
U.S. Bike Route System: Surveys and Case Studies of Practices from Around the Country

July 2013



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Cover photo of bicyclists at a rest stop along USBR 76 near Berea, Kentucky, provided by Troy Hearn

EXECUTIVE SUMMARY

Introduction

The U.S. Bicycle Route System (USBRS) is a developing national network of bicycle routes that connects urban, suburban and rural areas using a variety of cycling facilities. State departments of transportation (DOTs) nominate routes for numbered designation through the American Association of State Highway and Transportation Officials (AASHTO).

The first U.S. Bicycle Routes were established in 1982, then the project lay dormant for over 20 years. In 2003, in an effort to reinvigorate the U.S. Bicycle Route System, AASHTO formed a Task Force on U.S. Bicycle Routes comprised of transportation agency staff, Federal Highway Administration, and bicycling organizations, including Adventure Cycling Association, which began providing staff support to the project in 2005. In 2008, the AASHTO task force established a National Corridor Plan to help states visualize, plan, and implement routes. Since 2008, the rate of route designation has grown significantly: today there are 5,616 miles of U.S. Bike Routes in nine states and approximately 40 states are working to designate additional U.S. Bicycle Routes. Implementation of the corridors into interstate bicycle routes occurs in three phases: Planning, Designation, and Promotion.

Adventure Cycling Association, a national membership-based non-profit bicycle organization dedicated to inspiring and empowering people to travel by bicycle, has lead efforts to promote the USBRS, offering states and volunteers resources about route designation and working to expand the network. This report was produced for Adventure Cycling to survey state bicycle and pedestrian coordinators about the status of the U.S. Bicycle Route System in their state and produce case studies about the implementation of specific routes that provide lessons learned and other information that may be useful for those working on route designation.

State Coordinator Survey

The state bicycle and pedestrian coordinators in 49 states and the District of Columbia were mailed a physical letter asking them to complete an online survey about the implementation status of the U.S. Bicycle Route System in their state. Coordinators from 47 states and the District of Columbia completed the survey, as shown in Figure 1.

The vast majority (83%) of the survey respondents indicated that they were very aware of the USBRS, and all of the survey respondents were at least somewhat aware of the system. Similarly, 78% of survey respondents were “very” or “somewhat” aware of the USBRS tools and resources on Adventure Cycling’s website, and only four of the respondents were “not at all aware” of the tools and resources. In general, this indicates that Adventure Cycling and its partners have done a good job of promoting the USBRS to the state bicycle and pedestrian coordinators — the people most likely to pursue route implementation in the individual state.

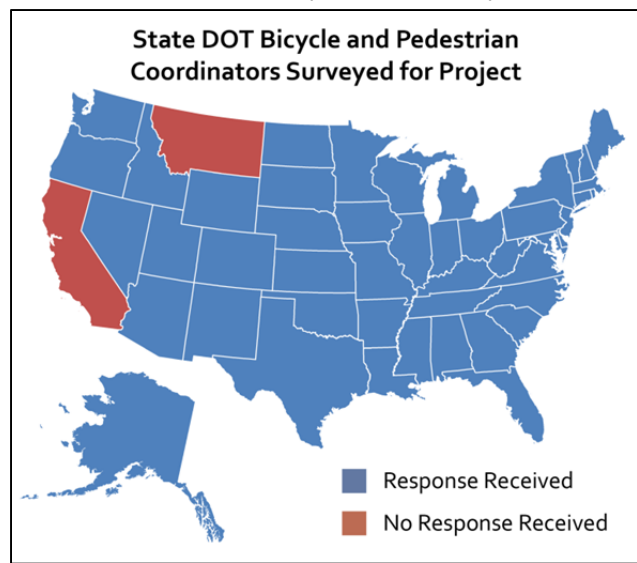


Figure 1: State Bicycle and Pedestrian Coordinators responding to survey

Of the coordinators responding to the survey, 81 percent (39 states) indicated that at least some level of work to implement a U.S. Bicycle Route (USBR) has occurred in their state, and they offered a variety of accomplishments and challenges in the development of these routes.

Over half of the coordinators reported that a preliminary USBR has been determined in one of the prioritized corridors, while nearly a quarter of the coordinators reported that a near-final route had been determined (there may be overlap in among these respondents). This work on the USBRS reflects increasing support and a reduction in resistance, for developing U.S. Bike Routes. 15 coordinators reported that there is support at the upper levels of their DOT for the project while no coordinator reported that their DOT was not supportive of the project.

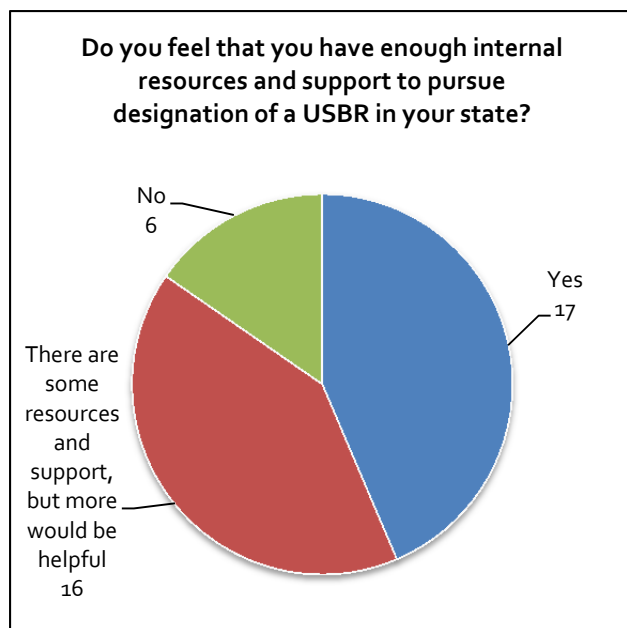


Figure 2: The majority of coordinators indicated that they have at least some resources available to work on the USBRS.

Resources available to coordinators, both internal and external, to work on USBR development are a mixed bag, as shown in Figure 2. Seventeen coordinators reported having adequate internal and external resources to pursue designation of a USBR in their state. Sixteen coordinators reported having some internal and external resources available, but that additional resources would be helpful in the pursuit of USBR designation. Six coordinators reported not having enough internal resources, while two reported not having enough external resources to pursue designation. In general, the coordinators believe that they have enough internal support and time to pursue designation, although additional resources would be helpful. At the same time, a number of coordinators reported significant accomplishments in working with bicycle advocacy groups or other non-governmental volunteers to move USBR implementation forward in their states. Sixteen coordinators reported a strong working relationship with one of these types of groups, while 16 more coordinators reported being in at least occasional contact with non-governmental groups about the project.

The survey revealed numerous challenges that states and coordinators have faced while working on USBR designation and implementation. The most frequently cited challenge was a lack of resources — both staff time and funds. Concerns over staff time were common: often the coordinators are the only, or one of the only, DOT employees working on statewide bicycle issues, and their time is at a premium. If the USBRS is not a priority within a DOT, it is unlikely that there will be adequate time for coordinators to work on the system, or staff support, to aid them with their work. Although a plurality of coordinators reported having adequate resources to pursue designation, the relatively slow pace of designation nationally implies that coordinators may need additional resources, even if they believe they have adequate resources and support.

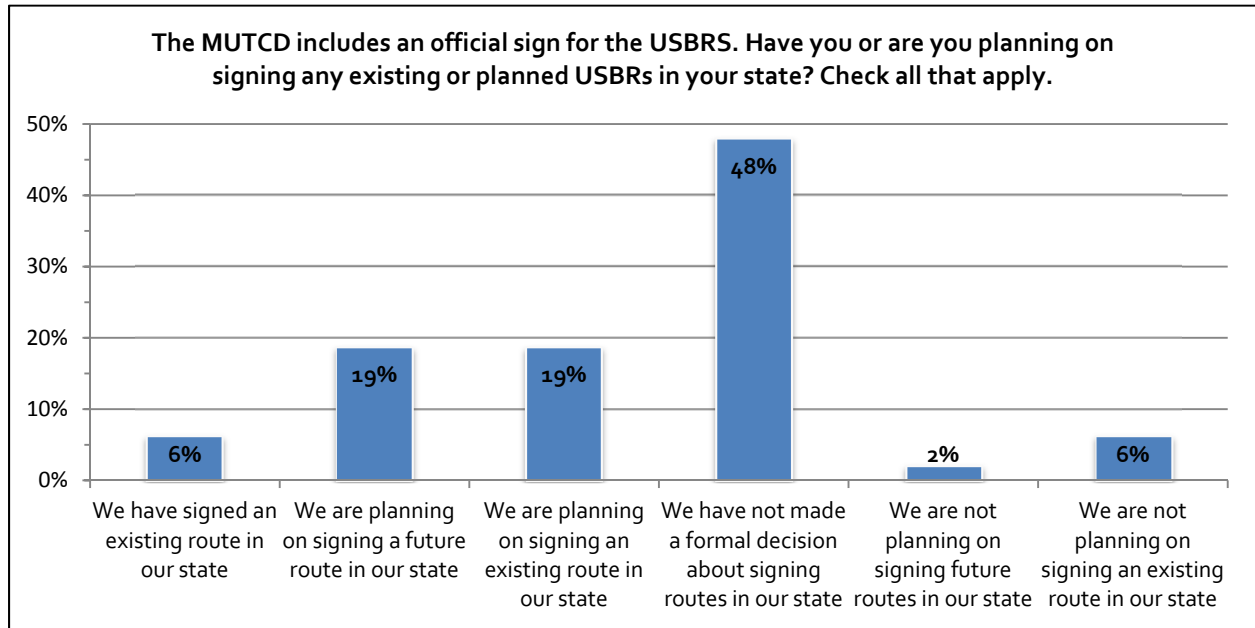
Providing signs for U.S. Bicycle Routes is a common concern cited by the coordinators. Signing a USBR is not required, although it is encouraged by AASHTO and Adventure Cycling. The following signage concerns were cited repeatedly in the survey:

- There is no funding available for signing U.S. Bicycle Routes.

- Signage has to be coordinated with the maintaining authority of each road/trail that is included in a U.S. Bike Route, which can be very difficult if the route is on non-state facilities.
- Some states leave signage up to the local maintaining authority, which may result in inconsistent signing of routes.
- Guidance from AASHTO and in the Manual on Uniform Traffic Control Devices (MUTCD) about signage is unclear or not extensive enough for engineers working on routes (sign color, sign placement, cosigning routes, etc.).
- Signage may require the approval of numerous agencies in some states, which can be time consuming.

Many coordinators stated that they intend to sign existing or future U.S. Bicycle Routes in their states, as shown in Figure 3. Therefore, for many of these states, signage is a major obstacle to implementation since they intend to include signs with the route, even if it is not required.

Figure 3: State plans for signing current and future U.S. Bicycle Routes



A number of coordinators cited resistance or lack of interest from other agencies or local municipalities as a challenge with implementation. Cities, Metropolitan Planning Organizations (MPOs), and Rural Planning Organizations (RPOs), and the National Parks Service (NPS) were all cited in resisting specific routes. In some cases, the resistance stems from concerns about encouraging bicycling on routes they may not consider to be safe, liability concerns, and general resistance to cycling in specific communities. In many cases it is likely that this resistance can be overcome through outreach and education, which require time and resources that many of the coordinators noted were in short supply.

Concerns over liability and not wanting to encourage use of specific routes due to perceived safety issues also appears to be common within a number of DOTs. Furthermore, there appears to be concern within some DOTs about exactly what designation of a USBR will require as far as maintenance or enhanced facilities. Some states specify in various plans or policies that roads that are designated as bicycle routes should have wide paved shoulders added to them during the next major road improvement projects. While this is often desirable on many roads, it is not necessary on all roads included in a USBR. It should be made clear to DOTs concerned about

increased facility and maintenance costs that USBR designation does not automatically require increased maintenance or enhanced facilities — these issues should be evaluated on a case-by-case basis.

Just as some coordinators reported having a good experience working with external volunteers or advocacy groups, others reported that it has been difficult for them to work with external groups, particularly in states that do not have a large statewide bicycle advocacy group or “super volunteers” who are interested in working on a statewide basis. In these states, there may be numerous smaller groups or volunteers who are interested in the system, but only in their specific region. A few coordinators stated working with numerous groups or volunteers is rarely worth the time and effort and that their time could be better spent working on the project on their own.

Non-Governmental Organization Survey

The majority of state bicycle and pedestrian coordinators have been working with non-governmental organizations (NGOs) of some type on the U.S. Bicycle Route System. These NGOs range from large statewide bicycle advocacy groups to committed individuals. Seven individuals or NGOs were sent an electronic survey to gather their opinions on progress toward implementing the USBRS in their state. The survey was very similar to the survey administered to the state coordinators, which allows a comparison between the responses of the coordinator and external sources in select states.

100 percent of surveyed NGOs were “very aware” of the USBRS and the tools and resources that Adventure Cycling offers on its website. All respondents also indicated that at least some level of work had been done to designate a USBR in their state. Additionally, six of the seven respondents reported that they have “a strong working relationship with the DOT” in their state.

All of the respondents to the NGO survey indicated that they had encountered barriers to USBR implementation in their state. Some of the barriers cited were similar to those cited by state coordinators, while others differed and tended to relate more to working with the DOT. A lack of resources and priority was cited by respondents related to both their work, and to the work of their state DOT. Nearly half of the survey respondents cited a lack of support or interest by DOT staff in implementing a USBR as the primary barrier they had encountered. While some of the respondents indicated that this had improved through educational contacts, others indicated that it is still a pressing issue in their state; still others reported that their organization was performing most of the legwork to designate a USBR for the DOT, since DOT is unwilling or unable to do the work.

Case Studies

Case studies, focused on specific aspects of USBR planning and designation, were developed based on the initial surveys completed by state bicycle and pedestrian coordinators. The case studies highlight the development of U.S. Bicycle Routes in a variety of states with varying levels of support from the state department of transportation. To complete the case studies, interviews were conducted with the bicycle and pedestrian coordinator in each state; additional interviews with volunteers who have worked on USBR development were conducted for some of the case studies. The case studies provide an overview of the history of USBR development in each state as well as lessons learned that may be useful for others working on USBR development.

U.S. Bicycle Route 20 and U.S. Bicycle Route 35 in Michigan: Route Planning and Designation with DOT in a Supporting Role

The Michigan Department of Transportation (MDOT) worked closely with volunteers to pursue designation of USBR 20 and USBR 35. By utilizing volunteers, the department leveraged limited staff time and resources into a larger effort to seek route support from local communities and road authorities. Through the development and official designation of two U.S. Bicycle Routes, MDOT learned a number of valuable lessons that may be transferable to other states, including the following:

- Leveraging local volunteers can greatly reduce the work required of the state DOT. For states interested in developing U.S. Bicycle Routes, but lacking in resources to do so, dedicated volunteers can carry out much of the leg work necessary for route selection and designation.
- Selection and approval of a route can be a two- to three-year process depending on the route length and the number of local agencies involved. This timeframe may be shortened somewhat with staff who can dedicate significant time to the project.
- Support from one community can be used to coax the next community to support the project.
- Consult with agency departments about liability and be prepared to answer questions from DOT or local agency staff. In Michigan, designating a road as a U.S. Bike Route does not impact liability, but this may differ from state to state.
- Consult with the state Federal Highways Administration office about what route designation may mean for future improvements to a road. In Michigan, route designation does not elevate roads to a higher level of improvement than would otherwise be required.

USBR 50 in Ohio: DOT-Driven Process with NGO Support

Work on developing USBR 50 in Ohio has been carried out nearly exclusively by the bicycle and pedestrian coordinator. While Ohio DOT has not yet applied for official designation of USBR 50, a number of lessons learned have emerged from the process including the following:

- Ohio DOT has strong relationships with MPOs, counties and local communities which made it easier to schedule meetings to discuss the route and to request letters of support for the route than it would have been for a non-governmental organization.
- By contacting the counties and MPOs and building support at that level from the start, the bicycle and pedestrian coordinator was able to approach local communities already having buy-in from larger transportation agencies in the area.
- Keeping initial meetings with local officials as informal as possible and bringing a mapped draft route to the meeting allowed the Coordinator to discuss the project informally at first. This encouraged candid feedback from



Michigan has two officially designated U.S. Bike Routes: USBR 20 running east to west, and USBR 35 running north to south. Photo credit: Scott Anderson.

both sides, and allowed modifications of the proposed route during the meeting.

USBR 45 in Minnesota: Route Designation with Extensive Local Input and Marketing

Minnesota DOT's process for designating the Mississippi River Trail (MRT)/USBR 45 has perhaps been the most extensive of any USBR designation to date. Running almost entirely on non-state roads, MnDOT conducted extensive outreach to local communities to inform them about the route, seek buy-in for route designation and to promote the route following designation. Lessons learned include the following:



U.S. Bike Route 45 in Minnesota is co-designated with the Mississippi River Trail and runs the length of the river in the headwaters state. Photo credit: Liz Walton

- It is important to bring partner communities along slowly with the route designation process. While some communities MnDOT worked with were enthusiastic about the route and eager to see it designated, others needed more time and outreach to sign on to the project. It is important that communities be supportive of the project and not feel that it is being forced upon them.
- Issues can arise with stakeholders when attempting to co-designate a USBR with another existing or proposed bikeway. Possible issues range from route selection and purpose, to vision and branding of the route.
- Carrying out an extensive public outreach campaign and developing marketing materials for a USBR or other major bicycle route can be a lengthy and expensive process. MnDOT staff estimate that over \$1 million in staff time and resources will have been spent to develop, designate, and sign the MRT and USBR45 in Minnesota.
- It is important to have a compelling alignment for the route and clear criteria and rationale for route selection. Every turn in the route and every new jurisdiction that a route passes through will result in increased time and expenses for outreach and signage.
- Do not undersell the obligations that local communities and road and trail authorities will have with the route designation including sign installation and maintenance as well as construction impacts and appropriate detours when needed.

USBR 90 in Louisiana: Doing a Lot with a Little

The Louisiana DOT bicycle and pedestrian coordinator is a one-person operation who must use his time and resources judiciously on a wide range of bicycle and pedestrian issues. The coordinator has been able to provide enough direction for development of USBR 90 for it to become a near-reality while at the same time attending to other priorities. Lessons learned include the following:

- Using the existing Adventure Cycling Southern Tier route allowed a simple approach to defining the route.
- A coordinated effort between LaDOTD and Baton Rouge Advocates for Safe Streets (BRASS), a local advocacy group, allowed the agency to leverage local advocates and volunteers to carry out much of the leg work of soliciting and receiving resolutions of support from almost all the municipalities through which USBR 66 passes.
- Touting the economic benefits of bicycle touring and “getting on a national map” was helpful when asking for support of parishes and communities.

USBR 66 in Oklahoma: Route Planning and Designation Driven by Citizens

Historically, the Oklahoma Department of Transportation (ODOT) has not been engaged in pursuing official designation of USBR 66. Currently however, ODOT management is considering the issue, and an official decision about pursuing designation is expected soon. In the meantime, the Oklahoma Bicycle Coalition (OBC), a statewide bicycle advocacy organization, has worked with communities along the route to secure their support and has advanced route planning through continued work with ODOT and Adventure Cycling. Lessons learned include:

- Advocacy groups or local volunteers can conduct much of the legwork necessary to educate people and local communities about the USBRS.
- Economic development and tourism aspects of the USBRS can be very important to smaller communities, particularly those already connected to tourism.
- Legislative support can help move U.S. Bike Route designation forward in a state where the DOT may not be strongly supportive of the project.
- Liability is a major concern for some departments of transportation. Generally this should not be the case as designating a U.S. Bike Route does not in itself expose a state or DOT to greater liability. Liability varies from state to state and DOTs should consult with their office of legal counsel for specific advice.

USBR 30 in Wisconsin: Route Planning Across Many Jurisdictions

The majority of USBR 30 in Wisconsin will be on off-street trails primarily owned by the Wisconsin Department of Natural Resources. Wisconsin Department of Natural Resources (DNR) has been supportive of the USBR designation effort; subsequently the majority of the planning effort has been focused on the 25 percent of the route located on-road. This effort has included outreach efforts with local governments to finalize the best route options and to promote the concept of a long-distance route. The Bicycle Federation of Wisconsin has been retained to assist in the development of the route and outreach.

Planning on-road options within the three counties connecting Reedsburg with Madison (50 miles) will require a considerable amount of time and effort. Creating support and understanding of the route purpose and designation as well as route location/alignment will involve education and outreach to various local units of government and other interested partners. Over 20 resolutions of local government support may be necessary to complete the planning for a preferred route before USBR application materials are prepared.

USBR 76 in Kentucky: Using Data to Verify a Route

The Kentucky Transportation Cabinet (KYTC) was interested in using quantitative data available about state roadways when realigning and redesignating USBR 76. KYTC staff developed a rural Bicycle Level of Service (BLOS) based on measures that were appropriate for long-distance bicyclists and data that was available for all roadways in the state. The result is a relatively simple tool that can produce important quantitative rather than qualitative results for evaluating rural bikeways. (For more information on the rural BLOS and other quantitative methods for evaluation roadways, see page 30.) Lessons learned include the following:

- There are limited examples of a bicycle level of service for rural roadways. KYTC used examples from Florida, Wisconsin, and Michigan to help form their own rating system more specific to the nature of the roadways and the USBR 76 route in Kentucky.
- This analysis rating has been useful in determining the value of bicycle facility changes along the route in area that rated lower on the BLOS scale. The use of the BLOS strengthened the determination for a bike lane on a bridge project that is on the USBR 76 route.

USBR 1 in Maine: Using Partnerships and Bicycle Tourism to Speed Implementation

USBR 1 in Maine was approved by AASHTO in early 2011. The route corridor runs through 13 eastern seaboard states between Maine and Florida utilizing portions of an existing national route — the Maine East Coast Greenway (ECG). Using an existing route sped up the process of designation as did a long and steady partnership with that route's parent organization, the East Coast Greenway Alliance (ECGA), as well as strong relationships with statewide and local bicycle and trail groups. Lessons learned include the following:

- Keep it simple. Use partnerships and any existing national routes already in place.
- Do not fall victim to an over reliance on standards. In order to have a complete and connected route, there will be segments that do not have paved shoulders and will possibly have higher volumes of traffic. If these are relatively minor segments, proceed and do not wait until everything meets the “standards” contained in state or national bicycle guides.
- Find an outside advocate and voice for the route. In the case of Maine, it was the East Coast Greenways.
- Do not wait for an agreement on signage to move ahead with an application, but begin preparing for sign placement as soon as possible after the application is approved or even as the application is being prepared and considered. Signage for the route in Maine is in go-ahead mode. Maine DOT will sign the routes with its crews for state highways and provide signs for local governments for placement on local roads using their crews.



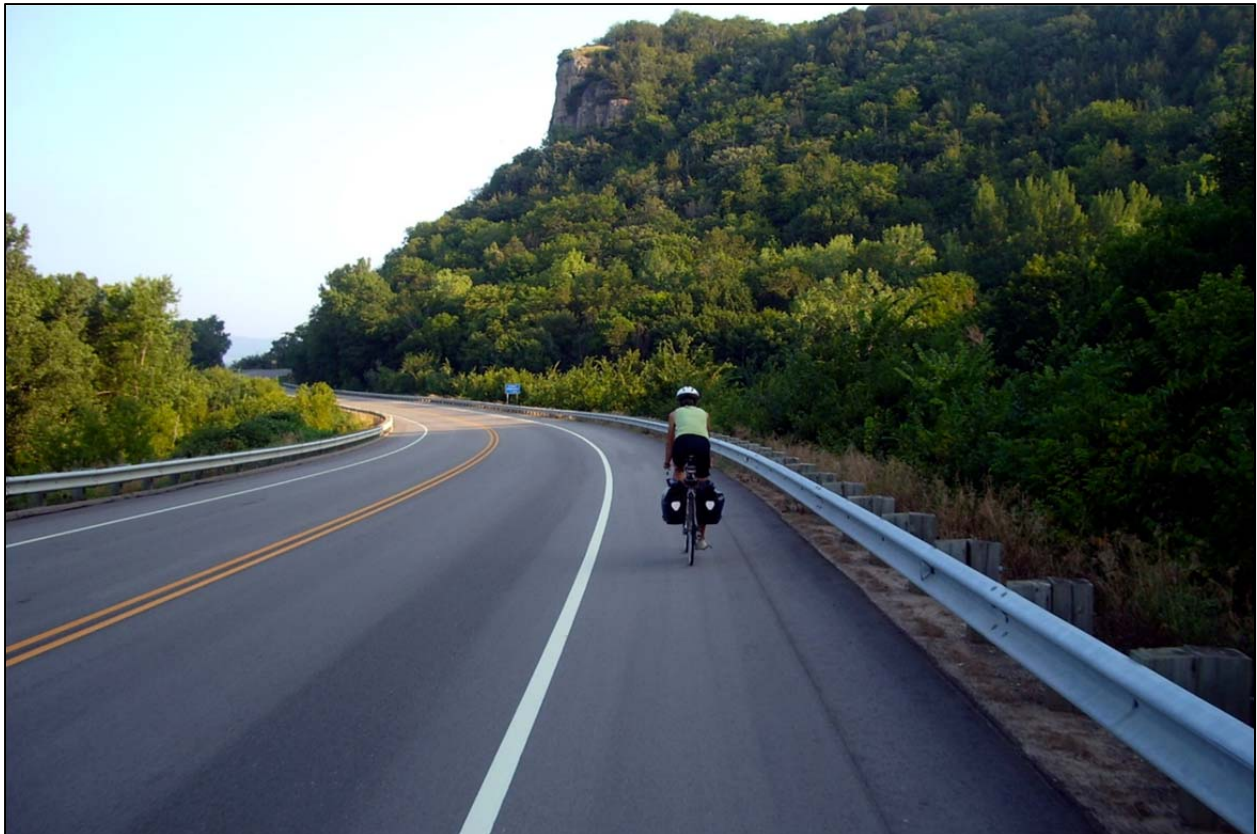
The Kentucky Transportation Cabinet developed a rural Bicycle Level of Service to evaluate the suitability of roads for a realignment of USBR 76. Photo credit: Troy Hearn.

Conclusion

The response rate to the survey of state bicycle and pedestrian coordinators exceeded expectations and provided good information about the accomplishments and challenges with implementation of U.S. Bicycle Routes in various states. Common accomplishments and challenges emerged from the survey, and both can be used to better inform coordinators and others about best practices and recommended approaches in working on USBR designation. In particular, there is an opportunity for Adventure Cycling to provide technical assistance to state coordinators that aren't yet engaged with the project. The coordinators often have heavy demands on their time, and while scheduling meetings or training sessions with them may be difficult, the effort will pay off over time as coordinators are made aware of Adventure Cycling's resources. Additionally, Adventure Cycling may be able to serve as a stronger conduit connecting volunteers and advocates to the appropriate DOT contacts. Many of the accomplishments and challenges are likely well known to Adventure Cycling staff, and new techniques may need to be developed to help coordinators overcome some of the common challenges.

U.S. Bike Route System: Surveys and Case Studies of Practices from Around the Country

**Full Report
July 2013**



INTRODUCTION

The U.S. Bicycle Route System (USBRS) is a developing national network of bicycle routes that connects urban, suburban and rural areas using a variety of cycling facilities. State departments of transportation (DOTs) nominate routes for numbered designation through the American Association of State Highway and Transportation Officials (AASHTO).

The first U.S. Bicycle Routes were established in 1982 and then the project lay dormant for over 20 years. In 2003, in an effort to reinvigorate the U.S. Bicycle Route System, AASHTO formed a Task Force on U.S. Bicycle Routes comprised of transportation agency staff, Federal Highway Administration, and bicycling organizations, including Adventure Cycling Association, which began providing staff support to the project in 2005. In 2008, the AASHTO task force established a National Corridor Plan to help states visualize, plan, and implement routes. Since 2008, the rate of route designation has grown significantly: today there are 5,616 miles of U.S. Bike Routes in nine states and approximately 40 states are working to designate additional U.S. Bicycle Routes. Implementation of the corridors into interstate bicycle routes occurs in three phases: Planning, Designation, and Promotion.

Adventure Cycling Association, a national membership-based non-profit bicycle organization dedicated to inspiring and empowering people to travel by bicycle, has lead efforts to promote the USBRS, offering states and volunteers resources about route designation and working to expand the network. This report was produced for Adventure Cycling to survey state bicycle and pedestrian coordinators about the status of the U.S. Bicycle Route System in their state and produce case studies about the implementation of specific routes that can provide lessons learned and other information that may be useful for those working on route designation.

STATE COORDINATOR SURVEY OVERVIEW

The state bicycle and pedestrian coordinators in 49 states and the District of Columbia were mailed a letter asking them to complete an online survey about the implementation status of the U.S. Bicycle Route System in their state. The state of Hawaii was not contacted due to the lack of direct connections to other states or countries. States that did not reply within a given time period were contacted up to two more times via email, and then by telephone, to encourage them to complete the survey. As shown in Figure 1, coordinators from 47 states and the District of Columbia completed the survey. California officials replied that they did not have resources available to complete the survey and Montana officials were unclear about why they could not complete the survey. Overall, the response rate was exceptional, and exceeded the expectations of the consultant staff.

The vast majority (83%) of the survey respondents indicated that they were very aware of the USBRS, and all of the survey respondents were at least somewhat aware of the system. Similarly, 78% of survey respondents were “very” or “somewhat” aware of the USBRS tools and resources on Adventure Cycling’s website, and only four of the

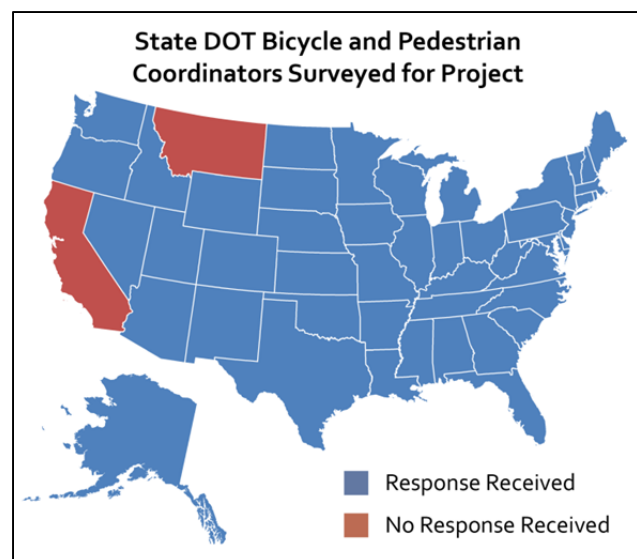


Figure 1: State Bicycle and Pedestrian Coordinators responding to survey

respondents were “not at all aware” of the tools and resources. In general, this indicates that Adventure Cycling and its partners have done a good job of promoting the USBRS to the state bicycle and pedestrian coordinators — the people most likely to pursue route implementation in the individual state. Of the coordinators responding to the survey, 81 percent (39 states) indicated that at least some level of work to implement a U.S. Bicycle Route (USBRS) has occurred in their state, and they offered a variety of accomplishments and challenges in the development of these routes.

ACCOMPLISHMENTS

Of the respondents to the survey, 27 reported that a preliminary U.S. Bicycle Route has been determined in one of the prioritized corridors, while 11 reported that a near-final route had been determined (there may be overlap in among these respondents). After years of work, Adventure Cycling’s efforts to build awareness of the USBRS and encourage states to designate routes are finally paying off; in the past few years, AASHTO has approved 5,616 miles of routes. Clearly momentum for USBR designation is building.

Of the states currently working on USBR designation at some level, 15 reported that there is support at the upper levels of their DOTs for the project while no coordinator reported that their DOT was not supportive of the project. The remainder of the coordinators reported that upper management will be supportive once the project advances and has a clearer process or some other intermediate level of support. Of the nine coordinators reporting that there was no work to plan or implement a USBR in their state, only one stated that this was due to “no support” from the DOT.

As shown in Figure 2, the resources available to coordinators, both internal and external, are a mixed bag. Seventeen coordinators reported having adequate internal and external resources to pursue designation of a USBR in their state. An additional 16 coordinators reported having some internal and external resources available, but that additional resources would be helpful in the pursuit of USBR designation. Six coordinators reported not having enough internal resources, while two reported not having enough external resources to pursue designation. In general, the coordinators believe that they have enough internal support and time to pursue designation, although additional resources would often be helpful.

A number of coordinators reported significant accomplishments in working with bicycle advocacy groups or other non-governmental volunteers to move USBR implementation forward in their states. Sixteen coordinators reported a strong working relationship with one of these types of groups, while 16 more coordinators reported being in at least occasional contact with non-governmental groups. In states like Michigan, these relationships have allowed individuals and groups outside the DOT to drive much of the implementation process. Michigan has designated two U.S. Bicycle Routes in the last two years. Such relationships could be

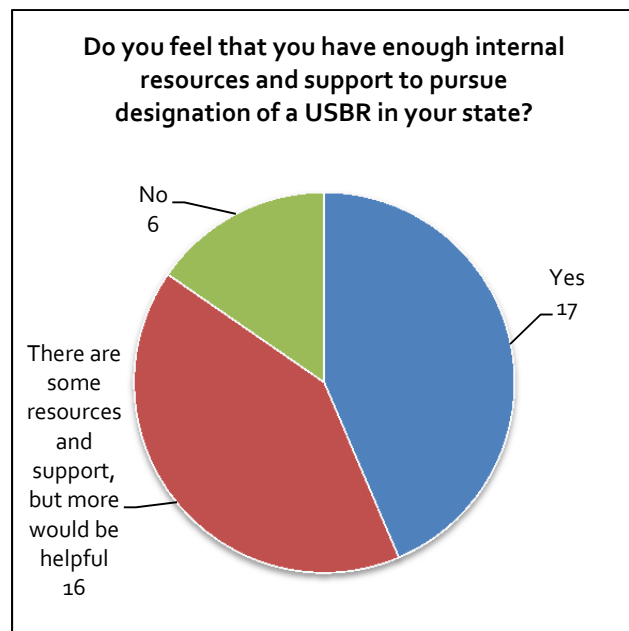


Figure 2: The majority of coordinators indicated that they have at least some resources available to work on the USBRS.

beneficial for the many states that reported that they had very limited resources (highlighted in the Challenges section below). These relationships will be further examined in one or more of the case studies for this project.

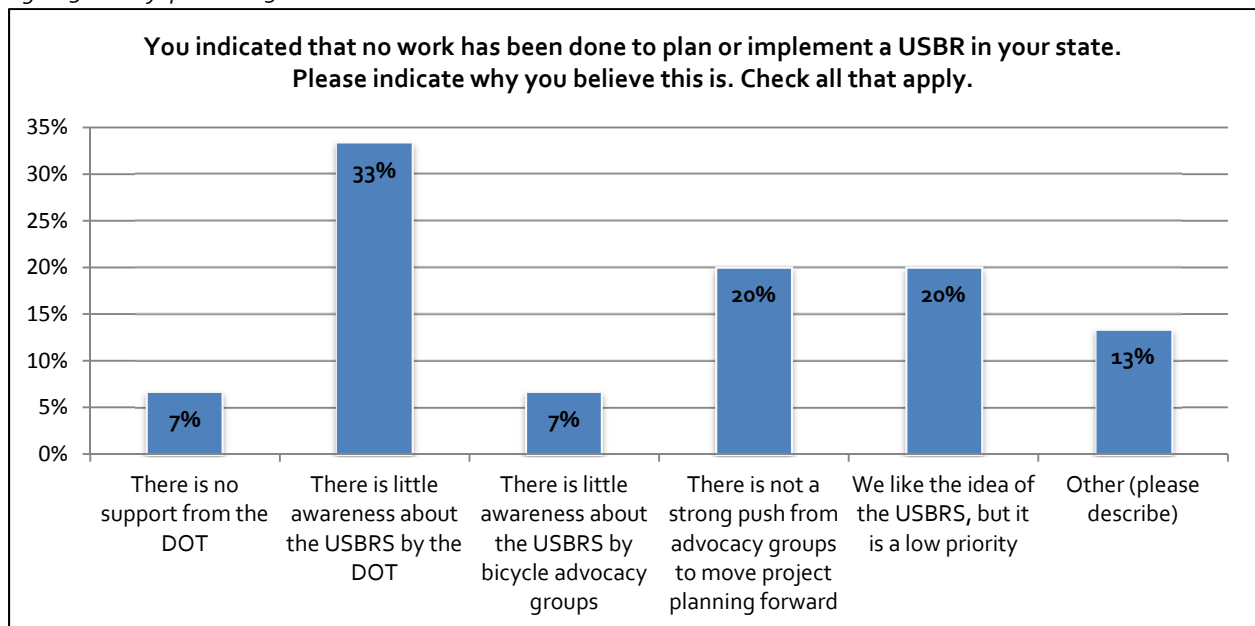
CHALLENGES

The survey revealed numerous challenges faced by states and coordinators while working on USBR designation and implementation. This was in part due to the nature of the survey, which asked specific questions about challenges and barriers, but it is also due to the nature of the project, which in many states is a low priority and may require extensive coordination with numerous stakeholders. Challenges that were cited repeatedly in the survey are noted below.

Nine coordinators reported that “no work has been done to plan or implement a USBR” in their state. Of those respondents, five reported that “there is little awareness about the USBRS by the Department of Transportation” as shown in Figure 3. Since all of the coordinators responded that they were at least familiar with the USBRS, outreach by Adventure Cycling has presumably been successful in making coordinators aware of the system. The lack of awareness of the USBRS within DOTs must then be a result of the coordinators not having the resources or authority to promote the system effectively within their own departments. This is likely due to a number of factors cited elsewhere in the survey including lack of resources (staff time) or a general lack of interest in bicycle-related projects.

The most frequently cited challenge was a lack of resources — both staff time and funds. The funding challenge is primarily related to signage and will be discussed further below. Concerns over staff time were common. Often the coordinators are the only DOT employee working on statewide bicycle issues, and their time is at a premium. If the USBRS is not a priority within a DOT, it is unlikely that there will be adequate time for coordinators to work on the system or staff support to aid them with their work. Although a plurality of coordinators reported having adequate resources to pursue designation, the relatively slow pace of designation nationally implies that coordinators may need additional resources, even if they believe they have adequate resources and support. Providing information about how states have used interns or other resources may help address this issue.

Figure 3: Survey question #5

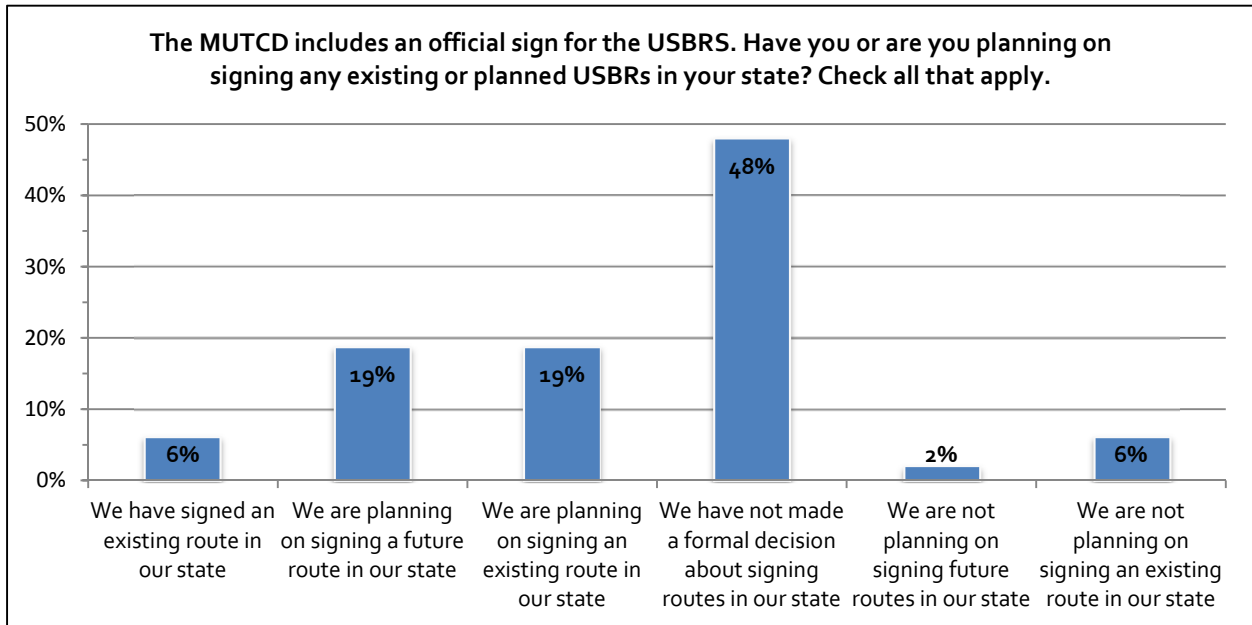


Providing signage for U.S. Bicycle Routes is a common concern cited by the coordinators. Signing the routes is not required, although it is encouraged by AASHTO. The following signage concerns were cited repeatedly in the survey:

- There is no funding available for specifically signing U.S. Bicycle Routes.
- Signage has to be coordinated with the maintaining authority of each road/trail that is included in a USBR, which can be very difficult if the route is on non-state facilities.
- Some states leave signing up to the local maintaining authority, which may result in inconsistent signing of routes.
- Guidance from AASHTO and the Manual on Uniform Traffic Control Devices (MUTCD) about signage is unclear or not extensive enough for engineers working on U.S. Bicycle Routes (sign color, sign placement, cosigning routes...).
- Signage may require the approval of numerous agencies or interagency agreements in some states which can be time consuming.

Despite these concerns, many coordinators stated that they intend to sign existing or future U.S. Bicycle Routes in their states as indicated in Figure 4. Therefore, for many of these states, signage is a major obstacle to implementation since they intend to include signs with the route, even if it is not required.

Figure 4: State plans for signing current and future U.S. Bicycle Routes



A number of coordinators cited resistance or lack of interest from other agencies or local municipalities as a challenge with implementation. Cities, MPOs and RPCs, and the National Parks Service were all cited in resisting specific routes. In some cases, the resistance stems from concerns by officials about encouraging bicycling on routes they may not consider to be safe, liability concerns, and general resistance to cycling in specific communities. The specific concerns of specific agencies (such as NPS) were not cited. In many cases it is likely that this resistance can be overcome through outreach and education, but that requires time and resources that many of the coordinators noted were in short supply.

Concerns over liability and not wanting to encourage use of specific routes due to perceived safety issues also appears to be common within a number of DOTs. Furthermore, there appears to be concern within some DOTs about exactly what designation of a USBR will require as far as maintenance or enhanced facilities. Some states specify in various plans or policies that roads that are designated as bicycle routes should have wide paved shoulders added to them during the next major road improvement projects. While this is often desirable on many roads, it is not necessary on all roads included in a USBR. It should be made clear to DOTs concerned about increased facility and maintenance costs that USBR designation does not automatically require increased maintenance or enhanced facilities — these issues should be evaluated on a case-by-case basis.

Just as some coordinators reported having a good experience working with external volunteers or advocacy groups, others reported that it has been difficult for them to work with external groups, particularly in states that do not have a large statewide bicycle advocacy group or “super volunteers” who are interested in working on a statewide basis. In these states, there may be numerous smaller groups or volunteers who are interested in the system, but only in their specific region. A few coordinators stated working with numerous groups or volunteers is rarely worth the time and effort and that their time could be better spent working on the project on their own.

The full state coordinator survey results are included in Appendix A.

NON-GOVERNMENTAL ORGANIZATION SURVEY

As indicated previously and illustrated in Figure 5, the majority of coordinators have been working with non-governmental organizations (NGOs) of some type on the USBRS. These NGOs range from large statewide bicycle advocacy groups to committed individuals. Seven individuals or NGOs were sent an electronic survey to gather their opinions on progress toward implementing the USBRS in their state. The survey was very similar to the survey administered to the state coordinators, which allows a comparison between the responses of the coordinator and external sources in select states.

100 percent of surveyed NGOs were “very aware” of the USBRS and the tools and resources that Adventure Cycling offers on its website. All respondents also indicated that at least some level of work had been done to designate a USBR in their state. Additionally, six of the seven respondents reported that they have “a strong working relationship with the DOT” in their state to work on the USBRS.

All of the NGO respondents indicated that they had encountered barriers to USBR implementation in their state. Some of the barriers cited were similar to those cited by state coordinators, while others differed and tended to relate more to working with the DOT. A lack of resources and priority was cited by respondents related to both their work, and to the work of their state DOT. Nearly half of the survey respondents cited a lack of support or

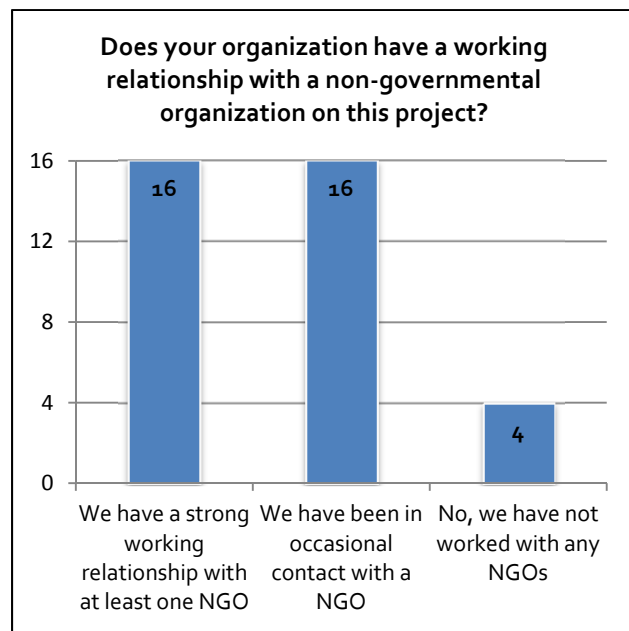


Figure 5: The prevalence and level of involvement of Coordinators working with NGOs on the USBRS

interest by DOT staff in implementing a USBR as the primary barrier they had encountered. While some of the respondents indicated that this had improved through educational contacts, others indicated that it is still a pressing issue in their state; still others reported that their organization was performing most of the legwork to designate a USBR for the DOT, since DOT is unwilling or unable to do the work.

The full NGO survey results are included in Appendix B.

CONCLUSION

The response rate to the survey of state bicycle and pedestrian coordinators exceeded expectations and provided good information about the accomplishments and challenges with implementation of U.S. Bicycle Routes in various states. Common accomplishments and challenges emerged from the survey, and both can be used to better inform coordinators and others about best practices and recommended approaches in working on USBR designation. In particular, there is an opportunity for Adventure Cycling to provide technical assistance to state coordinators that are not yet engaged with the project. The coordinators often have heavy demands on their time, and while scheduling meetings or training sessions with them may be difficult, the effort may pay off over time as coordinators become aware of Adventure Cycling's resources. Additionally, Adventure Cycling may be able to serve as a stronger conduit connecting volunteers and advocates to the appropriate DOT contacts. Many of the accomplishments and challenges are likely well known to Adventure Cycling staff, and new techniques may need to be developed to help coordinators overcome some of the common challenges.

CASE STUDIES

Case studies focused on specific aspects of USBR planning and implementation were developed based on the initial surveys completed by state Bicycle and Pedestrian Coordinators. The case studies highlight the development of USBRs in a variety of states with varying levels of support from the state Department of Transportation. To complete the case studies, interviews were conducted with the Bicycle and Pedestrian Coordinator in each state; additional interviews with volunteers who have worked on USBR development were conducted for some of the case studies. The case studies provide an overview of the history of USBR development in each state as well as lessons learned that may be useful for others working on USBR development in other states.

U.S. Bicycle Route 20 and U.S. Bicycle Route 35 in Michigan: Route Planning and Designation with DOT in a Supporting Role

Summary Information

- Two U.S. Bike Routes have been officially designated by AASHTO in Michigan: USBR 20 and USBR 35
- Signing of the state-maintained portions of each route is planned to begin in 2013.
- Some local agencies are pursuing signs in 2013 for segments under their jurisdiction.
- Donations from trail groups and bike clubs, as well as in-kind contributions, were secured to pay for signs on additional segments.

The Michigan Department of Transportation (MDOT) has been supportive of the U.S. Bike Route System, although it has not been a high priority project for the department. By using dedicated volunteers, MDOT was able to pursue the successful designation of USBR 20 in 2011 and USBR 35 in 2012.

Two Routes: Two Different Processes

MDOT was an early supporter of the USBRS, but did not have resources to dedicate to designating routes in Michigan. When approached by individuals interested in working on route designation, MDOT took the opportunity to have them complete much of the project legwork, while MDOT served as a technical resource and approved the project processes. Josh DeBruyn, MDOT's bicycle and pedestrian coordinator, stated that while planning and designating the U.S. Bicycle Routes in Michigan utilized two different approaches, each was successful in the end, resulting in official route designation by AASHTO. Similarities in approach included route identification using Google Maps and requiring resolutions of support from the impacted road agencies. However, what happened in the middle — informing and educating road agencies and the public about the project and building support for each route — was vastly different.

Designating USBR 20

Since 2004, MDOT has used a Context Sensitive Solutions approach to projects — in particular listening to their constituents. When approached by Scott Anderson, a Michigan resident interested in having USBR 20 designated across Michigan, MDOT saw an opportunity to move a project forward that they did not otherwise have resources to devote. MDOT replied to Mr. Anderson that if he were willing to do much of the legwork to get the route approved, the agency would serve as a technical resource and apply for final approval. MDOT had previously worked with Mr. Anderson. So, MDOT was familiar and comfortable with him and they were willing to grant him significant leeway to work on the project as he saw fit.

Working as a volunteer for the Michigan Trails and Greenway Alliance, Mr. Anderson served as a project manager for a group of volunteers who developed the route for USBR 20 within the corridor the AASHTO task



The majority of USBR 20 will be signed in Michigan by MDOT or through a grant providing signs to communities. Photo credit: Scott Anderson.

force had defined. The route largely followed Adventure Cycling's Lake Erie Connector route. After USBR 20 was officially designated, Adventure Cycling updated their route to match it.

MDOT required resolutions of support from all communities or agencies that maintain roads included in USBR 20. Although route designation has little impact on a roadway, MDOT did not want to be seen as imposing the route on local communities. Mr. Anderson and other volunteers visited or contacted each of the municipalities or agencies with authority over roads that USBR 20 would use to explain the project, note any impacts on the community or maintaining authority, and ask for a resolution of support. In general, the public comment period of the public meetings, at which Mr. Anderson or other project volunteers appeared, served as the public comment opportunities for the proposed route. Once resolutions were obtained, they were used to garner support from the next jurisdiction.

Designating USBR 35

Non-MDOT employees also performed the majority of the work to develop USBR 35. Excited by the prospect of the route passing through his community, Paul VandenBosch, the Assistant City Manager/Project Manager for South Haven initiated designation of USBR 35. Mr. VandenBosch proposed the establishment a route planning committee, comprised of city and regional planners, economic development personnel, and other municipal staff located in the communities along the entire Lake Michigan shoreline, to map USBR 35 within the AASHTO corridor. The committee also worked with the League of Michigan bicyclists, who had previously established a route near the

Signing U.S. Bike Routes in Michigan

MDOT plans to sign the portions of USBR 20 and USBR 35 that are under its jurisdiction. This comprises approximately 25% of each route. Signs will be installed by MDOT as other signs on the route are updated to meet new font and retroreflectivity standards.

The largest hurdle that MDOT has encountered regarding signage (after funding) has been lack of clear guidance for placement of the M1-9 sign. In response to MDOT's inquiries, the Federal Highway Administration (FHWA) issued a guidance letter in December 2012 stating that Part 9B 21 of the MUTCD should guide sign placement for USBRs. It was also clarified by FHWA that MDOT may use "engineering judgment" for some sign placement issues.

Signage for USBR 20 received a boost when the Tri County Bicycle Association awarded matching funds from the DALMAC Fund to provide signs for the portions of USBR 20 that are not under MDOT jurisdiction. Communities with jurisdiction over route segments that agree to provide installation will receive signs through the grant.

There are no plans to sign the portions of USBR 35 not under MDOT jurisdiction, although some communities in northern Michigan have agreed to sign portions of the route on their own.

Once mapped, volunteers, or committee members contacted each Metropolitan Planning Organization (MPO) or Rural Planning Organization (RPO) through which the route passed, and asked that the project be placed on an upcoming agenda. Committee members then presented to each MPO and RPO, which served to inform the municipalities in the MPO or RPO about the route plans. The route committee then approached each road agency that had authority over each part of the route, stated that they heard about the project at the MPO or RPO meeting, and asked for a resolution of support for the project. A small number of communities that were not a part of a MPO or RPO first heard about the project when approached by the volunteer working on the project. By working initially through the MPOs, the committee brought a sense of legitimacy to the work they were doing and the public outreach that was occurring as part of the project. In a few communities, there was publicity about

the project before volunteers met with officials to brief them formally — which caused some issues that had to be smoothed over.

Using a route committee, and approaching MPOs and RPOs, resulted in increased public and agency input about route identification. While some of the input was valuable, some was from park agencies, chambers of commerce, tourist attractions, and other groups that wanted the route to pass through/near their community or attraction. This pressure initially resulted in a route that was less direct than MDOT and other USBRS stakeholders wanted, and the final route had to be adjusted before the formal application for designation was submitted.

Lessons Learned

- Leveraging local volunteers can greatly reduce the work required of the state DOT.
- Using volunteers with knowledge and experience related to bicycling and bicycle touring can be helpful.
- Sometimes the most vocal advocates are not the most appropriate persons to volunteer.
- Volunteers with knowledge and respect for the “process” that government agencies follow are helpful, but the volunteers should also encourage progress on the part of the DOT to keep things moving along.
- Interns can play a valuable role in the designation of U.S. Bicycle Routes. With the use of a paid intern, MDOT was able to designate two bicycle routes without significant negative impact on other projects or initiatives. Specifically, the intern assisted with some of the more time intensive tasks related to creation of the route, such as researching road segment ownership, checking turn by turn directions, preparing articles and memo, and field reviewing the route.
- The timeframe for overall selection and approval of a route may be shortened somewhat if staff can dedicate significant time to the project. It can be a two to three year process depending on the route length and the number of local agencies involved.
- Support from one community can be used to coax the next community to support the project.
- U.S. Bicycle Routes can be promoted as a way for communities to become part of the national network.
- Presenting U.S. Bicycle Routes as an opportunity to capitalize on tourism and economic development can work well, particularly in smaller communities that already have ties to tourism.
- Keep everyone informed about the status of the project, the route, and which communities support it by providing regular updates, even to opponents of the project.
- Keep DOT management well informed of progress and challenges through periodic meetings and emails.
- Seek legal counsel and be prepared to answer questions about liability. In Michigan, designating a road as a U.S. Bike Route does not impact liability, but this may differ from state to state.
- Consult with the state Federal Highway Administration office about what route designation may mean for future improvements to a road. In Michigan, route designation does not elevate roads to a higher



USBR 35 enters Sleeping Bear Dunes National Lakeshore on an off-street path. Photo credit: Kerry Irons.

level of improvement than would otherwise be required.

- Field-review the route prior to submitting an application to AASHTO. If volunteers are developing a route, the DOT should be comfortable with the route since the DOT is submitting the application.
- In many states, the AASHTO corridors align with existing Adventure Cycling routes or other long-distance bicycle routes that may provide a good starting point for route selection.

U.S. Bicycle Route 50 in Ohio: DOT-driven process with NGO support

Summary Information

- A near-final route for USBR 50 has been determined.
- Ohio DOT has taken the lead role in steps leading to designation.
- A process was determined and put into action to designate USBR 50 and official designation through AASHTO is expected in late 2013 or early 2014.
- As of June 2013, resolutions of support were gathered from authorities in seven of ten counties through which the route passes.
- Coordination efforts with Indiana and the City of Richmond, Indiana, took place in 2012 and went well.

The Ohio Department of Transportation (Ohio DOT) bicycle and pedestrian coordinator worked extensively on designation of USBR 50 during 2012, forming partnerships with various Metropolitan Planning Organizations (MPOs) and the Ohio Bicycle Federation. The Ohio DOT coordinator found that the DOT carried more influence in discussions with local officials than non-government organizations, which helped in setting up initial meetings and expedited gathering letters of support for the route.

Process

The following are the major steps taken by the Ohio DOT primarily through their bicycle and pedestrian coordinator (at the time, Heather Bowden) to designate the route for USBR 50. The coordinator first scheduled a meeting with the appropriate agency: county or city engineering or planning staff, MPO staff or others. At the meeting, the coordinator displayed a proposed route to which attendees could react and adjustments to the route were often made on the spot to address safety or other concerns. By having people knowledgeable of local conditions examine the route, it was easy to highlight alternate routes that may provide a better bicycling experience than the proposed route. By being flexible and making select changes, Ohio DOT was able to demonstrate its sincerity and the importance that was placed on the initial conversations. After the initial meeting, a field audit was scheduled to provide a detailed look at the preliminary route and determine if the criteria being used to rate bicycle suitability (bicycle level of service) appeared accurate. Minor adjustments to the route were often made during the field audit.

Upon completion of the audit, a final draft route was produced and proposed to each owner of the trail or roadway facility. Owners or sponsors included



A view of part of the proposed USBR 50 in Ohio. Photo credit: Heather Bowden.

counties, cities, villages, and occasionally townships. The roadway or trail owners were asked to support the route and provide a resolution in support to Ohio DOT. Sample resolutions were supplied to the roadway or trail owners, although they could also develop their own resolution of support if they chose to do so.

This process was repeated county by county along the proposed route for USBR 50, with work in one county being completed before moving on to the next county. Seven of the ten counties through which the route passes were completed during a one-year cycle. While the meetings and route audits took a considerable amount of time, collecting the actual resolutions of support often consumed the greatest amount of time.

Interesting and Significant Factors

The Ohio bicycle and pedestrian coordinator estimated that she spent about 30% of her time in 2012 on route development and getting letters of support from local officials. During this one-year period she completed 70% of the route. With the exception of just one county, the route uses trails and roadways owned by counties, cities, or Ohio DOT. Very little of the routing was under control of townships, which limited the number of supporting resolutions necessary for Ohio to move on to designation.

The coordinator was prepared to answer questions related to liability, although it never became an issue with any government entity. Adventure Cycling provided technical assistance and helped coordinate and facilitate state-to-state discussions. The most frequent questions/concerns that were asked by communities: "Are you going to make me build a path and how much is this going to cost?" Ohio DOT was prepared to handle both questions and indicated to communities that signage was not going to be pursued until a funding source became available.

Major Factors Leading to Success

The following factors contributed to the success of this approach in Ohio:

- Ohio DOT chose a route to designate that was relatively easy to implement due to the limited number of jurisdictions with which they had to coordinate.
- Ohio DOT's strong relationships with MPOs, counties, and local communities made it easier to schedule meetings and request letters of support for the route than it would have been for a non-governmental organization.
- By initially building support with the counties and MPOs, the bicycle and pedestrian coordinator was able to approach local communities already having buy-in from larger transportation agencies in the area.
- Ohio DOT used a focused approach: their bicycle and pedestrian coordinator worked on just one route and sought support one county at a time.
- By keeping initial meetings with local officials as informal as possible, and bringing a mapped draft route, the coordinator was able to discuss the project informally at first. This encouraged candid feedback from both sides, and allowed on-the-spot modifications of the proposed route.
- Bicycle advocates or local volunteers were only used to provide support where local support or pressure was needed, which contrasts Michigan's story, where non-DOT individuals drove much of the route designation process.

U.S. Bicycle Route 45 in Minnesota: Route Designation with Extensive Local Input and Marketing

Summary Information

- The Minnesota Legislature authorized the Mississippi River Trail (MRT) as the state's first bikeway.
- As of May 2013, the entire MRT has been officially designated as USBR 45 in Minnesota.
- A process is being developed to pursue designation of USBR 41 between Duluth and Minneapolis/St Paul.
- Minnesota DOT upper management is supportive of the agency's numerous bicycle initiatives, including USBR designation.

The Minnesota Department of Transportation (MnDOT) has been working for a number of years to officially designate and sign the Mississippi River Trail (MRT) from the Mississippi River headwaters to the Iowa border. The AASHTO corridor for USBR 45 follows the MRT route and MnDOT concluded that co-designating the routes was effective and beneficial. MnDOT used an extensive public and stakeholder input process to designate the route, and has received official USBR designation for USBR 45 in Minnesota.

Process

Approximately 80% of the MRT/USBR 45 is on roads and trails over which MnDOT has no authority. Therefore, development of the proposed and final route for the MRT/USBR 45 in Minnesota required a detailed and lengthy process, including constant coordination with local road and trail authorities, and other stakeholders. MnDOT staff carried out the following steps over a number of years:

- Developed route criteria with local partners and road authorities;
- Reviewed and refined the initial proposed route based on cooperative statewide meetings with stakeholders, local officials and the public;
- Conducted evaluation bicycle rides to determine routes when decisions could not be made in meetings with partners;
- Organized additional statewide route reviews to improve the alignment and coordinate activities and expectations among the road and trail authorities that the route included; reviews concentrated on segments previously identified as needing additional review including the National Park Service's Mississippi National River and Recreation Area (MNRRA) in the Twin Cities;
- Introduced the concept of bicycle-friendly communities when meeting with all local communities and agencies



Bicyclists crossing the Mississippi River along the MRT/USBR 45. Photo credit: Liz Walton

and contracted with the Minnesota Bicycle Alliance and the former state Director of Tourism to work with competitively selected communities to become more bicycle friendly;

- Developed a GIS-interactive map, GPS compatible maps and printable maps that are available on MnDOT's website (available at <http://www.dot.state.mn.us/bike/mrt/>);
- Developed a marketing toolbox to enhance local marketing efforts: (available at <http://www.dot.state.mn.us/bike/mrt/>);
- Developed recommended design guidance for off-road segments to guide communities when building new facilities;
- Sought and received overwhelming Legislative support for designation for the MRT as the State's first authorized bikeway;
- Solicited local communities and road and trail authorities for resolutions of support for USBR designation;
- Evaluated the need for printed route maps and concluded that they are still desirable for users.
- Currently, MnDOT is completing a signing plan for all segments of the route.

MnDOT employed a cooperative approach to formalizing the MRT/USBR 45 route and promoting its use in Minnesota. Steps included the following:

- Rebranding existing roads and trails into an 800-mile bicycle route suitable for short- and long-distance bicycling;
- Employing a coordinated marketing strategy driven by the private sector and supported by local civic leaders;
- Creating a sustainable user experience by promoting "bicycle-friendly communities,"
- Seeking legislative state bikeway authorization and designating it as a U.S. Bicycle Route;
- Partnering with the National Park Service to provide the backbone for an alternative transportation system throughout the Mississippi National River and Recreation Area so people can visit the area without a car;
- Signing the 800-mile route; and

Signing USBR 45 in Minnesota

MnDOT is signing the MRT in Minnesota. The department has developed a three-year signing strategy that includes the following steps:

- MnDOT is developing a comprehensive sign plan for the entire route for review and approval by local road and trail authorities.
- MnDOT will purchase sufficient signs for the entire route including surplus signs to replace damaged or destroyed signs.
- A contractor will install all initial signs regardless of route ownership. Signing will begin on the southeast section of the MRT this year and continue north with an expected completion in 2015.
- MnDOT accepts that some signing gaps may exist at the conclusion of the process.

Challenges have arisen while developing the signing plan and communicating the plan to local road and trail authorities:

- The sign plan reviews have spurred requests for route changes. Given that the route is already designated, MnDOT evaluated requests on a case-by-case basis until a process is more clearly outlined on how to manage bikeways cooperatively with local communities.
- Some local trail authorities have resisted signing a locally funded trail as a nationally branded route (USBR or other) when the federal government was not involved with trail acquisition, development, or maintenance. It is critical to work closely with local partners to ensure that signage meets everyone's needs.
- Some trail authorities have questioned the use of relatively large signs that dominate other signs. MnDOT has sought flexibility outside of MUTCD guidance in trail sign sizing to ameliorate these concerns.

Despite these challenges, MnDOT is moving ahead with route signing.

- Sharing responsibility for the trail's maintenance, marketing and other management duties with all of the road and trail authorities that own it.

Marketing the Route

To help promote the MRT/USBR 45, MnDOT promoted a distributed marketing strategy that enhances existing efforts of local chambers of commerce, convention visitor bureaus, private businesses, and civic interests who benefit from increased usage of the MRT/USBR 45. MnDOT developed the MRT Marketing Toolbox, which describes bicycling market segments and identifies who might be attracted to the route, provides a template that encourages consistent MRT branding and messaging, and identifies strategies for communities to attract bicyclists. MnDOT recognized that for the bikeway to be successful, the local communities through which it have to be onboard with the project. The Marketing Toolbox provides tools for local communities to help promote their communities, regional attractions, and the overall route. MnDOT also promotes the MRT with a website and Facebook page that provide resources for bicyclists.

The former Director of MN Tourism convened marketing workshops in six communities, which often included multiple municipalities, to guide the preparation of locally adopted tourism marketing plans. MnDOT reasoned that bicycle-friendly towns and communities would be valued and appreciated by visitors and that they would serve to sustain the vision of the MRT locally and provide better bicycling conditions for local residents. Simultaneously, MnDOT contracted with the state's advocacy organization, the Bicycle Alliance of Minnesota, to convene six sets of community meetings with elected civic leaders and staff, health partners and local bicyclists to evaluate and identify a plan to achieve a welcoming environment in which to initiate, and later support, their application for designation as "Bicycle Friendly Communities" by the League of American Bicyclists.

Lessons Learned

- Carrying out an extensive public outreach campaign and developing marketing materials for a USBR or other major bicycle route can be a lengthy and expensive process. MnDOT staff estimate that over \$1 million in staff time and resources will have been spent to develop, designate and sign the MRT and USBR45 in Minnesota.
- Issues can arise with stakeholders when attempting to co-designate a USBR with another existing or proposed bikeway. Possible issues range from route selection and purpose, vision and branding of the final route.
- Developing marketing materials and guidance can be beneficial both for a DOT when proposing the route to local communities, but also for the communities after the route is designated to help



Lake City in the Lake Pepin area has focused on promoting bicycle tourism and economic development along the MRT/USBR 45. Photo credit: Liz Walton

them market the route and local attractions.

- It is important to bring partner communities along slowly with the route designation process. While some communities were enthusiastic about the route and eager to see it designated, others needed more time and outreach to support it. It is important that communities not feel that it is being forced upon them.
- Language is important. Despite having the word “trail” in its name, the vast majority of the MRT is an on-road bikeway. Stakeholders and partners must understand clearly what is being proposed and the form that it will take, particularly if the language surrounding the project may be unclear.
- Agencies working on developing USBRs should be aware that the routes may be split in areas or have alternate routes. Portions of the MRT/USBR 45 are split and run on both sides of the Mississippi River and initially, MnDOT was not sure this was possible for USBR designation.
- Time spent developing new partnerships is valuable beyond USBR designation. MnDOT developed many new partnerships when performing outreach for this project, which may be useful for future initiatives.
- It is important to have a compelling alignment for the route and clear criteria and rationale for route selection. Every turn in the route and every new jurisdiction through which a route passes will result in increased time and expenses for outreach and signage.
- Every level of route review can result in requests for route changes. It is important to set criteria for when these requests will be considered. MnDOT found that even after having designated the route, requests for changes were made when local communities were presented with the signing plan. While some requests are valid and worthwhile, others may not be within the USBR context. It is important to have route criteria to support decisions.
- Promote the multiple benefits that state or national bike routes can bring to communities — health, tourism, economic, better bicycling for locals — but don’t guarantee that these changes will happen, the community will have to work to see these changes.
- Do not undersell the obligations that local communities and road and trail authorities will have with the route designation including sign installation and maintenance, construction impacts, and appropriate detours when needed.

U.S. Bicycle Route 90 in Louisiana: Doing a Lot with a Little

Summary Information

- USBR 90 has been identified as a priority route by the Louisiana Department of Transportation and Development (LaDOTD).
- LaDOTD has established various cross-state bicycle routes and has received support for these efforts from the Louisiana Office of Tourism and Baton Rouge Advocate for Safe Streets (BRASS).
- BRASS has played a lead role in supporting LaDOTD with the development of USBR 90 and in seeking resolutions of support for the route.
- LaDOTD upper management is supportive of designating USBR 90, but has not pushed its development.

As a one-person operation, the Louisiana DOT bicycle and pedestrian coordinator must judiciously use his time and resources on a wide range of bicycle and pedestrian issues. Fortunately, the coordinator has been able to provide enough direction for development of USBR 90 for it to become a near-reality while at the same time attending to other priorities. A key partnership with Baton Rouge Advocates for Safe Streets (BRASS) was used to assist in the establishment of the route.

Process

The AASHTO corridor for USBR 90 in Louisiana corresponds with Adventure Cycling's well-established Southern Tier Bicycle Route. To keep things simple, the LaDOTD bicycle and pedestrian coordinator and BRASS decided to use the Southern Tier route as the basis for USBR 90. This is similar to the process used in a number of other states where an existing Adventure Cycling route roughly corresponds with an AASHTO USBR corridor, for example: USBR 20 in Michigan (Lake Erie Connector), USBR 76 in Kentucky and Missouri (Transamerica Trail), and others. To date, the Adventure Cycling route has not been altered for the purposes of defining USBR 90 through Louisiana. In addition to Adventure Cycling's route, Louisiana has a number of officially designated statewide bicycle routes. The designated state routes were established years ago and had been previously vetted with local authorities to a large degree. The presence and success of these routes benefitted LaDOTD and BRASS when they approached local municipalities and road authorities for resolutions of support for USBR 90.

Playing a leading role in seeking resolutions of support from local municipalities and road authorities, BRASS sent a standard resolution of support was drafted and sent to parishes through which the proposed route passes, with a description of is the U.S. Bicycle Route System and what it intends to accomplish. Since parishes maintain ownership over most of the rural roadways in Louisiana, they are instrumental to garnering support in the state. As of April 2013, six of 11 parishes and three other communities have provided resolutions of support. Contact is maintained with parishes until they respond to the request for support.

BRASS and other USBR 90 supporters have also worked to educate local tourism boards about the potential benefits a USBR can bring to a community. The support of local tourism boards has facilitated receiving the support of parishes or other jurisdictions.

Building on Past Success

The approach used by LaDOTD and BRASS was a successful variant of similar route planning conducted in the state. Rather than start fresh with a new route, an existing Adventure Cycling cross-country route was chosen. Additionally, supporters of USBR 90 could point to other successful routes previously mapped and promoted in Louisiana and make the case that USBR 90 designation would simply add value to an existing state/national route.

They argued, by achieving national-level designation for the route, additional tourism dollars could be attracted as the popularity and use of the route increases.

Furthermore, supporters emphasized that delineation of USBR 90 and other routes could occur with little or no infrastructure spending; simply designating the route does not cost anything other than the staff time to work on designation and to map the new route. LaDOTD will consider route improvements as roadways are scheduled for reconstruction and resurfacing. The agency will also consider route signs in the future.

Major Factors Leading to Success

The following factors contributed to success in Louisiana:

- A coordinated effort between LaDOTD and BRASS allowed LaDOTD to leverage assistance from local advocates and volunteers to carry out much of the leg-work of soliciting and receiving resolutions of support.
- LaDOTD and BRASS have been able to use the parishes as major building blocks to push for route designation: Approval for much of the route was achieved by contacting each parish, explaining the project, and asking for a resolution of support.
- Using the existing Adventure Cycling Southern Tier route allowed a simple approach to route delineation.
- LaDOTD and BRASS were able to point to existing successful long-distance bicycle routes in Louisiana as examples of how USBR 90 will function and benefit local economies.
- Touting the economic benefits of bicycle touring and “getting on a national map” has been helpful when asking for support of parishes and communities.

U.S. Bicycle Route 66 in Oklahoma: Route Planning and Designation Driven by Citizens

Summary Information

- A preliminary route for USBR 66 has been determined.
- A process has been identified to designate USBR 66 officially.
- A resolution directing ODOT to seek official designation of USBR 66 is pending in the state legislature.

Historically the Oklahoma Department of Transportation (ODOT) has not been engaged in pursuing official designation of USBR 66. However, ODOT management is currently considering the issue and an official decision about pursuing designation is expected soon. In the meantime, the Oklahoma Bicycle Coalition (OBC), a statewide bicycle advocacy organization, has worked with communities along the route to secure their support and has moved planning for the route forward through continued work with ODOT and Adventure Cycling.

Process: Developing the Route and Reaching out to Communities

Adventure Cycling is encouraging states to designate U.S. Bicycle Route 66 along the historic U.S. Route 66 corridor from Chicago to Los Angeles. As part of this effort, Adventure Cycling has reached out to the state Departments of Transportation that will need to apply for official designation of USBR 66. However, for ODOT, designation of USBR 66 across Oklahoma has not been a major priority. While not dismissive of the project, ODOT has had significant liability and other concerns and has been unwilling to dedicate significant resources to work on route designation until some of these issues are addressed.

With ODOT on hold, Adventure Cycling reached out to Kevin Mussett, the then President of the OBC, to work on USBR 66 in Oklahoma. OBC members provided Adventure Cycling with routing assistance through the Oklahoma City and Tulsa urban areas. At the same time, the OBC began reaching out to communities along the route to explain the project and ask for support. Kevin Mussett, Bonnie Winslow, and Bill Elliot, members of the OBC's Route 66 Committee, have met with ODOT about route designation and developed a communications plan that included handouts, a summary page, a list of frequently asked questions, and a PowerPoint presentation. The OBC also established a website and used the OBC Facebook page to keep the public informed about the status of USBR 66 designation. The website and Facebook have also been used to solicit letters of support to the state legislature and ODOT.

USBR 66 in Oklahoma is based on a route created by Lon Haldeman, a bicycle tour leader with PAC Tours, that largely follows historic U.S. Route 66. Mr. Haldeman provided detailed routing information to the



Kevin Mussett of the Oklahoma Bicycle Coalition riding on U.S. Route 66 which will hopefully become part of U.S. Bike Route 66 soon. Photo credit: Bonnie Winslow.

OBC, which then worked with Adventure Cycling's cartography division to verify and finalize the route. Adventure Cycling provided resources to map the route in GIS and spent time with OBC members field-verifying the route.

After informing ODOT that they were going to push for designation of USBR 66, the OBC began meeting with communities through which the route passes to explain what the project was, highlight benefits to the community from the project, and ask for a letter or resolution of support for the project. At the meetings the OBC also solicited feedback on the preliminary route. As the meetings progressed, it was found that some of the communities thought to have road authority in fact did not; these meetings were then used as educational opportunities to highlight the route and ask for support of the project.

Members of the OBC met at least once with four counties and 20 towns or cities along the proposed route. Initial contact for each municipality tended to be planning staff or the city manager, although others were also contacted. In some instances, after the initial meeting, OBC members returned to the community to speak or present at a county board or city council meeting about the project and to request support from the community. Additionally, the OBC met with local Chambers of Commerce, visitors bureaus, Route 66 museums, and local bicycle clubs to explain the project and encourage its implementation. The group received letters or resolutions of support from most of the municipalities and other organizations with whom they met.

Based on the meetings with local officials who were more familiar with specific areas than the OBC, some adjustments have been made to the proposed USBR 66 route to address concerns about the proposed route or to ensure that the route passes a specific location. One of the challenges with USBR 66 in Oklahoma is that substantial portions of the route are on roads or highways that casual bicyclists may not consider safe or comfortable for riding. Most of these roads have no shoulders and high posted speed limits. OBC has worked to explain to local officials that while touring and long-distance bicyclists prefer quiet roads with ample space to operate, they can navigate roads with higher speeds and tighter operating space more easily than casual bicyclists.

The strong identification with Route 66 in Oklahoma has been beneficial to promoting USBR 66. Oklahoma has over 450 intact miles of U.S. Route 66 — more than any other state. Additionally, the state has three Route 66 museums, and tourism related to the route is important for many communities in the state. The strong focus on Route 66, its historical significance, and the tourism and economic development associated with the route provided a good frame of reference for the OBC members meeting with communities to discuss USBR 66. OBC members were able to cite statistics about the amount of money bicycle tourists typically spend each day, and highlight that a bicycle tourist on USBR 66 might spend a full week in Oklahoma as opposed to auto tourists who may pass through the state in just a few days. The OBC found that after



Route 66 is a well-known attraction throughout Oklahoma that already attracts cyclists. Photo credit: Bonnie Winslow

explaining the route and its features and addressing concerns, most local communities were very supportive of the project.

Support in the Legislature

The OBC approached two state legislators to ask for support for USBR 66 designation. Two members of the state Senate introduced a resolution directing ODOT to apply for official designation of the route, but the resolution was tabled in the 2012 legislative session. The resolution was reintroduced in 2013 and recently passed the Senate and is now sitting in a House committee awaiting a hearing. If approved by the House, ODOT will need to move forward with the nomination for designation of USBR 66.

Moving Forward

Mr. Mussett and other members of the OBC recently met with ODOT again to present the letters and resolutions of support that they had obtained and to ask what was needed to move the project forward within ODOT. At the same time, Adventure Cycling, the OBC, ODOT, and other state DOTs representing states through which USBR 66 will pass met to discuss what was needed to move the project forward. Perhaps the biggest obstacle with ODOT is a lack of experience in working on bicycling projects. This inexperience has created concerns about increased liability and roadway design changes that may be required if a bicycle route is designated on state roads. Liability and roadway design requirements vary from state to state, but it is likely that the simple designation of USBR 66 would not expose ODOT to increased liability or require new design standards. Ms. Winslow produced an informational memo for ODOT regarding liability concerns. If the liability concerns can be overcome, there is an opportunity for the OBC and ODOT to move forward on applying for USBR 66 designation in the near future.

Lessons Learned

- Advocacy groups or local volunteers can conduct much of the legwork necessary to educate people and local communities about the U.S. Bicycle Route System.
- Economic development and tourism aspects of the USBRS can be very important to smaller communities, particularly those already connected to tourism.
- Legislative support can help move U.S. Bike Route designation forward in a state where the DOT may not be strongly supportive of the project.
- Liability is a major concern for some departments of transportation. Generally this should not be the case as designating a U.S. Bike Route does not in itself expose a state or DOT to greater liability. Liability varies from state to state and DOTs should consult with their office of legal counsel for specific advice.
- It is critical to explain the differences between bicycle tourists and long-distance cyclists compared to recreational or casual bicyclists to officials. Many routes that casual bicyclists would find unacceptable or dangerous may be perfectly acceptable for long-distance bicyclists.
- By building support in local communities along a proposed U.S. Bicycle Route, an advocacy group or other volunteers can demonstrate to a DOT, or other authorities, that there is support for the project and help push the agency along.

U.S. Bicycle Route 30 in Wisconsin: Route Planning Across Many Jurisdictions

Summary Information

- Wisconsin DOT (WisDOT) has engaged the Governor’s Bicycle Advisory Council to sponsor and provide support for U.S. Bicycle Route 30. The Council has five state agencies that are represented and have a shared interest in the route.
- The Bicycle Federation of Wisconsin has been retained by WisDOT to assist in route planning and other implementation tasks associated with USBR 30.
- Upper management at WisDOT broadly supports planning and implementation, especially if there is local support, but has not pushed the project forward.
- USBR 30 has become the route priority for planning purposes among the five identified U.S. Bicycle Route corridors in Wisconsin. Several state agencies have been involved, but WisDOT is the only agency that can submit the application for designation to AASHTO. Finalizing the planning for USBR is currently in progress.

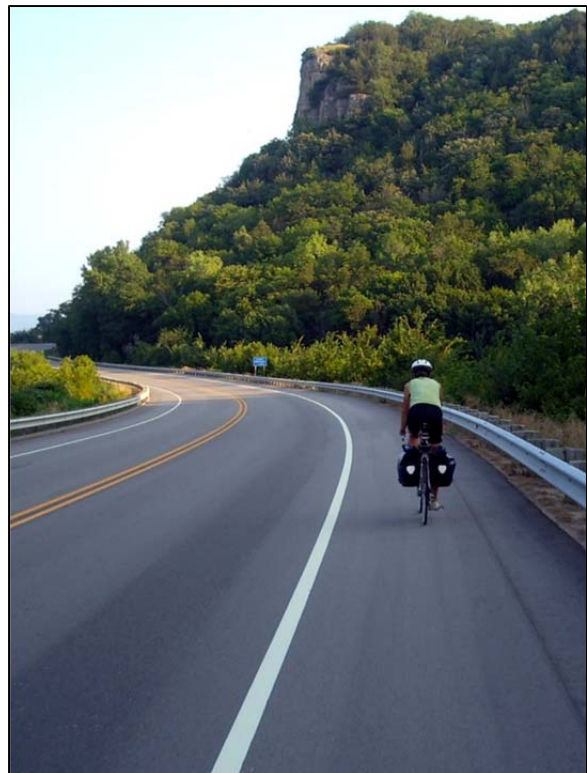
Background – Bicycling Planning in Wisconsin

Wisconsin has a long tradition of supporting long-distance bicycling and was arguably the first state to provide a cross-state route. A 1972 brochure from the Wisconsin Department of Tourism states this about the route: “The Wisconsin Bikeway is a paradise for wheelmen. Stretching from La Crosse to Kenosha, this 300-mile journey was the first statewide route in the U.S.” At the time, several counties posted bike route signs and the departments of tourism and natural resources combined resources to promote the bikeway. The newly formed Elroy-Sparta Trail was also worked into the cross-state route in those early years. This 1970s route forms the corridor for USBR 30 and an expanded trail network forms the backbone of the proposed route. The Department of Natural Resources owns approximately 128 miles of trails of the proposed 200-mile route between La Crosse and Milwaukee. With these established trails and a supportive DNR that retains ownership and maintenance responsibility for the trails, the on-road gaps between the trails is now the focus of planning.

The Mississippi River Parkway Commission (and later the MRT Inc.) and Wisconsin DOT established a state route in the early 2000s along the Mississippi River through a joint planning effort. However, official USBR designation has not yet been sought for the MRT in Wisconsin.

Bicycle Planning for USBR 30

Several planned routes have been recommended for linking the trailhead of the 400 Trail (Reedsburg) with the City of Madison. This is the most difficult segment to complete since it represents the longest stretch of on-road cycling with many options for routing. Wisconsin is



A bicyclist on a rural highway in western Wisconsin. Photo credit: Tom Huber

known for its paved backroads, which provide countless routing opportunities and also complicate the planning. These very low volume country roads are almost always owned and maintained by town governments in Wisconsin. Routing cyclists on these roads is usually supported by officials and touring cyclists, but can involve a considerable amount of coordination since each town is relatively small — typically only six miles by six miles in size. Alternatively, state highways could be used, which would only involve approval by one entity, but the experience for the user would be considerably different.

At this point, planning for the Reedsburg to Madison segment has included outreach efforts with local governments to finalize the best route options and promote the concept of a long-distance route. The Bicycle Federation of Wisconsin is assisting with the development of the route and outreach. Two route options have been mapped and differ primarily in how they cross the Wisconsin River: one uses the Merrimac Ferry and the other the U.S. Highway 12 bridge.

Several key partnerships have been formed for the planning and eventual implementation of Route 30. The Governor's Bicycle Advisory Council is uniquely positioned to help with the support of the route. The Council has representatives from important stakeholder agencies that are central to the route's development including the Departments of Tourism, Natural Resources, and Transportation. Other important players are also represented on the Council including the Bicycle Federation of Wisconsin and bicycle industry leaders.

Major Factors Leading to Successes / Challenges

- Currently, to target resources and efforts, planning has focused just on USBR 30.
- USBR 30 presents the easiest corridor to pursue in Wisconsin since 65% of it is under the control of just one owner: Wisconsin Department of Natural Resources. By developing this route first, positive experiences can be used in the development of other corridors.
- 128 miles of four state trails form about 65% of the proposed route. However, about 90% of those trails consist of crushed limestone surfacing which is not always appealing to road or touring bicyclists. This has led to interest in establishing on-road alternative routing for bicyclists.
- Planning on-road options within the three counties connecting Reedsburg with Madison (50 miles) will require a considerable amount of time and effort. Creating support and understanding of the route purpose and designation, as well route location/alignment, will involve education and outreach to various local units of government and other interested partners. Over 20 resolutions of local government support may be necessary to complete the planning for a preferred route before USBR application materials are prepared.

U.S. Bicycle Route 1 in Maine: Designation with Quick Approval Process

Summary Information

In early 2011, the American Association of State Highway and Transportation Officials (AASHTO) approved USBR 1 in Maine. The route corridor runs through 13 eastern seaboard states between Maine and Florida, utilizing portions of an existing national route – the Maine East Coast Greenway (ECG). Using an existing route sped up the process of designation, as did a long and steady partnership with that route’s parent organization, the East Coast Greenway Alliance (ECGA), along with relationships with statewide and local bicycle and trail groups.

Maine contains the second longest section of East Coast Greenway/USBR 1 after Florida. Most of the current route in Maine is located on a mixture of low volume secondary roads and state highways. There are many shorter segments of multi-use path, especially close to and through communities. There are also plans to take advantage of several rail-to-trail conversions in the future.

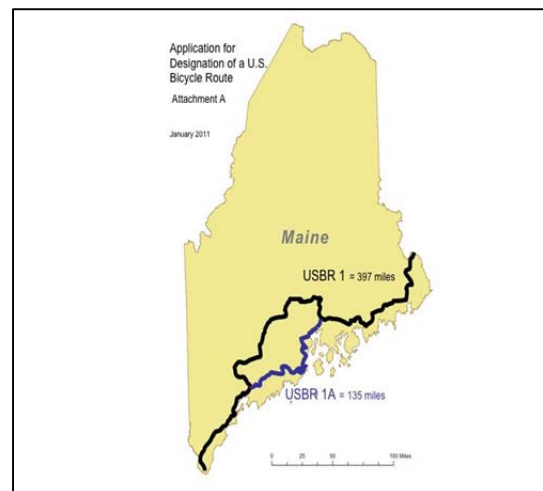
Process

Since the late 1990s, staff for the Maine DOT bicycle and pedestrian program have worked closely with the East Coast Greenway Alliance and a statewide committee established by them. In 1996, the ECGA endorsed the initial route alignment across Maine (Calais to Kittery). Several key planning and implementation events have occurred since that date:

- Maine DOT sponsored a route determination study (1999-2000) to map the best off-road alignments for future trail right of way (ROW) acquisition and development and to determine the best on-road segments for immediate use.
- Around 2002, volunteers bicycled the route and Maine DOT produced cue sheets and route directions and posted them on Maine DOT’s “Explore Maine by Bike” website.
- Route refinements were made in 2005 to 2007 to reflect user feedback, trail additions, and road improvements. Regional planning studies were commissioned to examine potential alignment changes.
- Around 2007, Maine DOT sponsored an ad-hoc long-distance route committee, which approved route changes endorsed by the State Bike/Ped Council.
- In 2009, Adventure Cycling’s Atlantic Coast & Northern Tier routes were compared to the existing route and several sections were adopted from them. Nine volunteers bicycled sections of the revised route, both southbound and northbound, to field-verify the route and confirm the accuracy of route notes.
- In 2010, Maine DOT approved an application for a national route submission to AASHTO’s Special Committee on U.S. Route Numbering.
- In 2011, AASHTO approved USBR 1 in Maine.

Major Factors Leading to Success

At first blush, it may seem as if Maine put together a successful route alignment and application for designation



USBR 1 runs nearly 400 miles across Maine, from the Canadian border to New Hampshire.

in record time. Although the Maine DOT did respond quickly, they had completed a significant amount of groundwork in the 15 previous years. Several decisions aided the state in its successful designation of USBR 1:

- Building off an existing and proven route — the Maine ECG route alignment, created in tandem by ECG and Maine DOT — enabled a much faster and more straightforward approach to applying for designation. Considerable discussion and vetting of the route had already occurred within communities. This route is continually being updated and was tweaked for its submittal to AASHTO.
- The strong partnership with the East Coast Greenway, including their significant leadership role, provided Maine DOT with the inspiration and manpower to establish Maine’s ECG and the USBR 1 successor.
- Although Maine’s goal is to have the entire route be off-road or at least mostly off-road, not having a complete set of multi-use paths did not stop them from designating a suitable and an attractive route that can be used today. A decision was made over ten years ago for the Maine ECG to have *interim* on-road segments comprised mostly of low volume backroads or higher volume highways with paved shoulders. These segments have been time-tested for their bicycle suitability. Maps featuring the ECG route have been provided online for the past five years.
- Upon deciding to seek USBR designation Maine DOT moved ahead with the application without contacting each of the 97 municipalities and alerting them of the decision to pursue national designation. However, in earlier years as the ECG route was being established, letters had been sent to the jurisdictions to solicit support and involvement. At that time, Maine DOT did state that if there were any objections to the route alignment that they should get back to Maine DOT with that concern. This resulted in several follow-up meetings, but eventually all 97 municipalities provided support letters or eventually did not object to the alignment. It should be noted that according to the Maine bicycle and pedestrian program manager, no local official has ever contacted Maine DOT regarding a complaint about the existing ECG route through their municipality.

Lessons Learned

- Keep it simple. Start and use existing partnerships and any existing national routes already in place.
- Do not fall victim to an over reliance on standards. In order to have a complete and connected route, there will be segments that do not have paved shoulders and will possibly have higher volumes of traffic. If these are relatively minor segments, proceed and do not wait until everything meets the “standards” contained in state or national bicycle guides.
- Find an outside advocate and voice for the route. In the case of Maine, it was the ECG. And within ECG there was a passionate and knowledgeable leader in Maine.
- Do not wait for an agreement on signage to move ahead with an application, but begin preparing for sign placement as soon as possible after the application is approved by AASHTO or even as the application is being prepared and considered. Signage for the route in Maine is in go-ahead mode. Maine DOT will sign the routes with its crews for state highways and provide signs for local governments for placement on local roads using their crews.

U.S. Bicycle Route 76 in Kentucky: Using Data to Verify a Route

Summary Information

- The Kentucky Transportation Cabinet (KYTC) and AASHTO originally designated USBR 76 in 1982 — one of two U.S. Bicycle Routes dating back to the 1980s.
- Recently, Kentucky applied for official realignment of USBR 76 to align more closely with Adventure Cycling’s TransAmerica Bicycle Trail.
- The Kentucky Transportation Cabinet established a rural Bicycle Level of Service (BLOS) to evaluate the bicycle safety and “bikeability” of roads along the proposed USBR 76 realignment; the realigned route has been approved by AASHTO. (See page 30 for more information about other BLOS measures.)

When realigning USBR 76 across the state, the Kentucky Transportation Cabinet was interested in using quantitative data available about state roadways. KYTC staff found that with limited exceptions, there was not an adequate measure of level of service for bicyclists on rural roadways. Most of the BLOS indicators that exist are targeted at urban environments and are based on motor vehicle levels of service, which is not appropriate for evaluating a national bike route that travels primarily on county roads and local streets. KYTC staff developed a rural BLOS based on measures that were appropriate for long-distance bicyclists and data that was available for all roadways in the state, creating a relatively simple tool that can produce important quantitative rather than qualitative results for evaluating rural bikeways.

The Rural Bicycle Level of Service Indicator

While developing the rural BLOS, KYTC staff was interested in using data that was available for nearly all roads in the state. The datasets that was settled on for the BLOS were:

- Average daily traffic volume
- Posted speed limit
- Crash totals on a given road segment
- Volume of heavy vehicles (trucks)

The points that are assigned to each factor are displayed in Table 1. Once the total points for each road segment are known, they are used in the following formula to calculate the BLOS:

- $(ADT \text{ Points} * 0.25) + (\text{Speed Points} * 0.25) + (\text{CACT Points} * 0.25) + (\text{HV} * 0.25) = \text{BLOS}$

The BLOS ranges are provided in Table 2.

A few factors that commonly appear in other BLOS indicators were not included:

- Presence of paved shoulder: KYTC knew that most local and county roads do not have a paved shoulder, so this was not included



Bicyclists on USBR 76 in Kentucky. Photo credit: Troy Hearn.

- Pavement quality: Pavement quality ratings are highly subjective and variable, and are not always available. In general, Kentucky has very good pavement quality, and it is assumed that if a road is in poor condition, it will be resurfaced in the near future.

That said, the BLOS that was developed is modular and can easily have data other than the four primary categories plugged into the calculation. Any route can be entered into the system and the appropriate data is pulled from databases and the results can be viewed as a spreadsheet or visually in GIS.

Table 1: Factors used to rate Bicycle Level of Service on rural Kentucky roads

Characteristic	Range	Points	Description
Average Daily Traffic Count	Vehicles per day		The average daily volume of vehicle traffic on roadway
	0 - 2,000	4	Lower volume roadway
	2,001 - 3,000	3	
	3,001 - 5,000	2	
	> 5,000	1	Busy street
Speed	Miles per Hour		Posted speed limit
	< 25	4	
	35	3	
	45	2	
	55 and greater	1	
Crash Totals (CACT)			Estimated crashes per million vehicle miles traveled
	0	4	Low crash rate
	0 - 0.999	3	
	1 - 1.999	2	
	2 or greater	1	High crash rate
Heavy Vehicles (HV)	Trucks per Day		Average daily volume of heavy vehicles (trucks)
	Less than 150	0	
	Greater than 150	-1	

Table 2: Bicycle Level of Service

Rating	Point Range		Cyclist Level
	High	Low	
BLOS A	3.00	2.50	Most cyclists
BLOS B	2.49	2.00	
BLOS C	1.99	1.50	Experienced cyclists
BLOS D	1.49	1.00	
BLOS E	0.99	0.00	Advanced cyclists

When USBR 76 was analyzed, the vast majority of the route was rated BLOS A or B, but specific problem areas with lower BLOS ratings stood out along the route. The KYTC staff was able to closely examine those particular portions of the route and focus on improving routing in those areas. Additionally, the route was presented to local bicycle clubs and shops for comments from local cyclists who are familiar with the roads being used. The route was also provided to each of the KYTC district offices for vetting. Staff in each district office reviewed the segment of the route in their district and in some cases made detailed notes about route conditions, amenities, and other issues or features that may be of interest to touring bicyclists. Based on the BLOS analysis, input from local bicyclists and assessment by district staff some changes were made to USBR 76.

Lessons Learned

- There were limited examples of a bicycle level of service for rural roadways. KYTC used examples from Florida, Wisconsin, and Michigan to help form their own rating system more specific to the nature of the roadways and USBR 76 in KY.
- This analysis rating has been useful in determining the value of bicycle facility changes along the route in area that rated lower on the BLOS scale. Use of the BLOS strengthened the determination for a bike lane on a bridge project that is on the USBR 76 route.
- This process and the BLOS rating systems is “ongoing and still being developed” to evaluate the changes in roadway system and the inclusion of physical road characteristics (curvature geometrics) in the BLOS formula.

Rural Bicycle Level of Service Measures

Rural bicycle-level-of-service (BLOS) measures are intended to indicate the level of service that a bicyclist can expect to find on a given roadway. A BLOS model can measure many factors, which combine to affect bicycling conditions on roadways. The models can be put to use to help evaluate roadways for consideration of routes or as a means to recommend roadway improvements to reach certain levels of service. Once the specific factors of a BLOS have been chosen and weights or scores have been assigned to each factor, a total score for each road segment can be calculated. Currently there are a handful of methodologies for assessing conditions, but most of them are intended for and work better with urban and suburban roadways. The most widely used models will be summarized in this case study in an effort to make these tools understandable and indicate their strengths and limitations.

Background

State Departments of Transportation that evaluate rural highway conditions for bicyclists use volume of traffic and width of the roadway as prime considerations. Width of the roadway includes the width of paved shoulders. Secondary criteria include volume or percent truck traffic, pavement conditions, vertical/horizontal curves, speeds and grades. The use of speeds as a criterion for rural roadways is a bit of a misnomer since most rural two-lane roadways are set at the default maximum speed limit of 55mph and 85th percentile speed is often faster. Although evaluations using these criteria are valuable, many states do not use any methodology to examine conditions. Thus many of these same states are at loss when the question is posed, "Will this make a good candidate for a U.S. Bicycle Route?" Many states do provide a meaningful depiction of conditions on maps by simply presenting paved shoulder information and volume of traffic using different colors, often referred to as a suitability map. Again, no thresholds for general conditions are established so ratings are not possible. Additionally, a bicyclist must have a good grasp on how the different volumes of traffic will impact their comfort level since just the raw traffic numbers are presented to them typically in ranges.

For the first time, the 2011 AASHTO Bicycle Guide made it clear that paved shoulders or bike lanes do not have to be in place to have an acceptable bicycle route. Indeed, Adventure Cycling Association has been finding roadways since 1976 that for the most part offered suitable or desirable conditions for cyclists and yet still lacked paved shoulders. This was done by finding secondary highways or county backroads that carried low or moderate volumes of traffic with good sight lines. In the 1970s and 1980s two lane highways did not have paved shoulders with rare exceptions.

So now, in 2013, how does a state DOT or a county evaluate the bicycling conditions of a rural roadway to consider it as a route for signing or as a U.S. Bicycle Route candidate? And if it does not have a paved shoulder or bike lane, can it still be considered suitable or even desirable for bicycle travel? Or if a highway has paved shoulders, but also high or very high volumes of traffic, how would that rate?

Common Issues

There are a number of common issues with existing BLOS and rural BLOS indicators, which reveal their limitations:

- **Lack of data availability:** For a BLOS calculation, data needs to be readily available for each segment of road being analyzed. In a rural setting, this may include roadways maintained by different jurisdictions. Data needs to be readily available in a format that is consistent across all roads being analyzed.

- Urban BLOS measures don't work well in rural settings:** While there are many urban BLOS measures that have been established, they do not transfer well to rural settings. Rural roads typically carry less traffic than urban streets, but often at higher speeds and with fewer passing opportunities. Rural BLOS measures need to be able to discern between much lower levels of traffic than an urban BLOS model. While the lowest cutoff (at the best end of the range) in an urban setting may be 1,000 vehicles per day, rural BLOS measures may include cutoffs (at the best end of the range) as low as 100 to 250 vehicles per day.
- Comfort levels of bicyclists will vary from state to state:** To a certain degree bicyclists will become conditioned to traffic and roadway conditions they experience on a day-to-day basis. What a bicyclist considers as high traffic in South Dakota may not even register on a scale used by a bicyclist conditioned by traffic in suburban and rural counties of New Jersey and California. Thus models intended for one state cannot be readily used for another state without resetting the LOS thresholds.
- Research has been limited:** Although several national methodologies have been researched and tested, their applicability is somewhat limited for rural applications. However, several rural methodologies have stood the test of time and offer a valuable tool.

States with Rural BLOS Measures

Table 3 displays the factors and weight chosen by the Kentucky Transportation Cabinet for their recently developed Rural BLOS. Note that their formula is not sensitive to traffic volumes under 2,000 and is more sensitive to volumes in the mid-range.

Table 3: Factors used to rate Bicycle Level of Service on rural Kentucky roads

Characteristic	Range	Points	Description
Average Daily Traffic Count	Vehicles per day		The average daily volume of vehicle traffic on roadway
	0 - 2,000	4	Lower volume roadway
	2,001 - 3,000	3	
	3,001 - 5,000	2	
	> 5,000	1	Busy street
Speed	Miles per Hour		Posted speed limit
	< 25	4	
	35	3	
	45	2	
	55 and greater	1	
Crash Totals (CACT)			Estimated crashes per million vehicle miles traveled
	0	4	Low crash rate
	0 - 0.999	3	
	1 - 1.999	2	
	2 or greater	1	High crash rate
Heavy Vehicles (HV)	Trucks per Day		Average daily volume of heavy vehicles (trucks)
	Less than 150	0	
	Greater than 150	-1	

Once the factors to be used have been chosen and weights have been assigned to each factor, the BLOS can be calculated. The Kentucky BLOS uses the following formula to calculate a final BLOS score:

- $(ADT \text{ Points} * 0.25) + (\text{Speed Points} * 0.25) + (\text{CACT Points} * 0.25) + (\text{HV} * 0.25) = \text{BLOS}$

The BLOS indicates the level of suitability for bicycling on a given roadway. Table 4 displays how the Kentucky BLOS score is broken down to different categories for different levels of bicyclists.

Table 4: Kentucky Bicycle Level of Service

Rating	Point Range		Cyclist Level
	High	Low	
BLOS A	3.00	2.50	Most cyclists
BLOS B	2.49	2.00	
BLOS C	1.99	1.50	Experienced cyclists
BLOS D	1.49	1.00	
BLOS E	0.99	0.00	Advanced cyclists

The Federal Highway Administration sponsored the creation of a bicycle level of service model called the Bicycle Compatibility Index (BCI) which was developed by University of North Carolina Highway Safety Research Center and published in 1998 (see Tables 5 and 6). Of importance for rural bicycle evaluation, changes in volumes — even considerable changes in volumes — do not affect the ratings significantly. For example, a rural two-lane country road with 11-foot travel lanes, with no paved shoulders, and a 85% speed of 50 mph would yield a rating of 4.048 or a LOS of D with 3,000 vehicles per day, and a rating of 3.858 with 1,000 vehicles (LOS D), and a rating of 3.758 with 200 vehicles, still a LOS of D. On the other hand, the model is especially sensitive to the provision of paved shoulders and bike lanes with often a full point increase for such a provision.

Table 5: Bicycle Compatibility Index (BCI) model

$BCI = 3.67 - 0.966BL - 0.125BLW - 0.152CLW + 0.002CLV + 0.0004OLV + 0.035SPD + 0.506PKG - 0.264AREA + AF$ where:	
BL = presence of a bicycle lane or paved shoulder ≥ 3.0 ft <i>no = 0</i> <i>yes = 1</i> BLW = bicycle lane (or paved shoulder) width <i>ft (to the nearest tenth)</i> CLW = curb lane width <i>ft (to the nearest tenth)</i> CLV = curb lane volume <i>vph in one direction</i> OLV = other lane(s) volume - same direction	PKG = presence of a parking lane with more than 30% occupancy <i>no = 0</i> <i>yes = 1</i> AREA = type of roadside development <i>residential = 1</i> <i>other type = 0</i> AF = $f_t + f_p + f_{rt}$ where: <i>f_t</i> = adjustment factor for truck volumes (see below) <i>f_p</i> = adjustment factor for parking turnover (see below) <i>f_{rt}</i> = adjustment factor for right-turn volumes (see below)
Note: There are adjustment factors for truck volumes, parking turnover rates, and volumes of right turns	

Table 6: Bicycle Compatibility Index (BCI) ranges associated with level of service designations

LOS Designation	BCI Range
A	< 1.50
B	1.51 – 2.30
C	2.31 – 3.40
D	3.41 – 4.40
E	4.41 – 5.30
F	> 5.30

The most commonly used BLOS model is actually called the *Bicycle Level of Service* model. It is used or has been used by the following states: New York, Maine, and Delaware. The model has been refined and a version is being used in the Highway Capacity Manual for rating urban and suburban roadways. Like the BCI, the model is not extremely sensitive to changes in volumes of traffic, but more sensitive than the BCI. For example, with 12-foot travel lanes, at 40 mph, and good pavement conditions, the rating improved from 3.54 to 2.75 when the volume of

traffic decreased from 5,000 to 1,000 per day (still within the same letter grade of C). The formula for the *Bicycle Level of Service* model is displayed in Table 7.

Table 7: Bicycle Level of Service Model Version 2.0

<p>Bicycle LOS = $a_1 \ln(\text{Vol}_{15}/L_n) + a_2 \text{SP}_t(1+10.38\text{HV})^2 + a_3(1/\text{PR}_5)^2 + a_4(\text{W}_e)^2 + C$</p> <p>Where:</p> <p>Vol₁₅ = Volume of directional traffic in 15 minute time period $\text{Vol}_{15} = (\text{ADT} \times D \times K_d) / (4 \times \text{PHF})$ where: ADT = Average Daily Traffic on the segment or link D = Directional Factor K_d = Peak to Daily Factor PHF = Peak Hour Factor</p> <p>L_n = Total number of directional through lanes SP_t = Effective speed limit $\text{SP}_t = 1.1199 \ln(\text{SP}_p - 20) + 0.8103$ where: SP_p = Posted speed limit (a surrogate for average running speed)</p> <p>HV = percentage of heavy vehicles (as defined in the 1994 Highway Capacity Manual) PR₅ = FHWA's five point pavement surface condition rating W_e = Average effective width of outside through lane</p>

The Wisconsin Department of Transportation has been using a bicycle level of service model since 1982. With an abundance of low volume country roads (approximately 50,000 to 60,000 miles of paved town and county roadways) the model was designed to be sensitive to the conditions of low and moderate volume rural roadways especially when at a time when there were no paved shoulders. Of the models explored in this case study, it has the most sensitivity to volumes of traffic in the mid to low ranges. The model was based on the probability of a conflict. Very few rural roads with low volumes of traffic in Wisconsin have enough width to allow three vehicles (2 passing motorists and a bicyclist) to comfortably share the same linear space. The statistical probability of motor vehicle/bicycle/motor vehicle conflict has a major impact on the suitability of a roadway for shared use. Due to low traffic volumes, many cyclists consider Wisconsin's roadways ideal for cycling.

The model was made sensitive to volumes based on earlier research conducted for warranting passing lanes on highways. Using and modifying that formula for its Wisconsin model, a bicyclist can expect to encounter nine times as many conflicts on a road with 1,500 vehicles per day as compared with a road, which has 500 vehicles. On a road with 5,000 vehicles, the conflicts would be one hundred times as great as on a road with 500 vehicles per day.

Unlike the other methodologies it bottoms out at about 5,000 vehicles per day, which is still a relatively high volume. It has been adapted to account for use with paved shoulders, but WisDOT officials acknowledge that the conflicts occurring with vehicles when paved shoulders are present are different than when bicyclists are sharing the travel lanes. WisDOT officials actually established upper volume thresholds at which point roadways would automatically receive undesirable ratings even when wider paved shoulders existed.

Conclusion and Recommendations

An increasing number of states have developed rural BLOS measures to indicate the bicycle-friendliness of their rural roads. Each state has a different set of traffic conditions and roadways making one model a perfect fit for all impossible. When low volume roadways are being evaluated for potential U.S. Bicycle Routes and more fineness is desired especially to measure volumes of traffic, the two national models are not sensitive enough. On the

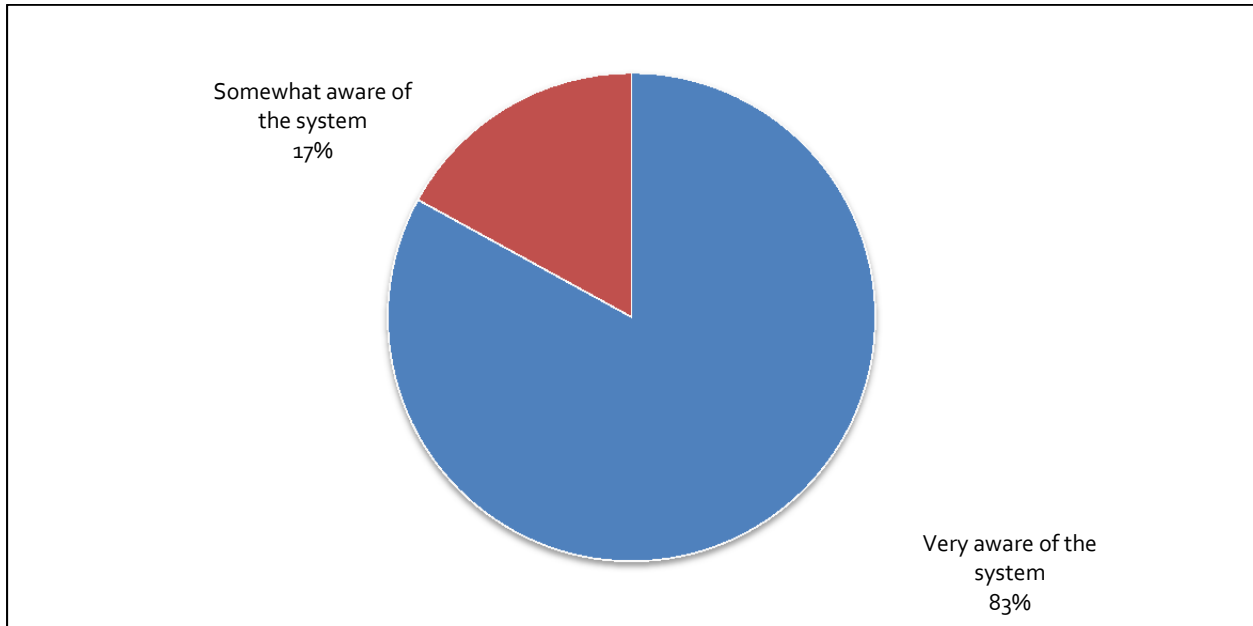
other hand, they tend to be more sensitive to paved shoulders and bike lanes. Here are some general thoughts and recommendations:

- **Use what works for you.** Rather than be completely stymied by not being able to evaluate and recommend routes, use one of the BLOS tools. Various BLOS tools can be used and the results compared.
- **Get feedback.** Share the early results with staff, a peer group, or group of bicyclists. When using bicyclists, make sure you get a good cross-section of bicyclists and note their level of experience and confidence with traffic. Be willing to make adjustments to the model or try a different one.
- **Document your reasoning.** Take notes and support your decisions. There are really no wrong moves and it is always better to base your approach on planning and analysis rather than knee-jerk decision-making or no decision making at all!
- **Do something.** No tool will be perfect, but follow the steps, get feedback and get comfortable with your approach.

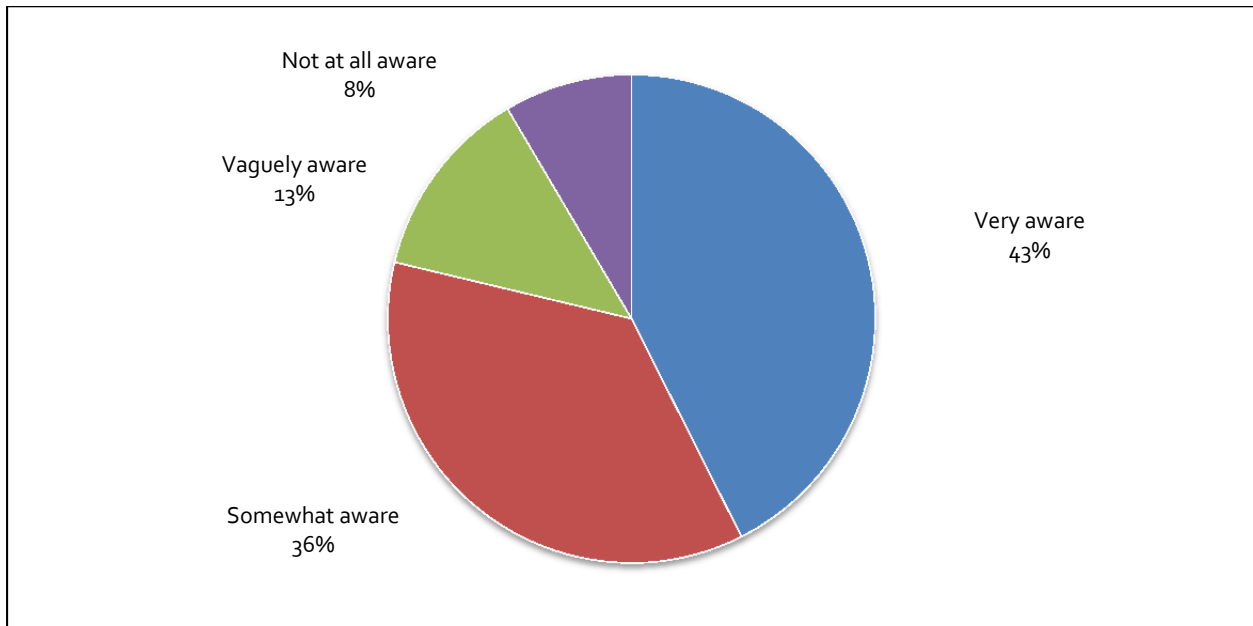
APPENDIX A: SURVEY OF STATE BICYCLE & PEDESTRIAN COORDINATORS RESULTS

Below are the full results of the survey submitted to the state bicycle and pedestrian coordinators in December, 2012. Some responses have had specific state or U.S. Bicycle Route information removed to allow respondents to answer questions honestly without concern about negative comments.

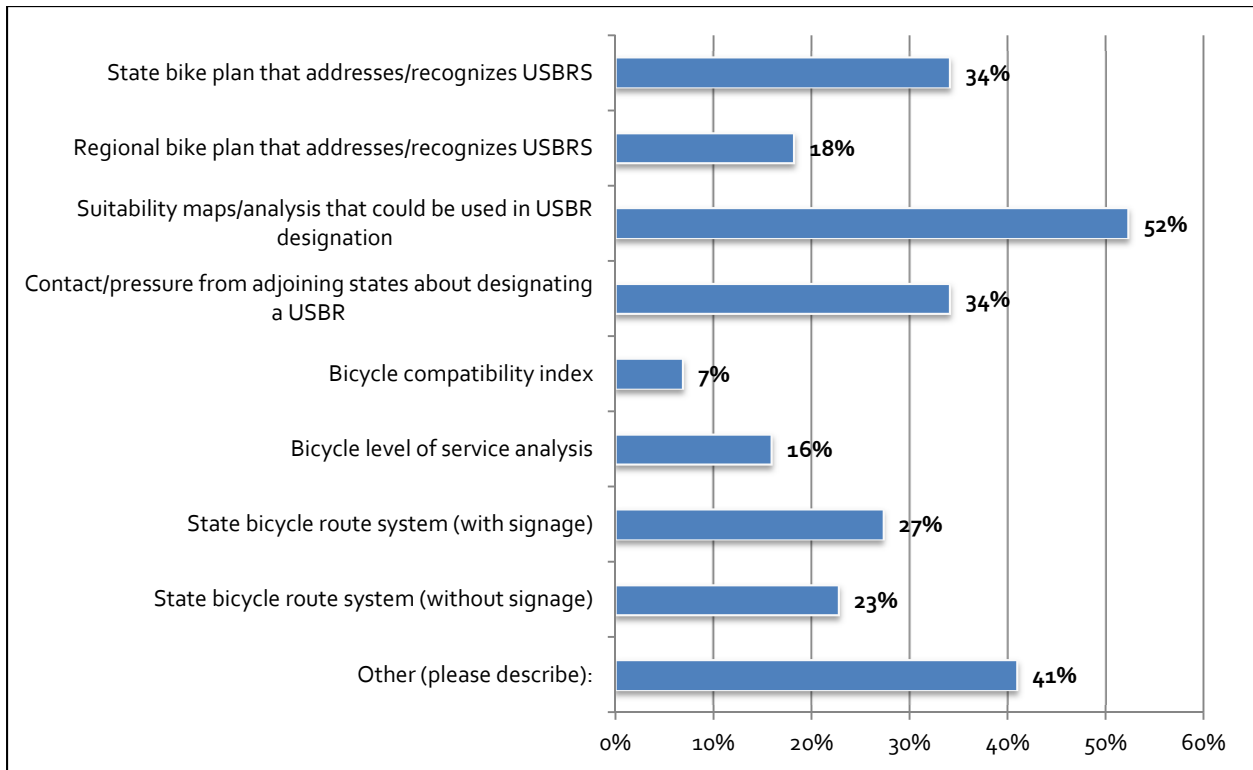
1. How aware are you of the U.S. Bike Route System?



2. How aware are you of the tools and resources for designating a USBR on the Adventure Cycling website?



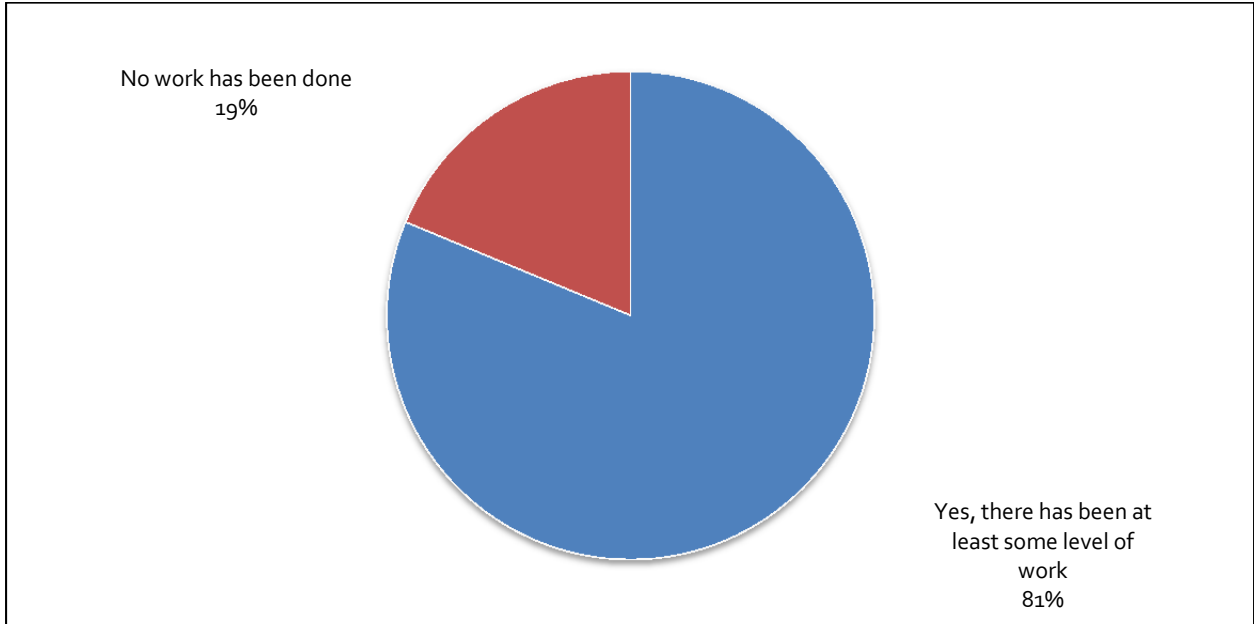
3. Do you have plans, documents or tools that could aid in planning for or designating a USBR in your state? Check all that apply.



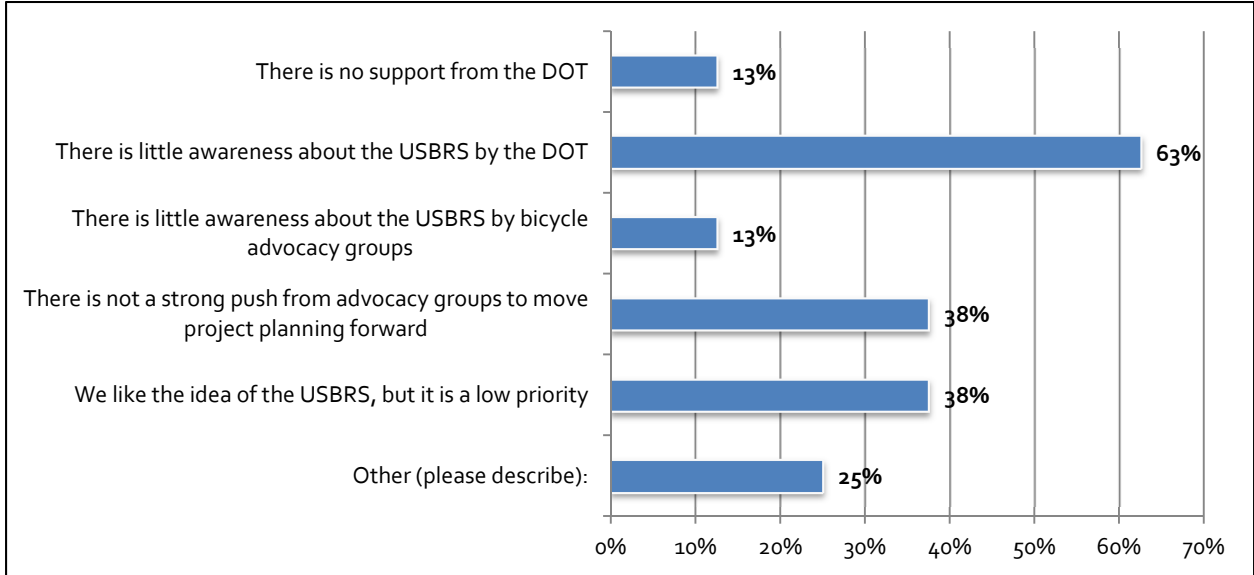
Other:

- Already designated route
- Cycle Arizona Bicycle User Map (refer to <http://www.azbikeped.org/maps.htm>)
- Design Policy Memo for bike route signing
- Desire to establish regional and long-distance bikeways
- MRT Route
- Mississippi River Trail Bikeway Marketing Toolbox
- Plans address route planning which has aided in USBRS planning
- Policy identifying 4 corridors within which the routes should be established
- Potential routes via imagery
- Route 66 initiatives; Bike plan in development phase but will consider USBR integration
- Some existing regional routes
- State Bike Plan
- U.S. Bike Route 1 designated last year
- Existing trail system
- Suggested cross-state bicycle route (without signage)-On state bicycle map
- We are working on suitability maps. We also have at least one MPO (Lafayette) that has included the USBR system in it; long-range plan update
- We have a statewide bike map, but given our mountainous state, we'll need to work with counties and other jurisdictions to determine a route.
- State bike maps being developed that will include routes that will be concurrent with the USBR, i.e. Great Western Route

4. Has any work been done to implement a USBR in your state?



5. You indicated that no work has been done to plan or implement a USBR in your state. Please indicate why you believe this is. Check all that apply. Note: Question only asked of those replying “No” to Question 4.



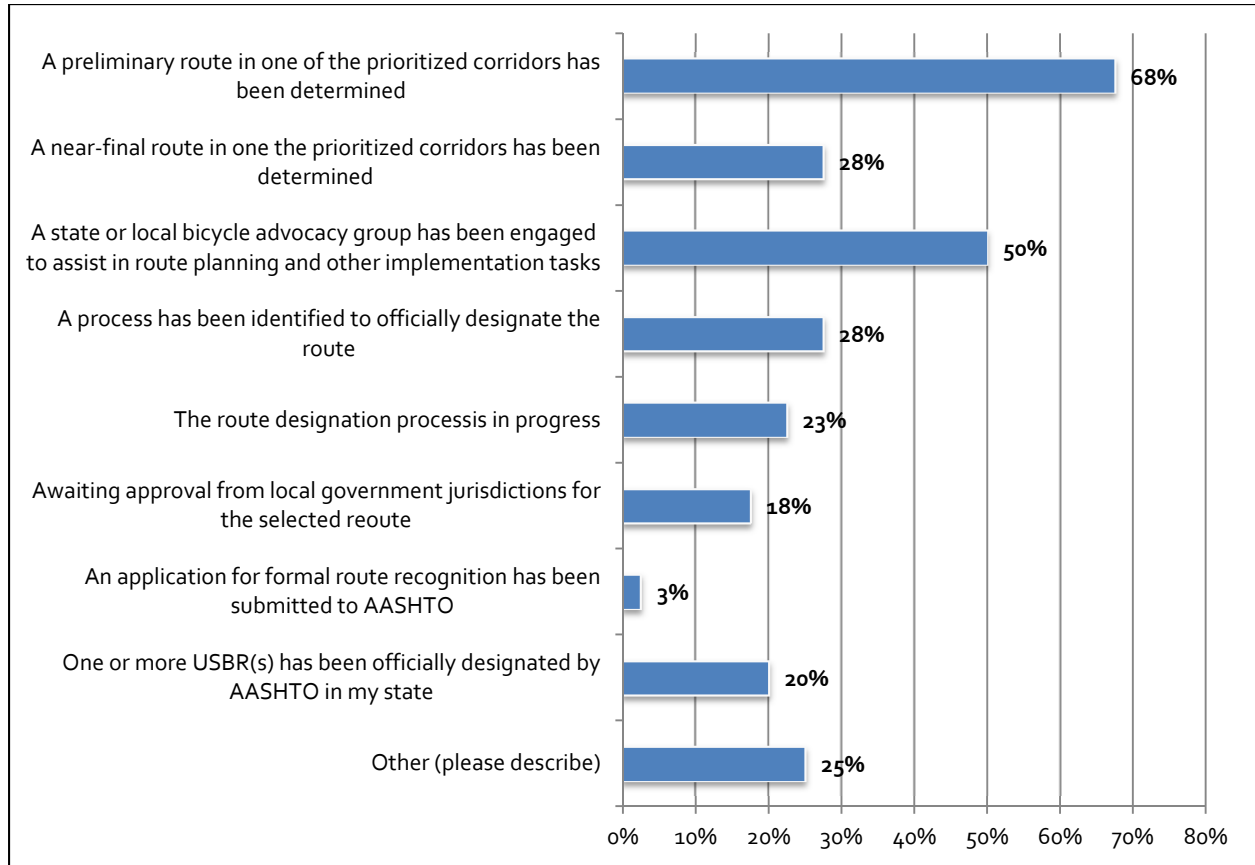
Other:

- Waiting to address through State Bikeway Plan process

6. Please elaborate on why you believe there has been no action to implement a USBR in your state or what would need to change in order for your state to implement a USBR? Note: Question only asked of those replying “No” to Question 4.

- Not a big priority for local cyclists (or at least that's what we perceive)
- Lack of priority or will at the DOT level.
- The State has put efforts to advance USBR planning & programming on hold until they can be properly integrated into a State Bikeway Plan and the Department's long range state transportation plan. The RFP released in the procurement of the bikeway plan explicitly calls for: "Developing a vision for the U.S. Bicycle Routes System and the benefits such a system may have to the state." With the State Bikeway Plan contract in final stages of execution, the Department intends to reengage with the USBRS as a means of a promoting connectivity and network linkages.
- South Carolina has a designated state bicycle tour route that meets U.S. Bicycle Route 1 at the North Carolina border and passes through SC to the Georgia border. Presently it follows an abandoned bridge that formerly carried US-301 over Lake Marion near the town of Santee. While the bridge also carries the Palmetto Trail (designated by the Palmetto Conservation Foundation), it is closed to motor vehicle traffic and not maintained by the SCDOT.
- The leadership within the Department of Transportation has little or no interest in pursuing USBRS within the state. Routes were looked at in a preliminary way as a part of our statewide bicycle plan, but the only interest shown is in having bicycle routes so that bicycle traffic would not have to be considered when looking at upgrades to roads that are not bicycle routes.

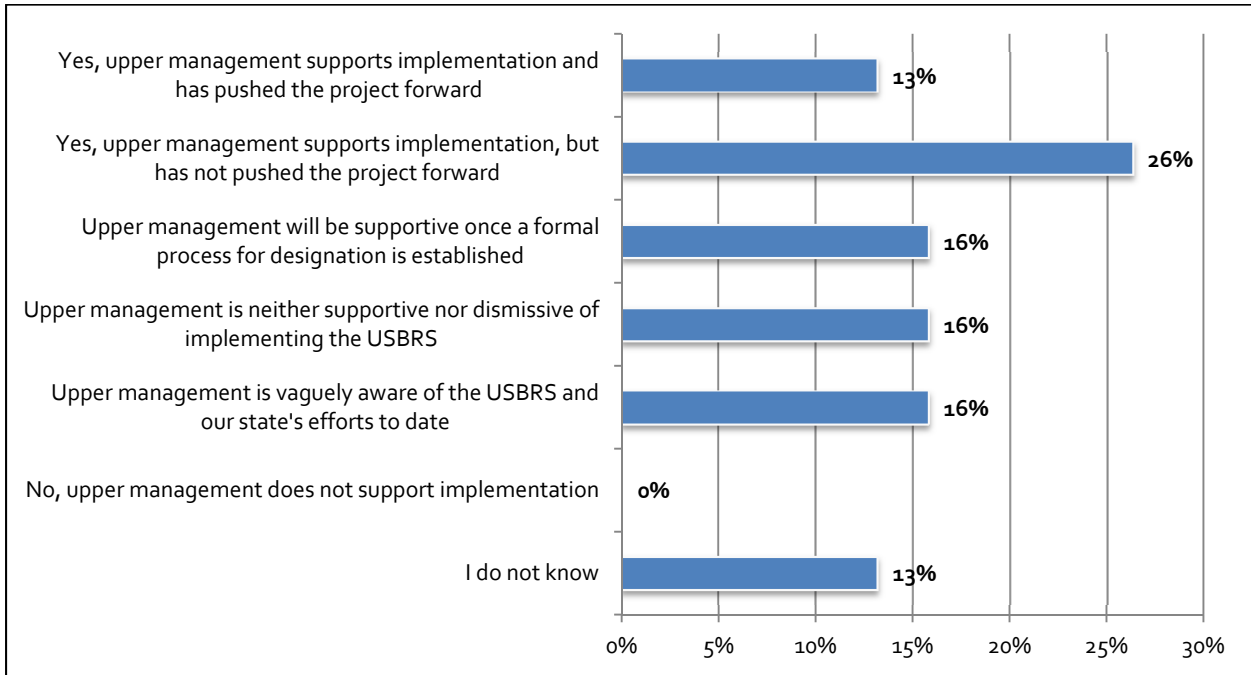
7. You indicated that there has been at least some level of work to plan or implement a USBR in your state. Please indicate what steps have been taken. Check all that apply.



Other:

- Discussion with regional planning commissions about their assistance with developing routes
- Internal Discussion
- New, near final, State Bike Plan will initiate discussions.
- Potential routes have been researched
- Route is based on MRT
- USBR 35 & 50 each have active advocacy groups spearheading efforts for designation in Indiana.
- Plan to submit USBR 76 for AASHTO approval in spring 2013
- Has been in contact with Adventure Cycling, but national route designation fell apart because of how isolated Delaware is from the national route system. Route 1 just catches a piece of Delaware. American Discovery Trail is also being pursued. There has been strong support from above and have a plan for a north-south regional route.
- The MN Legislature has authorized the MRT as the state's first authorized bikeway in the state. Two-thirds of the MRT has been approved as a USBR (the final one-third will hopefully be approved in 2013). A process is being established to pursue our second USBR between Duluth and Mpls/St.Paul. MnDOT is also in the midst of developing a policy plan for bicycling in MN. MnDOT Districts will be developing regional plans and the policy plan will suggest/assign ways to implement and manage them moving forward.
- There have been some discussions of a route along the Blue Ridge Parkway in the western part of the state; there are concerns from NPS about the route

8. Is there upper-level support in your state DOT for implementing the USBRS?



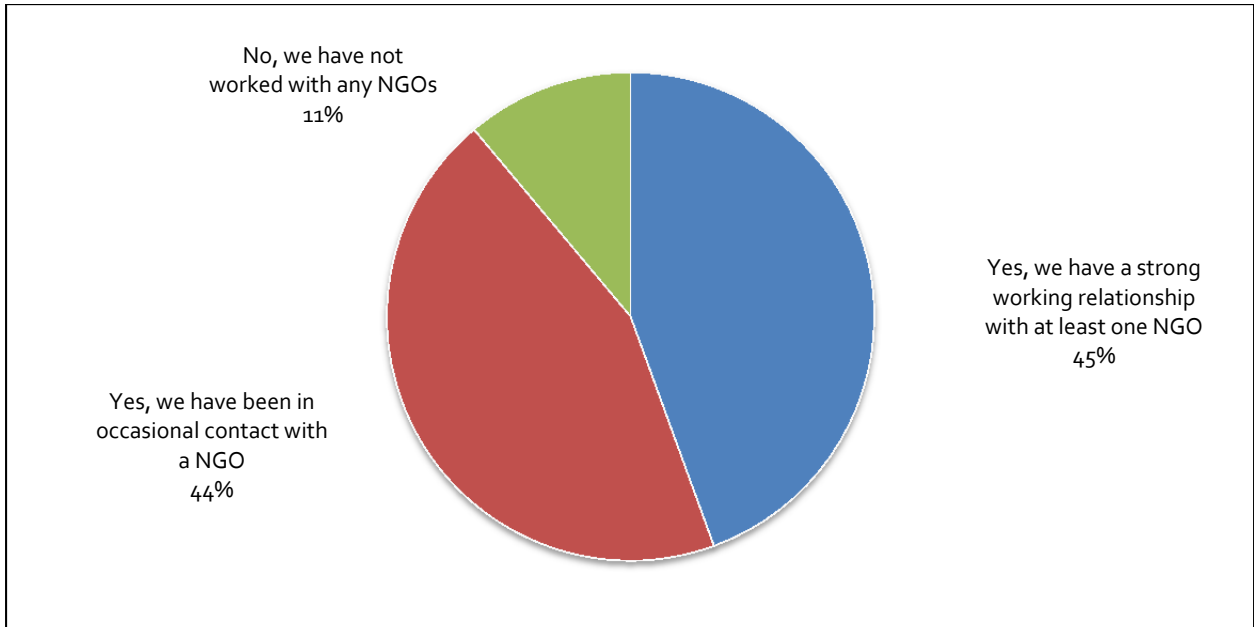
Comments:

- Given lack of staffing and funding, this project has not been of highest priority at this time.
- Meeting with ADOT's deputy director of transportation to gain management support
- We've had U.S. Bicycle Routes since 1982. I have no idea how they feel about additional routes.
- Upper management is aware and supportive. Efforts so far haven't been communicated to top management (i.e. the DOT Secretary) as not all issues have yet been resolved.
- USBRS is not a high priority with our DOT. If all the leg-work is done at the local/regional level and there is no fiscal impact to the state, then we will work to get a route through the process.
- While Michigan has 2 AASHTO approved routes upper management has not "pushed" the project forward. They support the effort but I would stop short of saying they pushed the project forward. They were kept informed throughout the process and we sought their support as we moved through the process.
- The department has a new secretary who is probably not informed about the system; there hasn't been any real work on the system or even many discussions.
- Concerns over signage, confusion over what they need to consist of. Do they need to have paved shoulders to be on the system?
- Bicycling is very popular within Minnesota and consequently enjoys a broad level of support among residents and road authorities. MnDOT leadership is very supportive of the Agency's numerous bicycle initiatives.
- INDOT has not yet endorsed the U.S. Bicycle Route corridor concept. Generally, INDOT considers placing U.S. bicycle routes along the Statewide Mobility Corridors an unsafe idea. INDOT believes that paved-shouldered state highways with low-traffic volumes and lower commercial traffic would be more suitable for possible designation as U.S. bicycle routes. However, when the full case for U.S. Bicycle Route 35 and 50 — including detailed proposed routing — is presented, INDOT will carefully evaluate and weigh both the benefits and costs associated with the concept. Additionally, because the designation of U.S. Bicycle Route 50 would impact — to some extent — the state jurisdictional highway system, INDOT would want

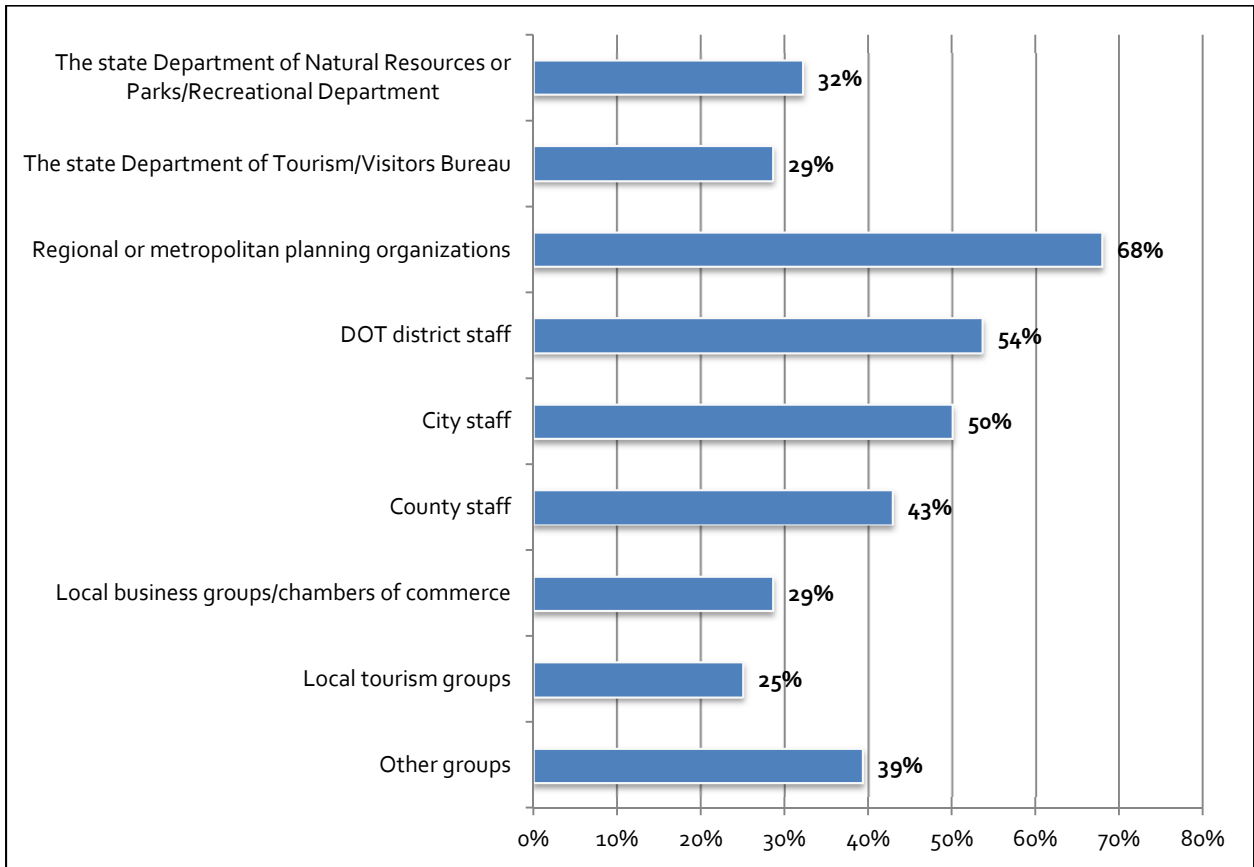
to provide the public with the maximum level of input before making an endorsement. Only after studies of the route provide clarity regarding its merits to Indiana, and the public is fully consulted, will INDOT formally prepare and submit an AASHTO application for such designation.

- When I have brought up USBR with members of the department the general reaction is conservative caution and concern for safety followed by a statement relating to not wanting to encourage use of a facility due to perceived risk and safety concerns.
- Eric Weis, Trail Coordinator for the East Coast Greenway Alliance, has taken the lead in designating a USBRS through Rhode Island. Staff from RIDOT's Traffic Engineering Section and the state bike coordinator have met with Eric at least once on the proposed USBRS route that Eric has proposed for RI roadways.
- We are in the process of informing upper-level management about the USBRS and specific route designation.
- Staffing levels are the biggest impediment at this time. We have identified a corridor, but the route must be reviewed by planning and traffic.
- The Department is not likely to enhance USBR 1 beyond designation. The designation of USBR 1 is not likely to affect the design, function or maintenance of the highways along the route. Any signing is a local responsibility and I do not believe any of the affected municipalities have signed at this point.
- Several state agencies are working together to move the process forward. These are primarily MassDOT and the Department of Conservation and Recreation (DCR), both of which are very actively involved with promoting on- and off-road bicycle facilities. We are working together on both USBR 1 and USBR 9. These routes complement the state's network of the seven Bay State Greenway (BSG) corridors, which were identified in the 2008 MA Bicycle Transportation Plan.
- Management remains supportive, it remains a priority — not pushing should not be viewed negatively.
- It's not part of the DOT's core mission. So while there may not be opposition, there's not the type of support needed to make it a work item in my position.

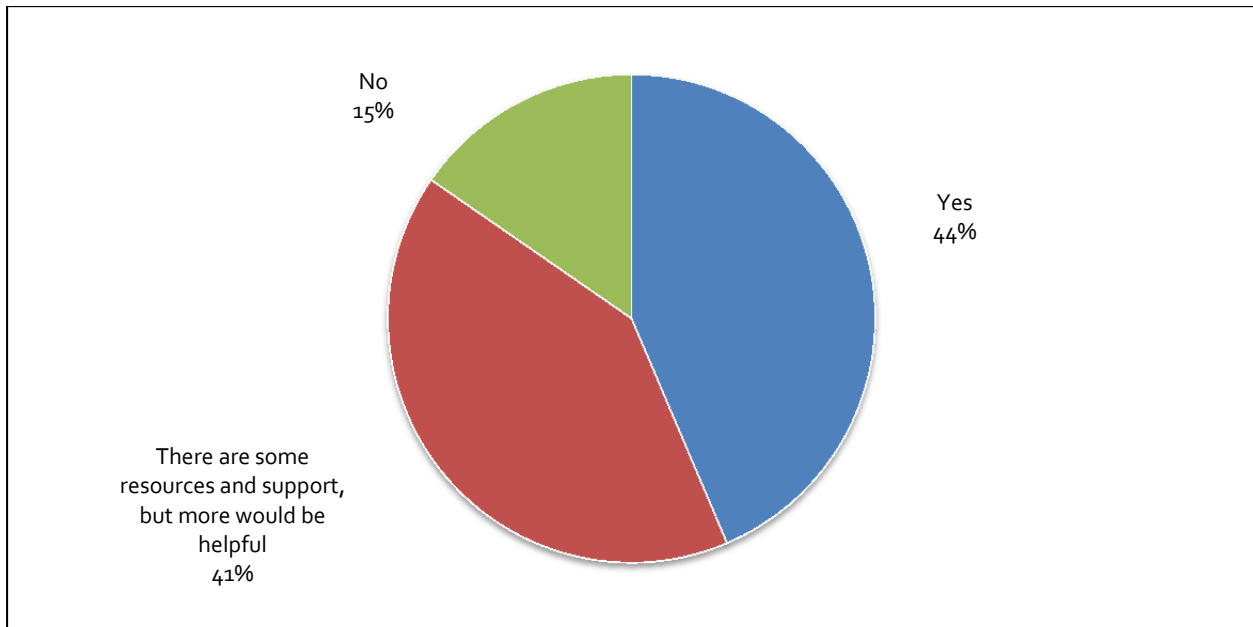
9. Does your organization have a working relationship with a non-governmental organization on this project (advocacy group, local volunteers, others)?



10. Are there other organizations or agencies that you have a working relationship with that are interested or involved in this project? Check all that apply.



11. Do you feel that you have enough internal resources and support to pursue designation of a USBR in your state?

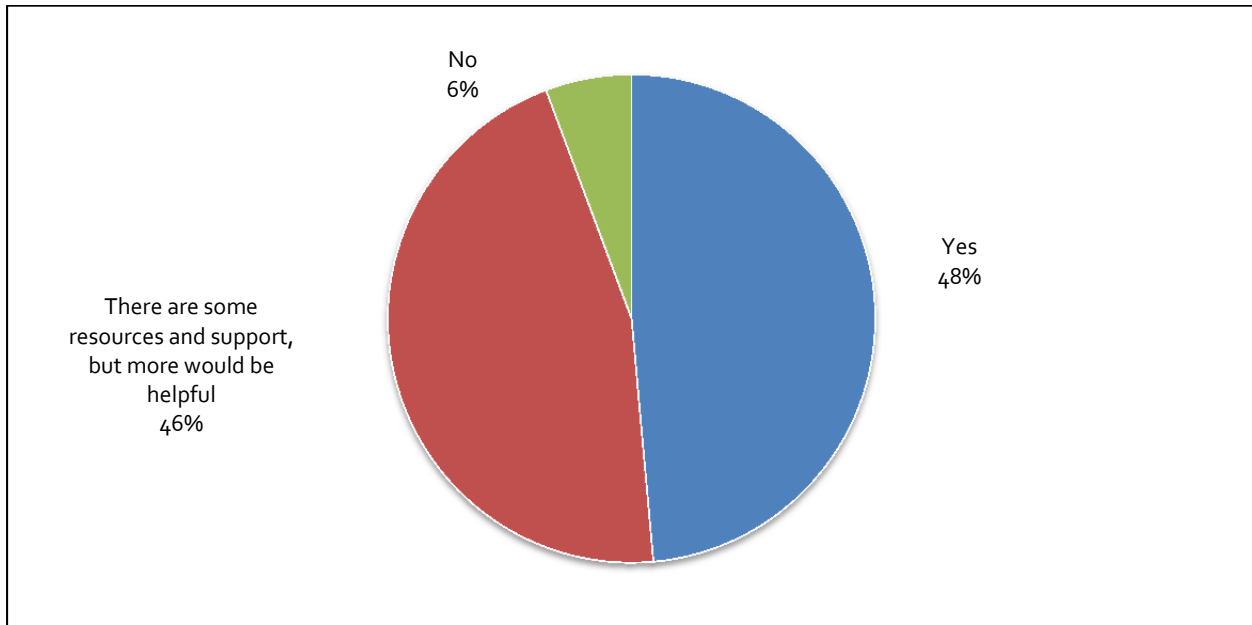


Comments:

- Funding of signage will be an issue.
- Have enough resources and commitment and governor is behind it.
- Not enough time or staff resources
- Staffing levels are quite low not only in planning but also in our traffic office, which will be required to review the route.
- I'm not sure how the signing aspect of a USBR would occur. It is possible that our Agency would support funding the installation of signs once a route had been designated.
- The approval of 2 routes in Michigan took approximately 2 to 3 years per route, although portions of the route designation process routes were worked on consecutively. While I feel this is a realistic timeframe given the length and complexity of the two routes, this may be shortened by 6 months or more if there were more staff available at the DOT level. Management support was not a concern in Michigan. Funding is a problem when it comes to marketing, signing, and other forms of implementation including pavement and shoulder repairs and upgrades/enhancements.
- A complete internal review of the costs and the benefits associated with USBR designation, along with a robust public involvement plan will still need to be conducted prior to the preparation and submission of a formal AASHTO USBR designation application by INDOT.
- We have a push from Virginia Bicycling Federation to designate the Blue Ridge Parkway and Skyline Drive through Virginia to Harpers Ferry, Virginia. If we had National Park Service support for this project we could probably get enough support for the northern section on VDOT roads.
- Coordination would be necessary between DOT Main Office and Regional offices and subunits. There is a strong history of on-road signed bicycle routes within the NYSDOT. The idea of signing a USBRS across New York, while new, would follow the same process as any previous or proposed state bicycle route.
- Staffing is tight, signing budget is unknown but assumed doable as a maintenance function, upper management wants to promote tourism

- We are in the process of educating upper-level management on the USBRS. Additionally we are short staffed in the Planning Division of the DOT, as well as leadership is in transition (the Secretary recently retired and the incumbent has not yet been selected).
- Our focus at this time is on crash reduction and safety improvements for cyclists and pedestrians. While we continue to make small improvements, there is no concentrated focus at this time.
- Resources are probably not the obstacle. I believe the obstacle is a perception of risk and safety concerns and perhaps a resistance to pursue due to public perception of use of resources and/or similar political reasons.
- There has been staff turnover and bringing everyone up to speed on process and progress has slowed the effort over the past year.
- On 14 November 2012, Richard Moeur and I made our pitch to Mike Kies, director of planning and programming, ADOT Multimodal Planning Division, for funding of a task assignment, "USBR Plan and Implementation Program," through our Bicycle and Pedestrian Planning On-Call. Mr. Kies will meet with deputy director of transportation to gain management support.
- I am currently a staff of one so my available time is very limited. Since the state advocacy group is garnering support from local agencies and planning the route, I can at least reach out to neighboring states and submit the route to AASHTO. I also believe I could get mapping staff to develop maps, but finding funding to sign the route could be more difficult.
- We have designation. The challenge will be to maintain designation (we have received some push-back on at least one route) and to implement signing.
- As Director of Bicycle and Pedestrian Access at MDOT I have spearheaded the effort to establish U.S. Bike Routes in Maryland. However there are other worthy projects I am involved in that compete for my time as well as that of other key participants. While I have a fair amount of freedom to select what projects I will be involved in, maintaining that freedom means not neglecting other duties to a point that my superiors will receive complaints.
- It is only me working on this. It'd be nice to have an additional hand to help with resolution follow-ups. The state advocacy group has volunteered to help with this but it is not proving to be effective.

12. Do you feel that you have enough external resources and support to pursue designation of a USBR in your state? This may include support from NGOs, Adventure Cycling, AASHTO, local communities or other forms of support.



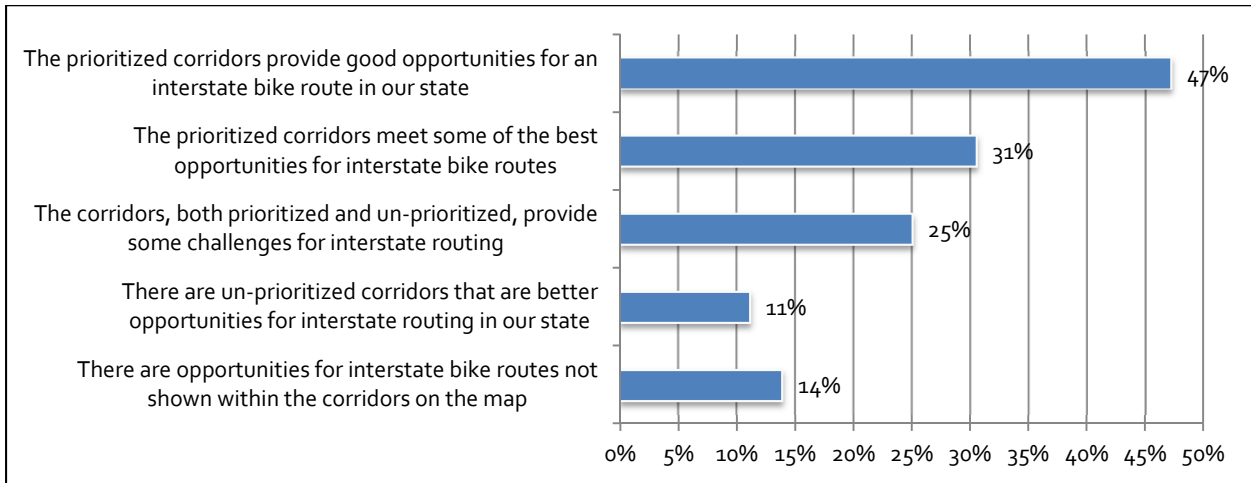
Comments:

- Biggest hurdle is lack of national route in the State.
- Chris Marsh of the New Mexico Touring Society has been very helpful.
- External stakeholders have wanted to be paid for their time, which we cannot do.
- Help with mapping of the corridors would be valuable.
- I have clearly put the ball in the court of the RPCs and the NGOs and no progress has been made.
- Lack of resources has been an on-going issue with this project.
- Not a high priority for the state advocacy group at this time.
- There is enough support but it is disaggregated. It is difficult for the State to work with three RPOs and many towns on one project. It would be easier if there were one overarching group that had the power to negotiate for the corridor, but that is not the way it works here. It is what it is.
- Any state owned/maintained roadways that are identified for designation as part of the USBR through Rhode Island will need the approval of RIDOT's Traffic Engineering Section. Also, RIDOT's DPM 920.06 would need to be completed for each roadway segment included in the USBR. Approval of USBR signs on state roadways under the jurisdiction of the state DOT will require the approval of the State Traffic Commission (STC) prior to installation.
- There may be similar reluctance on the local level based on perceived risk and safety concerns. Local district reaction has been reserved based on perceived risk.
- Who maintains the signing; to whom do we send requests for updates, temporary detours during construction, etc.
- The one area where guidance and support is lacking is on the subject of signing. There are some grey areas when it comes to AASHTO and the MUTCD as it relates to trailblazing for the U.S. Bicycle Route sign M1-9. Michigan DOT got approval from FHWA regarding the new green and white M1-9 sign but there are some differences and grey areas in terms of sign location and the number of required signs per turn (2 sign assemblies or 3 per turn per directions). Our Engineering staff want black and white. MDOT is

currently working with FHWA in Washington DC to get clarification on sign requirements to make it more black and white, or at least give MDOT clear authority to use engineering judgment.

- There has been staff turnover and bringing everyone up to speed on process and progress has slowed the effort over the past year.
- No U.S. Bike Routes have been established in Maryland. Therefore establishment of the first one means setting a new precedent and therefore some selling to stakeholders is in order. We are currently looking at two US Bike Route proposals, USBR 1 between DC and Delaware paralleling I-95 and USBR 11, roughly paralleling I-81 between WVA and PA. In both proposals significant portions of the desired route will travel on facilities not under the jurisdiction of MDOT. This means we have to ask others for permission to designate facilities under their control as a U.S. Bike Route. Ask Ginny Sullivan about our experience dealing with a national trail organization regarding designation of a pedestrian bridge across a major river as part of a proposed U.S. Bike Route to provide an illustrative example.
- The local communities and MPOs are where the most support has been. They understand the tourism and quality of life issues better than the state. There has been overwhelming support from them.
- The major challenges will entail internal coordination (in the case of proposed USBR 1) and external coordination (in the case of proposed USBR 9).
- The culture within the NYSDOT places a strong emphasis on signed bicycle routes. To help expedite the creation of a USBRS within New York State, funding sources to purchase signs should be identified. Having a third party to help facilitate contact between the NYSDOT and adjoining State DOTs, and to keep the process moving forward would be of great assistance.
- Resources/staff time is always limited and priorities need to be set, but we do have adequate staff.

13. Do the prioritized (colored and numbered) and un-prioritized (light grey and not numbered) corridors on the National Corridor Plan map reflect opportunities for long, continuous routing in your state? Check all that apply.

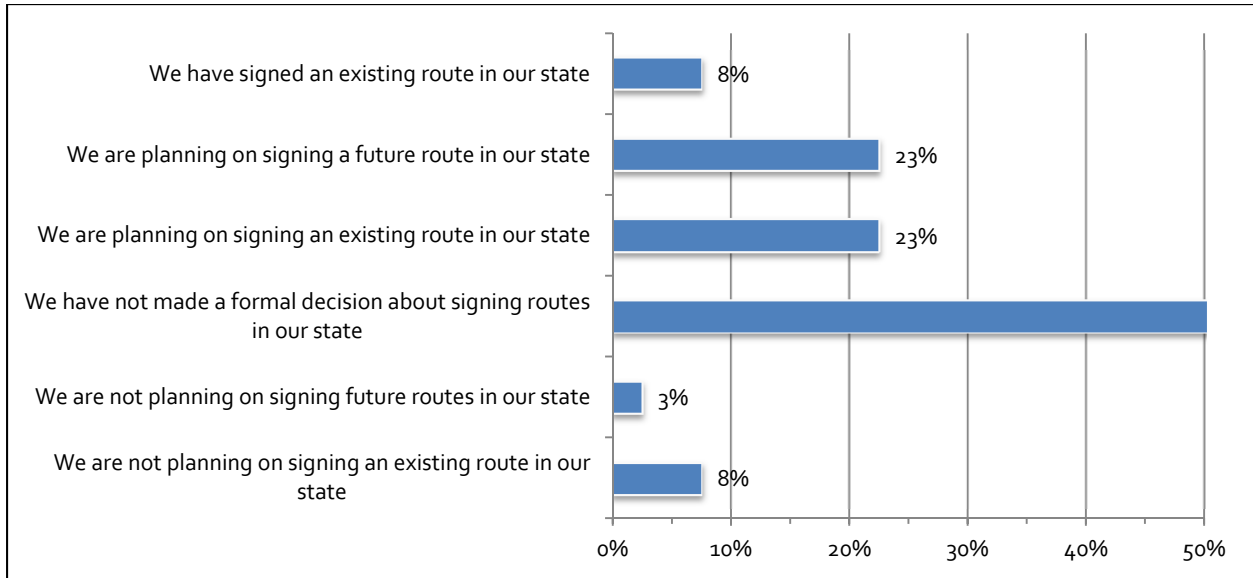


Comments:

- BicyclePA Routes S and V are established E-W routes in PA
- Not aware of the map
- The MN Bicycling Policy Plan will review the prioritized and non-prioritized USBR.
- The map scale makes it impossible to tell what the corridors are.
- The prioritized and un-prioritized routes in Michigan are appropriate.

- AASHTO's recognition and support for the USBRS is important, and brings coordination to a national bicycle route system. In New York, the proposed USBRS overlap some of the same corridors as our state bicycle route system. Consideration would need to be given whether to co-sign them alongside our existing state bicycle routes or to sign them on new alignments.
- Historic Bicycle Tourism Trails <https://www.biketexas.org/en/infrastructure/texas-tourism-trails> including Old Texas 20.
- The existing corridors are the best opportunities currently available. At some point in the future (5-15 years) I expect other opportunities will present themselves. Specifically the Sterling Highway to Homer; and (eventually) the Dalton Highway to the North Slope.
- There is a need to analyze the prioritized and un-prioritized corridors in the state. We are still researching the routes.
- Because of our geographic location, Indiana frequently serves as the crossroads for the nation. This appears to be true regarding the USBR corridors as five such corridors pass through parts of Indiana.
- Part of the task assignment described above would include further analysis of the "un-prioritized."
- Our USBR 7 corridor poses the easiest route currently for USBRS. This follows part of the prioritized route and then continues north through MA, VT into Montreal following the Western New England Greenway. USBR₁, the ECG, is currently being signed as the ECG. We may decide to co-name this as USBR 1 after the signage project is done. There are long-term off-road portions that will not soon be built (Merritt Parkway Trail, primarily). The communities are very sensitive to large bike presence on local streets and designation of an on-street route is not easy either.
- Terrain, motor vehicle volumes, limited route choices and possible lack of shoulders are some of the challenges.
- Appreciate the opportunity we had to work with Adventure Cycling to refine maps as we developed our policy. Mapping the corridors in a GIS format would be very helpful, and also establishing a process for amending corridors. Doesn't need to be complex, just set a framework.
- The proposed routes meet our objectives to expand the Bay State Greenway (BSG) network by adding to the North Shore, Mass Central and Nashua River — Buzzards Bay Corridors (USBR 1), and the Berkshire Corridor (USBR 9).
- There may be better N-S corridors than the proposed following of the U.S. Highway routes (93,95) due to truck traffic and poor cycling conditions. These routes, although parallel, would be greater than 30-50 miles away from the proposed un-prioritized routes.
- USBR 30 and 40 are too close in proximity to each other. USBR 40 should move to the south as it will hit many of the smaller cities and provide better connectivity.

14. The MUTCD includes an official sign for the USBRS. Have you or are you planning on signing any existing or planned USBRs in your state? Check all that apply.

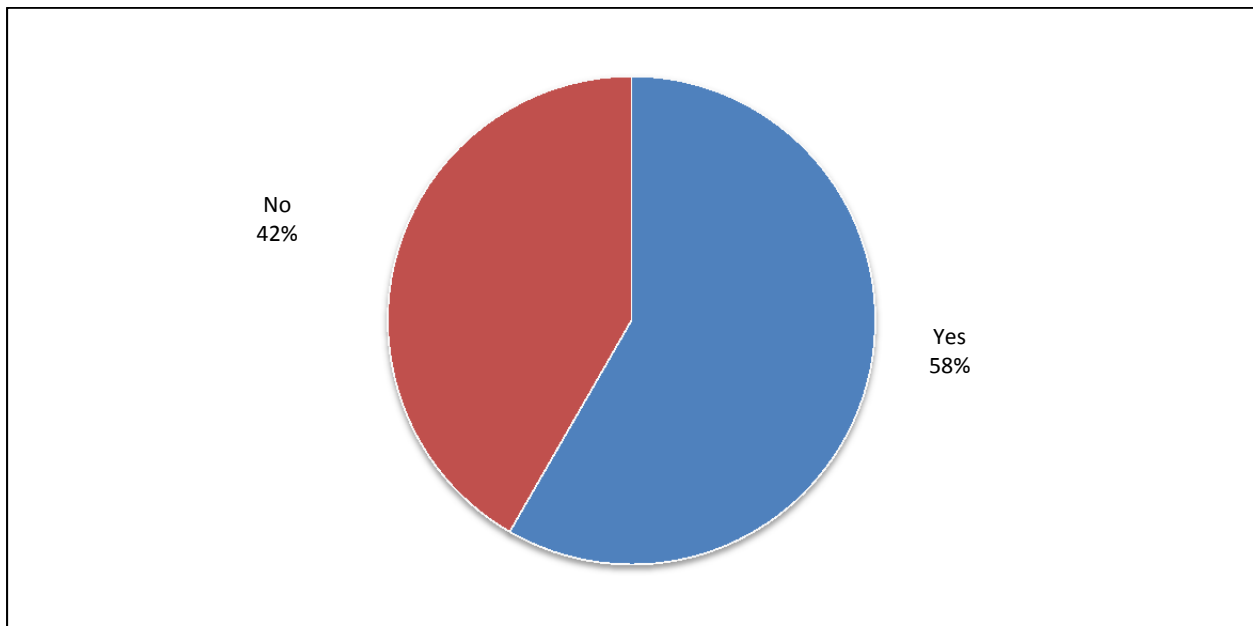


Comments:

- Do not know if existing route is signed or not. No active plans to sign.
- First we would need to establish route(s)
- NHDOT leaves all such responsibilities and maintenance to the local municipalities.
- Portion of USBR 66
- We are also currently signing other BSG corridors in the Pioneer (Connecticut River) Valley.
- We have routes with signs missing since they were signed and hopefully they will be replaced.
- A few of the cities are allocating city budget for the production of the signs once USBR 50's application is completed and approved.
- Funds have not been identified and routing has not yet been accepted. It is likely that we will get route approval from AASHTO and pursue signage at a later date.
- Our office is willing, as is the traffic safety office. The challenge will be securing the funding for the project or phases.
- Signing takes funds, and we don't have any for this. We're having discussions about adding information to our bike map, but not physically sign the routes.
- While we have others to place signs on FDOT right of way, we need to develop a process for how additional signage should be funded and installed. Additional guidance that discusses how mapping and/or pavement markings can be used to identify routes would be helpful.
- The natural next step once the route is approved is to look for funding, but we haven't gotten that far along yet to have that discussion internally
- We secured scenic byway funds to sign the MRT. After much consternation and conversation with Adventure Cycling, FHWA personnel and staff within MnDOT, we have decided to utilize the MUTCD state bicycle route sign (instead of the national route sign) because it allows us to use the multi-state MRT pictograph on each sign; and it allows us to sign the route with the same route number assigned by AASHTO (route 45) now as USBR consensus is being formed within the final segment of the MRT in MN and amongst the other 9 states. A ten state MRT USBR is many years away (if ever).

- Signage while not required, is implied. We are closely following Michigan's experience with signage and the application of the MUTCD. INDOT also has some concern regarding quality control with regard to signage since some of the potential USB routing will be on local roads and trails and not on the state jurisdictional highway system. INDOT will be exploring the use of MOUs to ensure consistency of signage should any decision be made to sign the potential U.S. Bicycle Routes.
- MDOT has committed to signing the MDOT portions of both U.S. Bicycle Routes in Michigan. This translates to around 25% for each of the routes. However, while we hope to begin signing our segments of both routes in the spring/summer/fall of 2013 due to fiscal constraints this may be put on hold. There are local efforts to signs much of USBR 20. Those efforts are underway but pending FHWA clarification on the required number of signs per turn.

15. Have you encountered any barriers you during the implementation process in your state? These may include institutional barriers, local resistance, lack of interest or other factors.



If you answered yes to the question above, please describe the barriers and note how you were able to overcome them.

- County engineers and liability
- Gaining management support slow to come
- Haven't started yet so don't know if we'll have any barriers or lack of interest.
- Institutional barriers based on perceptions to risk and safety concerns of designation.
- Lack of funding.
- Lack of time with other responsibilities in my position.
- Liability Concerns, Still Outstanding.
- National Park Service
- No defined corridors except small sliver of route 1.
- Physical constraints (lack of bridge crossings)
- The only question I've gotten from the DOT (not the locals) is concerning liability.

- Time and money.
- We have one regional office that has expressed concern about the designation of one route — calling an industrial route. The route in question, however, has the highest proportion of bicycling traffic in the state and is safely co-existing with the current heavy tourism and trucking traffic. There may be increased heavy freight traffic in a few years — but nothing solidified yet.
- Some local trail authorities believe it presumptuous to sign a locally funded trail as a USBR when the feds were not involved with acquisition, development or maintenance. We have encouraged trail authorities to incorporate the MRT route signs into a comprehensive way finding program (Minneapolis is developing such a plan). We believe this approach is less obtrusive but very effective in serving the needs of MRT travelers. Some local trail authorities have questioned the use of relatively large signs that dominate other trail signing. We have signaled flexibility outside of MUTCD guidance in trail sign sizing. Some road authorities have balked at any maintenance of signs calling it “an unfunded mandate.” We have adopted a three-year signing approach for the MRT: 1) Develop a comprehensive sign plan for the entire route. 2) Immediately purchase sufficient signs for the entire route. 3) ID “early joiners” who will install the signs during the first year (that includes all MnDOT Trunk Highways) 4) ID “fence sitters” in the second year and seek ways to pay for the installation of the signs. 5) Attempt to sweeten the pot for remaining road and trail authorities 6) Accept that some signing gaps will likely exist. Some road authorities believe their routes are dangerous for bicycling or have other liability concerns. This unfortunately is probably the most difficult of obstacles. In spite of due consideration for posted speed, sight distance, shoulder adequacy and average daily traffic bicycle safety is often based on personal perspective. Associated with the safety concerns is the fear that someone will bring suit against the road or trail authority. As we know, it is not possible to protect road and trail authorities from all lawsuits -- Americans have the right to bring suit against any party. The most we have done is to make sure they know that bicyclists already have a legal right to ride on a state's roads, and suggest that their liability is no greater if the route is signed.
- However, we are early in the formal process of the USBRS application and do not yet know if we will encounter significant barriers.
- I checked no because at this point it seems that staff is catching up on what has been previously done (see earlier comment on staff turnover). Once we pick up the process I'm not sure what barriers there are. I know we're mostly using trails, I know there are some gaps in that, and potential disadvantages in that it may not directly connect to communities — local connections will be important. Some people don't like the idea of low volume roadways and just want trails.
- Lack of interest. Resistance to encouraging cyclists to use our highways/interstates (most the time our only option).
- Resistance to signing.
- The former Superintendent of the Appalachian National Scenic Trail unit of the National Park Service was extremely skeptical about plans to designate the Goodloe Byron Memorial Pedestrian Bridge as part of U.S. Bike Route 11. Fortunately the Appalachian Trail Conservancy, a partner of the Appalachian National Scenic Trail, advised that our proposal for designation (bicyclists must continue to dismount and walk bikes across the bridge as they currently do) would not be inconsistent with Appalachian Trail policies. Again, ask Ginny Sullivan about her experience with this effort. I anticipate potential resistance from jurisdictions who own roadways where we are planning U.S. Bike Route 1 because of concerns of maintenance, liability, etc. Therefore I am concentrating on U.S. Bike Route 11 first because I don't anticipate further resistance now that the Byron Pedestrian Bridge issue has been resolved. Once completed USBR 11 can serve as a precedent for U.S. Bike Route 1 designation.

- INDOT notes that there is no specific federal mandate to designate U.S. Bicycle Routes and there is no dedicated federal funding specifically targeting the development and maintenance of U.S. Bicycle Routes. USBR designation costs, liability and benefit will be carefully evaluated by INDOT prior to the preparation of AASHTO designation applications.
- Personnel and also political. There are problem segments that are tough to deal with. When doing the road respect program uncovered concerns in a local area where they wanted to get bicyclists off of two state highways because of no paved shoulders and steep climbs. Very, very difficult to add shoulders and this would be part of a USBR. Also, some people don't want bicyclists on roadways.
- Apparently USBR is not a priority for the RPCs and NGOs. I am not going to go out of my way to push this issue. There may be interest from our Tourism and Marketing agency, but probably not until the route exists.
- Eric Weis has been the lead on any effort to implement a USBR through RI. The last time I spoke with Eric on this issue, he explained that he has not approached RIDOT with a final route plan because of the department's on-going Pawtucket River (I-95) bridge replacement project. This project impacts several of the local roadways proposed as part of the USBR and detours remain in effect as the new southbound bridge structure is still under construction.
- Some local road agencies are reluctant to allow the route to be designated on some roads for a variety of reasons. The reasons include frustration with bicyclists and not sharing the road or the bicyclists are disrespectful. Those thoughts are due to large organized bicycle rides where the bicyclists have a critical mass mentality and they ride 3-4 abreast and don't share the road. Another reasons for local resistance was a fear that designating a road as a USBR would require the road agency to enhance the road. Residents already want the road repaved, but the road agency is not making that road a priority. The road agency feels if they designate the road as an official route it will give the locals more justification to have their road improved. There is also concern on signing and long term maintenance of any signs on their ROW.
- local resistance to recreational cycling wayfinding on local streets local resistance to trail construction; lack of funding (State and Local); lack of staff time (DOT and RPOs)
- Legislature required that the route be signed after a shoulder lane has been provided for use by bicycle traffic.
- In one town, the selectmen insisted on a less logical circuitous route than the obvious route, which happened to be very scenic along the ocean front. The thought process, as I understand it, was that the better, shorter, more scenic (busier, obviously) route should not have bikes inconveniencing motorists.

16. If you are working on official designation of a route, please describe the process being used (NGO outreach, public meetings, resolutions of support from all local municipalities, State is simply designating through mapping, etc...).

- Working with adjoining States
- State is designating the route over a long-standing route thru the state. It is entirely on the state system, which simplifies the process.
- NGO outreach Historic Bicycle Tourism Trails <https://www.biketexas.org/en/infrastructure/texas-tourism-trails> VBF did most of the mapping, which was fairly easy since 95% of the route is on one road. The State will provide support for the project once NPS declares support.
- Need local government approval, but no formal approval process, but Iowa DOT works closely with communities and counties.

- NGO outreach to secure approval for portions of the route on local roads at this point. Have not thought through the process much further than this until local approval is secured.
- PPAC subcommittee members are leading the effort through site visitation, conference calls. members of this subcommittee have vast knowledge of PA roads.
- Initial outreach through the MPOs and WSDOT Regions. The Bicycle Alliance of Washington is taking the lead on mapping the route with locals and ground truthing.
- USBR 50. Kerry has been a great help. The MPO bike staff and I have been doing most of the work. I have found it is more effective going to communities as ODOT/MPO versus an advocacy group. Less time for buy-in is needed. I am going county by county. I first schedule a meeting with county and city engineers, DOT district staff, MPO staff, etc. and I show a proposed route that they can react to. Adjustments are made on the spot and then we schedule a field audit where we look at particular criteria (suitability ratings) that we have developed. Adjustments are made during the field audit. Finally, this route is then proposed to each owner (township, county, and/or city) and a resolution is passed. Then I move on to the next county and do the same thing. The resolutions are what is taking the longest. We are currently complete with 7 out of the 10 counties. We are working from west to east. We have decided where the Ohio River crossing is going to take place and are moving west from there to meet up with the edge of the 7th county that is already completed. Application is scheduled to be submitted by spring of 2013, barring no hiccups.
- Some NGO outreach but mainly mapping. We've had to shift from a "Volunteer Model" to DOT leading the effort if we can get management support.
- The State Legislature has designated the route. Resolutions of support are being gathered for a detailed route.
- Reviewed and refined the route based on collaborative statewide meetings; Conducted evaluation rides to confirm route decisions made in the meetings; Introduced the concept of bicycle-friendly communities along the route; Posted a GIS-interactive map and printable maps on MnDOT's website; Developed a marketing toolbox to enhance local marketing efforts and promote the MRT; Completed a signing plan for segments located on state highways; Organized additional statewide route reviews to improve the alignment and coordinate activities and expectations amongst MRT's road and trail authorities. Concentrated on: segments previously identified as needing additional review; the National Park Service's Mississippi National River and Recreation Area (MNRRA) in the Twin Cities; and on developing recommended design guidance for off-road segments; sought and received Legislative designation for the MRT as the State's first authorized bikeway; initially solicited for resolutions of support for USBR status for the southern third of the route (designated spring, 2012); solicited for resolutions of support for USBR status for the northern third of the route (designated fall of 2012); initiated solicitation of support for USBR status for the middle third (MNRRA) segment of the route (designation sometime in 2013).
- We have two routes in Michigan. One route (USBR 20) involved one person going to each road agency and solicited a resolution of support from the responsible group (Road Commission, City or Village Council, Parks Board, etc). The extent of public meeting was what occurred in each respective agencies public comment section of their regularly scheduled meeting. For USBR 35, there was "Corridor Committee" that was formed; each member was charged with soliciting a resolution of support from the local agencies in their area. They took public comment at their respective local agency meetings, in addition to MPO or RPO meetings.
- We've established criteria that are to be used for evaluating alternatives in establishing the route, and two out of 7 Districts have identified routes. Have also mapped the East Coast Greenway, and internally discussing whether we should follow existing efforts such as the ECG or use some other process.

- All of the above elements apply. In addition, we are working cooperatively with our State's resource agency, DCR.
- The USBR concept in Indiana is being spearheaded by advocacy groups. The groups are in regular contact with the INDOT Bicycle-Pedestrian Coordinator. The advocates are the ones who are meeting with local groups and government officials to build support and garner resolutions of support for the concept. Indiana currently has two groups of advocates working under the direction/guidance of Adventure Cycling and Bicycle Indiana on routing concepts and public support for the north-south USBR 35 and the east-west USBR 50.
- Work with local Highway Districts, Local governments, and State Tourism. These groups are all involved in the mapping process also.
- We are working with Eric Weis of the East Coast Greenway Alliance and expect that he will eventually submit a final route designation to RIDOT, hopefully in 2013.
- There has been some effort to develop a NNBR along the Oregon Coast, but lack of time, agency support and money have put the effort on hold.
- Stakeholder outreach and public meetings which will ultimately lead to resolutions of support to accompany an application to AASHTO.
- Working with Bicycle Federation of Wisconsin to finalize the routes with communities and partner agencies.
- We have preliminarily identified a route opportunity but it needs vetting for the Route 7 corridor (N-S in the western part of the state).
- Most routing will be on existing interstates, US Highways and State Highways. Only in the areas of Las Vegas and Reno will the routing use local roads. the local MPOs are not resistant to the idea. The process will most likely be a recommendation from the bike planning office to the director. Our development of the Statewide Bicycle Plan (just finishing) and development of local rural regional bicycle plans (just starting) will provide the public and NGO input.
- The majority of the work thus far has been performed by the New Mexico Touring Society (NGO). They have worked with advocacy organizations and received verbal concurrence from most of the affected local entities. I am not sure the extent to which they conducted public meetings. The State is currently reviewing the route and application and working on internal communication.
- The previous bike/ped coordinator proofed a route in the state from Little Rock to Memphis. I have not as of yet continued with his efforts. However it is one of my goals to do so.

17. Please describe what you believe are any unique approaches to planning or designating a USBR in your state.

- BicyclePA Route System exists now, and is intended to be used as the backbone of USBRS routes.
- Crossing a RR bridge that has an Appalachian Trail designation for no riding bikes.
- Establishing a route using volunteers at the local level, local meetings, with DOT leadership
- None at this time.
- None.
- Selection of a route, which has a consistent level of safety for the bicyclist.
- That we are primarily building Route 30 off a system of state trails.
- The only unique condition that comes to mind is that New Mexico has numerous pueblos, and the proposed USBR 66 passes through a number of them. We will work closely with our Tribal Liaison to

make sure that the route users are informed of and respect the culture of the Pueblos. Some of the resources available for users of the route: http://usbr66nm.bicyclemaps.org/Route_66/Pueblos.html.

- I believe it is crucial that you have help and support from the bike community. As the bike/ped coordinator for Mississippi I am not sure what the best routes would be for a USBR. Therefore, I will have to rely on a bicyclist that is local to the area of the potential route to help gather information and best options.
- INDOT has a close working relationship with Indiana Metropolitan Planning Organizations (MPOs) and Regional Planning Organizations (RPOs). We are encouraging USBR advocate teams to work with the MPOs and RPOs concerning potential routing developments.
- I don't think we are embarked on a unique approach. Steps involved include: Determining the target audience for USBR (i.e. experienced long-distance touring cyclists) Identifying the route corridor and stakeholders Having discussions with stakeholders both individually and jointly through phone calls, email and face to face meetings. Identifying concerns and taking steps to resolve them. Respecting stakeholders and disagreeing if necessary without being disagreeable. Providing rationale for stakeholders to support designation.
- KY has a large amount of high quality secondary roadways with low ADT. We have developed an LOS for our roadways that goes into more detail than what I have seen anywhere else. Upper management is very supportive.
- Working through MPOs (Regional Transportation Planning Organizations. Working from regional and local bicycle plans and connections — a lot is happening in our state that will hopefully expedite route selection process.
- Began discussions with Georgia early on to identify preferred linkages, established criteria so that we would be able to maintain a consistent quality in the routes and resist less desirable alternatives that may have political support, identified already established routes as potential candidates.
- What was unique about our approach to planning and designating the U.S. Bicycle Routes in Michigan was that there were two distinctly different approaches and each one was successful. The similarities between the two was that we worked with Google Maps to identify the route, and we (MDOT) required resolutions of support from the impacted road agencies but what happened in the middle, how we got that support was vastly different.
- There are overlapping routes in MA — the BSG, the East Coast Greenway (ECG), and the U.S. Bicycle Routes. Our objective is to keep information focused and intelligible for travelers, not overwhelming and confusing. As MA is a densely developed state, we are especially attentive to avoiding visual clutter.
- We employed a collaborative approach to formalizing the "trail" route and promoting its use within the headwaters state. Steps included: rebranding existing roads and trails into an 800-mile long distance bicycle route; employing a coordinated marketing strategy driven by the private sector and supported by local civic leaders; creating a sustainable user experience by promoting bicycle-friendly communities, seeking Legislative state bikeway authorization and designating it as a US Bicycle Route; partnering with the National Park Service to provide the backbone for an alternative transportation system throughout the Mississippi National River and Recreation Area; signing the 800-mile route; and sharing responsibility for the trail's management with all the road and trail authorities that own it.
- I think it's more effective for the DOT to take the lead on this in Ohio versus how Josh in Michigan has had the advocacy group take the lead on this. We just don't have a strong statewide group that could commit to the level of work and coordination that is needed. The strong relationship I have with the MPOs, and the locals, has also been a positive and has helped this process. I've been using GIS to create the route maps (by county) ahead of time so that stakeholders have something to react to. That speeds

up the coordination time. I also do not go out and do dog and pony shows if they are not needed. The meetings are working meetings that in the first five minutes I talk about why it's important and how I need their help. Most people respond positively, roll up their sleeves, and get to work right away.

- Potential use of FHWA State Planning & Research funding to develop a "USBR Plan and Implementation Program"
- In most cases, no paved secondary routes. Towns, services in excess of 70 miles apart. Marketing the USBR as an economic benefit to our rural communities.

18. Please describe any strategies that have worked well to move planning and/or designation of a USBR forward in your state.

- Conference calls only — so far effective.
- Interest from a dedicated cyclist/advocate
- Partnership with WDNR and BFW.
- Strong interest across the state and partnership with the Bicycle Alliance of Washington.
- The work of non-governmental bicycle advocates in the state.
- Work cooperatively with communities and counties
- Very supportive planning commission
- Use the support from one community to coax the next community to support the project. Sell the project as a way for small communities to "get on a National map" and be part of something new and exciting. Tourism and money. Keep everyone informed, even the people who oppose the project. Let them know how you are progressing and what communities support the project. Keep DOT management informed of progress and challenges. Consult with your litigation dept. on liability and be prepared to answer questions from DOT staff or local agency staff.
- Using the 2008 MA Bicycle Transportation Plan has been extremely helpful for enabling our planning efforts. The Plan identifies Bay State Greenway (BSG) corridors, which are identical to or comparable to proposed USBR corridors. Working closely with the DCR has also been a helpful strategy, as MassDOT frequently partners with this agency on shared use path initiatives.
- The State is still too new to the designation process to be able to adequately respond to this question.
- Our signage project with ECG is going fairly well. They are paying for the ECG signs and coordinating with local governments on local road signage. The DOT is installing signage on the State roads and reviewing ECG for compliance with traffic laws and safety. The project has proceeded in two phases: Hartford-East and Hartford -West. Hartford-East was completed 2012 construction season and the other half will be done this year.
- Having the assistance of Bike Walk TN has been instrumental to us even considering a U.S. Bike Route since we don't have enough staff in the Bike/Ped Office to go out and personally ride and document the suitability of a cross-state route.
- Road respect program planning added as a safety education program that covers bicycle safety very well. This program has raised awareness and can be leveraged to move bicycling forward. This has positioned Utah well for moving forward on the USBRS. Also bike plans for regions will help. For north-south route starting around communities where you can justify based on work trips and other utilitarian trip-making. Next — make longer connect between cities. Governor is strong supporter and tourism.
- Development of credibility among stakeholders, serving as a referee and an honest broker, listening to stakeholder concerns and learning about their interests, and using the prestige of my employer in a positive way to encourage support. Taking the initiative to work on problem resolution and counseling

stakeholders to refrain from making statements or taking actions fueled by frustration that could alienate other stakeholders from ultimately supporting the proposal.

- Using the existing Western Express Route (USBR 50) as an example to show the potential economic benefit for other parts of the state. We are now consistently hearing that the spending of the cycle-tourist along USBR 50 is important to their local economies.
- Bicycle and Pedestrian Coordinator lead, support at all levels of DOT, advocacy organization assistance
- MnDOT adopted a distributed marketing strategy that relies on the efforts of local chambers of commerce, convention visitor bureaus, private businesses and civic interests who benefit from increased usage by newfound MRT bicyclists. The foundation is the newly developed MRT Marketing Toolbox that describes bicycling market segments and identifies who might be attracted to the route, provides a template that encourages consistent MRT branding and messaging, and strategies for communities to attract visitation. Marketing workshops were convened by the former Director of MN Tourism in six communities to guide preparing locally adopted tourism marketing plans. MnDOT reasoned that bicycle friendly towns would be valued and appreciated by visitors and that they would locally serve to sustain the vision of the MRT. So MnDOT contracted with the state's advocacy organization, the Bicycle Alliance of MN, to convene six sets of community meetings with elected civic leaders and staff, health partners, and local bicyclists to evaluate and collectively identify a plan to achieve a welcoming environment to initiate and later support their application for designation as "Bicycle Friendly Communities" by the League of American Bicyclists.

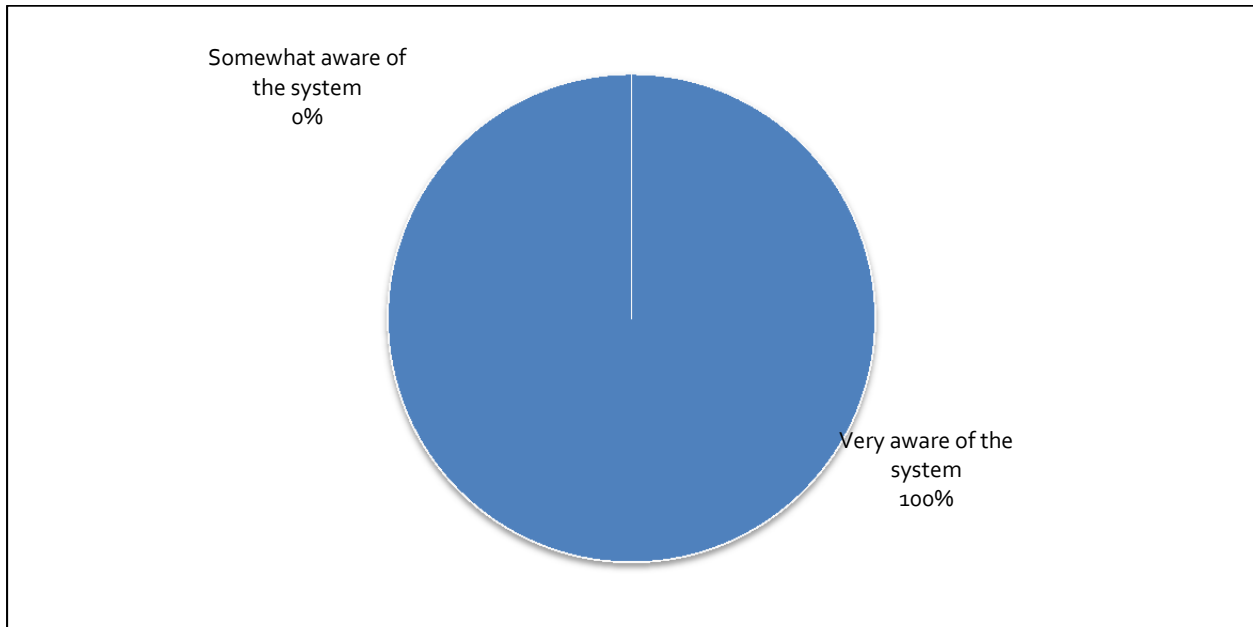
19. Please add any additional comments you have about USBRS planning and/or designation in your state.

- It is not a (high) priority.
- No additional comments at this time.
- Nothing at this time.
- PA looks forward to becoming a participating state in the USBRS.
- Understand the process and am getting better at implementation
- Would like clarification if resolutions are required or what the advantage is in having?
- Good luck!
- Coordination and support from the state legislature, adjoining states and multiple state agencies such as tourism and recreation are very helpful along with support from state and local bicycle advocacy groups.
- Please stay tuned for additional information and outreach from IDOT & Alta Planning & Design as we develop our State Bikeway Plan and reengage with the USBRS. This is a very timely survey that comes as the Department embarks into a historic non-motorized planning initiative and we appreciate the work you are doing to coordinate between states and advance communication channels. Be in touch.
- I anticipate a great deal of concern over signing I-80 with USBR 50 signage, especially near the confluence of US50 and I-80. USBR 50 will follow I-80. USBR 79 will follow US50.
- I look forward to continuing the efforts of the previous coordinator and have a designated and signed route through the state.
- We look forward to advancing the USBRS on two fronts, western Massachusetts (proposed USBR 9) and eastern Massachusetts (USBR 1). Having adjacent states advancing the routes — though at different paces — is helpful. Similarly, having the Adventure Cycling Maine-Florida route (recognized in our Plan) traverse our state is also a plus.

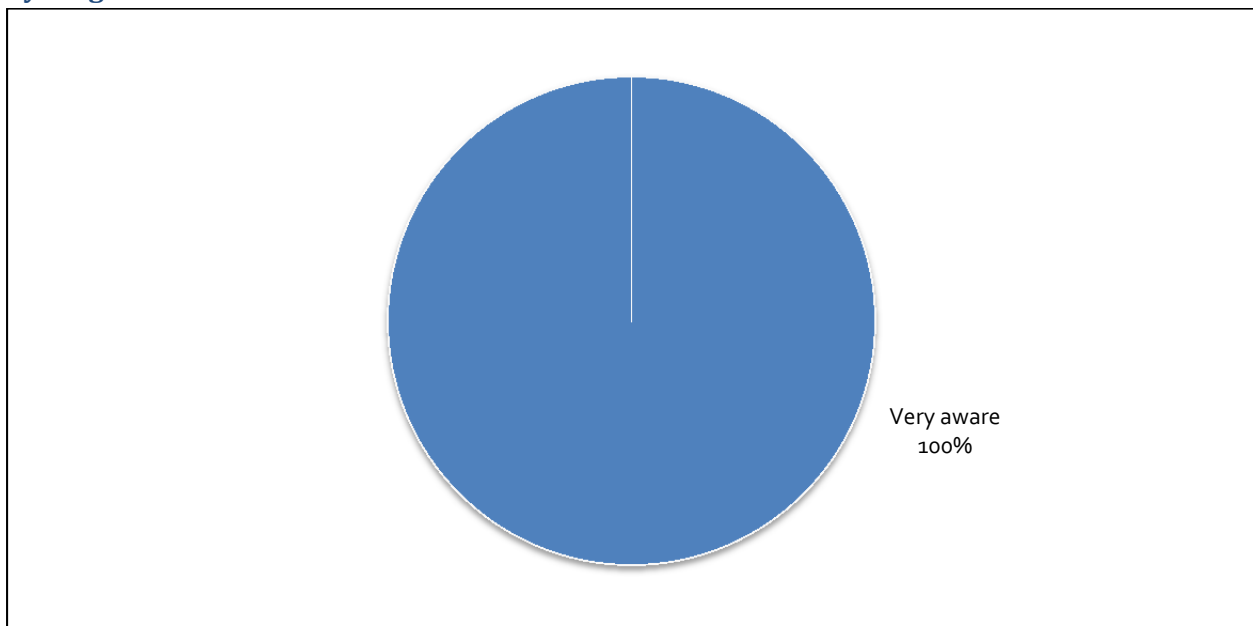
- Sticking point: ADOT's Joint Projects Administration Branch is currently taking the position that any agreement with a local agency to place a US Bicycle Route on a non-ADOT roadway in Arizona will require a formal signed Intergovernmental Agreement between ADOT and the local agency, in order to address possible fiscal, operational, and risk management issues. These IGAs are reviewed by the state Attorney General's Office prior to approval (and usually by local agency legal staff as well), so the lead time can be significant. Since we've never executed this type of IGA before, we don't currently have a template, although JPA Branch has stated they are willing to assist ADOT staff in drafting these agreements.
- Having worked with and or for the Department of Transportation in this state they do not want to do anything unless forced to by FHWA.
- Missouri is well on its way to signing USBR 76 across the state and interest is building in marking USBR 66 as well. I optimistically hope to have route marking prepared for submittal in the fall of 2013.
- Can sell USBR on economic benefits. Sees a definite pursuit of the bike route system in Utah. Resources will be provided if you can sell this as econ development. Will happen fast when it begins.
- There are many competing areas for bike advocates to work on in Oregon. So far the USBR designation process has not attracted much interest. Oregon Scenic Bikeways, the Oregon Coast Bike Route and the Historic Columbia River Highway seem to meet the need of touring cyclists in Oregon. There is little incentive or pressure to develop USBRS. The existing Adventure Cycling routes and maps seem to serve cross state bicyclists well. While we are supportive of the USBR efforts, to date there's been limited, organized effort to scout and apply for a route designation. The limited work so far reached a dead end in my office. I simply don't have any time to work on it, have other work priorities, get little to no support from my superiors, etc. So far I've not heard from any of the bordering states either.

APPENDIX B: SURVEY OF SELECT VOLUNTEERS/NGO RESPONSES

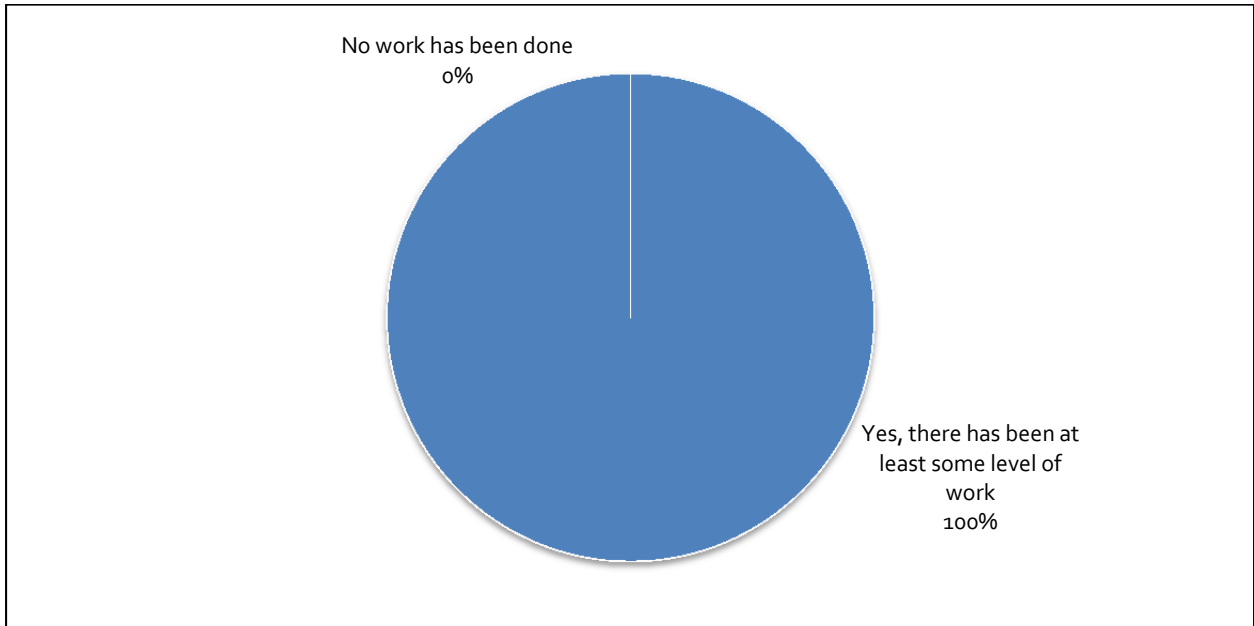
1. How aware are you of the U.S. Bike Route System?



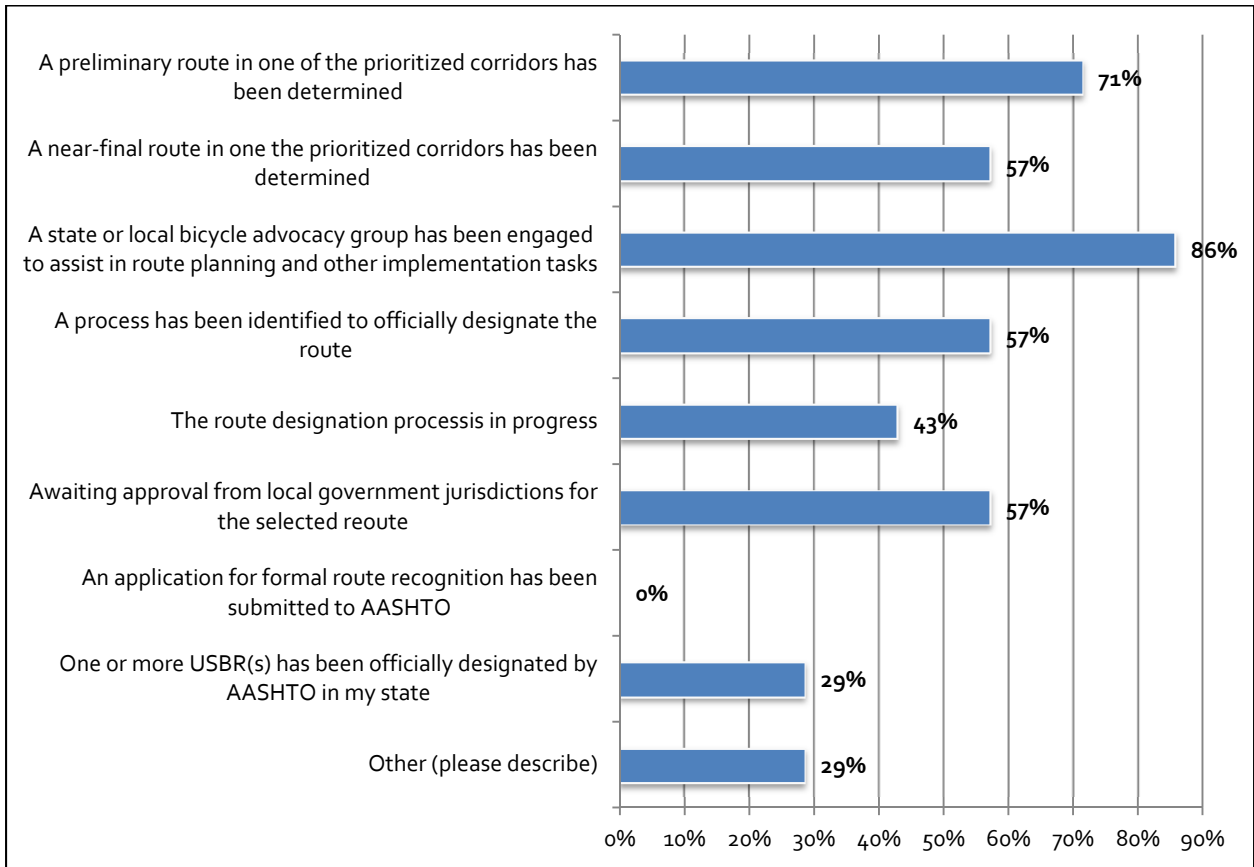
2. How aware are you of the tools and resources for designating a USBR on the Adventure Cycling website?



3. Has any work been done to implement a USBR in your state?



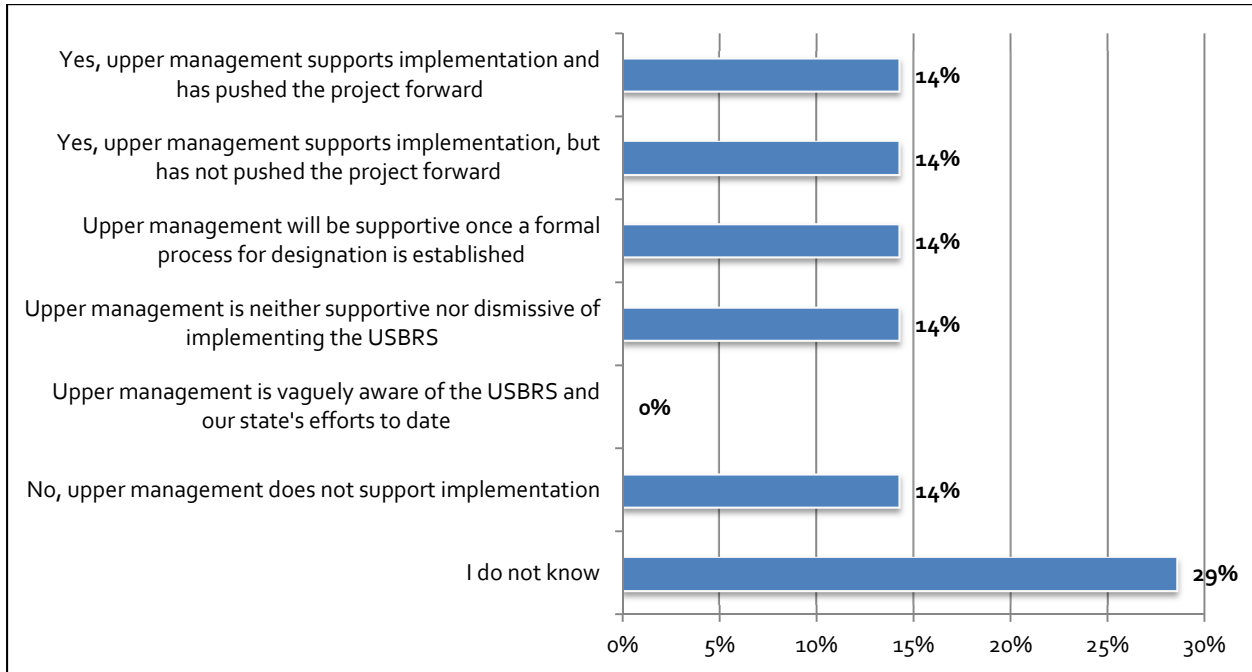
4. You indicated that there has been at least some level of work to plan or implement a USBR in your state. Please indicate what steps have been taken. Check all that apply.



Other:

- Two routes currently plus plans for a third one
- 23 approval letters from local jurisdictions gathered by OBC were submitted to ODOT December 2012. ODOT has not supported designation in the past but is reconsidering. A resolution directing ODOT to seek designation is currently under consideration in the Oklahoma legislature.

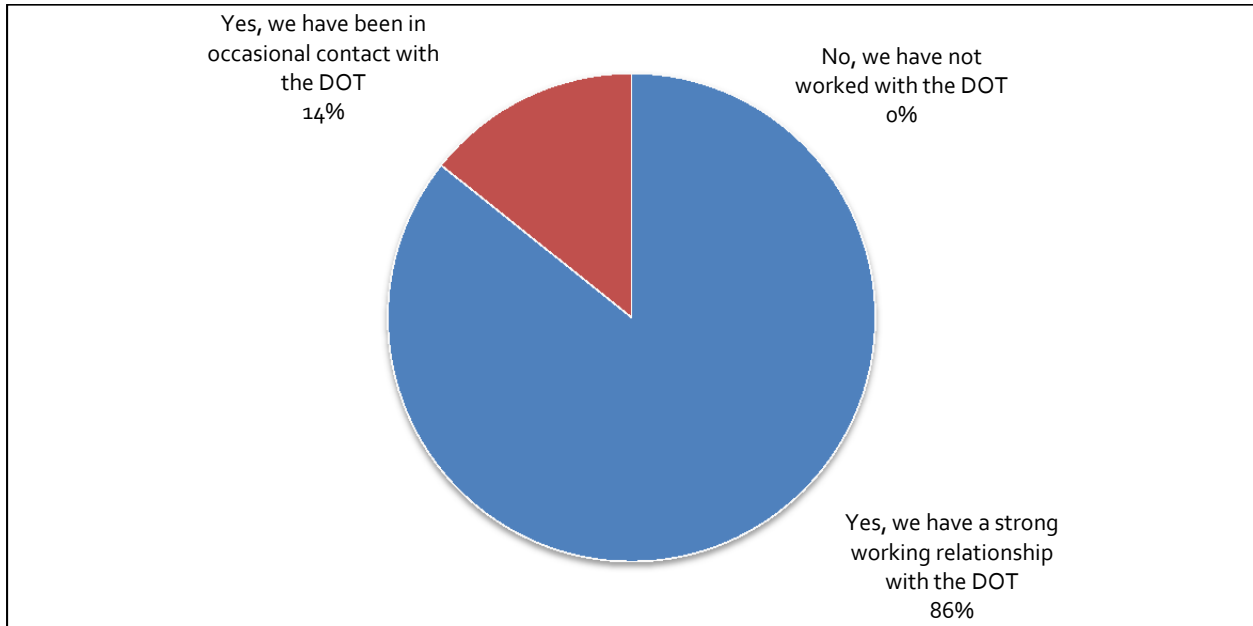
5. Is there upper-level support in your state Department of Transportation for implementing the USBRS?



Comments:

- Two signed routes 76 and 1 on the ground. Working with Adventure Cycling on another now. Call for details...
- I really can't say what the upper management of the LaDOTD thinks of this project. I suppose I should contact the Secretary to gauge her support but I have not. We do have a Bicycle Advocate in the LaDOTD and he probably knows where things lie inside LaDOTD.
- After some years (decades?) of work, we finally have funding to put signs along the TransAmerica route in MO and most likely Route 66 as well. The current state bike/ped coordinator has these routes as among his very top priorities. MoDOT upper management is currently very supportive of bike/ped projects of this type (low cost/high visibility) so I don't know that they are very aware of USBRS as such but they certainly are supportive of projects of this type. Funding has been sought & denied, or application discouraged, for similar proposals before.
- However, upper management is changing, and the issue is being reconsidered. A decision is to be made by the end of February, 2013
- The State DOT is working with their upper management to get the paperwork approved and submitted. At this time, I don't know the exact level of support.
- This is difficult to answer; DOT indicates they are supportive, but their actions seem to dictate otherwise.

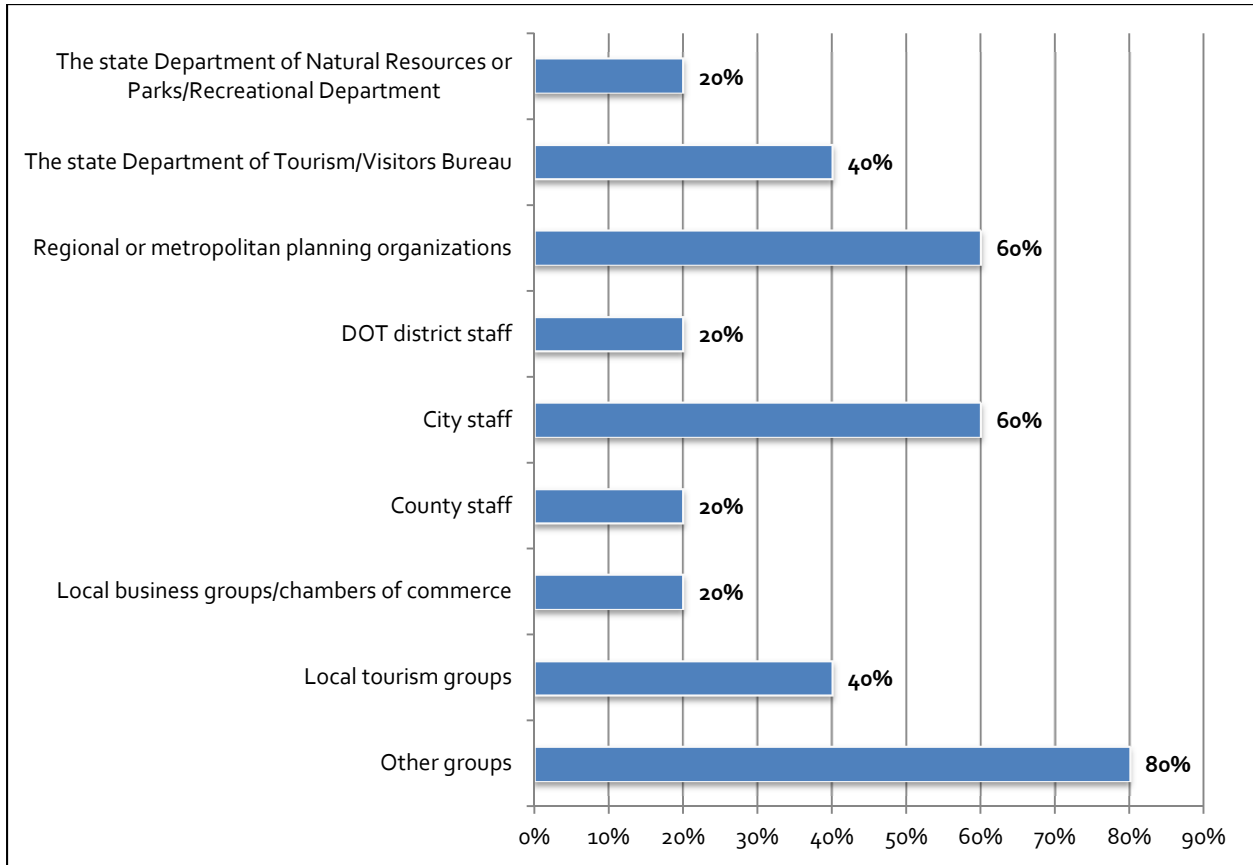
6. Does your organization have a working relationship with the state DOT on this project?



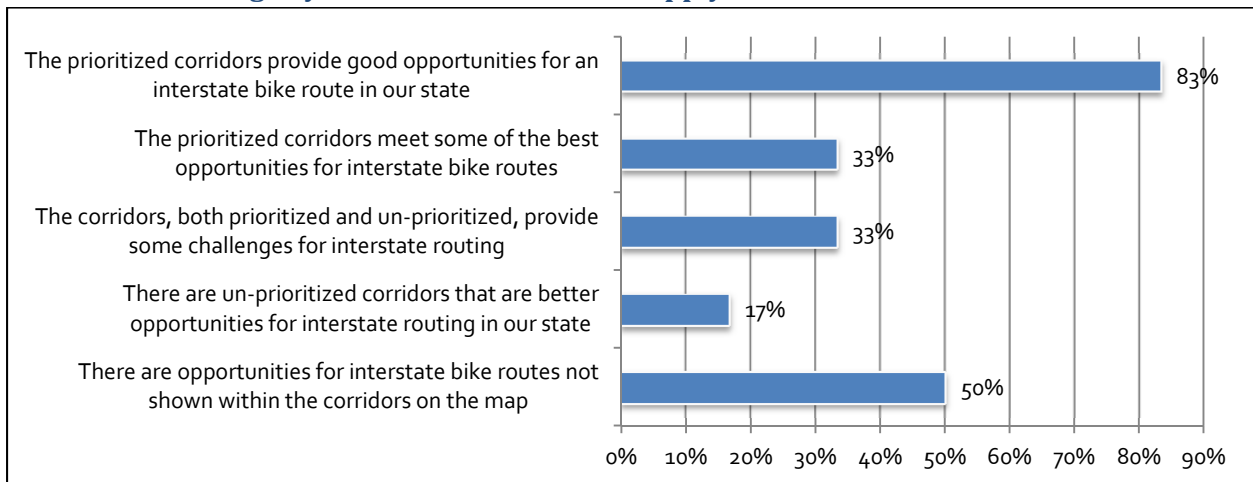
Please elaborate on your interactions with your state DOT regarding the U.S. Bike Route System.

- Great relationship.
- I am working on contacting local political jurisdictions for letters of support. Brian Parsons, our liaison at LaDOTD, talks with me periodically.
- We have met twice with DOT bike/ped coordinator, at the beginning of our efforts to get local support, and then again in December 2012. At that time we presented them with 29 support documents including from local jurisdictions giving their approval for the route. We kept in occasional contact with them via email throughout 2012. The bike/ped coordinator is collateral duty for staff member. Although always cordial, he has no authority regarding the submission of the application to AASHTO.
- Although I'm not the primary contact for either USBR currently in process for Indiana, I do seem to have a good relationship with several of the management team/staff at INDOT. I often will jump in when requested or when we are stuck to see if I can help navigate or get things moving.
- We have met with the DOT and discussed the project with them. The DOT has a person assigned to help support the project and get the paperwork approved.
- ECGA has offered to draft the USBR1 application for RIDOT; RIDOT would then make desired changes before approval then submission.

7. Are there other organizations or agencies that you have a working relationship with that are interested or involved in this project? Check all that apply.



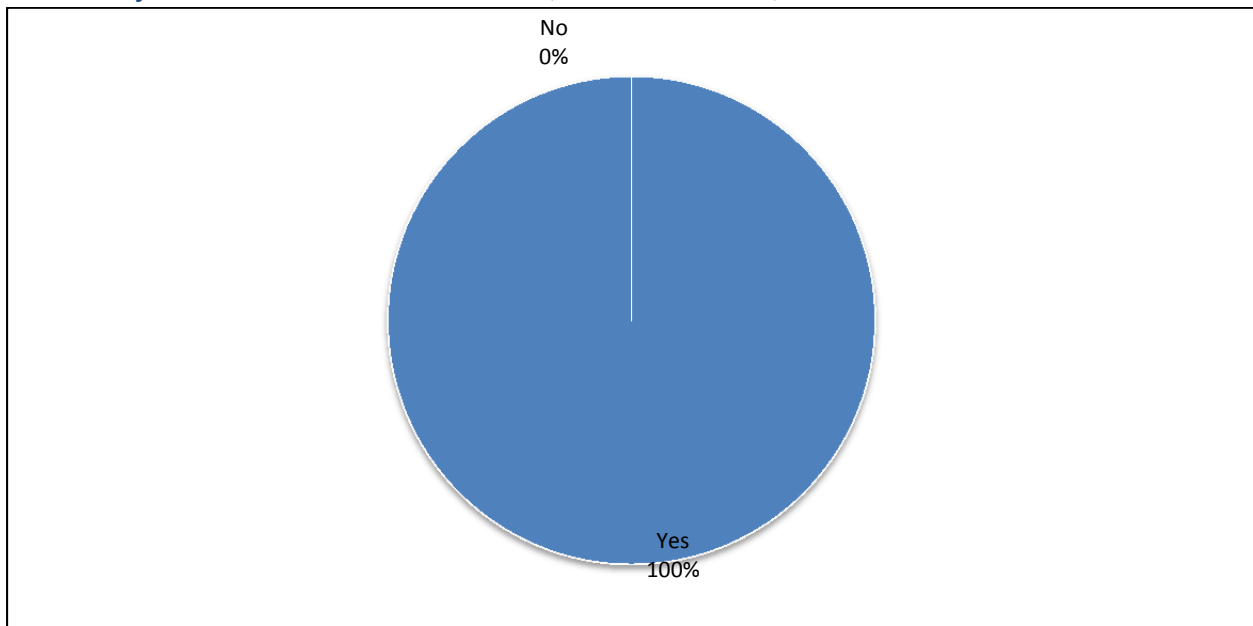
8. Do the prioritized (colored and numbered) and un-prioritized (light grey and not numbered) corridors on the National Corridor Plan map reflect opportunities for long, continuous routing in your state? Check all that apply.



Comments:

- Some of the corridors proposed are along stretches of road that have safety concerns and will be a tough sale to ODOT or local jurisdictions. A state rep is proposing several historical routes for state designation for cycling. It might be good to work with him on marrying those routes. Some have state-wide significance, some have national, such as the Chisholm Trail.
- We are currently in the process of getting the new Highway 36 bicycle route added to the USBRS plan. See <http://mobikefed.org/2012/11/highway-36-bicycle-route-unveiled-st-joseph-hannibal-260-miles>. Our biggest missing piece right now is north/south routes through Missouri. We have two (Mississippi River Trail & Great Rivers Route) but both are on the eastern edge of the state. We need similar 'through' north/west routes for the middle & western portions of the state. If we could connect Joplin or Springfield to the Kansas City area that would connect with Lewis & Clark and create one such connection.

9. Have you encountered any barriers you during the implementation process in your state? These may include institutional barriers, local resistance, lack of interest or other factors.



Please comment on any barriers you have encountered.

- For a period of time, there was no State Bicycle Coordinator to help us out.
- Lack of time on my part. I have not yet overcome this barrier!
- National Park Service.
- The answer is really, "Somewhat." Most of the people I've contacted at the parish government level aren't bicyclists and find it difficult to believe that anyone travels long distances on a bicycle. It doesn't take long to get past this and, once past the point of disbelief, they are usually supportive of the effort.
- In addition to my previous response to this question, we have tried to overcome barriers such as concerns for safety, by providing alternate routes. Also we have spent additional time educating non-riding public officials on their perceived liability, and responsibility.
- DOT does not support the designation as they are overly concerned about safety of riders and probably their liability. Although they have not expressed such directly, DOT probably sees this as a mandate to improve roads to a standard (i.e. additional shoulders, signage) that they can't or choose not to afford.

DOT is anti-cycling in general. Few roads have minimum shoulders, and those that do, have been obstructed by rumble strips. The local jurisdictions varied in their response to us. Some saw the economic opportunities outweighing the liability. Only one jurisdiction outside of DOT who manages about 85% of route, refused to give approval. Most jurisdictions did agree that the bikes would be there regardless of a community agreeing to it. We did negotiate changes in the route to accommodate communities that had safety concerns or that felt we were missing key tourist areas.

- Upper MoDOT management opposed spending money on these routes for a long time. I think we have turned a corner on that and the issues now are more to the need for organization & funding on our end to deal with the diffuse bureaucracy of the DOT plus many, many local jurisdictions and agencies involved.
- Some of the barriers seem to be related to personnel both at DOT and working on the routes, other seem to be lack of information from DOT as to what is acceptable, and other barriers are by the people working on the project that grow tired of challenge. They have not yet been overcome.

10. If you are working on official designation of a route, please describe the process being used (NGO outreach, public meetings, resolutions of support from all local municipalities, State is simply designating through mapping, etc...).

- Our organization is working with local organizations and the State DOT to get the designation.
- VDOT, Adventure Cycling, AASHTO and stakeholders.
- Ascertain the route — in our case for USBR 90, the Adventure Cycling Southern Tier. Contact highest-level local political jurisdiction — parish police juries or councils — with a standard resolution of support and description of what the USBRS is and what it intends to accomplish. Maintain contact with them until they respond. Try to establish local contacts to put forward the resolution; we've had success teaming with local tourism boards. Gather the resolutions. Submit to LaDOTD.
- As DOT preferred not to support or work with Adventure Cycling in developing a proposed Route 66 bike route through Oklahoma, Oklahoma Bicycling Coalition (OBC) volunteered to assist with route development and nomination. In early 2012, (OBC) met with Lary Willis, ODOT bike/ped coordinator to advise that OBC was proceeding with assistance to Adventure Cycling and with contacting communities along the route. Our purpose in making contacts was to educate them about the mapping of the proposed route and to get local support for a USBR designation. We wanted to address any concerns of the location and if necessary make adjustments to the proposed route. We focused on community or county governments with operational jurisdiction, often times finding that most did not have jurisdiction. We met with the officials regardless as we felt community support and education was key to the acceptance of the route and bike riders. In almost all cases we received a letter or resolution of support for it being a USBR. Before meeting with either ODOT or the various entities we developed a communications plan that included messages, strategy, and contact information. We developed as handouts, a summary page, a Frequently Asked Questions sheet, and eventually a power point. Sometimes these were used as introductory materials before we visited an area, or as materials we left behind for the groups additional discussion. We personally met with 4 Oklahoma counties and 20 towns or cities. Sometimes we returned a second time to address a county commission meeting, or city council. Often our initial contacts were with planners or the city manager. We also met with the local Chamber of Commerce, Visitor's Bureau or Museum. There are three Route 66 Museums in Oklahoma, as well as an Oklahoma Route 66 Association. We met with two metro bicycling clubs to explain what we were doing. We also gave a short presentation during a week-long ride across Oklahoma and gathered signatures from that event. We set up a website on our OBC's website as well as a Facebook page to keep the public

informed of the project. After receiving all letters of support or resolutions, and the petition we again met with ODOT and presented them the documents. Also we provided ODOT the most current Google Earth data file showing the proposed route, and a list of entities contacted. About the time we were meeting with ODOT we did contact two state legislators regarding the designation and our efforts. From this a Senate Joint Resolution was introduced directing DOT to apply for official designation. It is now under consideration in a committee. Recently we sent out an email message to all OBC members asking them to contact ODOT or their state representatives. We posted the same "call to arms" on our Facebook/web page.

- For the Hwy 36 bike route, we have worked with Ginny and other as Adventure Cycling to send them the route description & maps. For Route 66, we have identified a local lead who will work with Adventure Cycling to gather the needed resolutions of support from the cities & counties along the route.
- I plan to co-locate USBR 1 with the East Coast Greenway. However, I wish to first resolve a routing issue in the City of Providence. Once resolved, the application can be written then submitted to RIDOT for their consideration.

11. Please describe what you believe are any unique approaches to planning or designating a USBR in your state.

- The state recreational bicycle group has taken the lead on this, versus a bicycle advocacy group or the DOT.
- Very few roads have shoulders, and close to none of the routes where we would want to route a cross-state bicycle route have shoulders. We generally end up with routes on curvy, hilly, two-lane state roads with low traffic. This is where most of the rural bicycling in Missouri happens. Bicyclists actually love these routes as long as the traffic levels are low enough but they do generate some complaints from residents and bicyclists. We do get regular complaints, letters to the editor, and such complaining about bicyclists. More to the point, bicyclists in these rural areas report too many incidents of harassment, having things thrown at them and the like. For many years MoDOT installed almost no shoulders and now that they are installing them more regularly they usually install them only where the need (ie, traffic counts) are highest. The shoulders make bicycle travel on these high-speed, high-traffic roads *possible* but they are not very pleasant or scenic. Related to the two problems above, there are sections of the state where it becomes impossible to have reasonable bicycle connections. Just for example the Mississippi River Trail just north of metro St Louis, there just is NOT a single route available that is low traffic OR has a shoulder. Every available route is high traffic (like 10,000+ ADT) and no shoulder. Similarly, much of the TransAmerica trail through Missouri is beautiful low traffic state roads. But on certain sections traffic levels rise to 2000-4000-6000 ADT, no shoulder, and there simply isn't an alternative route available.
- We have the good fortune of having an Adventure Cycling route passing through the state and having a number of other officially designated bicycle routes across the state that were developed by LaDOTD and the Department of Culture and Tourism. These designated routes have already been vetted and have been in use / established for years. That helps when we approach local jurisdictions for support.
- The biking community generally is not interested in developing bike tourism in Oklahoma. I think we have to foster grass roots support and link to economic benefits to small communities. We also have to educate the public on bike safety, both riders and drivers. There is much hostility between the two groups, due to misunderstandings and misinformation. OBC and other bike groups need to spend much more time working with local communities and developing bicycling opportunities for the average

family, or bike tourism such as USBR designation will continue to be a problem. We must also change our ODOT's mindset on liability and responsibility to the bike rider.

12. Please describe any strategies that have worked well to move planning and/or designation of a USBR forward in your state.

- Co-location with the ECG, which is already an established route, greases the skids.
- Describing the potential impact on the local economies from tourism.
- Getting local communities interested, and then approaching our legislature will make a difference. We are in the process of setting up a conference call with ODOT and other state DOT representatives to discuss some of the liability concerns DOT has about a designation.
- A supportive state bike/ped coordinator who bicycles has made a big difference. Our previous b/p coordinator was supportive in concept but didn't bicycle, so there was a definite large gap in understanding.
- Teaming with the tourism board has been the biggest help. They have local reps in all the parishes. Those reps have local contacts and are known to the local jurisdictions. This in turn makes getting the item on the agenda easier.

13. Please add any additional comments you have about USBRS planning and/or designation in your state.

- We hope to start on USBR 75 and USBR 90 later this year.
- It would be helpful to have more people involved in contacting parishes for support. It would be helpful to have a letter of support from the Secretary of LaDOTD to include in the packet sent to local jurisdictions.
- Adventure Cycling's website is very good in providing resources and sample formats for all aspects of the designation. It would also be very helpful to bring together via Skype or GoToMeeting the various parties on a regular basis, DOT, Adventure Cycling, local bike advocates... to discuss experiences and best practices. I talk to Adventure Cycling, another state talks to Adventure Cycling, but I don't talk to any other state working on the Route 66 designation, or designations in general. I think this would be a very potent tool.
- We love the idea and the program and it has definitely helped move cross state routing forward in Missouri, in a way we could not have done alone at the state level. (In fact our 2nd-previous state b/p coordinator created a proposed system of cross-state bicycle routes but was never able to get it adopted. But today, a decade later, the USBRS system in MO is very close to filling that same need.)