



# **Ozarks Transportation Organization**

## **Bicycle-Pedestrian Advisory Committee**

### **Agenda**

January 30, 2007

3-4:30 pm

Busch Municipal Building  
2 East Conference Room, Busch Building

- I. Call to order**
- II. Approval of November 14th, 2006 meeting minutes (5 minutes/Hasner)**
- III. Approval of meeting agenda (2 minutes/Hasner)**
- IV. Possible ½ Day Workshop on Safe Routes to School (10 minutes/Whaley)**
- V. Response to Question on Sidewalk Development (5 minutes/Hasner)**
- VI. OTO Resolution for Katy Trail Support (20 minutes/Hart)**
- VII. Discussion of E-W Arterial Bike Lane (20 minutes/Whaley)**
- VIII. BPAC Goals (20 minutes/Hasner)**
- IX. Updated BPAC Meeting Schedule**
- X. Other Business**
- XI. Adjournment**



## Bicycle Advisory Committee Minutes

**November 14<sup>th</sup>, 2006**

2 East Conference Room, Busch Municipal Building  
840 Boonville Springfield, Missouri.

### **The following members were present:**

Dawne Gardner, MoDOT District 8  
Coy Hart, MO Bike Fed  
Dan Jessen, City of Springfield  
Joel Keller, Greene County  
Dan Rudge, OTO  
Dan Watts, SMOG

Kelly Hasner, City of Nixa  
David Hutchison, City of Springfield  
Eric Johnson, Springfield/Greene County Parks  
Natasha Longpine, OTO  
Mandy Taylor, City of Springfield  
Terry Whaley, Ozark Greenways

- 1. Call to Order:** Chair, Kelly Hasner, called the meeting to order at 3:07 pm.
- 2. Approval of the September 19<sup>th</sup>, 2006 Minutes:** One correction was made to the minutes, that Kelly Hasner was not at the September 19<sup>th</sup> meeting. Mr. Hasner called the question; the motion passed unanimously.  
*Gardner/Keller*
- 3. Approval of the November 14<sup>th</sup>, 2006 Meeting Agenda:** One addition was made to the meeting agenda. Eric Johnson asked to discuss the Golden Deraillleur Award. This was added before Other Business. Mr. Hasner called the question; the motion passed unanimously.  
*Hart/Gardner*
- 4. Safe Routes to School Enhancement Project Update:** Ozark Greenways received a \$25,000 Enhancement Grant for a project total of \$35,400 with match. The grant enables an MPO-wide Safe Routes to School promotion program. This will include materials for promoting bicycle, walking, and taking the bus, as well as signage, classroom curriculum, and other ways to help schools and organizations help themselves.

**Safe Routes to School Liability Issues:** The discussion on liability first arose when Dawne Gardner received a phone call from a member of the Springfield Public Schools PTA. In Columbia, PedNet carries insurance for \$300 a year to cover their trainers. There is currently lack of knowledge about Springfield's current insurance

coverage. Fortunately, not yet has anyone been held liable for a Walking Schoolbus program. The trend is that liability happens once a problem is recognized and not addressed. Springfield Public Schools are looking into what other places are doing. Ms. Gardner recommended the approach that the schools look to education rather than a program. The motion was made that the Advisory Committee's position be that though no case law has been found to support the need for liability, it is better to err on the side of caution and that the schools need to check with their insurance carriers. Mr. Hasner called the question; the motion passed unanimously.

*Gardner/Johnson*

5. **Safe Routes to School Regional Meeting:** The State Safe Routes to School grant applications are due online by January 31, 2007. The program is statewide competitive with \$1.6 million available. The maximum amount to be awarded for infrastructure will be \$250,000 while the maximum for non-infrastructure will be \$25,000. Applicants must get a userID and apply online. Once the application has been submitted to MoDOT Central Office, the districts will have an opportunity to evaluate. Each project requires a 25-year commitment as well.

Willard is applying to install flashing crosswalks. Springfield would like flashers in all school zones. Terry Whaley commented that it would be nice for an application to come from the entire MPO area, perhaps to employ a part-time bicycle-pedestrian coordinator who can do displays in the schools and such. Coy Hart would like to see a larger statewide program.

6. **Gold Derailleur Award:** This is a first time awards program to honor individual(s) who have in some way contributed significantly toward the promotion of bicycling in Greene County. The winner will be announced at the Ozark Greenways Annual Meeting in early 2007.
7. **Other Business:** Coy Hart mentioned that there is a Safe Routes to School Training in Kansas City and thought it would be good for someone local to attend, plus he would like for more training sessions to be available.

8. **Adjournment:** Adjourned.

*Hutchison/Whaley*

*\*The next meeting will be held January 16, 2007.*

## **AGENDA ITEM V.**

## AGENDA ITEM V – QUESTION ON SIDEWALKS

-----Original Message-----

**From:** Sauer, James M MD [mailto:JSauer@sprg.mercy.net]

**Sent:** Monday, December 04, 2006 3:41 PM

**To:** Tack, Lori

**Subject:** sidewalks

We have been members of Oz Greenways for many years, and I applaud your many successes. The community is better off because of your organization!

I am not aware of your mission statement, and of your views regarding the most commonly used trails in our city, the trails that many have to or desire to use on a daily basis-our sidewalks.

The lack of sidewalks along many of our city's busiest commercial streets (eg. Glenstone and Battlefield and Sunshine) is abhorrent. It breaks my heart to see some young family pushing their baby carriage along a dirt or mud "cow trail" on these streets. I think that our current county policy of requiring sidewalks upon new developments is not good enough. We should push to get this changed to require sidewalks within a set time frame, ie 1-3 years, and then allow the city to put them in at the owners' expense.

I feel that pursuing this change would be in the interest of our organization and would be a big step in making our city a "walking city".

Please pass this letter on to Whaley.

Thanks,

Jim Sauer MD

## **AGENDA ITEM VI.**

## RESOLUTION IN FAVOR OF COMPLETING THE KATY TRAIL

WHEREAS trails and trails systems benefit the public health, wellness, active living programs, youth programs, access to the natural landscape, mental and spiritual health, responsible land use, livable communities, quality of life, home and property values, property tax base, air and water quality, greenspace protection, the natural environment, observation and protection of wildlife, birds, plants, and historic resources, habitat protection, conservation of natural areas, nature and science education, tourism, economic development, and rural and urban economies;

WHEREAS the Katy Trail is presently the longest rail-trail in the United States, is known the world over, attracts visitors from all states and many foreign countries, is among the most popular of Missouri state parks, and yet has not reached its full potential because it has not been connected to the major population centers in Missouri nor to all important population centers along its route;

WHEREAS completing the Katy Trail will create a seamless trail connection from St. Louis to Kansas City and make the Katy Trail the centerpiece of a complete statewide trail network that will allow bicyclists and pedestrians to safely connect with all cities and towns along the trail;

WHEREAS the Quad-State Trail System will connect Katy Trail with communities within the four-state region of Missouri, Kansas, Iowa, and Nebraska, including St. Louis, Kansas City, St. Joseph, Lawrence, Topeka, Lincoln, Omaha, and points in between, and the complete Katy Trail will be the backbone of this Quad-State Trail System,

WHEREAS the connection from the Katy Trail to the Kansas City area is a vital and irreplaceable element of the Quad-State Trail System;

WHEREAS the complete Katy Trail and the Quad-State Trail System will provide tremendous tourism, economic development, and public health benefits to communities and to the public;

WHEREAS connections for trail users from the Katy Trail to St. Charles, other points within the St. Louis metropolitan area, Hermann, Washington, Columbia, and Springfield, all exist or are planned;

WHEREAS connections for trail users from the Katy Trail to Jefferson City, Kansas City, communities throughout the St. Louis metropolitan area, and other communities throughout Missouri do not now exist but are desirable and will benefit those communities;

WHEREAS the recent failure of the Taum Sauk dam, owned by AmerenUE, adversely affected the state park system that is owned and operated for the benefit of all Missourians;

WHEREAS it is appropriate that the settlement for the Taum Sauk damages include an element that will benefit all Missourians across the state;

WHEREAS just such an element is the Katy Trail connection to Kansas City, which will create a complete Katy Trail stretching from one end of the state to the other, benefiting Missouri communities along the trail, Missouri citizens throughout the state, and urban and rural communities alike;

WHEREAS we believe that a trail agreement can be reached which will benefit both Ameren and the citizens of Missouri and that will protect Ameren's business interests in the corridor while still allowing public trail use of the corridor;

WHEREAS a further trail connection from Pleasant Hill, Missouri, to Kansas City, Missouri, can be made via the section of the Rock Island Railroad owned by Union Pacific and we believe that a trail agreement can be reached that will benefit both Union Pacific and the citizens of Missouri and that will protect Union Pacific's business interests in this part of the corridor while still allowing public trail use of the corridor; NOW, THEREFORE,

BE IT RESOLVED BY THE OZARKS TRANSPORTATION ORGANIZATION:

Section 1. That the Ozarks Transportation Organization urges all parties to move with all due haste to complete the Katy Trail network from state line to state line and to make appropriate trail connections from the Katy Trail to communities around the state.

Section 2. That the Ozarks Transportation Organization strongly urges the Missouri Department of Natural Resources, AmerenUE, the Missouri Attorney General, and other interested parties to include, as part of the settlement for damages in the Taum Sauk disaster, an agreement between Ameren and the State of Missouri for trail use of the Rock Island Railroad corridor to connect the Katy Trail to the Kansas City metropolitan area;

Section 3. That the Ozarks Transportation Organization strongly urges the Missouri Department of Natural Resources, Union Pacific, and other interested parties to reach an agreement for trail use of the section of the Rock Island Railroad corridor owned by Union Pacific, to connect the Katy Trail to the Kansas City metropolitan area;

Section 4. That the Ozarks Transportation Organization urges and encourages all cities, counties, agencies, organizations, elected and appointed officials, and individuals who will be affected by the proposed trails system to adopt and support this resolution in favor of completing the Katy Trail and connecting it to Missouri communities and population centers.

Section 5. The Ozarks Transportation Organization direct the [CLERK OR SECRETARY OF THE ORGANIZATION] to provide copies of this resolution to the following officials to reinforce the strong commitment of the Ozarks Transportation Organization to completing the Katy Trail and creating a connection from the trail to the Kansas City metropolitan area and other communities in Missouri:

Matt Blunt, Governor of Missouri  
Jay Nixon, Attorney General, State of Missouri  
Doyle Childers, Director, Missouri Department of Natural Resources  
Pete Rahn, Director, Missouri Department of Transportation  
Kevin Keith, Chief Engineer, Missouri Department of Transportation  
Gary L. Rainwater, CEO Ameren Corporation  
Warner L. Baxter, CFO Ameren Corporation  
John Rickoff, General Manager, Central Midland Railway  
Richard K. Davidson, Chairman and CEO, Union Pacific Corporation  
Ray Allamong, Senior Manager, Rail Line Planning, Union Pacific Corporation  
Brent D. Hugh, Executive Director, Missouri Bicycle Federation



***Contact information and addresses:***

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5916 Arlington Ave  
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Director@mobikefed.org*

***Find this and related documents online at  
<http://MoBikeFed.org/CompleteTheKaty-documents>***

## **AGENDA ITEM VII.**

## 7. Bicycle and Pedestrian Facilities

### Bicycle Facilities

This plan recommends the development of three types of bicycle facilities: off-street shared use paths, on street bicycle lanes and on street signed shared roadways. The AASHTO Guide for the Development of Bicycle Facilities, and the Manual on Uniform Traffic Control Devices (MUTCD) defines and describes these facilities. Developing different types of bicycle facilities is very important in order to improve connectivity in the area and to give the opportunity to different bicycle users to choose the facility that accommodates their skill level and trip purpose.

For the purpose of this Bicycle-Pedestrian Plan, bike routes have been identified on streets classified either as collectors or secondary arterials in the Major Thoroughfare Plan.

- **Off-Street Bicycle Paths (Class I):** Paths made of asphalt or other materials on exclusive rights-of-way with minimal cross flow by motor vehicles.
- **On-Street Bicycle Lanes (Class II):** Striped lanes (pavement markings) with signing along streets.
- **On-Street Signed Shared Roadways (Class III):** Streets shared with motor vehicles and designated by signs. They are intended to provide continuity to other facilities or to designate preferred routes through high-demand corridors.
- **Local Suitable Streets (Class IV):** Suggested local routes with low traffic volume. They provide connections to specific residential or commercial locations.

The off-street paths of the linear park system are a suitable place for children, seniors and recreational and commuters. They provide safe conditions for riding to schools and parks. These facilities are very common as part of commuting routes. The on-street system, consisting of striped lanes and signed-only routes, will be primarily oriented to utilitarian trips. Connections will be provided between the linear park paths and the on-street system.

Whenever space allows on the designated on-street bicycle system, striped lanes will be used instead of merely erecting signs. Striped lanes alert motorists of the possible presence of bicyclists, provide a safe riding environment, promote a route to bicyclists, and provide some traffic calming. However, there is often inadequate space on existing streets to stripe bicycle lanes. It is also essential to keep the edge of the road well swept and maintained for both streets with bicycle lanes and signed routes.

Sidewalks are not appropriate for bicycling except by very slow riders and young children. In addition, bicyclists on sidewalks are often not seen by motorists at intersections, especially when the bicyclist is riding in the opposite direction as the autos. Bicyclists can more safely interact

with turning vehicles from a traffic lane than from outside the street possibly traveling a different direction than motor vehicles.

**Recommendations:**

- A comprehensive bicycle plan should be created to encompass the entire MPO area. This plan should contain a graphic bicycle plan that delineates current and future bicycle routes and design standards.
- The MPO should proceed with plans for the Bicycle and Pedestrian Committee to develop, implement and update the bicycle plan.
- MPO jurisdictions and MoDOT should work together to create continuous, safe, and uniform routes throughout the area by utilizing the Manual of Uniform Traffic Control Devices (MUTCD) and AASHTO standards with regard to bicycle traffic control devices, bicycle crossings and bicycle route signs.
  - Establish and implement a maintenance plan for bicycle facilities (paths and streets). This plan should schedule routes for continuous maintenance including mowing, sweeping, marking, and pavement maintenance.
  - Bicycle routes and bus routes should be cross-marketed in order to attract commuters.

**Off-Street Bicycle Paths (Class I)**

Bicycle paths or trails are most often provided as recreational paths. Where usage is low to moderate, bicycles are permitted on paths that also permit different uses such as walking, running, and roller-blading. Where usage is high, a separate path is needed for commuter bicyclists who often travel at speeds three to six times that of other users. In corridors serving a high volume of bicyclists, bicycle paths are the preferred type of bikeway when land is available for their development. It also is the preferred bicycle facility by bicyclists of the area. In the bicycle-pedestrian survey conducted by the OTO, as part of this planning process, 60% of the respondents said that they prefer riding on separate bicycle paths.

*The Springfield/Greene County Vision 20/20 Comprehensive Plan* calls for a system of linear parks, parkways and bicycle routes across and around Springfield. These elements would consist of linear public open space with paths for bicycling and sometimes walking. The linear park trails are usually along creeks and parkways and generally on the perimeter of the community. The on-street bike route system provides connections between the off-street system and trailheads to schools, residential areas, and other destinations.

Generally, bicycle paths are two-way facilities or a pair of one-way paths. Bicycle paths provide the best mobility where the path is between two major trip generators or between a major trip generator and a service area for that trip generator. They function best when isolated from motor vehicles, such as along floodways, abandoned railways or in parks, campuses, or other vehicle-free areas. Intersecting roadways and driveways create hazards and delays on bicycle paths and should be minimized.

Placement of bicycle paths parallel to major surface streets should be carefully considered. Bicycle path crossings for streets function best at mid-block locations when grade separated crossings cannot be provided so that both bicyclists and motorists can see all movements and be aware of the crossing point. Use of a crosswalk at intersections requires the user to be aware of motorists turning right and left from the parallel street as well as all movements on the cross street. Pedestrians can look all directions and easily step back when an eminent conflict is observed. Unless bicyclists dismount, they are moving too fast, cannot easily see all movements, and cannot react fast to danger from turning vehicles crossing their path.

According to AASHTO bicycle guidelines, under most conditions, the recommended all-paved width for a two-directional bicycle path is 10 feet. All existing trails in the metropolitan area meet this guideline. Whenever possible, 12-foot paths will be built for comfort and safety. Eight-foot is considered the minimum width but should only be used when there is low bicycle use, little expected pedestrian use, and no anticipated maintenance vehicle loading conditions causing damage to the pavement edges.

The minimum width of a one-directional bicycle path is 5 feet. A minimum of a two-foot “shy” distance or clear zone should be maintained adjacent to both sides of a bicycle path. The recommended width of two-way bike path structures (overpasses, underpasses, long bridges) is 12-feet (eight-foot minimum width and two-foot shy distances on each side).

## Recommendations

- Coordinate the needs for bicycle transportation and bicycle recreation in the MPO planning area. The linear park trail system should ultimately consider separate paths for bicyclists and pedestrians except where volumes warrant other options for safety purposes.
- Develop policies describing rules of etiquette for users to provide a seamless connection between exclusive bicycle paths, multi-use paths and streets designated as bicycle routes.
- The MPO area jurisdictions should implement a bicycle plan that addresses how a bicyclist can safely cross freeways, railroads, major drainage corridors, and other barriers. When additional streets are required to address connectivity, make appropriate changes on the Major Thoroughfare Plan. When connectivity is best provided by pedestrian and bicycle facilities, determine, for the plan, the location and type of crossing to be provided. The OTO Regional Bicycle-Pedestrian Plan should include design and location guidelines, which incorporate bicycle routes, bicycle lanes, linear park trails, and bus routes into the public improvement design criteria and land development regulations.

## **On-Street Bicycle Lanes (Class II)**

There are three types of on-street striped bicycle lanes:

- Next to the curb
- Next to parked cars
- Paved shoulders

Bicycle lanes should always be one-way facilities and carry traffic in the same direction as motor vehicle traffic. Two-way bicycle lanes on one side of the roadway are not acceptable because they promote riding against the flow of motor vehicle traffic. When parking is permitted on streets with bicycle lanes, bicycle lanes should always be placed between the parking lane and the motor vehicle lanes.

Bicycle lanes should be five-feet wide (the gutter pan plus three-feet). If the bicycle lane is located next to the parking lane, it should be six-feet wide to assure room within the lane outside the open door zone.

If the bicycle lane is a combined bicycle / parking lane, it should be at least 13 feet wide, but not less than 12 feet.

Paved, striped shoulders should not exceed eight-feet because they tend to look like auto driving lanes and could inadvertently be used as such.

### **Recommendation**

- Stripe bicycle lanes on designated bicycle routes whenever space allows and the traffic volume is suitable

## **On-Street Signed Shared Roadways (Class III)**

There are two types of on-street signed bicycle routes:

- Wide curb lanes
- Signed-only routes

### *Wide Curb Lanes*

On arterials and collector streets with higher motor vehicle volumes, truck traffic and/or bus traffic, the outside travel lane should be at least 14-feet wide so it can accommodate bicyclists. The generally accepted advantages of having a wider outside travel lane are:

- To accommodate bicycles without reducing the roadway capacity for motor vehicle traffic;
- To reduce both the real and perceived operating conflicts between bicyclists and motor vehicles;
- To increase the roadway capacity for bicyclists and motor vehicles; and

- To assist turning vehicles entering the roadway without encroaching into another lane and better accommodating buses and other wide vehicles.

The MPO jurisdictions do not generally stripe a wide curb lane as a “bicycle route” unless the roadway is designated as part of the regional bicycle route system. However, a wider outside travel lane is often all that is needed to adapt a roadway for bicycle travel. Where a wider travel lane is needed on a roadway, in order to bring it up to a suitable bicycle route designation, 14-feet of roadway and two-feet of gutter is recommended.

The fact that all Farm Roads in Greene County are paved is excellent for bicyclists. However, most do not have paved shoulders, which greatly diminishes their riding safety. Bicycling would be greatly enhanced if shoulders were added even if they were as little as three-feet wide.

### **Signed-Only Routes**

Bicyclists can be safely accommodated on many streets in combination with auto traffic if conditions are appropriate. That is, the volume and speed of motorized traffic must be reasonably low and the intersections widely spaced. Local and collector residential streets often fit these criteria.

This plan has designated numerous such streets as Bicycle Routes. Along these streets, signs will be erected to indicate to bicyclists that this is a street suitable for bicycling and to alert motorists to the possible presence of bicyclists.

The system of signed on-street routes consists of six east-west corridors and three north-south corridors. Many roadways in the MPO area are not suitable for bicycling at this time. In some instances, there are less direct parallel local streets that can be designated as bike routes until the desirable roadways can be improved to provide a suitable route. The bicycle-friendly element should be included on roadway improvement projects that are developed on these designated bike routes.

### **Recommendations**

- MPO jurisdictions should consider modifying their roadway standards to include marking standards that provide additional width on outside travel lanes.
- MPO jurisdictions and the Missouri Department of Transportation (MODOT) should provide additional width on outside travel lanes for bicycles when bicycle-designated roadways are constructed or improved. If this is not feasible, address how a reasonable alternative can be provided.
- Greene and Christian Counties should begin a long-term process of adding paved shoulders to those Farm Roads on identified bicycle routes.

- Signs should continue to be used to designate bicycle routes in the MPO area. City, county and state traffic departments should adopt signage consistent with the Manual on Uniform Traffic Control Devices (MUTCD) and work together on creating continuous routes throughout the area based on this plan.
- MPO jurisdictions and MODOT should consider modifying their roadway design standards to accommodate the following bicycle friendly practices that can be employed in the construction of a wide outside travel lane:
  1. Retrofit existing storm water inlet drains to models that are “bicycle safe.”
  2. The gutter also serves as a buffer to keep pedals from hitting the curb. Use a design for new inlets that has the drop in the curb and no grate in the street.

### **Other Local and Collector Streets (Class IV)**

Most bicycle travel in the United States occurs on streets and highways with minimal bikeway designations. The majority of these streets are low-volume local and collector streets with suitable lane width and no bikeway designation. Therefore, it is important that all local residential streets be interconnected, with collector streets serving as the key connectors. Bicyclists often share the roadways with motorists in the MPO area. On a shared roadway, bicyclists and motorists are accommodated in the same travel lane, therefore, design standards for street widths that promote traffic calming and safety are necessary and are currently being applied in all OTO member jurisdictions for this purpose.

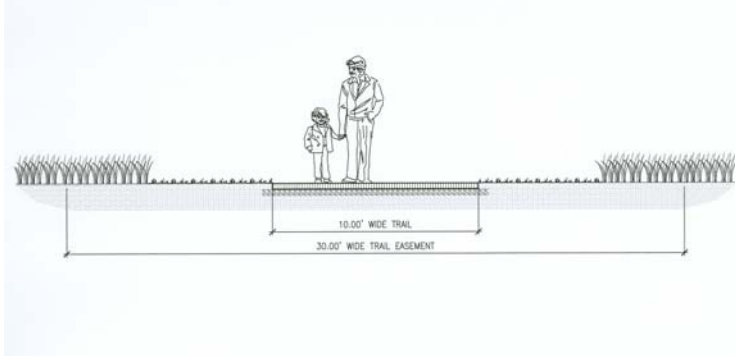
### **Recommendations**

- Coordinate the implementation of the bicycle-pedestrian plan among the MPO jurisdictions, MoDOT, the Springfield-Greene County Parks and Recreation Department, Ozark Greenways and other Park and Recreation Departments to ensure that the portions of the bicycle system being developed by each organization are done so in concert.
- Improve substandard streets (narrow, open-ditch) to adopted standards to ensure the safe movement of motor vehicles, bicycles, and pedestrians.
- Identify local and collector streets that lack connectivity and develop plans that can be implemented to remedy these gaps within the street network.

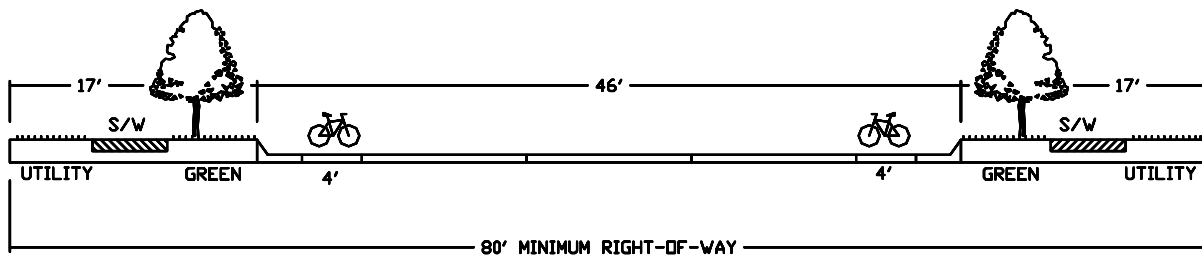


**Table 12: Guidelines for Location and Design of Class I Bikeways (Bike Paths)**

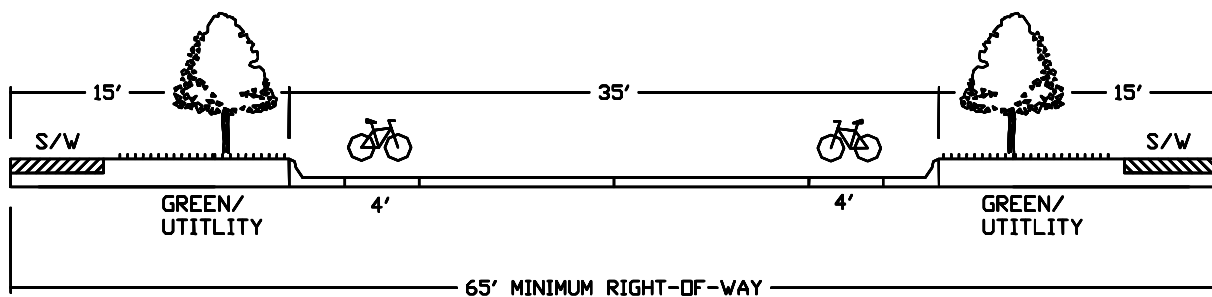
<b>Location Criteria:</b>	1. Bikeways should serve destinations attractive to cyclists.
	2. A separate right-of-way should be available or easily acquired (e.g. abandoned railroad line, utility easement, streambed, public park).
<b>Design Criteria:</b>	1. Minimum width should be 8 -12 feet.
	2. Surface should be smooth and preferably paved.
	3. Maximum grade should be 5 percent.
	4. Bikeways should be clearly marked by "Bike Route" signs.
	5. Equine and motor vehicles (including mopeds but excluding wheelchairs) should be prohibited, except for service vehicles.

**Table 13: Guidelines for Location and Design of Class II Bikeways (Bike Lanes)**

<b>Location Criteria:</b>	1. Bikeways should serve destinations attractive to cyclists.
	2. Bike routes should be located on those streets that form a complete arterial system for bicycle travel.
	3. Bike lanes should normally be along streets with moderate traffic volumes.
	4. The roadway should have an adequate pavement width through all intersections to accommodate traffic lanes and bike lanes.
<b>Design Criteria:</b>	1. Minimum width should be 4 feet with shoulder and 3 feet from gutter or 5 feet from face of curb for curb and gutter streets.
	2. Bike lanes should be a smooth paved surface, free of bumps and dips.
	3. A solid white line should delineate Lanes, ending prior to intersections where bike lanes are shared with right-turning motorists.
	4. Lanes should be one-way facilities carrying traffic in the same direction as motor traffic.
	5. Drainage grates should be flush with the surface and of a design, which will not allow bicycle tires to drop into the grate.
	6. Lanes should be clearly marked by standard "Bike Route" signs mounted on posts.
	7. Bicycles should be considered in the timing of traffic signal cycles and in the placement of stop signs.



**SECONDARY ARTERIAL**  
**BICYCLE ROUTE**



**COLLECTOR**  
**BICYCLE ROUTE**

**Table 14: Guidelines for Location and Design of Class III Bikeways (Bike Routes)**

<b>Location Criteria:</b>	1. Bikeways should serve destinations attractive to cyclists.
	2. Bike routes should be located along streets to form a complete arterial system for bicycle travel.
	3. Bike routes should normally be along secondary streets with 30 mph speed limit, which provide an alternative to parallel streets.
	4. Bike routes may also be designated to provide continuity to other bicycle facilities or to direct cyclists around safety hazards.
	5. Bike routes should be reasonably direct in comparison with parallel arterial streets.
	6. Sidewalks should not normally be designated as bikeways except on long and narrow bridges and other instances where sidewalks have the same characteristics as one-way bicycle paths.
<b>Design Criteria:</b>	1. On streets with moderate traffic volumes, a curb lane 14 feet wide can accommodate both bicycles and motor vehicles.
	2. On streets with low traffic volumes (5,400 vehicles per day and less for 30 mph), a standard 12-foot curb lane is adequate for designation as a bike route.
	3. Streets designated, as bike routes should have a smooth paved surface, free of bumps and dips.
	4. Drainage grates should be flush with the surface and of a design that will not allow bicycle tires to drop into the grate.

	5. Bike routes should be designated by standard “Bike Route” signs, which should be mounted on posts.
	6. Bicycles should be considered in the timing of traffic signal cycles and in the placement of stop signs.

**Table15: Guidelines for Location and Design of Class IV Bikeways (“Suggested Routes”)**

<b>Location Criteria:</b>	1. “Suggested” routes should be identified where low to moderate volumes of bicycle traffic are anticipated.
	2. “Suggested” routes should normally be along secondary streets, which provide an alternative to parallel arterial streets.
	3. “Suggested” routes may also be identified to provide continuity to other bicycle facilities or to direct cyclists around safety hazards.
	4. “Suggested” routes should be reasonably direct in comparison with parallel arterial streets.
<b>Design Criteria:</b>	1. Streets identified as suggested routes should normally have standard 12-foot traffic lanes with curbs and gutters. Narrower widths may be suitable on streets with low traffic volumes.
	2. Streets identified, as suggested routes should have a smooth paved surface, free of bumps and dips.
	3. Drainage grates should be flush with the surface of a design that will not allow bicycle tires to drop into the grate.
	4. The locations of traffic signals and stop signs should be considered in the identification of suggested routes.
	5. Suggested routes require no formal designation by signs or markings; they should simply be identified on maps distributed for public information.

## Pedestrian Facilities

One of the goals established through the Vision 20/20 comprehensive planning process is to develop a safe, high-quality, continuous, barrier-free pedestrian system that functions as an integral part of Springfield-Greene County transportation system. Pedestrian facilities are categorized by user characteristics rather than facility type. Therefore this section will focus on the characteristics of pedestrian and on how their individual needs should be addressed in this comprehensive plan in efforts to make the OTO area municipalities become “pedestrian-friendly” communities. Pedestrian facilities need to be treated as a part of the transportation system that provides connections between schools, residences, recreation, shopping and employment. The pedestrian system is also necessary for providing connectivity to the transit system and parking areas.

Pedestrian improvements, like all transportation decisions, need to be prioritized. Conceivably, the most important users of the pedestrian system are school age children. Therefore, the most critical sidewalk and pedestrian system improvements are those deficiencies around schools,

parks and recreation areas and their neighborhood connections. Another priority would be providing pedestrian connections in high employment areas.

Smart land-use and growth patterns are crucial factors in determining the feasibility of walking as an alternative mode of transportation. By encouraging strategies such as mixed-use development, clustering housing near retail and employment activities, and using grid or modified grid patterned street systems that provide direct pedestrian connections, the practice of walking trips will begin to replace some vehicle trips. In addition, by keeping the built environment at a “human” scale, a more comfortable pedestrian environment is created. Smaller full spectrum lighting fixtures, stores with display windows, and slower moving traffic can contribute to creating a more pedestrian friendly environment.

## Sidewalks

Sidewalks are the primary component of a good pedestrian system. However, to encourage a safe and efficient pedestrian system, the entire pedestrian experience needs to be considered. Thus, sidewalks should be separated from roadways with planting strips and street trees to provide a buffer between pedestrians and traffic (Figure 7). On-street parking can also serve as a barrier separating pedestrians and moving traffic. Adequate and comfortable lighting can increase feelings of safety and security for walkers (Figure 8).

Figure 7: Example of Planting Strips



Figure 8: Example of On-Street Parking



Sidewalks are designed for pedestrian speeds. Pedestrians will have varying levels of mobility; some may walk, run, or use assistive devices such as motorized wheelchairs and scooters. Therefore, bicycle use should be avoided on sidewalks; bicycles on sidewalks can present dangerous conflicts with pedestrians and should not be allowed, except for small children.

Americans with Disabilities Act (ADA) standards should be implemented by installing pedestrian ramps, where needed. Ensuring that sidewalks meet ADA standard helps those with disabilities access the city’s public transit system and other amenities offered in the OTO. Also other standards should be enacted to help the visually and hearing impaired such as “talking” crosswalks and different surface types for ramps and sidewalks. Design guidelines for sidewalks should be conducive to the variety of users of the pedestrian system. These guidelines should

focus on accessibility, grade and surface types. These elements help determine the “pedestrian friendliness” of the sidewalk itself. These guidelines should deter design that inhibits pleasant usage, such as steep or abrupt grade changes.

Sidewalks act as a main component to the pedestrian system. Sidewalks are essential for children to bicycle safely in auto-oriented communities. All jurisdictions in the area have set minimum requirements for sidewalks in their subdivision regulations as shown in the following table:

**Table 16: Sidewalk Requirements within the MPO Jurisdictions**

Jurisdiction	Sidewalks required	Arterial		Collector		Local		Residential		Downtown	
		Both Sides	Width	Both Sides	Width	Both Sides	Width	Both Sides	Width	Both Sides	Width
Battlefield	Yes	Yes	4'	Yes	4'	No	4'	No	4'	N/A	N/A
Christian Co.	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Greene Co.	Yes	Yes	5'	Yes	5'	Yes		No	4'	N/A	N/A
Nixa	Yes	Yes	4'	No	4'	No	4'	No	4'	N/A	N/A
Ozark	Yes										
Republic	Yes	Yes	4'	Yes	4"	No	4"	No	4'	N/A	N/A
Springfield	Yes	Yes	4	Yes, unless in Industrial Area	4	Yes, unless in Industrial, Manufacturing or Residential area	4	No	4	Yes	8-12
Strafford											
Willard	Yes	No	5	No	5	N/A	N/A	No	4	N/A	N/A

## Recommendations:

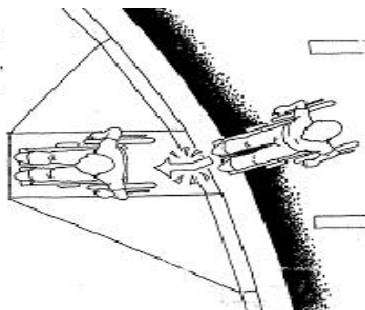
- The MPO jurisdictions should continue to enforce state statutes and local ordinances that prohibit riding bicycles on sidewalks in business districts and provide for bicycle travel on streets (except for children).
- Metropolitan area jurisdictions should implement a systematic program for the pedestrian system, providing continuous connections to the major employers and attractions from all neighborhoods including downtown areas.
- The metropolitan area jurisdictions should develop their pedestrian network according to this regional bicycle-pedestrian adopted comprehensive plan and should contain elements that accommodate both recreational and non-recreational use.
- Metropolitan area jurisdictions should modify their subdivision ordinances to require minimum five-foot sidewalks adjacent to residential streets. Consideration should be given to incentives, such as an offset to standard parking requirements.

- MPO jurisdictions should work with school districts, MoDOT and parent-teacher organizations on sidewalk improvement recommendations for area schools and develop Safe Route To School programs in providing safe and adequate pedestrian access and investigate funding options for these improvements.
- Metropolitan area jurisdictions should adopt regulations to promote safety along the pedestrian network including proper lighting and proper grade changes to ensure continuous non-injuring movement.
- Christian County should develop a pedestrian plan according to this regional bicycle-pedestrian comprehensive plan that would require sidewalks to be a part of all new development.
- Require sidewalk and bicycle facilities within and along commercial areas, where traffic volume allows;
- Require sidewalk and bicycle facilities along local roadways, where traffic volume allows, and;
- Promote mixed-use land development that generates pedestrian and bicycle travel by
  1. Requiring internal pedestrian circulation system in commercial areas/districts
  2. Promoting “human-scaled” development
  3. Providing streetscape provisions that promote safety and aesthetically pleasing elements for pedestrians and cyclists.

## Curb Ramps

Proper ramps are important in terms of safety and accessibility to the pedestrian system. Providing a smooth transition between the sidewalk and the crosswalk or roadway is the job of the curb ramp. The American with Disabilities Act Accessibility Guidelines (ADAAG) handbook states that least severe slope ratios should be used in every situation from retrofitting to new construction. The width of the curb ramps depends upon the amount of pedestrian traffic near the ramp itself. It is important to remember when designing curb ramps, designing them too wide with gradual slopes makes it difficult for pedestrians with visual impairments to detect; however, ramps should be wide enough to accommodate wheelchairs and scooters.

Figure 9 Example of a curb ramp



## Crosswalks

Providing safe pedestrian crossings on busy streets and major intersections is the main function of crosswalks. Crosswalks can either be marked or unmarked, however it is preferred to have marked crosswalks. Both motorists and pedestrians, particularly for this who may have visual impairments, can easily identify marked crosswalks. This is achieved by designing the crosswalks to have a strong visual contrast with the street surface. Constructing crosswalks in different materials from the street such as brick is beneficial in aiding those who are visually impaired to enable them to “feel” the texture of the street change to make them aware of their position crossing within the crosswalk. In addition, proper signage should be in place along the road to alert drivers that a crosswalk is ahead.



Pedestrian signals at crosswalks should be available at most medium-to-high volume intersections. In addition, signals should be timed appropriately based on the width of the street to allow all pedestrians to cross safely in the allotted time. Wherever possible, particularly, at major intersections, efforts to include audible pedestrian signals for the visually impaired should be incorporated.

Pedestrian-Actuated Traffic Control, otherwise known, as the push button to cross the street method, is another that avenue to provide safety and control for the pedestrian entering the crosswalk. These control devices should be provided at every major intersection that has traffic and pedestrian signals, and should be placed so that those with mobility impairments can access the button without difficulty. Also, proper sight distances should be determined for both pedestrians and motorists to increase pedestrian safety at all crosswalks.



## Medians and Refuge Islands

Medians and refuge islands help complement the pedestrian facilities because they aid in both traffic calming and pedestrian safety. A median separates opposing lanes of traffic and a refuge island is a protected spot within a crosswalk for pedestrians to wait to continue crossing the street or to board a bus. These elements are helpful for irregularly shaped intersections or roads with large width. Medians and islands are helpful for those who cannot judge crossing distances accurately. Also, since the medians and islands also separate traffic, it requires the pedestrian to watch traffic in only one direction. Cut-through's in the median where the median meets the crosswalk can be provided for wheelchair accessibility. Below are examples of medians and refuge islands.

FIGURE 10: Examples of Median types



Straight-through but route raised slightly



Straight-through at road level

**Recommendations:**

- Metropolitan area jurisdictions should implement standards to ensure relevant pedestrian facilities are constructed at all major crosswalks.
- Standards to determine the proper width of ramps should be developed for each OTO member jurisdiction. In addition guidelines should be developed to determine the surface type that will be used to signify the egress and ingress of curb ramps.
- Metropolitan area jurisdictions can develop their own standards for measurement and dimensions of all pedestrian facilities; however, they must be compliant with AASHTO and ADAAG standards.



## DISCUSSION ON E-W ARTERIAL

-----Original Message-----

**From:** Wagner, Todd  
**Sent:** Wednesday, January 03, 2007 3:30 PM  
**To:** Whaley, Terry; Jackson, Jerany  
**Subject:** FW: East West Arterial consultant selection

The future of greenways - this is future road west of Evans and 65 along Farmer Branch.

-----Original Message-----

**From:** Newman, Earl  
**Sent:** Wednesday, January 03, 2007 2:19 PM  
**To:** Hutchison, David; Thornsberry, Marc; Rognstad, Ralph; Giles, Mike; Price, Harry; Wagner, Todd  
**Subject:** RE: East West Arterial consultant selection

Since the E-W arterial parallels the creek, there should be a greenway planned to follow the stream. This is a major arterial so I am not in favor of marking the roadway. I would support "marking" a wider curb lane, without widening the roadway section, to allow for the potential of a Share the Road situation.

---

**From:** Hutchison, David  
**Sent:** Wednesday, January 03, 2007 8:43 AM  
**To:** Thornsberry, Marc; Rognstad, Ralph; Giles, Mike; Newman, Earl; Price, Harry; Wagner, Todd  
**Subject:** RE: East West Arterial consultant selection

The east-west arterial will be the only through street within a mile or more in each direction. The bicycle committee recommended bike lanes on this street. Bike lanes are recommended on secondary arterial streets where they provide continuity in a corridor. There is not a parallel secondary arterial system in this corridor. If we are to have a parallel secondary arterial or collector street system, we need to be mapping that system. The local street in the Carlton development does not provide the continuity that crosstown bicyclists want.

---

**From:** Thornsberry, Marc  
**Sent:** Wednesday, January 03, 2007 7:21 AM  
**To:** Rognstad, Ralph; Giles, Mike; Newman, Earl; Price, Harry; Wagner, Todd  
**Cc:** Hutchison, David  
**Subject:** RE: East West Arterial consultant selection

It was my understanding that we were not recommending bike lanes on **major** arterials

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**From:** Rognstad, Ralph  
**Sent:** Tuesday, January 02, 2007 4:42 PM  
**To:** Giles, Mike; Newman, Earl; Price, Harry; Thornsberry, Marc; Wagner, Todd  
**Cc:** Hutchison, David  
**Subject:** RE: East West Arterial consultant selection

Suggested design parameters are fine except I would not want to share the street on a bicycle with 25,000 ADT, but I don't know that we need a bicycle route along this segment of the street if we develop a parallel street system as we have begun with Carlton's PD. When we do the plans for the rest of Riverbluff, it would be helpful to have some way to safely get across the future bridge over the James River either on a bicycle or walking if the additional width on the bridge is not too cost prohibitive.

-----Original Message-----

**From:** Giles, Mike

**Sent:** Tuesday, January 02, 2007 2:17 PM

**To:** Newman, Earl; Price, Harry; Thornsberry, Marc; Rognstad, Ralph; Wagner, Todd

**Subject:** East West Arterial consultant selection

Earl

I was wondering how you were coming with completing your review of the consultants that submitted their qualifications to us. Both Ralph and Harry have completed their review and analysis.

Additional items we need to discuss and make a decision on is the roadway design parameters.

We have stated that the OTO standards for a primary arterial should be followed. However in these standards are some ranges.

Design ADT 10,000 to 30,000 suggest we use 25,000 ADT

Design life non given suggest 20 year life

Truck volume non given suggest 3% total trucks

Design speed 35 to 45 mph suggest 40 mph

Maximum vertical grade non given suggest 6% without entrances

Street cross slope non given suggest 2%

Maximum percent of super elevation non given suggest 2%

Using these parameters and AASTO design for low speed urban the remainder of the parameters can be determined without debate.

Other OTO parameters are

110 foot right of way

11.5 foot travel lane

18 foot median

5 foot sidewalks

seven foot green space on both sides of the curb

six foot utility corridors on both sides

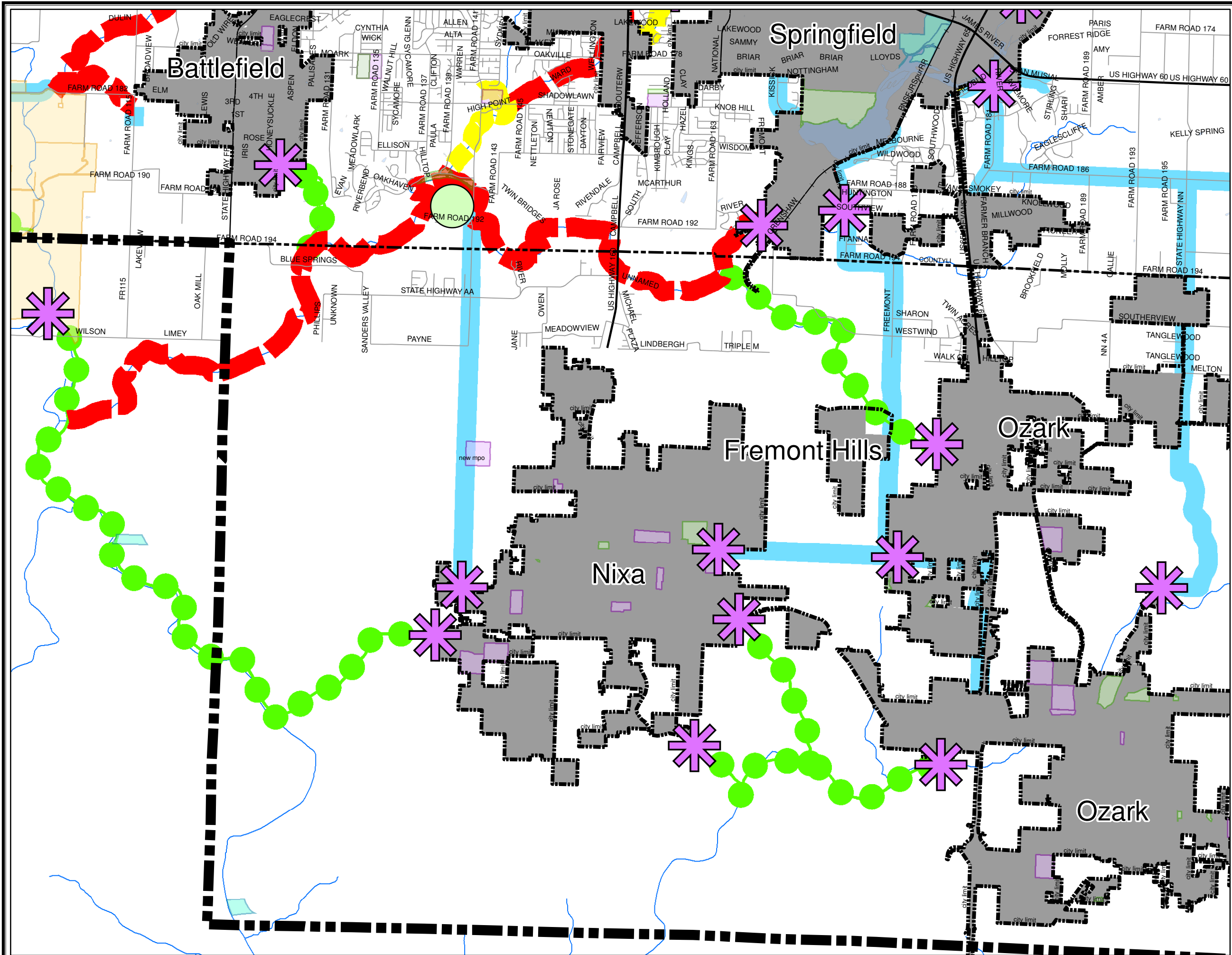
The other question to consider is are Bicycles to have a dedicated lane or just share the road? suggest share the road.

Todd

What should the inlet spacing be based on? Suggest keeping the one year flow in the gutters and no overtopping of the curb for the 100 year event.

Earl

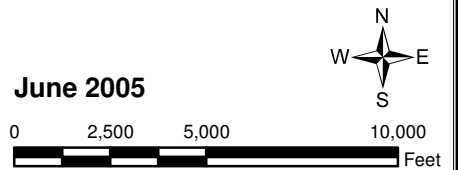
I assume the only signals to initially be designed or the ones for MODOT, Southview and Thetford.



# OTO Bicycle Corridor Connections

Connections to Fremont Hills, Nixa and Ozark

- ### Legend
- City Limits
  - Greene County Boundary
  - MPO Boundary
  - Future Greenway Trail Connection
  - On Street Connections
  - Completed Linear Park Trails Per Vision 20/20
  - Future Linear Park Trails Per Vision 20/20
  - Connection to City Interior System
  - Future Park Per Vision 20/20
  - City Park Properties
  - Wilson's Creek National Battlefield
  - Missouri Department of Natural Resources
  - Missouri Department of Conservation
  - School Properties
  - Lakes
  - Missouri Rivers



DISCLAIMER: All information included on this map or digital file is provided "as-is" for general information purposes only. The City of Springfield, and all other contributing data suppliers, make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, or suitability of the data for any particular use. Furthermore, the City of Springfield, and all other contributing data suppliers, assume no liability whatsoever associated with the use or misuse of the data.



Prepared in the Park Planning Office

## **AGENDA ITEM VIII.**



# **Ozarks Transportation Organization**

## **Bicycle Advisory Committee**

### **Mission and Objectives**

#### **Mission**

The mission of the Ozarks Transportation Organization Bicycle Advisory Committee is to improve bicycling conditions for commuters, children and recreational bicyclists of the area. Working with community leaders, the OTO bicycle committee will:

- Aid in the design, development and maintenance of the Regional Transportation Plan for the OTO area, which will develop and maintain bikeways, provide bikeway connections between MPO jurisdictions, expand the current Springfield's bike routes plan into adjacent communities and assist with the promotion of responsible bicycle use within the community.
- Urge state and local legislators to support related projects in their districts, pass pro-bicycle legislation, and ensure that bicycles are included in all transportation-related legislation.

#### **Objectives**

- To assist in the development of design standards for roadways, road signs and bicycle facilities.
- To analyze existing conditions for bicycling in the MPO area and recommend routes and facilities.
- To analyze existing bicycle policies within the MPO jurisdictions and recommend changes that support bicycling as a mode of transportation and recreation.
- To recommend high priority projects to be funded by the MPO.
- To create educational programs and materials that encourages safe cycling and the use of the existing and planned facilities in the area.
- To review regional projects that may affect the bicycle network within the area and suggest changes.
- To provide input and feedback on the plan progress

## **Springfield-Greene County Bicycle/pedestrian Committee**

**The general mission for a bicycle committee was identified as:**

- Guide staff with maintenance of the bicycle plan,
- Assist staff with development of policy standards for provisions for bicyclists on each roadway classification,
- Assist staff with modification of roadway design standards for accommodation of bicyclists,
- Assist staff with development of design standards for signing and marking on roadways,
- Recommend to staff high priority projects that would improve bicycling capacity and safety in Springfield for inclusion in CIP, and
- Monitor consideration for bicycle provisions during design of CIP projects.

The specific and immediate mission of the Bicycle Policy Committee was to review the current policy for provisions for bicycling on public streets and the existing bicycle plan contained in the Springfield – Greene County Comprehensive Plan – Transportation Element. Review of the policy included:

- Review of best practices from other communities,
- Refining the bicycle policy as to how to provide for bicyclists on each roadway classification,
- Recommending standards for provision of bicycle facilities on streets,
- Review of current on-street bike route network and existing and proposed greenway network and identify additional streets and trails needed for a complete bicycle network, and
- Preparation of a report to the Traffic Advisory Board and City Council describing recommended bicycle policy, standards, and identified needs and priorities

## **POSSIBLE BPAC GOALS:**

- Elevate the issue of Bike and Ped safety to public officials
- Promote the ROAD I LAB course to all current cyclists
- Promote bike travel as an alternative to car if within 5 minutes of work and home
- Get Bike Ped issues in the public and get on the “Talking Transportation” show  
MoDOT has
- Use the Committee to let the public know who the OTO is and what they do,  
who, why, how
- A specific project with possibilities to all the above is the Holland Street Corridor
- SRTS
- Work with local bike clubs/public works to create a bike map with bus route  
overlay



## **AGENDA ITEM IX.**

**OZARKS TRANSPORTATION ORGANIZATION  
BICYCLE AND PEDESTRIAN ADVISORY COMMITTEE**

**2007 MEETING SCHEDULE**

Tuesday	January 16, 2007	3:00 - 4:30 P.M.
Tuesday	March 20, 2007	3:00 - 4:30 P.M.
Tuesday	May 15, 2007	3:00 - 4:30 P.M.
Tuesday	July 17, 2007	3:00 - 4:30 P.M.
Tuesday	September 18, 2007	3:00 - 4:30 P.M.
Tuesday	November 27, 2007	3:00 - 4:30 P.M.

**Meetings will be held in the Busch Municipal Building, 840 Boonville Room 2 West.**

**Please provide request for agenda items 2 weeks prior to meeting date. Thank you!!!**

# **AGENDA ITEM X.**

## INFORMATIONAL ITEMS

Missouri Foundation for Health funds CMT's Ten Toe Express - Linking your Feet with MetroLink

CMT focuses on the Active Living aspect of walking and transit

11/6/06

Citizens for Modern Transit (CMT) was awarded a grant from the Missouri Foundation for Health in the amount of \$297,189 for its new initiative the Ten Toe Express Program. The Ten Toe Express will focus on increasing the number of individuals who link walking with public transit use resulting in a healthier, more active lifestyle. Linking public transit and walking is one of the key components of the Healthy and Active Living initiative nationally. Other Partners on this initiative include AARP, Bike St. Louis, Great Rivers Greenway, Transtria LLC, and the East-West Gateway Council of Governments. The program will have a two-pronged approach - one will target senior citizens and the other will target employees for the work commute. Participants will receive a walking kit including pedometers, weekly walk logs, coupon books, safety tips and sample walking tours. Official Ten Toe Express Walking Tours will be scheduled each week for participants to step out and enjoy different locations in St. Louis by foot, train and bus. "This program provides St. Louisans a great opportunity to realize the benefits of living a healthy, active lifestyle by linking everyday activities with transit. We are very fortunate in St. Louis to have an award winning transit system, and the Ten Toe Express allows us to build on this success through increased exposure to the system through added physical activity in people's daily lives. When riding the train, there is always a pedestrian aspect on one or both sides of the trip," said Thomas Shrout, executive director of CMT.

Other aspects of the Ten Toe Program will include:

- \*           \* The Guaranteed Ride Home Program
- \*           \* Exposure to good Nutritional information
- \*           \* An expanded bicycle/walking map for St. Louis
- \*           \* The Benefits of Social interaction of walking for older adult populations
- \*           \* And, the money savings of walking and transit.

Funding for this project will be provided in part by the Missouri Foundation for Health <<http://www.mffh.org>>. The Missouri Foundation for Health is a philanthropic organization whose vision is to improve the health of people in the communities it serves.