Missouri's Trailmap for

Nonmotorized Transportation

Missouri Department of Transportation

Bicycle / Pedestrian Advisory Committee

July 1, 2005 – June 30, 2007

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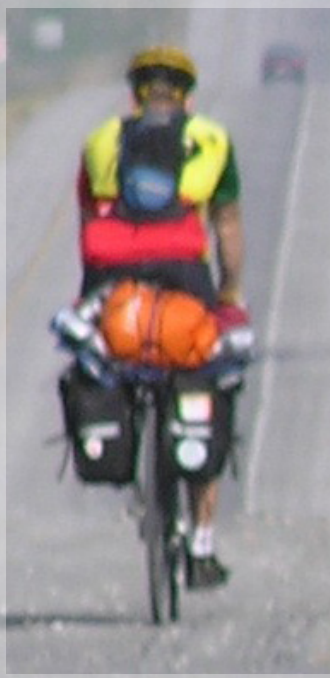

I. Introduction

Missouri's Trailmap for Nonmotorized Transportation is a plan created by the Missouri Bicycle and Pedestrian Advisory Committee (BPAC) to make Missouri a great place in which to walk and ride a bicycle by indicating needed improvements for bike/ped safety, accommodations, facilities and amenities. This plan is organized into four sections: engineering, enforcement, education and encouragement.

All groups and agencies in Missouri able to contribute to this vision are invited to help organize local and regional groups to accomplish the *Trailmap* goals.

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Caryn Giarratano, coordinator of Missouri's Bicycle and Pedestrian Program, chairs the BPAC and facilitates communication between state government, local government and advocates regarding bike/ped policies and issues.

II. Background

Bike/Ped Program History

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) enabled the Missouri Department of Transportation (MoDOT) to establish a bike/ped program to integrate MoDOT policies and standards into the bike/ped modes of transportation. Following the 1993 program's establishment, the Missouri Highways and Transportation Commission (MHTC) adopted the Show-Me Transportation Plan (1995), which included input from several bike/ped focus groups that identified Missouri's bike/ped needs.

In 1998, the MHTC directed the creation of an advisory team of representatives from other state agencies, local government organizations and interested non-government groups to offer advice on bike/ped issues. The group was called the Missouri Bicycle and Pedestrian Advisory Committee (BPAC). When Caryn Giarratano was hired in 2002 as the state bicycle and pedestrian program coordinator, she was assigned to organize the committee around actionable goals. After restructuring BPAC, the group embarked on improving existing bike/ped policies, standards, procedures and accommodations throughout the state. Over the years, the program and BPAC have become a valuable resource for Missouri in four areas of focus — engineering, enforcement, education and encouragement.

BPAC Membership

The BPAC is supported by the Missouri Department of Transportation and lead by the state bicycle and pedestrian program coordinator. BPAC represents public and/or private organizations with a vested interest in improving the status of bike/ped in Missouri. The coordinator and committee work with MoDOT divisions to integrate bike/ped modes of travel into transportation projects. For a list of partners, see Appendix A, and for a list of BPAC members, see Appendix B.

BPAC Focus

The BPAC's role is to advise state and local government and non-government groups regarding bike/ped issues. BPAC strives to integrate bike/ped travel modes in the overall transportation system – routine accommodation - by en-

couraging bike/ped friendly policies and standards for transportation projects. BPAC's plan for nonmotorized transportation in Missouri centers on four focus areas: engineering, education, enforcement and encouragement. This plan requires including new research and best practices, monitoring implementation of the bike/ped section of long-range transportation plans and proposing research-based policy and standards' changes to those who build bike/ped facilities. BPAC may recommend legislation for enhancing bike/ped friendly facilities and services, as well as provide public information that promotes bike/ped initiatives.

III. Guiding Principles

The *Trailmap* is a guide for BPAC and potential partners. It is a fluid document designed to meet the needs of customers and the environment. It is designed to increase the visibility of the bike/ped direction needed for Missouri, enhance understanding of this direction and build support with regular updates planned.

Vision

To make Missouri a world-class state in which to bike and walk.

Mission

Promote a higher quality of life for all Missourians through safe and accessible nonmotorized transportation.

Values

Community – Enhancing the livability of Missouri communities through bike/ped programs and facilities. BPAC values community by promoting safe, livable environments that support a strong economy through partnership, education, awareness and accountability.

Freedom of Choice – Giving Missourians the ability to choose to walk or bike to destinations. BPAC values giving all Missourians the freedom to choose nonmotorized transportation by providing access, connectivity, encouragement and opportunity.

Safety – Providing a safe bike/ped experience. BPAC promotes safe, nonmotorized systems because it values the well-being of customers.

Health – Promoting the health of Missourians by increasing walking and bicy-

cling. BPAC values good health and believes that all should be educated about the benefits provided by a healthy, active lifestyle.

Goals

Engineering – Create and maintain more bike/ped facilities that meet or exceed the recommended level of service provided by best practices' guidance.

Enforcement – Advocate better laws, policies, practices and enforcement.

Education – Provide bike/ped safety information, technical advice and educational resources.

Encouragement – Promote bicycling and walking.

IV. Accomplishments 1993-2005

The progress of the bike/ped program has been dramatic since 1993 when the first state bike/ped focus groups met as part of the community outreach.

Engineering:

- The focus of those in charge of constructing and maintaining state roads and bridges has broadened to allow the consideration of bike/ped accommodations on state transportation facilities.
- MoDOT policy now considers constructing sidewalks in all new road and bridge construction, and reconstruction projects. See … *http://www.modot.mo.gov/othertransportation/bike_ped/BikePedPolicyandLegislation.htm.*

- The MoDOT grate standard has changed to require bicycle-friendly curved vane grates in all roads and shoulders rather than the bike-unfriendly parallel bar grates. See 614.11 at *http://www.modot.mo.gov/business/standards_and_specs/documents/61411a.pdf.*
- The MoDOT rumble strip policy has been altered to better accommodate bicyclists – narrowing the amount of shoulder being rumbled and moving the rumble strip under the edge line to allow a larger section of smooth shoulder. See 626.0 at *http://www.modot.org/business/standards_and_specs/documents/62600d.pdf.*
- The miles of shared use paths have soared with the current number of miles at 606. The on-road national bicycle trail, Mississippi River Trail, has been mapped and signed in Missouri by MoDOT from Hannibal to Dorena Ferry in

the Bootheel. See … *http://www.modot.mo.gov/othertransportation/bike_ped/Bike-PedProgram--RoadandRouteInfo.htm.*

- Missouri is addressing the Federal American with Disabilities Act requirements for rights of way, such as curb ramps, cross slopes, grades and detectable warnings to better accommodate pedestrians who are physically challenged. See … Designing Sidewalks and Trails for Access, *http://www.fhwa.dot.gov/environment/sidewalk2/sidewalks202.htm* or *http://www.access-board.gov/indexes/accessindex.htm.*

- MoDOT policy and that of many local governments now include designing, building and maintaining bike/ped facilities. See … *http://www.modot.mo.gov/othertransportation/bike_ped/documents/MoDOT%20Bike-Ped%20Policy_10-05.doc.*

Enforcement:

- The state law has been changed twice to better accommodate bicyclists. The mandatory side path law was repealed in 1995, and in 2005, bicyclists were clearly given the right to ride on shoulders. For the complete Revised Missouri State Statutes, see … *http://www.moga.mo.gov/statutesearch/.*

- Missouri's Blueprint for Safer Roadways includes a focus on tracking bike/ped injuries and fatalities. See… *http://www.savemolives.com/pdf/Missouri%20Blueprint%20for%20Safer%20Roadways.pdf.*

- The Missouri Department of Health maintains a Web site to track hospital admissions regarding bicycle and pedestrian accidents. See…non-motorized injury statistics at *http://www.dhss.mo.gov/InjuryMICA/.*

- The Missouri State Highway Patrol tracks crash data of motorized vehicles with bike/peds. See… *http://www.mshp.dps.missouri.gov/MSHPWeb/SAC/Pubs/Traffic/missouri-2003TrafficSafetyCompendium.pdf.*

- Two flyers have been created by MoDOT to help communicate the state law regarding bicyclists and pedestrians. See…*http://www.modot.mo.gov/other-transportation/bike_ped/BikePedPolicyandLegislation.htm.*

- The MoDOT scenic byways program has been expanded and includes accommodation along these routes for walkers and bikers. See…*http://www.modot.mo.gov/business/Outdoor_Advertising/ScenicByways.htm* and *http://www.bywaysonline.org/program/us_code.html.*

Education:

- BPAC was created in 1998 to coordinate various groups interested in moving forward Missouri's bike/ped program. See…*http://www.modot.mo.gov/othertransportation/bike_ped/BikePedProgram--BPAC.htm*

- The Missouri Driver Guide was updated to include bike/ped language See…*http://dor.state.mo.us/mvdl/drivers/dlguide/chapter7.htm.*

- Many people have attended training sessions on bike/ped facility design offered by the state bicycle and pedestrian program coordinator. See…*http://www.nhi.fhwa.dot.gov/coursedesc.asp?coursenum=1065* and *http://www.nhi.fhwa.dot.gov/coursedesc.asp?coursenum=1066*

- The MoDOT Web site has a several pages devoted to the bike/ped program and includes links to helpful information and other agencies. See…*http://www.modot.mo.gov/othertransportation/bike_ped/bicycleped program.htm.*

- Many organizations have collected bike/ped safety materials. Examples include the Missouri Bicycle Federation and the League of American Bicyclists. See…*http://www.mobikefed.org/skills-safety.html* and *http://www.bikeleague.org/educenter/index.html.*

- Mid-America Regional Council has offered workshops on how to create walkable communities.

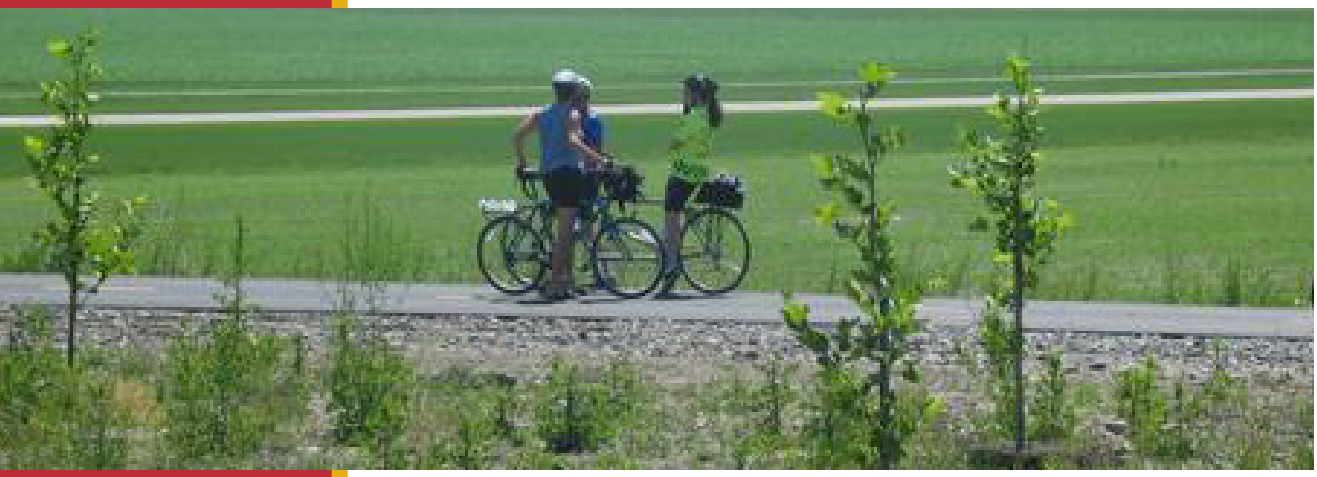
Encouragement:

- MoDOT created an on-road state bicycle map in 2005 for cross-state trips. Plans have been made to collect shared use path data and national trail corridors information to include for future maps. See…*http://www.modot.mo.gov/othertransportation/bike_ped/Bike-PedProgram--RoadandRouteInfo.htm.*

- Several bike/ped facilities have been mapped in the state. See…*http://www.modot.mo.gov/othertransportation/bike_ped/Bike-PedProgram--RoadandRouteInfo.htm*, *http://bikeways.ridefinders.org/viewer.htm*, *http://www.bikestlouis.org/*, *www.marc.org*, *http://www.ozarkgreenways.org/trails.html#aFrisco* or *http://www.katytrailstatepark.com/.*

- State and local governments are installing bicycle route and share the road signs, and increasing the number of bicycle lane/route markings.

- Work is underway for creating a method for monitoring the railroad abandonment process and for offering advice on how to convert railroad lines to trail corridors.
- International Walk to School Day in October of each year has been identified and incorporated in many school activities across Missouri. See…*http://www.iwalktoschool.org/*, *http://www.walktoschool-usa.org/* or *http://www.walktoschool-usa.org/iwalkusa.cfm.*
- The federal transportation bill (SAFETEA-LU) passed in 2005 requires each state department of transportation to have a full-time Safe Routes to School coordinator and our state has hired one. See…*http://www.bikewalk.org/safe_routes_to_school/SR2S_resources.htm or http://www.fhwa.dot.gov/reauthorization/.*
- The SAFETEA-LU legislation continues to support the transportation enhancements program that funds many bike/ped facility construction projects. See…*http://www.fhwa.dot.gov/environment/te/teas.htm* and *http://www.enhancements.org/misc/tedatafy03.pdf.*
- Some communities have created Safe Routes to School programs to encourage children to walk and bike to school: Columbia, Kansas City, St. Louis and Springfield. See…*http://www.pednet.org/*, *http://www.marc.org/bikeped/*, *http://www.ewgateway.org/trans/bikeways/bikeways.htm* or *http://www.ozarkgreenways.org/.*



V. Focus Areas

Focus Area 1 – Engineering

Create and maintain more bike/ped facilities that meet or exceed the recommended level of service provided by best practices' guidance.

Objectives	Actions
Improve design and construction best practices for bike/ped modes of transportation.	• Institutionalize context sensitive design to include bike/ped facilities. Provide flexibility and/or design exceptions by adopting context sensitive design guidelines for urban, suburban and rural conditions. The standards should address amenities such as bicycle parking and aesthetics to attract users. • Explore ways to develop uniform best practices for bike/ped accommodations for all state facilities and differentiate between recommended, allowable and unacceptable. For example, all elementary, high school and college campuses should have adequate bicycle parking. • Develop best practices for retrofitting existing roadways to include bike/ped facilities if the roadway or bridge is not scheduled for rehabilitation or reconstruction. • Incorporate routine accommodation of bicyclists and pedestrians in all new construction, rehabilitation or reconstruction projects on roads and bridges that include use of the state's Practical Design Policy and Federal Highway Administration's design guidance. • Provide bike/ped facility design training as needed and information about tools available to provide bike/ped facilities for employees of various agencies. This training should include education about the importance of bike/ped accommodations. • Continue to provide guidance to clearly specify the type of bike/ped accommodations appropriate/expected/allowable on a particular type of roadway or bridge. • Create comprehensive, voluntary design best practices and policies for school zone signage, beacons and markings. Encourage communities to plan safe routes to school. • Develop a new policy for urban and suburban bike/ped accommodations that connects state roads to local roads. • Develop best practices for maintenance of bike/ped facilities to promote continuing usage, as well as access to the facilities for maintenance. • Update the state bicycle map to include on-road cross-state bicycle routes and shared use path locations to focus improvement efforts on connectivity.
Integrate bike/ped accommodations in Missouri's state planning and programming.	• Identify and pursue steps to implement recommendations regarding bike/ped elements of the long-range transportation plan, *Missouri Advance Planning*, and consider changes for the next update.

Create a state plan for a rail-trail and shared use path network.	• Assure Missouri's *Statewide Transportation Improvement Program* integrates bike/ped accommodations consistent with Missouri's transportation plans, policies and standards. • Use *Missouri's Framework for Transportation Planning and Decision-Making* to coordinate local, regional, state and national plans to address the needs of all users and all modes of transportation. • Become involved in corridor management plans. • Track, coordinate and communicate information that affects bike/ped, such as congestion mitigation air quality, transportation enhancements, Safe Routes to School and scenic byways programs.
Improve the maintenance and management of bike/ped facilities.	• Monitor maintenance on bridges to insure bike/ped accommodations are installed when specified and maintained when present (remove debris, replace unfriendly grates, sweep shoulders). • Install and maintain signage per state policies to direct bicyclists on high-demand routes – for example, from St. Louis Lambert Airport to the Mississippi River Trail and Katy Trail.
Utilize research for identifying priorities in engineering, planning, programming, design and construction.	• Develop a tool and process for collecting bike/ped data (such as counts and crashes from the Missouri State Highway Patrol). • Collect and make use of reliable paved shoulder information.

Focus Area 2 – Enforcement

Advocate better laws, policies, practices and enforcement.

Objectives	Actions
Create partnerships to support bike/ped laws and enforcement.	• Provide technical support • Provide community-oriented bike/ped training opportunities, as needed for in-state law enforcement officers. • Provide officers with an advanced understanding of bike safety and crash prevention. • Provide officers with the knowledge necessary to enforce laws, which when enforced properly, will prevent some bicycle-motor vehicle crashes from occurring. • Offer training to assist officers in working more effectively with city planners, transportation engineers, community organizations and individuals to improve community bike/ped safety. • Develop a comprehensive clearinghouse of traffic ordinances concerning bike/ped safety issues at the city, county, regional, state and national levels.

Promote safety.	• Provide clarification of which type of bicycle accommodation is needed for any given facility based on road characteristics, and explain the necessity of correct drain grates and shoulder rumble strips. • Provide technical assistance that identifies and dissolves barriers to safe bike/ped transportation. • Promote information sharing among law enforcement agencies.
Encourage the state legislature to change laws to improve bike/ped safety.	• Maintain a working relationship with MoDOT Governmental Relations, staff, bike/ped advocacy groups and law enforcement agencies.

Focus Area 3 - Education

Provide bike/ped safety information, technical advice and educational resources.

Objectives	Actions
Develop partnerships to support bike/ped initiatives.	• Partner with the Missouri Department of Elementary and Secondary Education to provide driver's education in schools that includes bike/ped safety programs. • Partner with businesses and local governments to inform the public on the benefits of bike/ped facilities. • Develop a list of bike/ped groups (such as the Quad State Trails group) and establish partnerships with all. • Communicate with organizations such as the League of American Bicyclists and Safe Routes to School to help promote their educational programs. • Partner with parent-teacher organizations, schools, businesses, government agencies and media.
Compile educational resources to promote health, safety and accessibility.	• Increase awareness of bike/ped needs and opportunities throughout the state. • Create communication tools for target audiences, and create a resource library. • Create a calendar of events indicating educational opportunities. • Coordinate with Missouri's Safe Routes to School program. • Provide info to new drivers on bike/ped safety from three perspectives: motorist, bicyclist and pedestrian.

Create and maintain a distribution strategy for educational resources.	• Produce an annual bike/ped educational conference. • Set up a speaker's bureau. • Provide users regularly updated state bike maps. • Provide and/or support incentive bike/ped programs to encourage healthy living. • Integrate bike/ped into health promotion activities of hospitals and other health providers. • Identify neighborhood and community-level bike/ped safe routes. Map and post them on a Web site, and distribute hard copies. • Provide material to bike shops on bike/ped safety and laws for customers.

Focus Area 4 - Encouragement

Promote bicycling and walking.

Objectives	Actions
Develop marketing tools. *Brand and position products and services.*	• Develop an interactive website. • Create public service announcements. • Print promotional materials such as ads and support materials. • Promote special events.
Focus on programs.	• Promote bicycle rides to encourage riding on the road. • Hold an annual conference to promote bike/ped as a mode of travel. • Enhance existing programs/special events to increase awareness. • Develop new events or programs to encourage bike/ped participation statewide. • Encourage walk, wheel and ride to school events.
Provide technical support.	• Seek volunteers for formal speaking engagements as a speaker's bureau. • Create an outreach team. • Create technical support materials such as PowerPoint presentations, fact sheets and success stories. • Identify marketing tools and their delivery process.

VI. Summary

The progress of the bike/ped program in Missouri over the last decade has been dramatic. However, there is still more to be accomplished. This Trailmap will serve to identify what must continue to happen to make Missouri a world-class destination for visitors, as well as a livable, safe, secure, multimodal environment for all Missourians.

VII. Appendices

A. Partners

- Capitol Area Metropolitan Planning Organization – Jefferson City metropolitan planning organization
- Columbia Area Transportation Study Organization – Columbia metropolitan planning organization
- Columbia Pednet Coalition
- East-West Gateway Council of Governments - St. Louis metropolitan planning organization
- Federal Highway Administration
- Governor's Council on Health and Physical Fitness
- Joplin Area Transportation Study Organization – Joplin metropolitan planning organization
- Kansas City Track Club
- Mid-America Regional Council (MARC) – Kansas City metropolitan planning organization
- Mid-America Running Association
- Missouri Bicycle Federation, Incorporated
- Missouri Association of Councils of Governments
- Missouri Department of Elementary and Secondary Education
- Missouri Department of Health
- Missouri Department of Natural Resources – Division of State Parks
- Missouri Department of Transportation
- Missouri Division of Tourism
- Missouri State Highway Patrol
- Missouri Parks and Recreation Association
- Ozark Greenways, Incorporated
- Ozarks Transportation Organization
- St. Joseph Area Transportation Study Organization – St. Joseph metropolitan planning organization
- St. Louis Trailnet, Incorporated

B. BPAC Subcommittees

Steering

- Aaron Bartlett (MARC)
- Dale Brigham (Missouri Department of Health)
- Dawne Gardner (MoDOT Springfield Area District)
- Caryn Giarratano (BPC - Chair)
- Debra Lee (Missouri Division of Tourism)
- Dave Schieffer (Mid-America Running Association)
- Larry Welty (MoDOT St. Louis Area District)

Engineering

- Andy Clements (St. Joe MPO)
- Bruce Green (MoDOT Design)
- Roy Hogsett (MoDOT North Central District)
- Brent Hugh (Missouri Bicycle Federation)
- Gidget Mott (MoDOT Northeast District)
- Shannon Kusilek (MoDOT Northwest District)
- Jay Lancaster (MoDOT Southeast District)
- Eric Kellstadt (MoDOT Southwest District)
- Augie Timpe (MoDOT Maintenance)
- Larry Welty (MoDOT St. Louis Area District – Chair)
- Matt Willbanks (MoDOT South Central District)

Enforcement

- Aaron Bartlett (MARC – Chair)
- Brad McMahon (Federal Highway Administration)
- Alan Morrison (Jefferson City metropolitan planning organization)
- Chris Ricks (Missouri State Highway Patrol)
- Greg Schroeder (MoDOT Chief Counsel's Office)
- Hope Visconti (MoDOT Kansas City Area District)
- Pam Harlan (MoDOT Governmental Relations)

Education

- Dawne Gardner (MoDOT Springfield Area District – Chair)
- Coy Hart (Missouri Bicycle Federation)
- Ann Mack (St. Louis Trailnet)
- Steve MacIntyre (Jefferson City metropolitan planning organization)
- John Murrell (Missouri Association of Council of Governments)
- Tom Quinn (Missouri Department of Elementary and Secondary Education)
- Mike Right (American Automobile Association)
- Brad Temme (MoDOT Transportation Planning)
- Jessica Terrell (Missouri Department of Natural Resources)
- Scott Turner (MoDOT Highway Safety)
- Dave Schieffer (Mid-America Running Association)

Encouragement

- Dale Brigham (Health)
- Jim Wild (St. Louis metropolitan planning organization)
- Dion Knipp (MoDOT Central District)
- Debra Lee (Missouri Division of Tourism – Chair)
- Mitch Skov (Columbia metropolitan planning organization)
- Scott Taylor (MoDOT Scenic Byways)
- Ian Thomas (PedNet)
- Gayla Vandelicht (Governor's Council on Health and Physical Fitness)
- Terry Whaley (Ozark Greenways)

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