</tr>
<tr>
<td>Trail Connector</td>
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<td>Trail</td>
<td>$ 12,396</td>
<td>N</td>
<td>-</td>
<td>n/a</td>
<td>-</td>
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<tr>
<td>Vanderbrook to Lakeview Connector</td>
<td>511</td>
<td>0.1</td>
<td>Trail</td>
<td>$ 34,731</td>
<td>N</td>
<td>-</td>
<td>n/a</td>
<td>-</td>
</tr>
<tr>
<td>Waterloo/SPPS Fields</td>
<td>1,511</td>
<td>0.3</td>
<td>Trail</td>
<td>$ 102,765</td>
<td>N</td>
<td>-</td>
<td>n/a</td>
<td>-</td>
</tr>
</tbody>
</table>

**Grand Totals:** 125,933 23.8 $ 8,848,815
**Facility Type Construction Estimates** *(2012)*

Page 27 shows the grand totals for estimated implementation of the Explore Waterloo Plan. Below are general estimates for the construction of each type of facility. These categories were incorporated into the Geographic Information Systems (GIS) map of Waterloo’s planned facilities. These estimates confirm the long-range nature of the Explore Waterloo Plan, providing City officials and staff with a 20-year implementation timeframe.

*Preliminary construction estimates provided courtesy of Horner & Shifrin, Inc. Engineers and Bernardin, Lochmueller & Associates, Inc.*

<table>
<thead>
<tr>
<th>Facility Type</th>
<th>Price per Foot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share-The-Road Sign</td>
<td>$0.66</td>
</tr>
<tr>
<td>Sidewalk</td>
<td>$77</td>
</tr>
<tr>
<td>Pedestrian Path</td>
<td>$96</td>
</tr>
<tr>
<td>Sharrow</td>
<td>$0.80</td>
</tr>
<tr>
<td>Improved Shoulder</td>
<td>$138</td>
</tr>
<tr>
<td>Multi-Use Trail</td>
<td>$68</td>
</tr>
</tbody>
</table>

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**Preliminary Cost Estimate** *(All costs shown in per foot of roadway)*

### Multi-Use Trail

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost/FT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earth Excavation</td>
<td>$4.50</td>
</tr>
<tr>
<td>Aggregate Base Course</td>
<td>$11.90</td>
</tr>
<tr>
<td>Hot-Mix Asphalt Surface</td>
<td>$28.12</td>
</tr>
<tr>
<td>Misc. Items (Signs, Swales, Culverts, Seeding, Prime Coat, ETC)</td>
<td>$15.00</td>
</tr>
</tbody>
</table>

Subtotal: $59.52

+ 15% Contingency: $8.93

Total - Per Roadway Centerline: $68.45

Rounded Total: $68

### Pedestrian Path

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost/FT</th>
</tr>
</thead>
<tbody>
<tr>
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<td>$2.70</td>
</tr>
<tr>
<td>Aggregate Base Course</td>
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</table>

Subtotal: $41.71

+ 15% Contingency: $6.26

Total - Per Roadway Side: $47.97

Total - Per Roadway Centerline × 2: $95.93

Rounded Total: $96

### Sidewalk

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost/FT</th>
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</thead>
<tbody>
<tr>
<td>Earth Excavation</td>
<td>$2.00</td>
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<tr>
<td>Concrete Sidewalk</td>
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<td>Misc. Items (Swales, Seeding, ETC)</td>
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</table>

Subtotal: $34.50

+ 15% Contingency: $5.18

Total - Per Roadway Side: $39.68

Total - Per Roadway Centerline × 2: $79.35

Rounded Total: $77

---

Notes:

- Estimates assume embankment in place to construct accommodations.
- Estimates do not include any ROW or easements costs.
- Estimates are in 2012 dollars
**Improved Shoulder**

Replace Existing Shoulders, 10' width, 8" HMA full depth Shoulders

<table>
<thead>
<tr>
<th>Cost/FT</th>
<th>Description</th>
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<tbody>
<tr>
<td>Earth Excavation</td>
<td>$3.17</td>
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<td>Rumble Strip 16&quot;</td>
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<tr>
<td>Painting (Sharrows, Buffer Hatching, Bike Symbols)</td>
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<tr>
<td>Misc. Items (Signs, Swales, Seeding, ETC)</td>
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Subtotal $60.12

+15% Contingency $9.02

Total - Per Roadway Side $69.14

Total - Per Roadway Centerline x 2 $138.28

Rounded Total $138

**Potential Funding Sources**

Below is a listing of funding sources recommended to aid the City in the implementation of this plan.

<table>
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<tr>
<th>Grant Program</th>
<th>Type</th>
<th>Match</th>
<th>$ Amount</th>
<th>Website:</th>
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</thead>
<tbody>
<tr>
<td>Illinois Transportation Enhancements Program (ITEP)</td>
<td>Constr.</td>
<td>20%</td>
<td>$15-25M Avg</td>
<td><a href="http://www.dot.state.il.us/">www.dot.state.il.us/</a></td>
</tr>
<tr>
<td>Congestion Mitigation &amp; Air Quality (CMAQ)</td>
<td>Constr.</td>
<td>20%</td>
<td>$5-7M Avg</td>
<td><a href="http://www.dot.state.il.us/">www.dot.state.il.us/</a></td>
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<tr>
<td>Illinois State Bike Paths Grant</td>
<td>Constr.</td>
<td>50%</td>
<td>$200K-$1M</td>
<td><a href="http://www.dot.state.il.us/">www.dot.state.il.us/</a></td>
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<td>Highway Safety Improvement Program (HSIP)</td>
<td>Constr.</td>
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<td><a href="http://www.dot.state.il.us/">www.dot.state.il.us/</a></td>
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<tr>
<td>Safe Routes to School</td>
<td>Constr./Ed</td>
<td>None</td>
<td>$5-7M Avg</td>
<td><a href="http://www.dot.state.il.us/">www.dot.state.il.us/</a></td>
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<tr>
<td>Pedestrian &amp; Bicycle Safety Program (PBS)</td>
<td>Ed &amp; Enfor.</td>
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<td></td>
<td><a href="http://www.dot.state.il.us/">www.dot.state.il.us/</a></td>
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<tr>
<td>Injury Prevention Program</td>
<td>Ed Only</td>
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<td><a href="http://www.dot.state.il.us/">www.dot.state.il.us/</a></td>
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<td>Surface Transportation Program (STP)</td>
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<td>$1 M Avg</td>
<td>dnr.state.il.us/</td>
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<tr>
<td>Tourism Attraction Development Grant (TAP)</td>
<td>Constr.</td>
<td>min. 51%</td>
<td>up to $1M</td>
<td><a href="http://www.commerce.state.il.us/">www.commerce.state.il.us/</a></td>
</tr>
<tr>
<td>Community Development Assistance Program</td>
<td>Constr.</td>
<td></td>
<td></td>
<td><a href="http://www.commerce.state.il.us/">www.commerce.state.il.us/</a></td>
</tr>
<tr>
<td>National Scenic Byways Grant--must be along byway</td>
<td>Constr.</td>
<td>20%</td>
<td></td>
<td>bywaysonline.org/grants</td>
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<tr>
<td>Land &amp; Water Conservation Fund (LWCF)</td>
<td>Constr.</td>
<td>min. 51%</td>
<td></td>
<td><a href="http://www.nps.gov/">www.nps.gov/</a></td>
</tr>
<tr>
<td>Preserve America Grant</td>
<td>Constr.</td>
<td></td>
<td></td>
<td><a href="http://www.nps.gov/">www.nps.gov/</a></td>
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<tr>
<td>Bikes Belong Coalition Grant</td>
<td>Constr./Ed</td>
<td>min. 51%</td>
<td>up to $10K</td>
<td><a href="http://www.bikesbelong.org/">http://www.bikesbelong.org/</a></td>
</tr>
</tbody>
</table>
From a regional planning perspective, it is of interest to note the presence of an abandoned rail line north between Waterloo and Columbia and south between Waterloo and Red Bud. This line was originally chartered in 1865 as the Cairo – St. Louis Railway. This was the first railway to serve Monroe County. In 1886 the line was purchased by the Mobile & Ohio RR extending the M&O's service from Mobile, Alabama to St. Louis. The M&O was sold in 1940 to the Gulf, Mobile & Ohio Railroad (GM&O) creating a rail system of almost 2000 miles that connected St. Louis with the ports of Mobile and New Orleans. Seven years later the GM&O acquired ownership of the Alton Railroad. The consolidation of these two railroads expanded the line to a 3000 mile North-South rail system serving America's mighty Middle States and offered a direct trunk line service between the great gateways of commerce and industry of this region.

In August of 1972, the Interstate Commerce Commission (ICC) approved a merger of the GM&O and rival Illinois Central railroads forming the Illinois Central Gulf Railroad. Not long after the merger, the ICG successfully petitioned the ICC in 1984 to abandon the old GM&O mainline south of St. Louis through southern IL. The last train made its way through Monroe County in the summer of 1985, ending over one hundred years of rail service.
Implementation
Prioritization

There are 35 recommended facilities in the Explore Waterloo plan. A combination of sources was utilized to create a “prioritization matrix” including the on-line and paper survey responses, comments provided at the second open house, and proximity to important destinations such as schools, parks and existing trails. The completed matrix was then analyzed for construction efficiency, and below is a summary of the results. This is the order recommended for implementation.

The table is also further categorized into “phases”. There are 8 phases based on project expense and geographic efficiency for construction. We expect one phase to be reviewed for possible implementation and/or application of funds every other fiscal year. Doing so will achieve the 20-year implementation timeline. The phases are shown on four maps on the following pages.

<table>
<thead>
<tr>
<th>Priority</th>
<th>Street Name/Label</th>
<th>Facility Type</th>
<th>Total Cost</th>
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<tbody>
<tr>
<td>1</td>
<td>Market Street</td>
<td>Ped Path</td>
<td>$1,541,858</td>
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<tr>
<td>2</td>
<td>Lakeview</td>
<td>Imp. Shoulders &amp; Sidewalks</td>
<td>$1,609,290</td>
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<tr>
<td>3</td>
<td>Illinois Route 3</td>
<td>Trail</td>
<td>$589,832</td>
</tr>
<tr>
<td></td>
<td>Country Club</td>
<td>Trail</td>
<td>$189,551</td>
</tr>
<tr>
<td></td>
<td>HH</td>
<td>STR Signs</td>
<td>$1,394</td>
</tr>
<tr>
<td></td>
<td>Market North Trail (Walmart)</td>
<td>Trail</td>
<td>$114,318</td>
</tr>
<tr>
<td>4</td>
<td>4th St</td>
<td>Ped Path</td>
<td>$370,233</td>
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<tr>
<td></td>
<td>Rogers</td>
<td>Trail</td>
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<tr>
<td></td>
<td>Park St</td>
<td>STR</td>
<td>$635</td>
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<tr>
<td></td>
<td>State Rt 156</td>
<td>Trail</td>
<td>$373,973</td>
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<td>5</td>
<td>Bulldog</td>
<td>STR Signs</td>
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<td>Legion</td>
<td>Trail</td>
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<td></td>
<td>Morrison</td>
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<td>Hoener/Front</td>
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<td></td>
<td>Library</td>
<td>STR Signs &amp; Sidewalks</td>
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<td>Illinois</td>
<td>STR</td>
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<td></td>
<td>Moore</td>
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<tr>
<td></td>
<td>Waterloo/SPPS Fields</td>
<td>Trail</td>
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<td></td>
<td>Veterans</td>
<td>STR Signs &amp; Sidewalks</td>
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<td>Westview Acres</td>
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<td>4th St</td>
<td>STR</td>
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<td>7</td>
<td>Hamacher</td>
<td>STR</td>
<td>$7,282</td>
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<td></td>
<td>Bellefontaine</td>
<td>STR Signs &amp; Sidewalks</td>
<td>$120,775</td>
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<td>Ridge Rd</td>
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<td>Konarcik Park Connector</td>
<td>Trail</td>
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<td></td>
<td>1st St</td>
<td>STR</td>
<td>$3,099</td>
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<tr>
<td></td>
<td>Osterhage</td>
<td>STR Signs &amp; Sidewalks</td>
<td>$215,846</td>
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*STR=Share-The-Road
<table>
<thead>
<tr>
<th>Project</th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
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<tr>
<td>Library</td>
<td>Trail</td>
<td>$187,437</td>
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<tr>
<td>Lakeview Park Connector</td>
<td>Trail</td>
<td>$36,332</td>
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<tr>
<td>Vanderbrook</td>
<td>STR Signs &amp; Sidewalks</td>
<td>$203,560</td>
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<tr>
<td>Vanderbrook to Lakeview Connector Trail</td>
<td>Trail</td>
<td>$34,731</td>
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<tr>
<td>Bradford</td>
<td>STR Signs &amp; Sidewalks</td>
<td>$212,373</td>
</tr>
<tr>
<td>Route 3-Waterloo Commons Trail Connector Trail</td>
<td>Trail</td>
<td>$12,396</td>
</tr>
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</table>
Phases 1 & 2
Implementation

Phases 7 & 8
Intersections & Design Guidelines

The planned bicycle and pedestrian facilities recommended in this plan will need to be given special design considerations where they intersect roadways and even other bicycle and pedestrian facilities. In addition to design and construction, there are safety issues to consider when encouraging cycling and walking across lanes of traffic.

Four major intersections and potential costs associated are covered in the following pages:
1. Market Street & 4th Street
2. Route 3 & HH/Country Club Lane
3. Market Street & Waterloo Commons/Bradford
4. Lakeview Drive & Library Street

Each illustration contains design guidelines, sign recommendations and safety precautions. The implementation of both bicycle and pedestrian facilities is shown, as well as how those facilities should interact with each other and with automobile traffic. One “best practice” example is to adjust the timing of pedestrian signals as it relates to traffic signals. Giving pedestrians a few seconds of advanced time (white walking light) before the traffic light turns green can improve safety conditions. Additionally, providing “countdown” signals assists all parties: pedestrians/sidewalk users, cyclists in the roadway, and drivers and increases informed decisions.

Innovations in signaling, signs and safety precautions are ever-changing, therefore it is recommended that resources be sought at the time of facility implementation to ensure the most recent practices are utilized, as well as their compliance with local and state regulations and guidelines.

Resources:
- Manual on Uniform Traffic Control Devices
- Illinois Department of Transportation’s Bureau of Design and Engineering Manual Ch. 17
- Pedestrian and Bicycle Information Center (bicyclinginfo.org & walkinginfo.org)
- Accommodating Bicycle and Pedestrian Travel: A Recommended Approach (FHWA)
- Best Practices for Complete Streets (completestreets.org)
- Institute of Transportation Engineers (ite.org)
- NACTO Urban Bikeway Design Guide (National Association of City Transportation Officials)
- Bicycle Friendly America - The Blueprint (http://issuu.com/bikeleague/docs/bfa_blueprint)
At intersections with traffic signals push buttons with indicator light, crossing countdown signal, and audible signal to indicate the WALK interval for those with vision impairments are recommended at each pedestrian crossing. A leading pedestrian interval (LPI) will allow pedestrians several seconds to start in the crosswalk where there is a concurrent signal, making them more visible to motorists.

Bike/Pedestrian Crossing signs placed at business exits and low-traffic volume street crossings adjacent to one-way trails to remind motorists pedestrians and bicycles may be present.

Sharrow lane markings with Share-the-Road signs to let motorists and cyclists know cyclists may use the lane.

Recommended Facilities

Market St.: One-Way Trails on both sides of Market St. with pavement markings to encourage correct direction use.

4th Street: Bicycle shared lanes with sharrow pavement markings and proper signs. Sidewalks along both sides of street. Transitions to one-way trails at the intersection with Market St.
Push buttons with indicator light, crossing countdown signal, and audible signal to indicate the WALK interval for those with vision impairments at each pedestrian crossing. A leading pedestrian interval (LPI) will allow pedestrians several seconds to start in the crosswalk where there is a concurrent signal, making them more visible to motorists.

Recommended Facilities

**Route 3:** Multi-use trail on west side of Route 3 north of Country Club Lane. Sidewalks on both side of Route 3 from Country Club Ln. to N. Market St.

**HH Road/Country Club Ln:** Multi-use trail along south of road, connecting N. Market and Rogers St. trail.

Small stop signs, like the ones on Rogers St. trail, will remind trail users to stop and used signalized intersection crosswalks.
At busy intersections where there is no light and cross traffic does not stop, highly visible crosswalks are recommended. Push buttons at crosswalks allow pedestrians to activate flashing yield signs overhead, making them more visible to drivers while crossing the street.

**Recommended Facilities**

**Market St.:** One-Way Trails on both sides of Market St. with pavement markings to encourage correct direction use.

**Waterloo Commons/Bradford:** Bicycle shared lanes with sharrow pavement markings and proper signs. Sidewalks along both sides of street. Highly visible crosswalk across N. Market St.

**Bike/Pedestrian Crossing signs** placed at business exits and street crossings adjacent to one-way trails to remind motorists that pedestrians and bicycles may be present.

**Sharrow lane markings** with Share-the-Road signs to let motorists and cyclists know cyclists may use the full lane and assist cyclists with lane positioning.

**Small stop signs** on paths will remind pedestrians and cyclists to stop and look for motorists turning or crossing the path.
Turning vehicles yield to pedestrian warn motorist pedestrians may be in crosswalk.

Wide, paved lanes with appropriate bike lane pavement markings provide a safe place for cyclist to ride along side traffic.

Recommended Facilities

Lakeview Dr: Multi-use trail to Lakeview Park North entrance. South of park entrance, facility transitions to improved shoulders for bicycles.

Library Street: Multi-use trail on east side connects to Lakeview Dr. trail and Route 3 trail.

Signs or pavement markings informing cyclist of what is up ahead and where to ride.

Small yield signs, like the ones on Rogers St. trail, will remind trail users to stop and look for turning vehicles before crossing the street.

Trail crossing signs placed where trail crosses the street to remind motorists to look for bikes and pedestrians before proceeding.

Turning vehicles yield to pedestrian warn motorist pedestrians may be in crosswalk.
Education

Education is a major component of successful integration of pedestrians and cyclists into daily traffic. There are a number of resources that can aid the City in creating a welcome environment for walkers and bikers:

- League of American Bicyclists (bikeleague.org)
- League of Illinois Bicyclists (bikelib.org)
- CyclingSavvy (cyclingsavvy.org)
- Trailnet (trailnet.org)
- National Center for Bicycling & Walking (bikewalk.org)
- National Center for Safe Routes to Schools (saferoutesinfo.org)
- International Walk to School Day (iwalktoschool.org)
- National Bike to School Day (walkbiketoschool.org)
- Yield to Life Driver's Education Program (yieldtolife.org)
- Commute By Bike: Commuting 101 (http://www.commutebybike.com/cats/commuting-101/)

Utilize education campaigns like the League of American Bicyclists' National Bike Month

Bike Smart

Trailnet offers a 5-hour hands-on class on how to ride as visibly, predictably, and safely as possible. The class also includes some basic bike maintenance such as changing a flat tire, adjusting derailleurs, and adjusting brakes. The class is led by a League of American Bicyclists certified cycling instructor (www.bikeleague.org) and covers what to check on your bike before a ride, riding safely in traffic, common avoidance maneuvers, and much more.

CyclingSavvy

Listed above in the tools for education, CyclingSavvy is a tailored program to YOUR community offering a three-part class for residents and visitors teaching and demonstrating “best practices” for on-road cycling. Graduates of the class become predictable and cooperative users of the roadway, encouraging both rider and drivers to truly share the road.

Healthy, Active & Vibrant Communities

This initiative focuses at the policy level to produce the farthest-reaching and longest-term solutions to the obesity epidemic. Trailnet works with organizations and institutions throughout the St. Louis region to develop and implement policies promoting a healthy community and healthy active lifestyle in low-income communities most vulnerable to developing obesity. Trailnet works with community leaders and stakeholders to develop a holistic approach to support healthy and active lifestyles.
TravelGreen
The TravelGreen program promotes commuter cycling and increases awareness of cycling safety in the St. Louis region. Trailnet will work with your business, community, or university to address the built environment, policies, and social networks in order to promote bicycle commuting among individuals. The TravelGreen program will identify and engage a strong cycling contingent—those who are ready to change old behaviors and shift gears toward a new and healthier commute on a daily basis.

Safe Routes To School
Safe Routes to School (SRTS) is a national and international movement to create safe, convenient and fun opportunities for children to bicycle and walk to and from schools. The program has been designed to reverse the decline in children walking and bicycling to schools. Safe Routes to School can also play a critical role in reversing the alarming nationwide trend toward childhood obesity and inactivity.

SRTS resources & activities help communities:
- Build sidewalks, bicycle paths & pedestrian-friendly infrastructure
- Reduce speeds in school zones & neighborhoods
- Address distracted driving among drivers of all ages
- Educate generations on pedestrian & bicycle safety

Hand Signals
Be sure to educate and inform area cyclists about proper communication techniques for riding in the roadway, such as these universal hand signals.
**Route Signs & Wayfinding**

Branding the facilities implemented within Waterloo will produce multiple benefits: recognition, awareness, wayfinding, and community identity are just a few. When signing the routes, personalized “Explore Waterloo” signs should be used both on the roadside signs and on the pavement markings. Pocket-sized maps should be produced showing the recommended routes along with popular destinations or stops along the way to increase ridership and time spent in the City. Both Madison County Transit and Bike St. Louis utilize these techniques to great success. Pictured here are examples of their wayfinding strategies and their map products.
Based on existing ridership, demand, and popular City destinations, potential loops have been identified. The publication and encouragement of these loops will accomplish two major goals:

1. To reduce any potential negative interactions between cars and cyclists/walkers, the City should encourage those using facilities for recreation/exercise to do so in predictable and appropriate locations.

2. Provide residents and visitors with identified locations and distances of “sanctioned” loops: if routes are outlined, signed and well-maintained, residents and visitors will be much less likely to travel outside the City for their recreation/exercise needs. The economic benefits of this eco-industry will stay in the City!

The saying “If you build it, they will come” is most certainly true in the case of bicycle and pedestrian facilities - route loops enable your citizens to get the most out of these investments!
Marketing & Recognition

Once implementation is underway, recognition should be sought from regional and national organizations to raise awareness of Waterloo’s efforts to become more bicycle and pedestrian friendly. Specifically, the League of American Bicyclists has a recognition program with levels: platinum, gold, silver and bronze, that once awarded will offer Waterloo with an excellent opportunity for recognition and a structure for future efforts.

What is a Bicycle Friendly Community?
A Bicycle Friendly Community welcomes cyclists by providing well-engineered bicycle facilities, creating new places to ride, educating motorists and cyclists on the rules of the road, and encouraging people to bike for transportation and recreation.

Why should my community apply?
Bicycle Friendly Communities have a high quality of life that translates into sustainable development, tourism, business growth and even increased property values. Encouraging bicycling is an effective way to increase physical activity, improve air quality, reduce traffic congestion and foreign oil dependence, and tackle climate change and obesity. Benefits for the 360 communities that have applied for BFC status include:
• Inspiration to do more
• Technical assistance and training
• Grants and funding notification
• Recognition and promotion

What are the requirements?
The Bicycle Friendly Community application is an audit of a community’s efforts to create a bicycling culture. The audit reviews engineering, education, encouragement, enforcement, and evaluation and planning efforts for bicycling.

Who reviews applications?
Each application is reviewed by national experts and local cyclists to determine whether the community should get a BFC designation. Feedback from the reviewers creates a valuable roadmap for action.

How will my community be recognized?
The League will recognize deserving communities at one of four award levels: bronze, silver, gold, or platinum. The League will issue a press release, and will present an award and two highway-quality road signs at a local ceremony or celebration.

What if my community isn’t designated bicycle friendly?
Get involved with your local bike club or advocacy organization, join your community’s bicycle advisory committee and work with your city staff. Use the BFC application and feedback as a task list to improve the state of cycling in your community — then apply again! Every applicant gets in-depth feedback, so applying is well worth your time.

Where can I get an application?
The BFC application is available at www.bicyclefriendlycommunity.org. The site also provides resources and technical assistance to help you with the on-line application. Contact the League of American Bicyclists at 202-822-1333 or info@bicyclefriendlycommunity.org to receive more information.

for more info, visit www.bicyclefriendlycommunity.org or call 202-822-1333
Appendix

All related documents are included on the attached CD along with electronic copies of this plan, plan map images and plan map data. Please reference this material for all future planning and implementation efforts.
HEARTLANDS
CONSERVANCY
Investing In The Nature Of Southwestern Illinois

406 East Main Street
Mascoutah, Illinois 62258
www.HeartLandsConservancy.org