MOVING BEYOND BRONZE
Improving Urbana’s Bicycle and Trail System

Capstone Report (Short Plan)
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Master of Urban Planning 2014
University of Illinois at Urbana-Champaign
INTRODUCTION

Purpose

This Capstone Report (Short Plan) is a reference guide to orient readers the 2014 Urbana Bicycle Master Plan (UBMP) and Urbana Park District Trails Master Plan’s (UTMP) planning process, goals and objectives, and design recommendations. The plans’ intentions are to have the bicycle and trail network in Urbana to be interconnected the future.

The report is named, “Moving Beyond Bronze,” as it reflects the city’s desire and planning efforts to go beyond its current bronze-level Bicycle-Friendly Community (BFC) award and achieve the Silver BFC award by 2020 and the gold BFC award by 2030.

This report is unique and complementary to the UBMP and UTMP, because it combines major elements from the UBMP and UTMP’s separate final reports into one coherent document.

The Client: Champaign-Urbana Urbanized Area Transportation Study

The Champaign-Urbana Urbanized Area Transportation Study (CUUATS) is the transportation unit within the Champaign County Regional Planning Commission (CCRPC). CUUATS is also the Champaign County’s Metropolitan Planning Organization, responsible for administering the federally mandated transportation planning process for the Champaign-Urbana-Savoy-Bondville Urbanized Area. This agency conducts a variety of transportation planning projects from the local to the regional level to foster interagency cooperation and a coherent, multimodal, and equitable transportation system.

In this Capstone Project, the author interned at CUUATS as a Transportation & Planning Intern and was extensively involved with CUUATS Staff in updating the 2008 UBMP and forming the first UTMP for the Urbana Park District. Both projects were concurrently conducted to promote an inter-connected bicycle and trail network.
Steering Committee

Both UBMP and UTMP had their own steering committee, which comprised of relevant agency members and other stakeholders, including Urbana resident. CUUATS Staff updated the projects’ progress and solicited input from the steering committees' members once every month. Both projects’ steering committee members by agency are listed in the right.

UBMP Steering Committee Members

City of Urbana
Craig Shonkwiler
Senior Engineer
Brad Bennett
Senior Engineer
Jeff Engstrom
Planner
Rebecca Bird
Planner (former)
Bob Fitzgerald
Police Lieutenant
Brandon Bowersox
Bicyclists and Pedestrian Advisory Commission (BPAC)

Urbana Park District
Tim Bartlett
Superintendent of Planning & Operations

Urbana School District
Randy Ashman
Fields & Grounds Manager

University of Illinois
Grace Kyung
Bike Planning Graduate Research Assistant
Amelia Neptune
Sustainability Specialist (former)

Champaign-Urbana Mass Transit District (CUMTD)
Cynthia Hoyle
Transportation Planning Consultant

Champaign-Urbana Public Health District (CUPHD)
Nikki Hillier
Wellness & Health Promotion Coordinator

Champaign County Bikes (CCB)
Jeff Yockey
President

UTMP Steering Committee Members

Urbana Park District
Tim Bartlett
Superintendent of Planning & Operations
Derek Liebert
Superintendent of Planning & Operations
Adam Kirby
Special Projects Assistant
Nadine Schmitz
Environmental Education Coordinator
Mike Iorio
Fitness and Wellness Coordinator
Dana Mancuso
Public Information Manager

Urbana Park District Advisory Committee (UPDAC) past/current
Kelly Rumley
Bev Rauchfuss
Kim Gollings
James Barkley

Urbana Bicycle and Pedestrian Commission (BPAC)
Jeff Engstrom
Planner
Rebecca Nathanson
Safe Routes to School Consultant
Rebecca Bird
Planner (former)

Champaign-Urbana Mass Transit District (CUMTD)
Cynthia Hoyle
Transportation Planning Consultant

Champaign County Bike (CCB)
Jeff Yockey
President

Urbana Resident
Steve Wald
LITERATURE REVIEW

The first step in the UBMP and UTMP’s planning process is reviewing the local and regional planning documents to examine the past, present, and future planning and political context and how it would impact bicycle and trail planning in Urbana. The design recommendations CUUATS Staff drafted accounted for the literature review’s findings.

Additionally, CUUATS Staff reviewed bicycle plans from Peer Midwest Cities, Large Midwest Cities, and U.S. Model Cities to see what bicycle and trail planning efforts these areas are advancing that can be applied into those in Urbana. Most of these findings were reflected in the non-infrastructure recommendations CUUATS Staffs proposed.

A collage of all reviewed planning documents and peer and model cities’ bicycle plans are displayed in the collage at the right. The full literature review can be found in the UBMP and UTMP’s full report.
LITERATURE REVIEW

MOVING BEYOND BRONZE
Facility guidelines and types are identified to guide CUUATS Staff in the drafting the most suitable recommendations that would enhance and integrate Urbana’s bicycle and trail network with the larger transportation system.

The contents in this chapter are based from the UBMP 2014 Existing Conditions Report (courtesy of CUUATS) unless stated otherwise.
Guidelines for Selecting Bicycle Facilities

Facility selection largely depends on the bicyclists’ skill levels and preferences. According to the 1999 American Association of State Highway and Transportation Officials’s (AASHTO) Guide for the Development of Bicycle Facilities, there are three types of bicycle users, and they are shown on the right.

The following guidelines below were used when selecting which route(s) to be included in Urbana’s bicycle network:

- Serve the needs of the bicyclists who differ in terms of skills and age levels but mostly targeting basic or less confident adult bicyclists (Type B).
- Maintain and make use of the existing roadway system.
- Create an interconnected and continuous system of bicycle facilities that are spaced no more than 0.5 to 1 mile apart.
- Prioritize trip generators (such as: schools and parks) identified from the public workshops in improving the bicycle network.
- Integrate existing and new trails into the bicycle network.
- Install bicycle lanes on collector and other streets while adequately maintaining streets’ traffic flow.
- Where possible, bicycle facilities should cross major streets at either traffic lights or 4-way stop signs.
- Recommend feasible recommendations to address “gaps” on specific locations identified by the public.
- Stripe shared bike/parking lanes and sign as a Bike Route on wide roadways with low parking occupancy.
- When a road has sufficient width and need, stripe the road with dedicated bike lanes with no parking allowed in these lanes.

Type A
Advanced

“...generally using their bicycles as they would a motor vehicle. They are riding for convenience and speed and want direct access to destinations with a minimum of detour or delay. They are typically comfortable riding with motor vehicle traffic; however, they need sufficient operating space on the traveled way or shoulder to eliminate the need for either themselves or a passing motor vehicle to shift position.”

Type B
Basic

“...or less confident adult riders may also be using their bicycles for transportation purposes, e.g., to get to the store or to visit friends, but prefer to avoid roads with fast and busy motor vehicle traffic unless there is ample roadway width to allow easy overtaking by faster motor vehicles. Thus, basic riders are comfortable riding on neighborhood streets and shared use paths and prefer designated facilities such as bike lanes or wide shoulder lanes on busier street.”

Type C
Children

“...riding on their own or with their parents, may not travel as fast as their adult counterparts but still require access to key destinations in their community, such as schools, convenience stores and recreational facilities. Residential streets with low motor vehicle speeds, linked with shared use paths and busier streets with well-defined pavement markings between bicycles and motor vehicles, can accommodate children without encouraging them to ride in the travel lane of major arterials.”
Ideal Road Characteristics

Ideal roads to be included in the bicycle network should have some, if not all, of the following characteristics:

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1. **BE CONTINUOUS**

   Urbana’s existing and expanded network should have as few gaps as possible. If they exist, they should not include threatening environments to Type B/C cyclists.

2. **BE DIRECT**

   Generally, the network performs better when bicycle trips are more direct. Studies have demonstrated that bicyclists would not use the best facilities if they significantly increase the bicyclists’ travel distance or time over a less desirable but more direct route.
### Facility Guidelines

#### Moving Beyond Bronze

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3</strong></td>
<td><strong>Serves Destinations</strong></td>
</tr>
<tr>
<td><strong>4</strong></td>
<td><strong>Have High Public Request</strong></td>
</tr>
<tr>
<td><strong>5</strong></td>
<td><strong>Good Crossings at Busy Roadways</strong></td>
</tr>
<tr>
<td><strong>6</strong></td>
<td><strong>No Brick Streets</strong></td>
</tr>
<tr>
<td><strong>7</strong></td>
<td><strong>With Lower Traffic</strong></td>
</tr>
<tr>
<td><strong>8</strong></td>
<td><strong>Have Few Stops/Turns</strong></td>
</tr>
</tbody>
</table>

**Serves Destinations**: The bicycle network serves bicycle trip destinations, such as work, shopping, social gatherings, recreation, and other personal needs.

**Have High Public Request**: Urbana’s existing and expanded network should have as few gaps as possible. If they exist, they should not include threatening environments to Type B/C cyclists.

**Good Crossings at Busy Roadways**: The bicycle network should provide sound crossings at busy and wide roads for users’ safety and convenience. This is because many arterial streets are difficult to cross, especially during peak-hours.

**No Brick Streets**: Concrete and asphalt are the most appropriate materials for bikeways. Surface should have a smooth but not slick finish, which can be dangerous to bicyclists during wet conditions.

**With Lower Traffic**: Few or no conflict(s) between bicyclists and motor vehicles should occur at bicycle routes.

**Have Few Stops/Turns**: Minimize including intersection or turning at intersections in the bicycle network to minimize bicycle-automobile crash, since most of it occur at intersections.
Bicycle Level of Service (BLOS) Guidelines

The guidelines for selecting bicycle type for specific street segments depend on the street’s bicycle level of service (BLOS) scores and grades. BLOS rates a roadway’s “bicycle-friendliness,” with A as best and F as worst. See the BLOS Spectrum and guidelines below.

High C and Above
For Type B (Casual Adult Bicyclists)

Aim to achieve a BLOS rating of High C or above for inclusion of on-road bikeways in the network. This is an appropriate goal for accommodating the casual adult bicyclist (Type B). Inclusion in the network is signified by the installation of Bike Lanes, Bike Route signage (with wayfinding signage), or Shared Bike/Parking Lanes.

Low C - High D
For Type A (Advanced)

Are more traffic-tolerant, often using busier roads not meeting the standard for inclusion in the network. For popular routes with a BLOS rating of High D or Low C, use Share the Road signage as a message to motorists to be alert for cyclists. Wayfinding signage is not to be included on these roads.
In addition to facility guidelines, CUUATS Staff identified the various bicycle and trail facility types that would be used to improve and expand Urbana’s bicycle and trail network. Overall, the plans recommend a combination of on- and off-street bikeways, off-street trails, and University bike paths to promote a cohesive network that would connect all areas in the City of Urbana.

The full UBMP and UTMP report contains the each facility’s description and design guidelines.
On-Street Bicycle Facilities

Bicyclists have the right to ride on roads. Traffic laws apply to persons riding bicycles. Bicyclists riding on a highway are granted all of the rights and are subject to all of the duties applicable to the driver of a vehicle, with certain exceptions.¹

On-road bicycle facilities are becoming more popular among the public and they are being installed in more places around the United States. This facility type improves bicyclists’ safety through greater cyclists’ visibility, especially at intersections, where most crashes occur. It is most appropriate to install on-road bicycle facilities on roads that have moderate to lower traffic speeds and relatively fewer intersections, driveway, and entrances. This also eliminate bicycle-pedestrian conflicts because it keeps bicycles off the sidewalks, which are too narrow to accommodate both modes.

¹ State of Illinois Vehicle Code 625 ILCS, 5/11-1502
Off-Street Bicycle Facilities

Trails and dedicated paths are available to bicyclists and other non-vehicle modes of transportation. Unlike on-street facilities, off-street facilities separate bicyclists from the road traffic. This gives bicyclists greater sense of security and comfort. The following off-street facilities are listed here, and more detailed description of each off-street facilities begins in the following page.
As the literature review was being conducted, CUUATS Staff inventoried the current bicycle and trail facilities in Urbana during Summer and Fall 2013. This inventory created a baseline for CUUATS Staff to form goals and objectives and draft recommendations to realistically expand and enhance Urbana's bicycle and trail network.
Bicycle Facilities

Historical Growth

In 2007, which is the UBMP baseline year, Urbana had only 24 miles of bicycle facilities. However, Urbana has made great efforts in expanding its bicycle network over the years. As a result, Urbana’s bicycle network in 2013 has a total mileage of 41.8. This is about a 74% increase from 2007 to 2013 (see Table 1).

Additionally, the expanding network gradually connected to more Urbana trip destinations, characterized as: top employers, Urbana schools, shopping places, UPD facilities and parks. See the maps below for the network’s historical growth and increasing number of connected trip destinations.

Table 1  Urbana’s Bicycle Network Historical Growth (2007-2013).

<table>
<thead>
<tr>
<th>Year</th>
<th>New Mileage</th>
<th>Total Mileage</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007 (UBMP Baseline)</td>
<td>- -</td>
<td>24.0</td>
<td>- -</td>
</tr>
<tr>
<td>2008</td>
<td>1.0</td>
<td>25.0</td>
<td>4.3%</td>
</tr>
<tr>
<td>2009</td>
<td>0.8</td>
<td>25.8</td>
<td>3.1%</td>
</tr>
<tr>
<td>2010</td>
<td>3.0</td>
<td>28.8</td>
<td>11.8%</td>
</tr>
<tr>
<td>2011</td>
<td>0.5</td>
<td>29.4</td>
<td>1.8%</td>
</tr>
<tr>
<td>2012</td>
<td>1.1</td>
<td>30.4</td>
<td>3.6%</td>
</tr>
<tr>
<td>2013</td>
<td>11.3</td>
<td>41.8</td>
<td>37.1%</td>
</tr>
<tr>
<td>Total</td>
<td>17.7</td>
<td>- -</td>
<td>73.9%</td>
</tr>
</tbody>
</table>
### Table 2  Trip Destinations Accessible by the Urbana Bicycle Network (2007-2013)

<table>
<thead>
<tr>
<th>Top Employers</th>
<th>Urbana Schools</th>
<th>UPD Facilities</th>
<th>Shopping Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>As of 2007</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Presence Covenant Medical Center</td>
<td>1. University Laboratory (Uni) High School</td>
<td>1. Anita Purves Nature Center</td>
<td>1. Gregory Place</td>
</tr>
<tr>
<td>2. University of Illinois (Quad)</td>
<td>2. Martin Luther King Jr. Elementary School</td>
<td>2. Crystal Lake Family Aquatic Center</td>
<td>2. County Market</td>
</tr>
<tr>
<td>4. Carle Foundation Hospital</td>
<td></td>
<td></td>
<td>4. Meijer</td>
</tr>
<tr>
<td>5. DART Solo Cup</td>
<td></td>
<td></td>
<td>5. The Pines</td>
</tr>
<tr>
<td><strong>2008-2010</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No additions</td>
<td>No additions</td>
<td>No additions</td>
<td>Schnucks</td>
</tr>
<tr>
<td><strong>2011-2013</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Urbana High School</td>
<td>4. Urbana Indoor Aquatic Center (UIAC)</td>
<td>7. Market at the Square</td>
</tr>
<tr>
<td></td>
<td>6. Urbana Middle School</td>
<td>5. Brookens Gym and Sports Complex</td>
<td>8. Lincoln Square Mall</td>
</tr>
<tr>
<td></td>
<td>7. Wiley Elementary School</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8. Yankee Ridge Elementary School</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9. Urbana Early Childhood School (UECS)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10. Prairie Elementary School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Bicycle Facilities Inventory

In addition to historical growth, CUUATS staff inventoried Urbana’s current bicycle facilities by type and mileage from responsible jurisdictions. The inventory sorts the existing bicycle facilities into either off- or on-street facilities. The former consist of sidepath (shared-use path) and dedicated bike paths, while the latter consists of: bike lanes, bike routes, sharrows, and shared bike / parking lanes.

The City of Urbana supports 16.8 miles of on-street and 14.7 miles of off-street bicycle facilities. A portion of the city’s on-street bicycle facilities connects to UPD’s facilities and the University’s bike paths, trails, and greenways.

Additionally, the UPD currently maintains about 4.8 miles of sidepath in six parks. Furthermore, the University of Illinois maintains 6.6 miles of off-street bicycle facilities. This consists of 2.2 miles of sidepath and 4.4 miles of dedicated bike paths. The university also maintains 0.5 of bike lanes as an on-street bicycle facility.

See Figure 1 to see Urbana’s existing bicycle network and Figure 2 for bicycle facilities’ mileage by jurisdiction.
Trail Facilities

Parks by mileage. Currently, UPD supports a total of about 16 miles of trail, which consist of about 11 miles of paved trails and 5 miles of soft trails. They are distributed among the 15 UPD Parks and the Brookens Sports Complex. Paved trails can be found within all of these areas, except Weaver Park. Contrastingly, soft trails can be found within Crystal Lake Park, Meadowbrook Park, Weaver Park, and Carle Park. Overall, more than half of total mileage of trails is within Crystal Lake and Meadowbrook Park. Based on public input, trail facilities attract people to go and use the parks. Thus, UPD Parks that do not have trail facilities are strong candidates for UTMP’s recommendations for expanding UPD’s trail network.
Furthermore, CUUATS Staff conducted a comprehensive inventory of all UPD’s park facilities. This inventory showed that benches and waste receptacles are the most common park facilities. They are present in 18 of 17 parks respectively. Also, lightning, followed by benches, was the most abundant in terms of individual unit. In addition to park facilities, the inventory examined every UPD Park’s acreage, park type, and unique amenities.
Updating bicycle counts and crashes was vital in establishing a baseline review of Urbana’s present bicycle network. There are two complementary methods for conducting bicycle counts, which are: tube counters on roads and 24-hour video counters at intersections. Bicycles were counted on on-street bikeways, off-street sidepaths, and UPD park trails. All bicycle counts were conducted during the Summer and Fall of 2013.
On-Street Bicycle Counts

On-street bicycle counts were conducted at 21 locations. These counts were conducted between 2011 and 2013 on streets without and with bikeway improvements. The highest on-street bicycle counts ranged from 250 to 825 cyclists, mostly concentrated around the University of Illinois and South Urbana. The roads with the highest counts are listed below:

- Goodwin Avenue
- Illinois Street
- Pennsylvania Avenue
- Main Street

Locations without bicycle facilities but had bicycle counts suggested that there is demand to bike to/through these locations. This resulted most of these locations have bikeway installations after the counts were taken. Areas that still do not have bicycle facilities are likely candidates for the UBMP and UTMP’s recommendations.

Off-Street Bicycle Counts

Off-street bicycle counts were conducted at 26 locations. These locations consisted of shared-use paths (off-street and sidepaths). The highest off-street bicycle counts ranged from 50 to 80 cyclists. They are mostly located on the following streets:

- Race Street
- University Avenue
- Goodwin Avenue
- Florida Avenue
- Philo Road

Shared-use paths that have relatively the highest counts are linked with either the University of Illinois or UPD parks.

Furthermore, bicycle counts were conducted on UPD park trails to measure bicyclists’ level of access to UPD parks. The highest bicycle counts in UPD park trails ranged from 52 to 96 cyclists. They were mostly in Meadowbrook Park, followed by King Park. Shared-use paths connected to both parks. Crystal Lake Park, Victory Park, and Crestview Park had bicycle counts ranged from 3 to 25, but they have little access to shared-use paths and to other bicycle facilities. This demonstrates that they are potential areas for bikeway and trail improvements.
Bicycle and Pedestrian Crash

One of the ways to gain insights to bicycle safety in Urbana is reviewing the most recent bicycle crash data. Between 2007 and 2012, there were 85 vehicle-bicycle crashes and 101 pedestrian crashes in Urbana. Both vehicle-bicycle and pedestrian crashes were concentrated around the University of Illinois (an area with relatively high bicycle counts), Lincoln Avenue, and Cunningham Avenue (see map at right). Also, they mostly occur at intersections. Although these corridors and intersection possess greater difficult crossings for cyclists, the increased crash frequencies suggest that the bikeways and trails in these areas are heavily utilized.

Although the total number of vehicle-bicycle crash from 2007 to 2011 varies, Table 4 shows that the total number of vehicle-bicycle crashes is lower in Urbana than in Champaign. This is because of the increasing bicycle network in Urbana. Also, the U.S. Census shows that Urbana’s bicycle ridership level has been steadily increasing since 2009. Thus, the vehicle-bicycle crash per bicyclists is decreasing since 2009. This strongly suggests that expanding and enhancing the bicycle network is crucial in promoting a safer environment for bicyclists.

Table 4 Vehicle-Bicycle Crash Data in Champaign and Urbana (2007-2012).

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Crashes</th>
<th>Total Injuries</th>
<th>Fatalities</th>
<th>Injury Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>City of Champaign</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>33</td>
<td>33</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>2008</td>
<td>39</td>
<td>37</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>2009</td>
<td>39</td>
<td>38</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>2010</td>
<td>32</td>
<td>31</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>2011</td>
<td>40</td>
<td>36</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>183</td>
<td>175</td>
<td>1</td>
<td>30</td>
</tr>
</tbody>
</table>

| City of Urbana |
| 2007     | 20            | 21             | 0          | 1   | 17  | 3   |
| 2008     | 15            | 10             | 0          | 2   | 5   | 3   |
| 2009     | 21            | 20             | 1          | 5   | 9   | 6   |
| 2010     | 19            | 17             | 0          | 4   | 8   | 5   |
| 2011     | 10            | 10             | 0          | 4   | 6   | 0   |
| Total    | 85            | 78             | 1          | 16  | 45  | 17  |

In addition to existing condition analysis, public input was integral in forming the recommendations for the UBMP and UTMP. CUUATS Staff administered a communitywide survey and public workshops to solicit input from Urbana residents.
Pedestrian and Bicycle Survey (PABS)

Soliciting public input on bicycle, trail, and park facilities in Urbana was integral in the UBMP and UTMP. The first step to do so was to survey Urbana residents’ mode choice and preferences and socio-economic information. The survey instrument was the Mineta Institute’s Pedestrian and Bicycle Survey (PABS).

Sampling Methods

CUUATS Staff randomly selected and mailed the survey to a number of households in every traffic analysis zone (TAZ) in the City of Urbana. Respondents can answer the survey either by filling out the mailed form or online. Additionally, CUUATS Staff distributed additional surveys at various outreach/community events.

Results

PABS primarily asked respondents’ mode of transportation within the 7 days. In the PABS Survey, the answer choices were: 0 days, 1 to 2 days, 3 to 4 days, and 5 to 7 days. The answer, 3 to 4 days, best represents the respondent’s modal choice because it is the moderate-level of use rather than infrequent (5 to 7 days) or coincidental use (1 to 2 days). The results showed that:

- 9% of respondents stated that they biked to work/school (See Figure 3).
- 11% biked to non-work, school, transit destinations (See Figure 4).
- 9% biked for recreational purposes (See Figure 5).

These results strongly suggest that about half of the survey respondents biked for various reasons with varying degree of usage. Thus, there is a demand for bicycling in the City of Urbana due to the expanding bicycle network and other bicycle encouragement and safety program. The results showed that the city should continue to enhance its bicycle and trail network to encourage more people to bike.
1st Public Workshop

In addition to gathering public input through survey response, CUUATS Staff hosted a series of four public workshops at different days in an attempt to achieve this. To engage with residents from all neighborhoods in Urbana, CUUATS Staff hosted four public workshops at different day, time, and locations. Prior to the public workshops, CUUATS advertised the workshops through flyers, newspapers, and radio. See Table 6 below for the meeting dates and number of attendees.

Table 5  UBMP & UTMP’s schedule of public workshops and respective number of attendees.

<table>
<thead>
<tr>
<th>Type</th>
<th>Date - Location</th>
<th># of Attendees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communitywide</td>
<td>FEB 12 - Urbana Civic Center</td>
<td>33</td>
</tr>
<tr>
<td>Neighborhood (North Urbana)</td>
<td>FEB 18 - King Elementary School</td>
<td>14</td>
</tr>
<tr>
<td>Neighborhood (East Urbana)</td>
<td>FEB 19 - Urbana Early Childhood School</td>
<td>9</td>
</tr>
<tr>
<td>Neighborhood* (Latino Community)</td>
<td>FEB 20 - Leal Elementary School</td>
<td>3</td>
</tr>
</tbody>
</table>

Total: 58

*This public meeting was conducted in Spanish.
Trip Origin and Destinations

As attendees are required to put stickers indicating their trip origin on a map of Champaign-Urbana. The trip origin is defined as the intersection between two roads that is closest to the attendee’s place of residence. Then there they do the same for trip destinations in tables of trip destinations sorted by:

- Urbana public schools
- County forest preserves
- Shopping areas
- Top 20 employers in Champaign-Urbana
- Urbana Park District Facilities
- Urbana public parks

The stickers are sorted into four types of colors:

<table>
<thead>
<tr>
<th>Bicycling</th>
<th>Walking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Origin</td>
<td>RED</td>
</tr>
<tr>
<td>Destination</td>
<td>BLUE</td>
</tr>
</tbody>
</table>

Group Exercise

In every 15 minutes, attendees rotate between different tables to draw their desired bicycle and trail facilities 1 of the 5 geographical zones in Urbana. Each table has a large map showing one zone. They may also write comments. Parks within each zone have their respective comment card that attendees can complete if they have input regarding a or multiple parks.

After hosting the workshop, CUUATS Staff processed the trip origin and destination markers and public input from the group exercise. CUUATS Staff created summary maps showing to synthesize the information solicited from Urbana residents. The data aided CUUATS Staff in drafting the bicycle and trail recommendations.
CUUATS Staff recently held the second public workshop on 6:30-8:00PM, April 23th, 2014 at the Urbana Middle School’s Cafetorium. The workshop’s purpose was to gather input from Urbana residents regarding the proposed bicycle and trail recommendations. Attendees were asked to vote their top 2 preferred non-infrastructure recommendations and top 3 proposed bicycle and trail facilities. The final bicycle and trail recommendations will incorporate these input, which is currently being processed in CUUATS.
GOALS AND OBJECTIVES

The goals and objectives are to guide planning efforts and to promote inter-agency cooperation in order to better enhance the bicycle and trail network in Urbana.
The SMART Criteria

To ensure the goals and objectives are realistic and feasible, CUUATS followed the Federal Highway Administration’s (FHWA) model of SMART criteria and adding performance measures to each objective. The SMART criteria stands for:

- **Specific:** The objectives are specific to guide formulating viable approaches to achieve the objective without dictating the approach.
- **Measurable:** Facilitating quantitative evaluation by stating how many or how much should be completed. This allows assessment of action(s)’s effectiveness when it’s tracked against the objectives.
- **Agreed:** Planners and stakeholders have a consensus over the objectives. This promotes regional and interagency cooperation.
- **Realistic:** The objectives are realistic to be achievable within resource constraints.
- **Time-bound:** The objectives define a timeframe within which it would be completed. This is a form of performance target, and it allows stakeholders to know the degree of improvements they are aiming rather than just the direction of improvements.

In addition to public input, CUUATS Staff held meetings with the UBMP and UTMP Steering Committees to update and gather input from agencies and stakeholders. This aided CUUATS Staff in forming goals and objectives to clearly guide planning efforts in enhancing Urbana’s bicycle and trail network.

For the purpose of this report, this section will only highlight the UBMP and UTMP’s key goals and objectives’ elements. They are intended to enhance Urbana’s bicycle and trail network and guide the city to secure the Silver BFC award by 2020 (see timeline below). Please refer to the UBMP and UTMP’s full report for their full and respective goals and objectives.

### Timeline

- **2008**: UBMP released
- **2010**: League of American Bicyclists awarded the City of Urbana the Bronze Bicycle-Friendly Community (BFC) award
- **2014 (Current)**: Update and release UBMP & UTMP
- **2020**: Achieve Silver BFC award
- **2030**: Achieve Gold BFC award
Increase Bike Ridership by 50%

Bicycle ridership level would be a primary measure of success regarding enhancing Urbana’s bicycle and trail network. This goal reflects the city’s desire to have more residents bike for commuting and recreational purposes. The PABS indicated that residents who bike do bike for both purposes. The existing conditions analysis demonstrated that reducing bicycle crash, filling “gaps” within the bicycle and trail network, and connecting the networks to more destinations are sound strategies to encourage bicycling in Urbana.

Reduce Bike Crash Injuries by 20%

Reducing bicycle crash injuries and fatalities is essential in ensuring bicycling is a safe and convenient mode of transportation in Urbana. Bicycle and pedestrian crash data from 2007-2012 demonstrated most of them occur at intersection. The UBMP proposes signage improvement at several intersections with relatively high crash counts to reduce modal conflict.

Enhance Connectivity

For any successful bicycle and trail network, it has to be well-connected to multiple trip destinations, such as parks and commercial centers. Thus, the UBMP and UTMP are focused in not only expanding the bicycle and trail network but also connecting the network to all UPD Parks, shopping centers, and major employers. The public input gathered from the public workshop help guide the city and UPD to prioritize which connection(s) to implement.

Local & Regional Loop Bike & Trail System

A way to improve the bicycle and trail network's connectivity is to implement a localized and regional loop bike and trail system. The existing conditions inventory indicates that some UPD Parks and trip destinations are isolated from the network. Thus, the UBMP and UTMP propose the “Urbana Green Loop.” This is a system of loop trails in almost all UPD Parks and a larger loop of sidepaths, existing and proposed bicycle facilities, and rails-to-trails corridor to connect all UPD Parks and other trip local and regional destinations, such as shopping areas and the Kickapoo Rails-to-Trails.
Bicycle Safety Education & Encouragement Program

Another method to improve traffic safety for bicyclists, pedestrians, and motorists is to promote bicycle safety education and encouragement programs. Unlike the infrastructure elements, this, if implemented, has long-term influence to children and young adults. Having children and young adults to be exposed and appreciate biking and walking (ex: C-U Safe Routes to School Program) can generate additional demand for bicycling and walking.

Full-Time Pedestrian/Bicycle Planning Staff

Successful implementation will require careful coordination between multiple agencies and deadlines. Having a full-time pedestrian/bicycle planning staff improves this coordination as he/her is the point-of-contact person for all bicycle- and pedestrian-related projects. This prevents confusion and ensure a person with appropriate expertise is overseeing these projects.
Since the release of the 2008 UBMP, the City of Urbana has greatly enhanced its bicycle network. Yet, there are opportunities for further improvements. There is a higher priority to install bikeway facilities and connection in North and East Urbana (see Figure 17). It is also essential to establish bicycle connection to surrounding jurisdiction, such as the City of Champaign and Champaign County. Implementing neighborhood bikeway connections improves the network’s connectivity, which is arguably one of the primary incentive for people to bike.

Carle Hospital and the proposed Mendard’s development are forces, as employment hubs, to attract more people to bike to work. However, there are constraints and challenges that may constrain the bicycle network’s improvements. They can be characterized as: physical barrier, unsafe/difficult intersections, land uses, and township-owned land.

Additionally, gaps within the trail network were identified at the individual park level. They were based on walking and biking distance of 1/4 mile and 1/2 mile respectively from each UPD park to other UPD facilities (see Figure 23). This provided a basis for opportunities and constraints for enhancing the local and regional trail network. The gap analysis also guides how the bicycle network can be enhanced to form a small and large loop trail to connect all UPD parks. To see opportunities and constraints specific to each park, please refer to the UTMP Existing Conditions Report - Chapter 4: Park Inventory & Trail “Gap” Analysis.
**UBMOP Opportunities and Constraints Map**

**Comments**

**Opportunities**
1. CUMTD Cut-Thru
2. Hickory Street / Chief Shemauger Park
3. Race Street
4. Washington Street
5. Windsor Street
6. Stebbins / Division
7. Pennsylvania Avenue
8. Green Street
9. Main Street
10. Illinois Street Corridor
11. Amber Lane
12. Smith Road
13. Leal School Area
14. Corridors leading out of town
15. County East Campus Loop Path
16. Complete the King Park Loop Path
17. Poplar Street

**Most Needed Connections**
1. Main Street / Railroad corridor
2. High Cross Road
3. North Cunningham Avenue
4. Kickapoo Rail-Trail
5. Champaign, especially Downtown
6. North Lincoln Avenue
7. Lanore Drive / Adams Street
8. Crystal Lake Park / Leal Park / Downtown Urbana
9. Florida Avenue (Race-Lincoln)

**Forces**
1. Carle Hospital
2. Menards owned land

**Challenges**
1. Interstate 74
2. Railroads
3. Arterials - Cunningham Avenue & Lincoln Avenue
4. Land Use between Main Street and University Avenue
5. Urbana Twp. Roads (Scottwood, NE)
6. Bradley / Coler / Country Club / Perkins
7. Thomas Paine Potential Safe Route to School
8. Brick Roads - Orchard St., Illinois St., and Michigan Ave.
9. Offset Intersections
10. Unsignalized and unprotected crossings
11. Wabash / Johnson / Victory Parks
12. Lack of destination signage on Bike Route Signs

**Opportunities & Constraints**

**Facilities and Jurisdictions**
- Public Parks
- Public Golf Course
- Public/Private Recreational
- Private Recreational
- Urbana City Limits

**Trails and Bikeway Facilities**
- Shared-Use Path (sidewalk)
- Shared-Use Path (off-street)
- UIUC Bike Path
- Bike Lanes (on-street)
- Shared Lane Markings (sharrows)
- Shared Bike / Parking Lanes
- Bike Route

**Legend**
- High-Priority Bikeway Installation
- Other Bikeway Connection
- Forces
- Challenges
- Barriers along roads
**DESIGN RECOMMENDATIONS**

With a complete existing conditions analysis and public input from Urbana residents and the UBMP and UTMP Steering Committees, these guided CUUATS Staff in proposing recommendations to enhance Urbana’s bicycle and trail network.

The proposed recommendations are intended to provide greater bicycle facilities at all neighborhoods and UPD parks. They would also better connect neighborhoods with more trip destinations, including UPD parks, within and outside of the City of Urbana. Because of this, trail facilities should be sidepaths since they can accommodate both pedestrians and bicyclists. Finally, the proposed recommendations are consistent with those in the Champaign County’s Greenways and Trails Plan and the University of Illinois’s Campus Bicycle Plan.

*These proposed recommendations have not incorporated Urbana residents’ vote on highest-priority facilities from the 2nd Public Workshop on April 23. CUUATS Staff is currently processing the votes and comments.*
The proposed recommendations are phased into three time frames, which are: Short-Term (0-5 Years) and Long-Term (5+ Years) (see Figure 24). The rationale for phasing the recommendations is primarily due to resource constraints, such as budget constraints and time cost associated with property acquisition.

**Short-Term (0-5 Years)**

The majority of short-term recommendations for both bicycle and trail facilities are within the City of Urbana's municipal limits. This is because both the City of Urbana and UPD have full jurisdictional control over the facilities. Other factors are current reconstruction activities, such as the CUMTD Maintenance Facility on University Avenue, and property acquisition for rails-with-trail corridor to connect the Kickapoo Trails in the east.

Furthermore, some Bike Routes and Share The Road facilities on the Urbana Township's lands are short-term because these facilities are generally inexpensive to implement (only signage installation is required). Also, this portion of recommendations was already proposed in the 2008 UBMP. It is a priority for the City of Urbana and UPD to implement the overdue recommendations, which were agreed by all stakeholders.

**Long-Term (5+ Years)**

Most long-term recommendations are located outside of the City of Urbana's municipal limits. They are mostly sidepaths connecting the City of Urbana with adjacent jurisdictions and farther towns along major roads and streams. Implementing them would require cooperation with adjacent jurisdiction, such as Champaign County and Urbana Township.

Additionally, some of them would either be implemented upon new developments, replace short-term recommendations over time, or until there is sufficient funding to implement them. Regarding the sidepaths at Windsor Road, the City of Urbana had to make emergency repairs to the substandard roadway surface. Thus, roadway improvement projects on Windsor Road, which sidepaths would be part of the improvement, will be long-term.

**PARKING REMOVAL**

CUUATS Staff will investigate and confirm which recommended bike lanes, such as on Main Street (between Lincoln and Springfield), require removal of on-street parking spaces. Whether a bike lane would require parking-lane removal on one or both sides depends on the road's width (see Figure 25). The following road widths and what facilities they can accommodate are listed below:

- 30 Feet: 2 travel lanes; 2 bicycle lanes; No parking lane
- 37 Feet: 2 travel lanes; 2 bicycle lanes; 1 parking lane
- 44 Feet: 2 travel lanes; 2 bicycle lanes; 2 parking lanes

After confirmation, CUUATS Staff will share the findings to the City of Urbana, which would likely to notify affected residents and invite them to the upcoming UBMP and UTMP’s 2nd Public Workshop to give their input. This was because affected residents, who were not interested in the UBMP, criticized the city for not notifying them the changes.
Figure 8: Proposed bicycle and trail recommendations.

Legend:
- Urbana City Limits
- UPD Boundary
- UPD Parks
- Non-UPD Greenways
- Interstates
- Railroad
- Streets
- Streams / Rivers
- Yankee Ridge Elementary School

Recommendations:
- Existing
- Short-Term
- Long-Term

Bicycle Facilities:
- Sidewalk (Shared-Use Path)
- Bike Lanes
- Bike Boulevard
- Bike Route
- Bike Route + Sharrows
- Sharrows only
- Shared Bike / Parking Lane
- Share The Road
- UIUC Bike Path
- Study Area

Paved Trails
Soft / Nature Trails

UPD Parks:
1. King Park
2. Crystal Lake Park
3. Leal Park
4. Phillips Recreation Center
5. Chief Shamauger Park
6. Hickory Street Site
7. Judge Webber / Perkins Road Park Site
8. AMBUCS Park
9. Victory Park
10. Canaday Park
11. Prairie Park
12. Weaver Park
13. Lohmann Park
14. Crestview Park
15. Sunnycrest Tot Lot
16. Blair Park
17. Curle Park
18. Wheatfield Park
19. Meadowbrook Park
20. South Ridge Park
RECOMMENDATIONS

MOVING BEYOND BRONZE

BIKE LAKES: PARKING REMOVAL FROM EXISTING PARKING SPACES

- No Parking Removal Needed
- One-Side Parking Removal Needed
  - W Main Street (Harvey-McCullough)
  - W Green Street (Lincoln-Race)
  - S Broadway Avenue (Illinois - Washington)
  - Hazelwood Drive (Goodwin-Lincoln)
- Both-Side Parking Removal Needed

UPD Parks
1. King Park
2. Crystal Lake Park
3. Leal Park
4. Phillips Recreation Center
5. Chief Shemauger Park
6. Hickory Street Site
7. Judge Webber / Perkins Road Park Site
8. AMBUCS Park
9. Victory Park
10. Canaday Park
11. Prairie Park
12. Weaver Park
13. Lohmann Park
14. Crestview Park
15. Sunncrest Tot Lot
16. Blair Park
17. Carle Park
18. Wheatfield Park
19. Meadowbrook Park
20. South Ridge Park

Existing Bikeways & Trails
- Sidepath
- Bike Lanes
- Bike Route
- Shared Bike / Parking Lane
- Share The Road

Proposed bicycle lanes and whether they require parking removal.

RECOMMENDATIONSMOVING BEYOND BRONZE
**URBANA GREEN LOOP**

This is a regional loop trail system that would connect all UPD Parks and regional trails, such as the Kickapoo Rails-To-Trails. The Urbana Green Loop is situated along existing and proposed on- and off-street bicycle and trail facilities (see Figure 26). Mile markers and other types of signage should be installed along the Urbana Green Loop to guide users where the destinations are.

**UPON DEVELOPMENT**

Some proposed recommendations are inside private but undeveloped properties. They will be ultimately implemented upon development. The City of Urbana and UPD cannot immediately implement them, but they can require private developers to incorporate bicycle and trail facilities in their master plans (see Figure 27). Most of the “upon development” recommendations are located at East Urbana, where most subdivision plats are located.

**POINT-SPECIFIC RECOMMENDATIONS**

In addition to recommending additional bicycle and trail facilities, CUUATS Staff proposed a set of point-specific recommendations primarily to improve traffic safety (see Figure 28). Some examples are installing bike crossing sign and bicycle XING signs. These recommendations are mostly located at intersections, where relatively most vehicle-bicycle and vehicle-pedestrian crashes occur.

**NEXT STEPS**

**Conduct Bicycle Level of Service (BLOS)**

Some roadways with recommendations would require BLOS analysis to determine the most suitable bicycle / trail facility to recommend. This is because these roadways were not part of the previous UBMP’s recommendations, which contain data about roadway’s physical configuration and BLOS scores.

**Incorporate Input From the 2nd Public Workshop**

As previously stated, the presented recommendations does not reflect the votes Urbana Residents placed on prioritizing/preferring which bicycle and trail facilities. CUUATS Staff will present the public input gathered to the UBMP and UTMP Steering Committee on May 6th and decide which recommendations to prioritize.
DRAFT URBANA GREEN LOOP

LEGEND
- Urbana City Limits
- UPD Boundary
- UPD Parks
- Non-UPD Greenways
- Interstates
- Railroad
- Streets
- Streams / Rivers
- Proposed Urbana Green Loop
- Study Area

UPD Parks
1. King Park
2. Crystal Lake Park
3. Leal Park
4. Phillips Recreation Center
5. Chief Shemauger Park
6. Hickory Street Site
7. Judge Webber / Perkins Road Park Site
8. AMBUCS Park
9. Victory Park
10. Canaday Park
11. Prairie Park
12. Weaver Park
13. Lohmann Park
14. Crestview Park
15. Sunncrest Tot Lot
16. Blair Park
17. Carle Park
18. Wheatfield Park
19. Meadowbrook Park
20. South Ridge Park

Figure 10  Proposed Urbana Green Loop.
RECOMMENDATIONS

Recommended Facilities to be built upon development

Existing | Short-Term | Long-Term

Figure 11

UPD Parks
1. King Park
2. Crystal Lake Park
3. Leal Park
4. Phillips Recreation Center
5. Chief Shemauger Park
6. Hickory Street Site
7. Judge Webber /
Perkins Road Park Site
8. AMBUCS Park
9. Victory Park
10. Canaday Park
11. Prairie Park
12. Weaver Park
13. Lohmann Park
14. Crestview Park
15. Sunnycrest Tot Lot
16. Blair Park
17. Carle Park
18. Wheatfield Park
19. Meadowbrook Park
20. South Ridge Park
Proposed point-specific recommendations.

**Legend**
- Urbana City Limits
- UPD Boundary
- UPD Parks
- Non-UPD Greenways
- Interstates
- Railroad
- Streets
- Streams / Rivers

**Point-Specific Recommendations**

1. Low-Priority Fitness Trail
2. Bike XING Sign
3. All-Way STOP Sign
4. Bike Crossing Sign
5. High-Priority Fitness Trail
6. Pedestrian & City Trail
7. XING Sign
8. Bike XING Sign
9. Crosswalks
10. Safety crossing issue
11. Investigate countermeasures for safe crossing
12. Needs to be more bicycle- and pedestrian-friendly

**UPD Parks**

1. King Park
2. Crystal Lake Park
3. Leal Park
4. Phillips Recreation Center
5. Chief Shemauger Park
6. Hickory Street Site
7. Judge Webber / Perkins Road Park Site
8. AMBUCS Park
9. Victory Park
10. Canaday Park

11. Roundabout
12. Covered bike parking
13. Bike Crossing Sign
14. Trail STOP Sign & Bike XING Sign
15. Sign directing to sidewalk
16. Trail XING Sign
17. Add Bike Sensors & use Stoplights
18. Safety issue
19. Railroad bridge
20. Safety concern - Railroad crossing
21. Investigate countermeasures for safe crossing

22. Prairie Park
23. Weaver Park
24. Lohmann Park
25. Crestview Park
26. Sunnycrest Tot Lot
27. Blair Park
28. Carle Park
29. Wheatfield Park
30. Meadowbrook Park
31. South Ridge Park
ACKNOWLEDGMENT

This project would not be possible without the immense support and wisdom from the staffs at CUUATS. I am fortunate and proud to be part of the CUUATS team, and this experience will be an invaluable asset to my career development.

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