

Appendix F: Trail Gap Study Report



Submitted to
the Pennsylvania Department of
Conservation and Natural Resources
Commonwealth of Pennsylvania



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September 2, 2009

Executive Summary

Study Background and Objectives

The trail gap analysis study was intended to be the first step in a long-term process shedding new light on gaps in the statewide trail network and revealing attitudes that will help shape trail building strategies and funding policies over the next five years or more.

The first phase of the study began in September 2008, when DCNR and Penn State University began collecting detailed descriptions of critical gaps, disconnections and areas devoid of footpaths, right-of-ways, and off-road vehicle tracks in Pennsylvania's rapidly growing network of trails. Twenty-two major trail organizations statewide were initially asked to submit descriptions of their top ten priority trail gaps. These 22 major trail organizations were selected based on their extensive work of planning, building and maintaining the major trails that comprise the "backbone" of a statewide trail network described in *Pennsylvania Greenways: An Action Plan for Creating Connections*, prepared in 2001.

While the study's first phase was designed to identify physical locations of major trail gaps, the second phase was designed to assess location-based priorities, social factors and organizational barriers to filling the gaps. Two hundred eighty-two "expert" advocates sampled from a limited number of trail club leaders and affiliate organizations voiced their opinions on key issues and priorities related to trail development. Though these individuals did not represent average residents or even avid trail users, they provided insights into the attitudes of many of the Commonwealth's most active trail planners, builders and custodians.

Phase 1: Pennsylvania Trail Gap Inventory

To participate in the Trail Gap Inventory, the DCNR-Penn State study team identified 22 statewide or regional trail advocacy organizations with extensive experience planning, building and maintaining the major trails that comprise the “backbone” of a statewide trail network described in *Pennsylvania Greenways: An Action Plan for Creating Connections* (2001). The study team asked a contact person (typically an officer) from each organization to identify up to 10 important trail gaps and voids in Pennsylvania’s trail system. (For the purposes of this study, a gap was defined as “a missing link or connector between existing trails” and a void was defined as “a geographic area with insufficient trails available.”) Participants included one statewide and several regional rails-to-trails organizations; regional greenway commissions; National Scenic Trail organizations; statewide groups representing equestrians, hikers, mountain bicyclers, off-highway/all-terrain vehicle riders and snowmobilers; and one regional organization representing cross-country skiers.

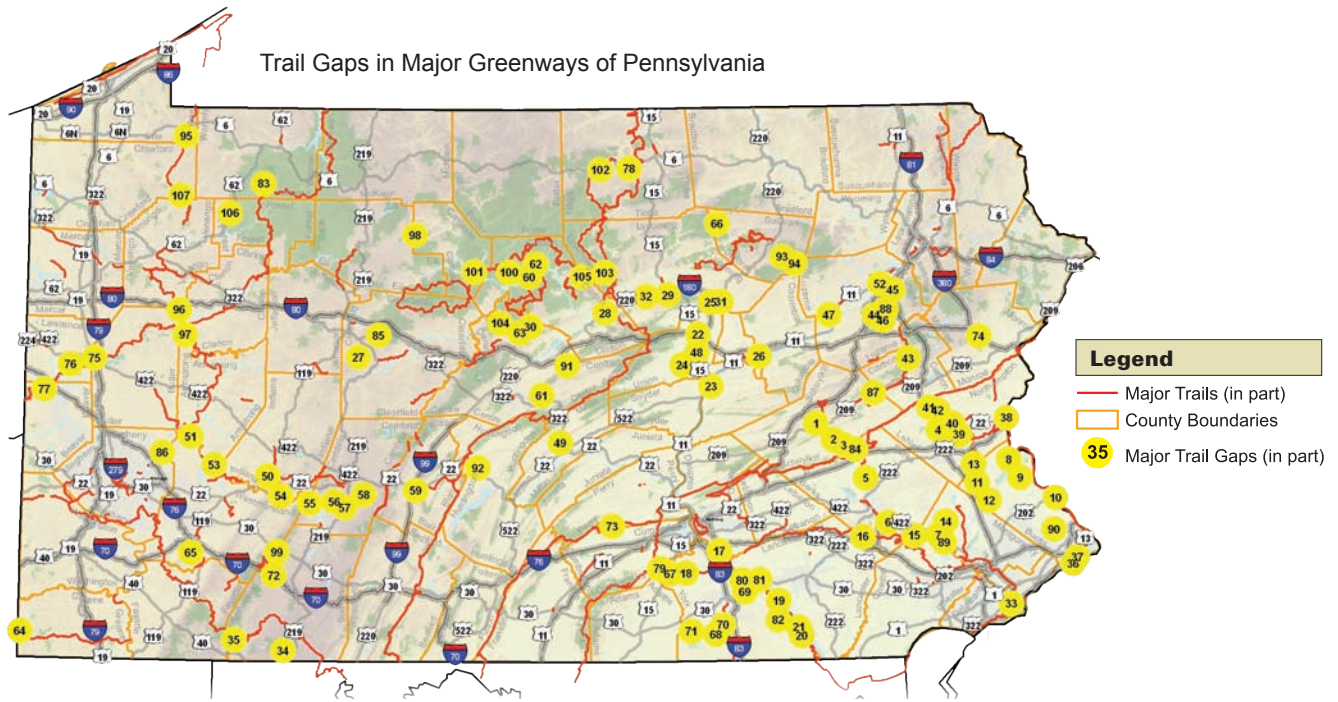
Participants documented each trail gap or void by logging onto an online data-collection site (Survey Monkey) to upload as much of the following information as possible:

- Contact information for the organization and individual submitting the information.
- The name/location of the trail gap or void.
- A detailed narrative description of where the gap or void is located.
- A narrative explanation of why gap or void is important.
- A description of land ownership in the area of the gap or void.
- The location and characteristics (including trail name, uses, and access points) of existing trails in the area.
- (If applicable) Surface material, tread width, and corridor width of existing trails that would be linked by filling the trail gap or void.
- (If applicable) Contact information for organization(s) responsible for managing and maintaining trails in the area that would link to the gap or void.

Finally, participants were asked to submit copies of any available maps or other documents that would help specify the location and characteristics of the gap or void. Maps and other documents could be submitted by uploading electronic files to the data-collection site or mailing a compact disc or paper copies.

The research team contacted all potential participants via e-mail and/or postal mail in August 2008, and encouraged them to consult with officers and board members of their organizations to identify up to ten important gaps and voids in land-based trails in the geographic area where the organization operates and to submit this information. Participants could access the online data-collection site from August through December 2008.

Trail group representatives documented a total of 107 gaps and voids in 41 counties distributed throughout the state. Spatial data has been recorded in DNCR’s geographic information system (see Map below), and information about other trail characteristics has been added to the GIS database.



Map of trail gaps and voids identified in the Pennsylvania Trail Gap Inventory. May, 2009.

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Phase 2: Pennsylvania Trail Gap Priorities Survey

This survey was conducted to reveal attitudes that will help shape trail building strategies and funding policies over the next five years or more. The study population included 530 individuals who were identified as advocates for Pennsylvania trails by 22 statewide or regional trail organizations with extensive experience planning, building and maintaining the major trails that comprise the “backbone” of a statewide trail network described in *Pennsylvania Greenways: An Action Plan for Creating Connections* (2001). These individuals were asked to complete either an online or paper questionnaire that solicited their perspective on priorities for filling trail gaps and voids. The questionnaire also asked participants to indicate the relative importance of various factors influencing trail development. This questionnaire included importance rating scales for nine geographic priorities, eight social or experiential priorities, and eight organizational priorities, as well as questions about experience and recommendations for trail development and maintenance, affiliation with trail-based organizations, and participation in trail-based activities. The questionnaire was available to potential participants from late November 2008 through early February 2009.

A total of 282 responses were received (53% response rate). Participants were affiliated with trail user groups, trail planning organizations such as rails-to-trails, regional greenways, heritage areas or conservancies, and public agencies, advisory committees, or advocacy groups (see Figure below).

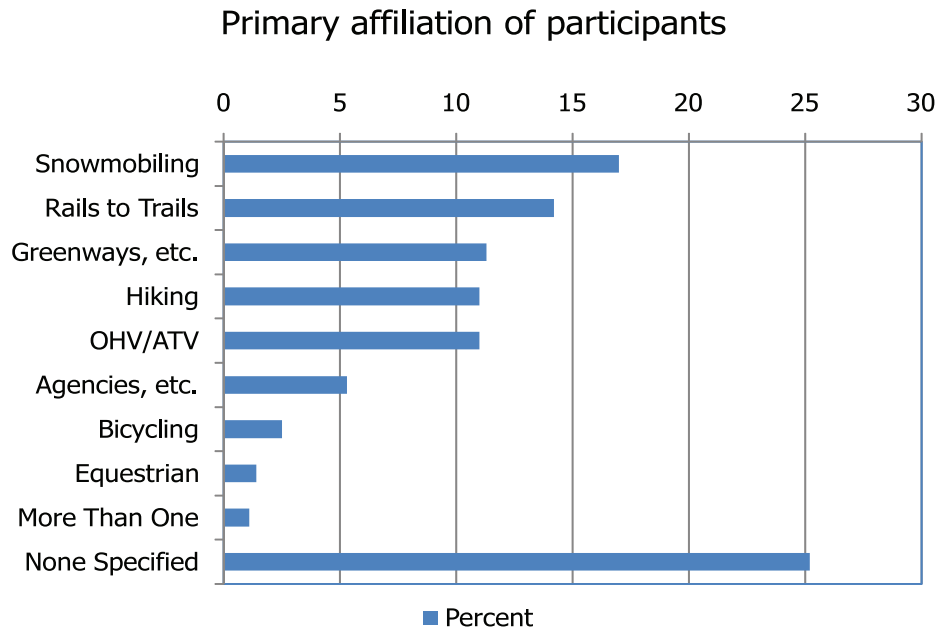


Figure: Primary affiliation of participants in Trail Gap Priorities Survey.

Survey respondents were also asked how often they participated in 16 different trail-based activities (see Figure below). On average, they reported participating “frequently” in trail work and walking; “occasionally” in day-hiking and bicycling; and “rarely” in 12 other trail-based activities.



Figure: Participation in trail-based activities by respondents in Trail Gap Priorities Survey.

Survey participants were asked to rank the importance of geographic, social or experiential, and organization issues related to trail planning and development. Among geographic issues, respondents assigned the highest importance to:

- Providing connections between existing trails;
- Closing a gap within an existing trail; and
- Building trails that connect communities to each other.

Respondents assigned less importance to:

- Building trails that access open space (parks, forests, game lands, etc.);
- Providing trails that connect neighborhoods, shopping areas, and workplaces within communities;
- Providing convenient trailheads and access points;
- Building trails that provide access to remote areas;
- Providing trails within walking distance of users' homes; and
- Connecting neighborhoods to schools.

Among social or experiential issues, respondents assigned the highest importance to:

- Providing access to outstanding natural scenery; and
- Providing trails that accommodate more than one user group.

Much less importance was assigned to the following six social or experiential issues:

- Providing trails that are accessible for users with disabilities;
- Providing access to opportunities for solitude;
- Providing easy opportunities;
- Providing access to historic or other cultural resources;
- Providing challenging opportunities; and
- Providing trails that can be accessed by public transportation.

Among organizational issues, respondents assigned the highest importance to:

- Securing trail rights-of-way that otherwise would be lost to development;
- Taking advantage of landowners' willingness to allow trail development; and
- Ensuring a high level of local support.

The following five organizational issues were ranked much lower in importance:

- Maximizing local economic development;
- Establishing trail maintenance partnerships with private organizations;
- Establishing private funding partnerships for maintaining trails;
- Establishing private funding partnerships for building trails; and
- Establishing trail construction partnerships with private organizations.

Overall, most survey participants considered acquisition of trail right-of-ways to be highly important, especially in areas where the opportunity for a trail might soon be lost to urban or suburban development. At the same time, many participants felt that it was important to take full advantage of landowners' willingness to allow trail development near or within their properties; close gaps on existing trails; provide connections between trails; provide access to outstanding natural scenery; and establish trails that accommodate more than one user group.

After ranking the importance of different trail development issues, respondents were asked to describe responsibilities related to "filling trail gaps and voids" that "make the most sense for your organization to accept." Researchers used content analysis to group the answers into themes. Among individuals whose primary organizational affiliation was with one of the trail user groups (hiking, horseback riding, snowmobiling, etc.), operational responsibilities were identified most often, including (in descending order):

- Trail maintenance and stewardship activities,
- Trail management activities,
- Trail construction, and
- Supplying user information such as maps and brochures.

Among individuals whose primary organizational affiliation was with one of the greenways, heritage areas, conservancies, or public agencies, or an advisory or advocacy group, organizational responsibilities were identified most often, including (in descending order):

- Advocating and promoting trail development,
- Coordinating and/or assisting local groups,
- Supervision of design, contracting, and construction,
- Developing and maintaining relationships with landowners,
- Fundraising, and
- Planning trail development.

Respondents were also asked to reply to two open-ended questions and describe their own experience addressing the need to fund trail development and maintenance. Content analysis of responses to these two questions revealed similar themes. The theme that occurred most often was seeking diverse funding sources — federal, state, local, and private money. Individuals described going about this differently, however. Some advocated seeking federal or state money first, and then using it to attract local and private funds, while others advocated the opposite. Other common themes included building and coordinating community or regional support; recruiting volunteers; and fund raising. Rather than describing their own experiences seeking funding, some respondents chose to suggest "solutions" to the funding challenge. These included simplifying DCNR's grant writing process and/or providing more support; increasing the availability of federal transportation enhancement funds from the Pennsylvania Department of Transportation; and (particularly among individuals affiliated with motorized trail use) trail user fees, a dedicated fuel tax, and dedication of registration fees entirely to trail development and maintenance.

Recommendations

- Numerous participants expressed a need for additional training, guidance, and information about obtaining funding and other resources for trail projects. This need is both an opportunity and a challenge for DCNR, particularly at a time when DCNR faces its own budget challenges.
- Although it is not surprising that individuals from trail user organizations and trail planning and advocacy organizations envision being suited to take on different types of responsibilities, the difference is worth remembering. Partner organizations are most likely to be successful when they take on tasks they consider to be appropriate.
- Trail advocates were deliberately sought out to participate in this study. This was appropriate because individuals who are knowledgeable about trail related issues can identify problems and opportunities that other individuals may not see. At the same time, DCNR planners should remember that this study provided very little information about the needs or opinions of casual trail users or potential trail users.
- Four potential ways to increase trail use have been the subject of much discussion for several years: (a) providing trails for getting to and from school, (b) using trails to connect neighborhoods to shopping areas and workplaces, (c) providing trails within walking distance, and (d) providing trails that can be accessed by public transportation. All of these ideas received low average importance in this study, but the data do not explain why interest in these ideas was low. Exploring these ideas in more depth with this study population and exploring these ideas with other populations may both be informative.

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Introduction

The Pennsylvania Trail Gap Study was conducted in 2008-2009 as one part of the research for the Commonwealth's State Comprehensive Outdoor Recreation Plan (SCORP). Objectives for the Trail Gap Study were to:

- (a) shed new light on gaps in the Commonwealth's network of land-based trails; and
- (b) reveal attitudes that will help shape trail building strategies and funding policies over the next five years or more.

The study was conducted in two phases. In phase 1, the Pennsylvania Trail Gap Inventory, trail advocacy organizations were asked to document important gaps and voids in the Commonwealth's trail system. In phase 2, the Pennsylvania Trail Gap Priorities Survey, individual trail advocates were polled to better understand the relative importance of different factors that influence priority-setting for completing critical links in the trail system trail development and identify effective strategies for developing and maintaining trails.

Phase 1: Pennsylvania Trail Gap Inventory

Methods

Beginning in September 2008, a DCNR and Penn State University study team began collecting detailed descriptions of critical gaps, disconnections and areas devoid of footpaths, right-of-ways, and off-road vehicle tracks in Pennsylvania's rapidly growing network of trails. Twenty-two major trail organizations were asked to submit descriptions of their top ten priority trail gaps in Pennsylvania (Table 1). These organizations were selected on the basis of their extensive experience planning, building, and maintaining the major trails that comprise the "backbone" of a statewide trail network described in *Pennsylvania Greenways: An Action Plan for Creating Connections*, prepared in 2001.

Table 1. Organizations invited to participate in the Pennsylvania Trail Gap Inventory and identify participants for the Trail Gap Priorities Survey (alphabetical order).

1. Allegheny Ridge Corporation	12. Pennsylvania Equine Council
2. Allegheny Trail Alliance (Great Allegheny Passage)	13. Pennsylvania Highlands Greenway
3. Appalachian Trail Conservancy	14. Pennsylvania Off-Highway Vehicle Association
4. Delaware and Lehigh National Heritage Corridor	15. Pennsylvania State Snowmobile Association
5. Erie to Pittsburgh Trail Alliance	16. Pittsburgh to Harrisburg Mainline Canal Greenway
6. International Mountain Bicycling Association	17. Rails to Trails Conservancy
7. Keystone Trails Association	18. Schuylkill River National and State Heritage Area
8. Kittatinny Ridge Project	19. Standing Stone Trail Club
9. Laurel Highlands National Scenic Trail	20. Susquehanna Greenway Partnership
10. North Country Trail Association	21. Warrior Trail Association
11. Pennsylvania Cross Country Skiers Association	22. York County Rail Trail Authority

For each trail gap or void identified, participating organizations were asked to submit as much of the following information as possible:

- Contact information for the organization and individual submitting the information.
- The name/location of the trail gap or void.
- A detailed narrative description of where the gap or void is located.
- A narrative explanation of why the gap or void is important.
- A description of land ownership in the area of the gap or void.
- The location and characteristics (including trail name, uses, and access points) of existing trails in the area.
- (If applicable) Surface material, tread width, and corridor width of existing trails that would be linked by filling the trail gap or void.
- (If applicable) Contact information for organization(s) responsible for managing and maintaining trails in the area that would link to the gap or void.
- A list of maps and other documents being submitted in order to help specify the location and characteristics of the gap or void.

Three steps were taken to maximize the opportunity for organizations to participate. First, information could be submitted by uploading it to an online data-collection site (Survey Monkey) or on paper. Second, supporting documents such as maps could be submitted as electronic files attached to an e-mail message or sent by mail on a compact disk or in hardcopy. Third, a firm deadline was not imposed.

All potential participants were contacted via e-mail and/or postal mail in August, 2008, and encouraged to consult with officers and board members of their organizations to participate in the Trail Gap Inventory by submitting information about up to 10 important gaps and voids in land-based trails in the geographic area where the organization operates. The online data-collection site was available for use from August through December, 2008. Submissions on paper were accepted through February, 2009.

Results

A majority of the organizations contacted either participated in the inventory process directly or shared the request with one or more affiliated organizations which then participated on behalf of the original organization. The inventory process resulted in documenting a total of 107 trail gaps and voids. Spatial data for each gap or void has been recorded in DNCR's geographic information system (GIS), and attribute data for each gap or void has been added to DNCR's GIS database.

The location of each trail gap or void identified by participants is shown on the map on the following page. To facilitate comparing these locations to routes of Commonwealth's major greenway corridors, the DCNR Greenways map is shown on the page immediately following the map of trail gaps and voids. (Table A1)

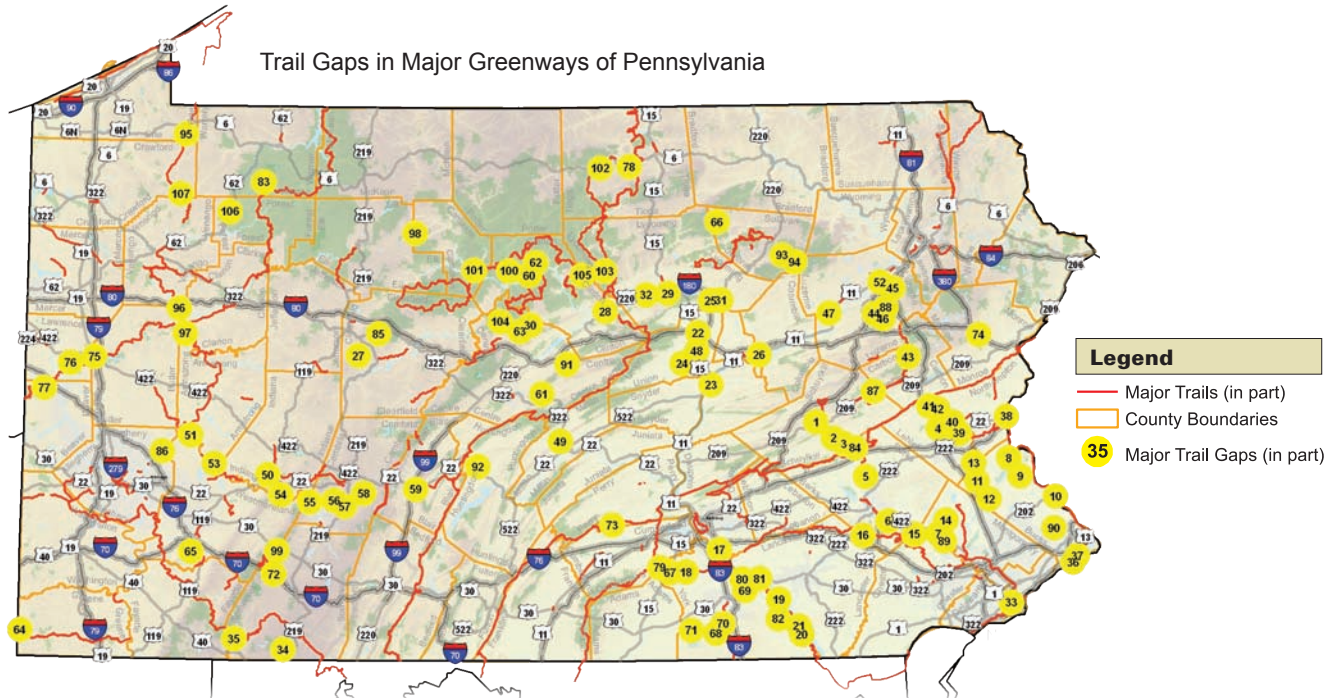


Figure 1. Trail gaps and voids identified in the Pennsylvania Trail Gap Inventory. May, 2009.

The Commonwealth of Pennsylvania makes no guarantee or warranty concerning the accuracy or completeness of information contained in this geographic data or any accompanying documentation.

Trail gaps and/or voids were identified in 41 of Pennsylvania’s 67 counties (61%). Gaps and voids were identified in greenways systems, regional heritage areas, rail-trails, regional hiking trails, National Scenic Trails, ATV trail systems, cross-country ski trail systems, snowmobile trails, and mountain bicycling trails. Gaps for which length was specified ranged from over 20 miles to less than one mile long.

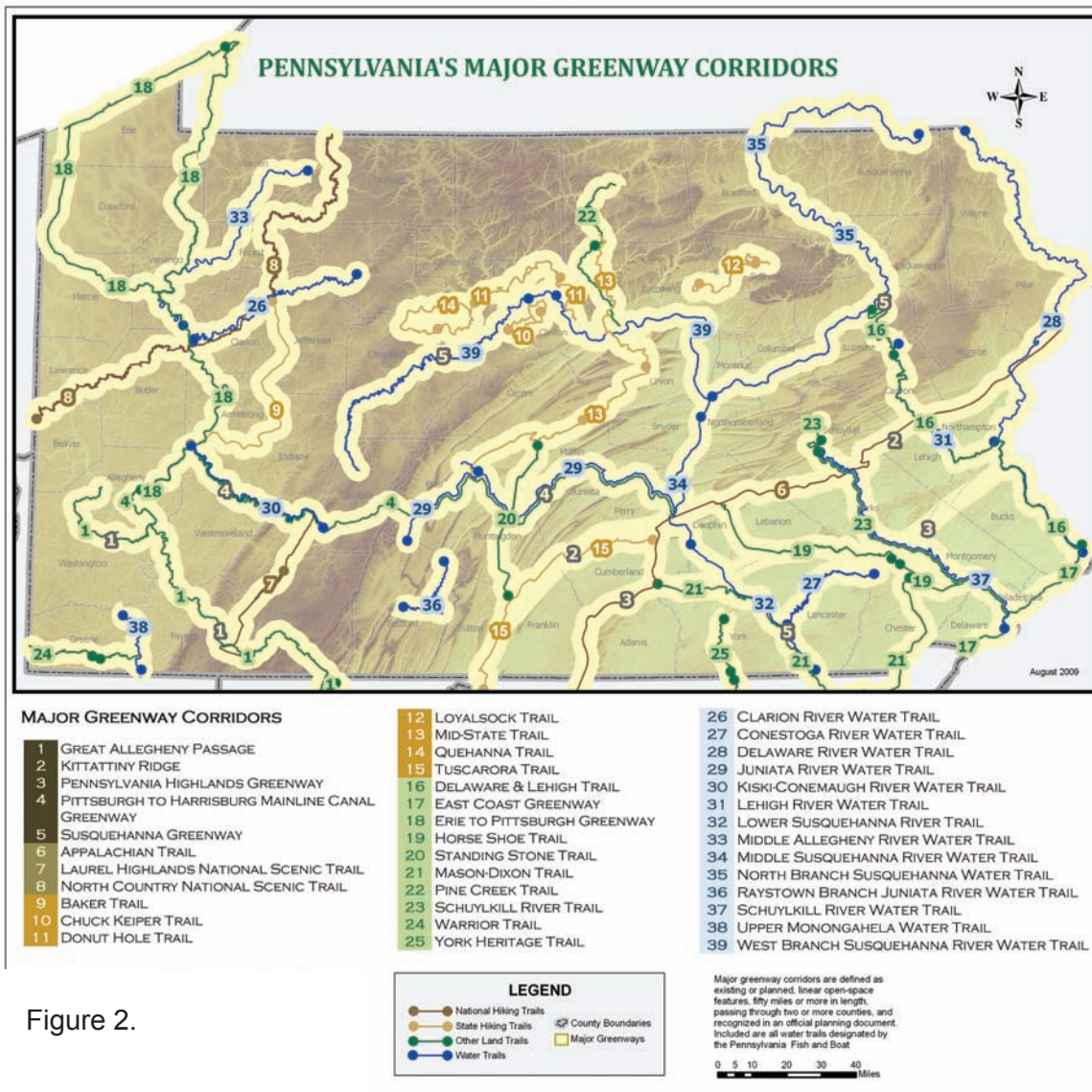


Figure 2.

Phase 2: Pennsylvania Trail Gap Priorities Survey Methods

The Trail Gap Priorities Survey was conducted to reveal attitudes that will help shape trail building strategies and funding policies over the next five years or more. The study population included 530 individuals who were identified as advocates for Pennsylvania trails by 22 statewide or regional trail organizations (listed previously in Table 1) with extensive experience planning, building and maintaining the major trails that comprise the “backbone” of a statewide trail network described in *Pennsylvania Greenways: An Action Plan for Creating Connections* (2001). Each of these individuals was sent a letter and/or e-mail message from DCNR inviting them to “share your perspective on priorities for filling trail gaps and voids” and help determine the relative importance of different factors in setting priorities for trail development by completing an online (Survey Monkey) or paper-and-pencil questionnaire. This questionnaire included importance rating scales for nine geographic issues, eight social or experiential issues, and eight organizational issues, as well as questions about past experience

and recommendations for trail development and maintenance, affiliation with trail-based organizations, and participation in trail-based activities. The questionnaire was available to potential participants from mid-November, 2008, through mid-February, 2009.

Results

A total of 282 responses were received (53% response rate). Participants were asked to list trail-based organizations they belong to and then asked to indicate which of these organizations they considered to be their *primary* organizational affiliation by specifying which organization they “identify with most closely.” Responses to this question were grouped into ten categories. Five of these categories — bicycling, equestrian, hiking, ATV riding, snowmobiling — were activity-based. In contrast, three categories — agencies, advisory organizations and advocacy organizations; greenways, heritage areas, conservancies and regional organizations; rails-to-trails organizations — were more broadly-based rather than focusing on a single activity. Two additional categories were created for individuals who declined to specify a primary organizational affiliation with any trail-based organization and individuals who specified more than one primary organizational affiliation.

Primary organizational affiliation of participants. Approximately 25% of survey participants declined to specify a primary affiliation with any trail-based organization. Among those who did specify a primary affiliation (Figure 3), from 11% to 17% were affiliated with (in descending order) snowmobiling; rails-to-trails; greenways, heritage areas, conservancies and regional organizations; hiking; or ATV riding. Five percent or fewer were affiliated with (in descending order) public agencies, advisory committees, or advocacy groups; bicycling, or horseback riding.

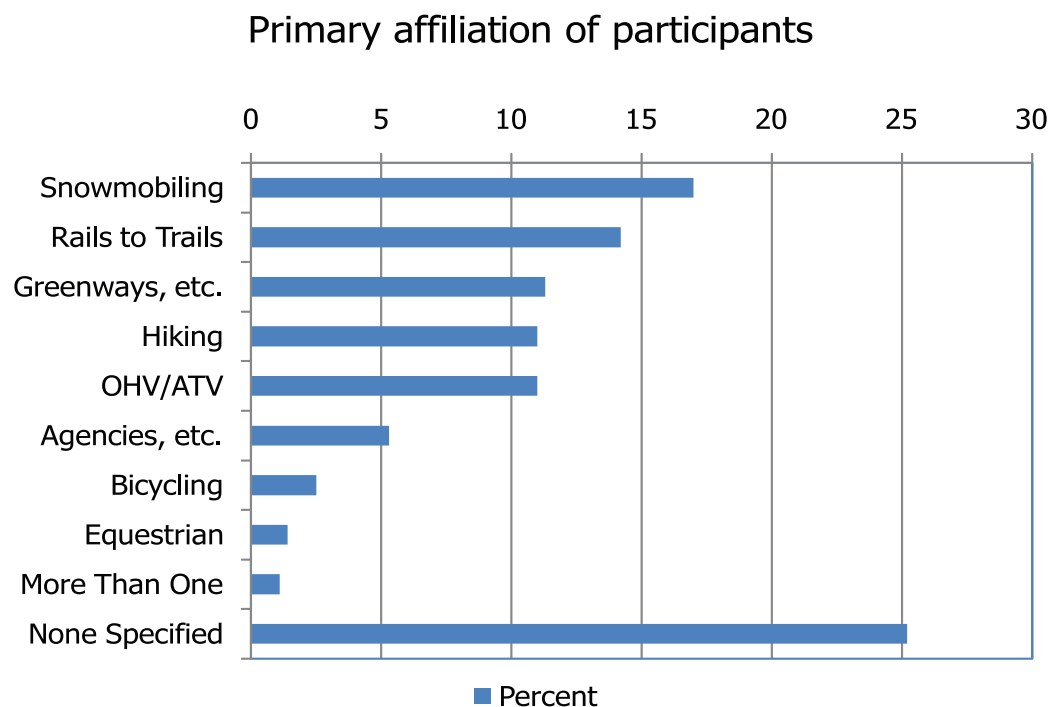


Figure 3. Primary affiliation of participants in Trail Gap Priorities Survey.

Frequency of participation in trail-based activities. Respondents were asked how often (never, rarely, occasionally, frequently, very frequently) they participate in each of 16 trail-based activities. Numeric scores were assigned to the five response categories (never = 1, rarely = 2, occasionally = 3, frequently = 4, very frequently = 5), and mean or average scores were computed for the overall sample and for each primary affiliation group.

Overall, respondents reported participating most often in trail work and walking, with mean scores of 3.8 for both activities corresponding to “frequently” (Figure 3). Frequency scores for day-hiking (2.9) and bicycling on streets or roads (2.8) corresponded to “occasionally.” For 12 other trail-based activities, relative participation rates ranged from a high of 2.2 for snowmobiling (corresponding to “rarely”) to a low of 1.2 for in line skating to (meaning most respondents selected “never”). See Table A2 for detailed participation frequency results for each primary affiliation subgroup (e.g., snowmobiling, rails to trails).

Frequency of participation in trail-based activities

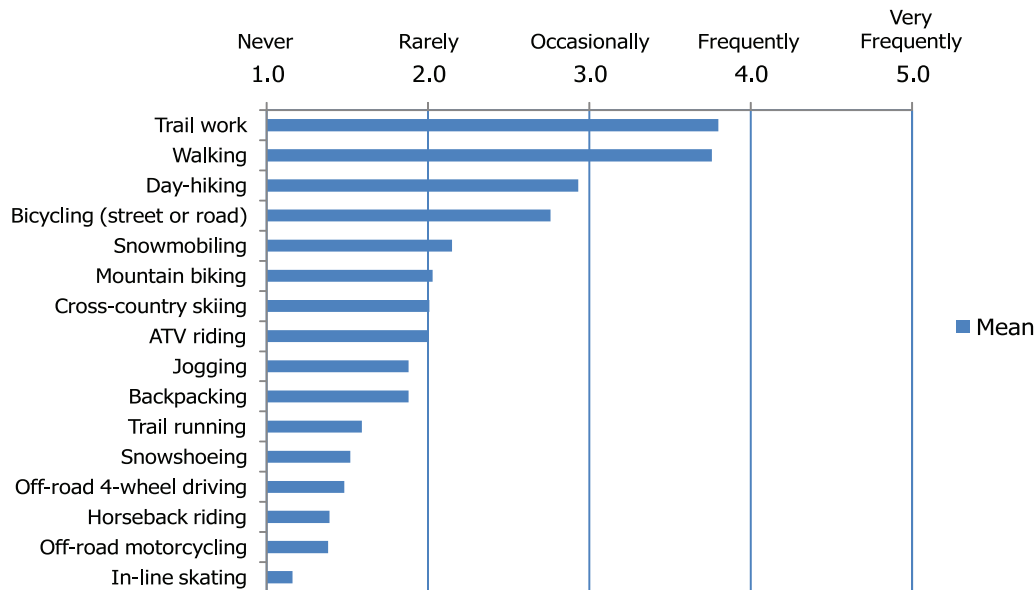


Figure 4. Frequency of participation in trail-based activities by respondents in Trail Gap Priorities Survey.

Importance of trail development issues. Survey participants were asked to compare the importance of series of issues related to “deciding whether or not to build a new trail in Pennsylvania.” This list of trail development issues was compiled by the study team based on past experience and a review of trail development literature and Pennsylvania’s trail development grant programs (e.g., Keystone Fund, Growing Greener Grants). The list represents grant program criteria and other issues that are commonly raised. A list of 25 issues was compiled. To make it easier for survey respondents to compare issues to each other, the list was separated into three smaller sets: nine geographic issues, eight social or experiential issues, and eight organizational issues. For each set of issues, survey participants were asked to begin by *rating* the importance of each issue on a scale ranging from 1 (least important) to 7 (most important). After completing the

rating task, participants were asked to *rank* the single issue they considered “most important” and the single issue they considered “second” in importance. This two-step, *rate-then-rank*, approach was based on recognition that trail development advocates participating in the survey might often consider more than one issue to be highly important. The *rating* task allowed participants to consider the importance of each issue on its own merits, whereas the *ranking* task required participants to consider trade-offs among issues.

The three groups of issues (geographic, social/experiential, organizational) are analyzed separately below. For each group of issues, rank order was calculated by assigning two points to an issue for each time that issue was *ranked* “most important,” and one point to an issue for each time that issue was *ranked* “second.” These points were then totaled to create an overall importance *rank*. In each chart below, issues are arranged in rank order, from most important to least important. Detailed importance *ratings* and *rankings* for each primary affiliation subgroup can be found in the Appendix, Tables A3-A8. Results of the rating and ranking tasks agree substantially, but minor differences can sometimes be found in the order of individual issues.

Geographic issues related to trail development. Among nine geographic issues, respondents assigned high importance rankings to providing connections between existing trails; closing a gap within an existing trail; and building trails that connect communities to each other (Figure 5). Three issues, building trails that access open space (parks, forests, game lands, etc.); providing trails that connect neighborhoods, shopping areas, and workplaces within communities; and providing convenient trailheads and access points; were ranked substantially lower than the top three issues but substantially higher than the three lowest ranked issues: building trails that provide access to remote areas; providing trails within walking distance of users’ homes; and connecting neighborhoods to schools.

Importance scores for geographic issues

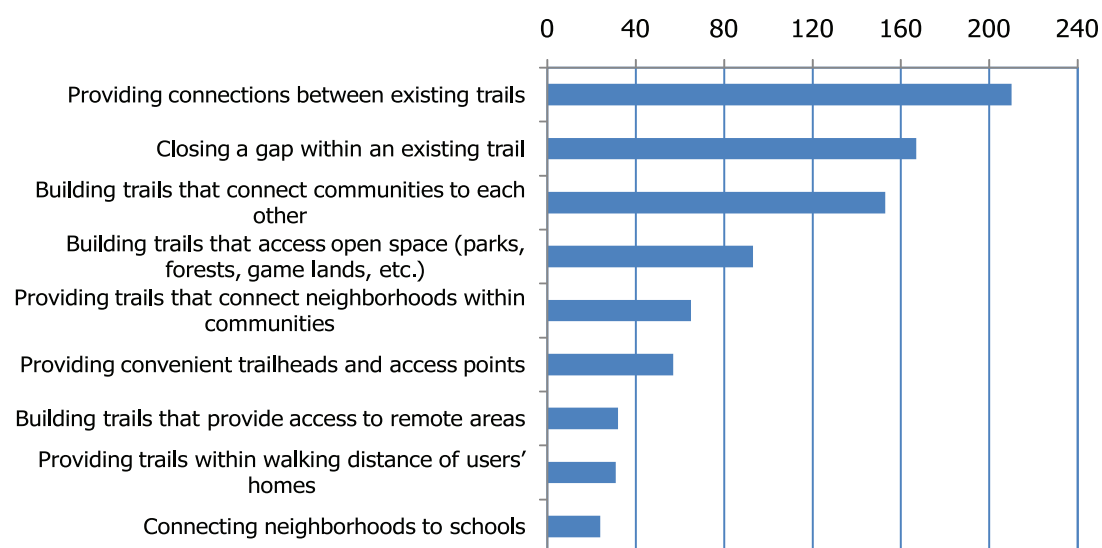


Figure 5. Importance rankings for geographic issues in Trail Gap Priorities Survey. Note: Importance score represents the sum of all “Most important” rankings (2 points each) and all “Second” rankings (1 point each).

Social or experiential issues related to trail development. Among eight social or experiential issues, respondents assigned very high importance ranks to providing access to outstanding natural scenery and providing trails that accommodate more than one user group (Figure 6). Four social or experiential issues were assigned intermediate importance ranks: providing trails that are accessible for users with disabilities; providing access to opportunities for solitude; providing easy opportunities; providing access to historic or other cultural resources. The two social or experiential issues which were ranked lowest in importance were providing challenging opportunities and providing trails that can be accessed by public transportation.

Importance scores for social/experiential issues

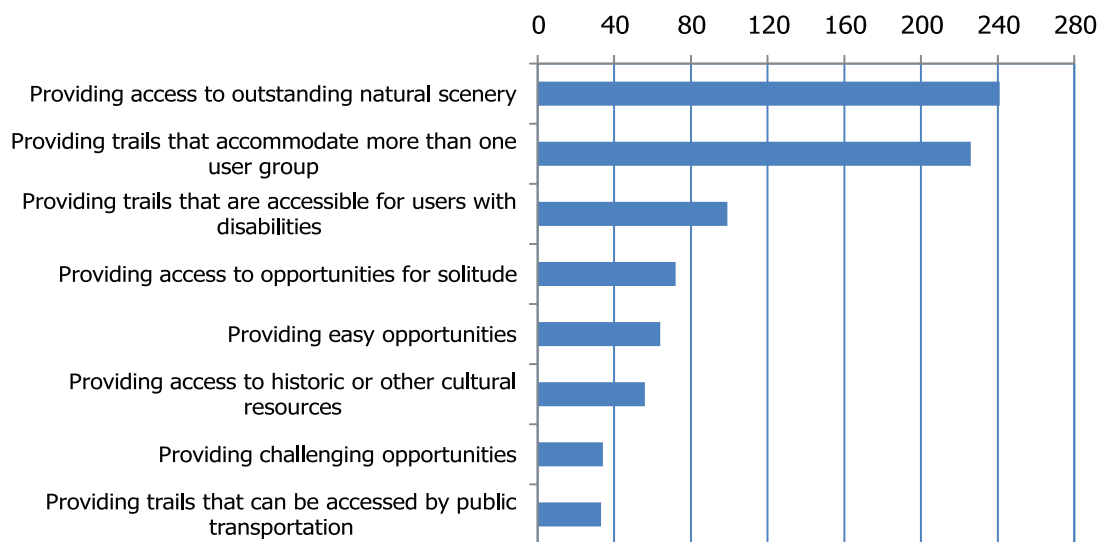


Figure 6. Importance rankings for social/experiential issues in Trail Gap Priorities Survey. Note: Importance score represents the sum of all “Most important” rankings (2 points each) and all “Second” rankings (1 point each).

Organizational issues related to trail development. Among eight organizational issues, respondents ranked securing trail rights-of-way that otherwise would be lost to development much more important than any other issue (Figure 7). Two issues, taking advantage of landowners’ willingness to allow trail development and ensuring a high level of local support were assigned intermediate importance rankings. Organizational issues that were ranked much lower in importance included (in descending order): maximizing local economic development; establishing trail maintenance partnerships with private organizations; establishing private funding partnerships for maintaining trails; establishing private funding partnerships for building trails; and establishing trail construction partnerships with private organizations.

Importance scores for organizational issues

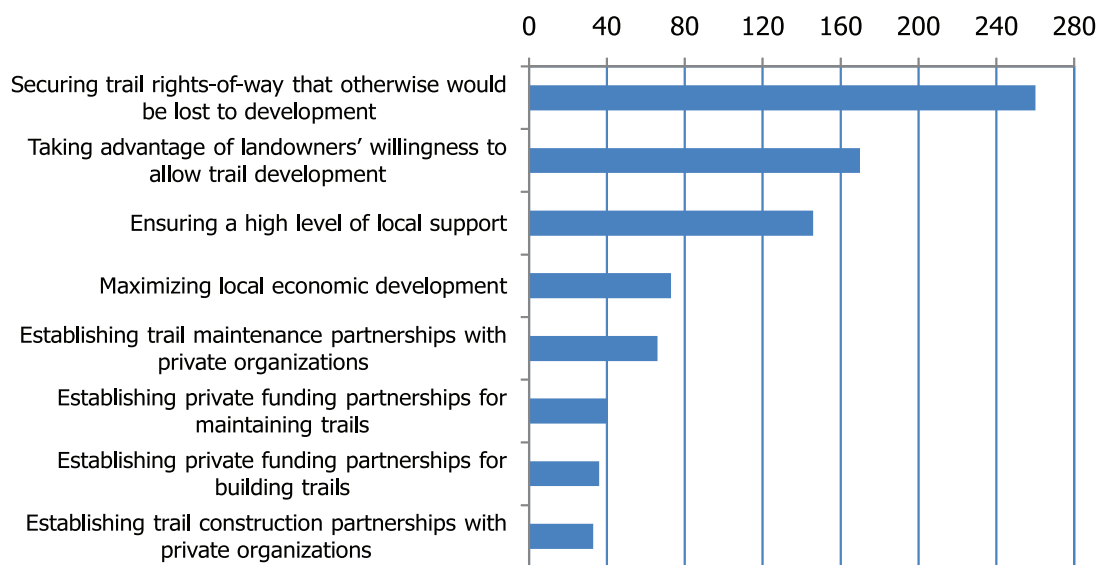


Figure 7. Importance rankings for organizational issues in Trail Gap Priorities Survey. Note: Importance score represents the sum of all “Most important” rankings (2 points each) and all “Second” rankings (1 point each).

Opened-ended questions and content analysis. The questionnaire included three open-ended questions designed to elicit participants’ views about trail-related responsibilities appropriate for their organizations and about meeting funding needs for trail development and maintenance:

- To help fill important trail gaps and voids, what trail-related responsibilities make most sense for your organization to accept and why?
- Funding trail development is a key issue facing trail advocates. Drawing on your experience, how should this issue be addressed? Please describe examples of strategies you have used and their strengths and weaknesses.
- Funding trail maintenance is another key issue facing trail advocates. Drawing on your experience, how should this issue be addressed? Please describe examples of strategies you have used and their strengths and weaknesses.

Content analysis was used to group similar responses into common themes which are summarized below. Detailed analyses for each primary affiliation subgroup can be found in the Appendix, Tables A9-A11.

Trail-related responsibilities that “make the most sense for your organization to accept”.

After ranking the importance of different trail development issues, respondents were asked to describe responsibilities related to “filling trail gaps and voids” that “make the most sense for your organization to accept.” Content analysis identified three broad categories, organization responsibilities, operational responsibilities, and miscellaneous, with several specific themes in each category (Table 2). Organizational responsibilities mentioned most often included advocating or promoting trail development and use and planning. Other organizational responsibilities that were mentioned less often included coordinating and/or assisting local organizations; developing relationships with landowners; design, contracting, and construction supervision; securing funding for local and/or regional use; fundraising or making donations; and connector trail development. Among operational responsibilities, trail maintenance, stewardship, and management was mentioned far more often than any other responsibility. This was followed by trail construction. Fewer participants mentioned supplying user information such as maps or regulations; maintaining relationships with landowners; patrol, security, safety, and/or enforcement; and recognizing volunteers. In the miscellaneous category five themes emerged: don’t know, don’t understand, and/or do nothing; operate own trail system; be responsible users, follow rules and trail etiquette; and cooperate and/or be a willing partner. Eleven individuals gave responses that were un-interpretable, and 67 (approximately one quarter of the sample) did not respond to the question.

Table 2. Trail-related responsibilities that make most sense for organization to accept, Pennsylvania Trail Gap Priorities Survey.

Category ^a Responsibility	Count	Category ^a Responsibility	Count	Category ^a Responsibility	Count
Organizational		Operational		Miscellaneous	
Advocate or promote trail development and use	36	Trail maintenance, stewardship, management	92	Don’t know, don’t understand, and/or do nothing	22
Planning	25	Trail construction	33	Operate own trail system	9
Coordinate and/or assist local organizations	19	Supply user information, e.g., maps, regulations	18	Be responsible users, follow rules & etiquette	8
Develop relationships with landowners	15	Maintain relationships with landowners	11	Volunteer	5
Design, contracting, construction supervision	13	Patrol, security, safety, and/or enforcement	8	Cooperate, be a willing partner	4
Secure funding for local and/or regional use	11	Recognize volunteers	1	Unclear or other	11
Fundraising or making donations	10			Missing or no response	67
Connector trail development	8				

^aOpen-ended answers grouped into categories and responsibilities by content analysis; some participants’ answers fit more than one category.

Among individuals whose primary organizational affiliation was with one of the trail user groups (hiking, horseback riding, snowmobiling, etc.), operational responsibilities were identified most often, with trail maintenance, stewardship, and trail management activities followed by (in descending order) trail construction, and supplying user information such as maps and brochures. Among individuals whose primary organizational affiliation was with one of the greenways, heritage areas, conservancies, or public agencies, or an advisory or advocacy group, organizational responsibilities were identified most often, with advocating and promoting trail development identified most often, followed by coordinating and/or assisting local groups.

Meeting funding needs for trail development and trail maintenance. Respondents were also asked to reply to two open-ended questions and describe their own experience funding trail development and trail maintenance. Content analysis revealed similar themes in the responses to these two questions and identified two broad categories, actions and needs, with several specific themes in each category (Table 3). In the actions category, the theme that occurred most often was organizing local work crews. This action was mentioned more often in the context of trail maintenance than trail construction, and different individuals suggests organizing crews composed of volunteers, inmates, or adjudicated youth. The action mentioned second most frequently was seeking diverse funding sources — federal, state, local, and private money. Individuals described going about this differently, however. Some advocated seeking federal or state money first, and then using it to attract local and private funds, while some advocated the opposite. Other commonly mentioned actions included coordinating and/or assisting local organizations; fund-raising; and seeking in-kind contributions from local donors. Actions mentioned less often were educate local publics and stakeholders; pass local taxes, assessments, or impact fee ordinances; and explore help from the health care industry.

Table 3. How should funding trail development and trail maintenance be addressed?
Pennsylvania Trail Gap Priorities Survey.

Category ^a Theme	Trail development	Trail maintenance Counts	Total
Actions			
Organize local work crews, e.g., volunteers, prisoners, adjudicated youth	41	130	171
Seek grants: state, federal, local foundations, multiple sources	68	41	109
Coordinate, assist and/or organize municipalities, local organizations, trail users, coalitions and/or partnerships	42	40	82
Conduct local fund raising	27	45	72
Seek in-kind contributions from local interests	11	37	48
Educate local publics, stakeholders; document value of trails to community	10	1	11
Pass local taxes, assessments, or impact fee ordinances	7	2	9
Explore help from health care industry and organizations	4	1	5
Needs			
Adoption of user fees	31	24	55
Simplification or modification of processes and requirements	39	14	53
New sources of funding	28	14	42
State and/or federal funding is essential	11	18	29
Technical guidance and/or assistance: training, information access, guidelines	5	3	8
Don't know, don't understand, and/or does not apply	17	8	25
Unclear or other	20	26	46
Missing or no response	49	50	99

^a Open-ended answers grouped into categories and responsibilities by content analysis; some participants' answers fit more than one category.

Rather than describe their own experiences seeking funding, some respondents chose to identify their funding needs and suggest ways to meet these needs. These included increasing the use of trail user fees; (mentioned particularly often by individuals affiliated with motorized trail groups), simplifying grant writing processes; new or increased funding via federal Transportation Enhancement funds, state grant programs, a dedicated fuel tax, and dedication of registration fees entirely to trail development and maintenance; and providing more technical and grant-writing support. Over one third of the participants did not respond to one or both of these questions, and significant numbers gave responses that were un-interpretable or stated that they did not know how to answer the questions, do not understand the questions, and/or felt that the questions did not apply to them.

Conclusions

The Pennsylvania Trail Gap Study successfully identified 107 gaps and voids in the Commonwealth's system of land-based trails and collected information about the perspectives of trail advocates on the relative importance of diverse trail development issues, appropriate trail-related responsibilities for trail advocacy organizations, and how to meet funding challenges for trail development and maintenance. This information provides insight into trail advocates' (organizations and individuals) perspectives in several important areas:

- Gaps and voids in existing trails are highly salient to the trail advocates who participated in the study. Compared to other issues, closing gaps and voids in existing trails was ranked high in importance.
- On average, respondents ranked providing access to natural areas and outstanding natural scenery more important than providing access to historic and/or other cultural resources.
- Providing trails that can be used by more than one user group and providing access for users with disabilities were moderately important to respondents.
- Providing access to schools and connections within communities were of low importance to the trail advocates who participated in the study.
- Not surprisingly, trail advocates who identified most strongly with user groups tended to believe their organizations are best suited to accepting responsibilities related to trail construction, maintenance, and patrol, whereas trail advocates who identified most strongly with planning and advocacy organizations tended to believe their organizations are best suited to accepting responsibilities related to coordinating trail planning and development.
- A substantial number of study participants expressed a need for more training, guidance, and information related to obtaining funding and other resources for trail development and maintenance.

The study results also yield valuable unanticipated information about the Commonwealth's trail advocates. First, a substantial portion of organizations invited to participate in *Phase 1 — Pennsylvania Trail Gap Inventory* failed to do so. For some organizations, this might be evidence of a lack of interest, but for other organizations, it might be evidence of a lack of

capacity, i.e., insufficient time, loose organization, an undeveloped perspective on issues such as trail connectivity and large-scale planning, or a lack of familiarity and comfort working with state agencies. Second, response to *Phase 2 — Pennsylvania Trail Gap Priorities Survey* was very uneven across interest groups. Snowmobile, rails-to-trails, greenways, heritage areas, hiking, and ATV groups were better-represented than bicycling or equestrian organizations. This, too, may suggest looser organization or lower capacity among the later groups. Third, in response to open-ended questions about trail-related responsibilities appropriate for their organizations and how to address funding challenges inherent in trail development and maintenance a substantial portion of individual trail advocates either indicated that they did not know how to answer or failed to answer, suggesting that these may be new issues for many of the Commonwealth's trail advocates. Taken together, these unanticipated findings suggest that it may be beneficial for DCNR and sister agencies to expand existing efforts to help trail advocacy groups build their capacity to be constructive partners with state agencies and each other.

Recommendations

- Numerous participants expressed a need for additional training, guidance, and information about obtaining funding and other resources for trail projects. This need is both an opportunity and a challenge for DCNR, particularly at a time when DCNR faces its own budget challenges.
- Although it is not surprising that individuals from trail user organizations and trail planning and advocacy organizations envision being suited to take on different types of responsibilities, the difference is worth remembering. Partner organizations are most likely to be successful when they take on tasks they consider to be appropriate.
- Trail advocates were deliberately sought out to participate in this study. This was appropriate because individuals who are knowledgeable about trail related issues can identify problems and opportunities that other individuals may not see. At the same time, DCNR planners should remember that this study provided very little information about the needs or opinions of casual trail users or potential trail users.
- Four potential ways to increase trail use have been the subject of much discussion for several years: (a) providing trails for getting to and from school, (b) using trails to connect neighborhoods to shopping areas and workplaces, (c) providing trails within walking distance, and (d) providing trails that can be accessed by public transportation. All of these ideas received low average importance in this study, but the data do not explain why interest in these ideas was low. Exploring these ideas in more depth with this study population and exploring these ideas with other populations may both be informative.

Table A1. Trail gaps inventory summary (alphabetical by county).

County	Location	ID	Name and/or brief description	Approx. length (mi.)	Nominating organization
Armstrong	Freeport Boro., South Buffalo Twp., Gilpin Twp., Leechburg Boro., Parks Twp., Kiskiminetas Twp., North Apollo Boro., Apollo Boro. n/a	51	Kiski Valley trail connecting Freeport, Leechburg, and Apollo and providing river access.	15	Alliegheny Ridge Corporation
Armstrong, Clarion	Conemaugh Twp., Avonmore Boro., Bell Twp., Kiskiminetas Twp., South Beaver Twp., Darlington Twp., Darlington Boro., Big Beaver Twp., New Galileo Boro., Muddy Creek Twp., Slippery Rock Twp.	97	Parker to Upper Hillville	n/a	Erie to Pittsburgh Trail
Armstrong, Indiana, Westmoreland	Avonmore Boro., Bell Twp., Kiskiminetas Twp., South Beaver Twp., Darlington Twp., Darlington Boro., Big Beaver Twp., New Galileo Boro., Muddy Creek Twp., Slippery Rock Twp.	53	Roaring Run Trail and West Penn Trail connection.	5.0	Alliance Allegheny Ridge Corporation
Beaver, Lawrence	Galileo Boro., Muddy Creek Twp., Slippery Rock Twp.	77	A gap in the North Country National Scenic Trail between Sterling Road (South Beaver Twp.) and Kenforest Road (Big Beaver Twp.) requires a road walk of at least 9 miles in a rapidly developing area.	9	Keystone Trails Association
Beaver, Lawrence	Galileo Boro., Muddy Creek Twp., Slippery Rock Twp.	75	A gap in the North Country National Scenic Trail between McConnells Mill State Park (Slippery Rock Twp, Lawrence Co.) and Moraine State Park (Muddy Creek Twp., Butler Co.) requires a road walk of at least 2.6 miles in a rapidly developing area.	2.6	Keystone Trails Association
Berks	Tilden Twp.	4	Schuykill River Trail, Hamburg to Kernsville. developing area.	1.0	Schuykill River National and State Heritage Area
Berks	Reading City to Hamburg Boro. Birdsboro Boro. to Robeson Twp. North Coventry Twp., Union Twp.	5	Schuykill River Trail, Reading to Hamburg.	21.4	Schuykill River National and State Heritage Area
Berks, Chester	Hamburg Boro. Birdsboro Boro. to Robeson Twp. North Coventry Twp., Union Twp.	6	Schuykill River Trail, Birdsboro to Gibraltar Gap.	3.6	Schuykill River National and State Heritage Area
Berks, Lancaster	Union Twp.	15	PA Highlands Trail Network, Schuykill River Trail from Pottstown to French Creek State Park.	n/a	Appalachian Mountain Club
		16	Horse-Shoe Trail gaps where roads are currently being substituted.	n/a	Appalachian Mountain Club

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Appendix – Detailed Data Tables

Table A1 continued. Trail gaps inventory summary (alphabetical by county).

County	Location	ID	Name and/or brief description	Approx. length (mi.)	Nominating organization
Blair	Frankstown Twp., Hollidaysburg Boro., Duncansburg Boro., Allegheny Twp., Blair Twp.	59	Lower Trail extension from Flowing Spring (Frankstown Twp.) through Canal Basin Park (Hollidaysburg) to the Six-Through-Ten Trail trailhead at Dry Run Road (Blair Twp.).	n/a	Allegheny Ridge Corporation
Bradford, Sullivan	Fox Twp., Leroy Twp.	66	A connector is needed between the Loyalsock forestry trails in the Cabbage Hollow area (Fox Twp., Sullivan Co.) and the State Game Lands 12 trails in the Sunfish Pond area (Leroy Twp., Bradford Co.) with a spur to Shunk for gas.	n/a/	Larson Design Group for Highland Lake Snowmobile and Outdoor Recreation Club
Bucks	Riegelsville Boro., Durham Twp., Springfield Twp., Haycock Twp., Trincum Twp., Plumstead Twp., Bedminster Twp., and Nockamixon Twp.	8	PA Highlands Trail Network, Riegelsville to Nockamixon State Park.	n/a	Appalachian Mountain Club
Bucks	Plumstead Twp., Bedminster Twp., and Nockamixon Twp.	9	PA Highlands Trail Network, Ralph Stover State Park to Nockamixon State Park along Lower Tohickon Creek.	n/a	Appalachian Mountain Club
Bucks	Doylestown Boro., Doylestown Twp., Doylestown Twp., Bedminster Bristol Boro.	10	PA Highlands Trail Network, Doylestown to Ralph Stover State Park and Nockamixon State Park.	n/a	Appalachian Mountain Club
Bucks	Bristol Boro., Bristol Twp., Tullytown Boro., Falls Twp., Morrisville Boro.	37	Gaps in the Delaware and Lehigh Canal Trail exist at the intersection of the canal towpath and PA Rte. 13 near Tullytown; the Levittown Shopping Center; and the intersection of the canal towpath and the CSX high-speed rail crossing in Falls Twp.	n/a	Delaware and Lehigh National Heritage Corridor Delaware and Lehigh National Heritage Corridor

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Table A1 continued. Trail gaps inventory summary (alphabetical by county).

County	Location	ID	Name and/or brief description	Approx. length (mi.)	Nominating organization
Bucks, Montgomery	East Rockhill Twp., Richland Twp., Quakertown Boro., Milford Twp., Trumbauersville Boro., Marlborough Twp., Upper Hanover Twp.,	11	PA Highlands Trail Network, Nockamixon State Park to Quakertown (Bucks Co.) to Green Lane Park (Montgomery Co.).	n/a	Appalachian Mountain Club
Bucks, Montgomery	Red Hill Boro. East Rockhill Twp., West Rockhill Twp., Perkasio Boro., Sellersville Boro., Salford Twp., Marlborough Twp., East Rockhill Twp., West Rockhill Twp., Perkasio Boro., Sellersville Boro., Salford Twp., Marlborough Twp.	12	PA Highlands Trail Network, Nockamixon State Park through Perkasio and Sellersville to Green Lane Park.	n/a	Appalachian Mountain Club
Bucks, Montgomery	Marlborough Twp., East Rockhill Twp., West Rockhill Twp., Perkasio Boro., Sellersville Boro., Salford Twp., Marlborough Twp.	13	PA Highlands Trail Network, Bethlehem to Coopersburg to Quakertown.	n/a	Appalachian Mountain Club
Bucks, Philadelphia Butler, Clarion, Venango Cambria	n/a n/a Conemaugh Twp.	90 96 56	New Hope to Philadelphia Emlementon to Foxburg Path of the Flood Trail extension from existing northern terminus to National Park Service's Staple Bend Tunnel site	n/a n/a n/a	Rails to Trails Conservancy Erie to Pittsburg Trail Alliance Allegheny Ridge Corporation
Cambria	South Fork Boro., Adams Twp.	57	Path of the Flood spur trail from South Fork to the South Dam Abutment of the NPS's Johnstown Flood Memorial near St. Michael.	n/a	Allegheny Ridge Corporation

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Table A1 continued. Trail gaps inventory summary (alphabetical by county).

County	Location	ID	Name and/or brief description	Approx. length (mi.)	Nominating organization
Cambria	Cresson Twp., Lilly Boro., Washington Twp., Portage Twp., Portage Boro., Wilmore Boro., Summerhill Twp., Summerhill Boro., Adams Twp., Ehrenfeld Boro.	58	Main Line Trail linking the Allegheny Portage Railroad National Historic Site in Cresson Twp. to Ehrenfeld Boro.	n/a	Allegheny Ridge Corporation
		Map			
Cambria, Indiana, Westmoreland	n/a	55	Conemaugh Gap void Johnstown (Cambria Co.) and Seward (Westmoreland Co.).	7.0	Allegheny Ridge Corporation
Cameron, Elk	n/a	101	Montour Run to Jericho/Sinnemahoning	n/a	Pennsylvania State Snowmobilers Association
Carbon	Jim Thorpe Boro.	98	Connection from Wilson Road in St Marys to Route 120/155 in Emporium on West Creek Recreational Rail Trail	19.4	Pennsylvania State Snowmobilers Association
Centre	State College	43	Gap in the Delaware and Lehigh Canal Trail between Glen Onoko, at the south end of Lehigh Gorge State Park, and the trailhead in Jim Thorpe Boro.	2.5	Association Delaware and Lehigh National Heritage Corridor
Centre	Snow Shoe Twp., Curtin Twp.	61	Rothrock State Forest to Bald Eagle State Forest (southern section)	n/a	Pennsylvania State Snowmobilers Association
Centre	n/a	63	Link the Snow Shoe Rail Trail (Clarence) and the Bloody Skillet ATV Trail (Orviston) using the abandoned Orviston/Kato rail bed.	n/a	Association Pennsylvania Off Highway Vehicle
Centre	n/a	104	Black Moshannon area to Kato area south of the West Branch Susquehanna River (south of Rte 120) to South Renovo to Stony Run Rd via Drury's Run	n/a	Association Pennsylvania State Snowmobilers Association

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Table A1 continued. Trail gaps inventory summary (alphabetical by county).

County	Location	ID	Name and/or brief description	Approx. length (mi.)	Nominating organization
Centre, Clinton	Boggs Twp., Howard Twp., Howard Boro., Curtin Twp., Liberty Twp., Beech Creek Twp., Beech Creek Boro. Curtin Twp., Beech Creek Twp., Noyes Twp., South Renovo Boro. n/a	30	Bricktown Trail connecting several small communities in Centre and Clinton Counties	n/a	West Branch Region, Susquehanna Greenway Partnership
Centre, Clinton	Beech Creek Boro. Curtin Twp., Beech Creek Twp., Noyes Twp., South Renovo Boro. n/a	60	Spur trail from South Renovo to the Bloody Skillet Trailhead of the Sprout State Forest ATV Trail System.	n/a	Pennsylvania Off Highway Vehicle Association
Centre, Clinton	South Renovo Boro. n/a	91	State College to Lock Haven	n/a	Rails to Trails Association
Chester, Montgomery, Chester, Montgomery Clearfield	Upper Providence Twp. to Pottstown Boro. n/a	7	Montgomery & Chester Co. Gap.	13.6	Conservancy Schuylkill River National and State Heritage Area
Montgomery Clearfield	Gramplan	89	Pottstown to Valley Forge	n/a	Rails to Trails Association
Montgomery Clearfield	Gramplan	27	Connection between Clearfield/Gramplan Rail Trail to Bilger's Rocks	2.5	Conservancy Susquehanna Greenway Partnership / West Branch Region
Clearfield	Pike Twp., Penn Twp., Union Twp., Sandy Twp., Pine Twp., Huston Twp., Bloom Twp. Noyes Twp., Renovo Boro.	85	Connections among the Bilger's Rocks natural area, Clearfield/Gramplan Rail Trail, Moshannon State Forest, Elliot State Park, Parker Dam State Park, and the proposed Sandy-Du Bois trail system.	n/a	Branch Region Bilger's Rocks Association and West Branch Region, Susquehanna Greenway Partnership
Clinton	Bloom Twp. Noyes Twp., Renovo Boro.	62	Spur trail from Renovo to the Whiskey Springs ATV Trail head in Noyes Twp.	n/a	Partnership Pennsylvania Off Highway Vehicle Association
Clinton	n/a	100	Link trails west and east of Kettle Creek, between Kettle Creek State Park and Westport	7	Pennsylvania State Snowmobilers Association

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Table A1 continued. Trail gaps inventory summary (alphabetical by county).

County	Location	ID	Name and/or brief description	Approx. length (mi.)	Nominating organization
Clinton,	Lock Haven Boro.,	28	Connection between Lock Haven and Pine Creek Trailhead in Jersey Shore.	n/a	West Branch Region, Susquehanna Greenway Partnership
Luzerne	Castanea Twp., Wayne Twp., Nippenose Twp., Jersey Shore Boro., Berwick Boro., Salem Twp.	47	Gap in Susquehanna Warrior Trail that would connect Berwick to the Wilkes-Barre Levee Trail along the west bank of the Susquehanna.	n/a	Susquehanna Greenway Partnership
Columbia, Montour	Danville Boro., Mahoning Twp., Cooper Twp., Montour Twp., Bloomsburg Boro.	26	North Branch Canal Trail.	n/a	Middle Susquehanna Region, Susquehanna Greenway Partnership
Crawford, Erie	n/a	95	Corry to Spartansburg	n/a	Erie to Pittsburgh Trail Alliance
Crawford, Venango	n/a	107	Titusville to Centerville	n/a	Pennsylvania State Snowmobilers Association
Cumberland	North Middleton Twp., Lower Frankfort Twp., Upper Frankfort Twp.	73	A section of the Tuscarora Trail between PA Rte. 74 and McClure's Gap requires a road walk of about 10 miles because a private landowner has closed access to a key section of the trail.	10.0	Association of Keystone Trails Association
Fayette	Confluence Boro., Addison Twp., Henry Clay Twp., Saltlick Twp., Middlecreek Twp.	34	Connections between the Great Allegheny Passage and Deep Creek Lake, MD.	n/a	National Park Service
Fayette, Somerset	n/a	72	A new trail in the Pritts Distillery Road/Dumbauld Road area would link existing trails in Laurel Ridge State Park, Laurel Hill State Park, and Forbes State Forest, creating a long, continuous nordic ski trail system and potentially attracting new visitors and justifying private sector investment in a nordic ski center.	n/a	Pennsylvania Cross Country Skiers Association
Forest	n/a	105	Grugan Hollow Road area (south and west of Haneyville) to Left Hand Sugar Camp Rd	n/a	Pennsylvania State Snowmobilers Association

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Table A1 continued. Trail gaps inventory summary (alphabetical by county).

County	Location	ID	Name and/or brief description	Approx. length (mi.)	Nominating organization
Forest	n/a	106	Tidioute/Tionesta area crossing of the Allegheny River	n/a	Pennsylvania State Snowmobilers
Greene	Monongahela Twp.	64	Replace lost access to Warrior Trail segment near mile 3.	n/a	Association of Warrior Trail Association
Huntingdon	Porter Twp., Alexandria Boro., Logan Twp., Petersburg Boro., Oneida Twp.,	92	Lower Trail extension from the Altarata Trailhead (Porter Twp.) to Huntingdon Boro.	n/a	Allegheny Ridge Corporation
Indiana	Huntingdon Boro. Burrell Twp., Center Twp.	50	West Penn Trail and Hoodlebug Trail connection with link to Ghost Town Trail.	n/a	Allegheny Ridge Corporation
Indiana, Cambria	Seward Boro., St. Clair Twp., New Florence Boro., Fairfield Twp., West Wheatfield Twp., Burrell Twp., Blairsville Boro.	54	Packsaddle Gap void between Blairsville (Indiana Co.) and Seward (Westmoreland Co.).	22.0	Allegheny Ridge Corporation
Lancaster	Londonderry Twp., Conoy Twp., East Donegal Twp., West Hempfield Twp., Manor Twp., West Hempfield Twp.,	17	PA Highlands Trail Network, Conewago Recreational Trail across Susquehanna River to co-align with Mason-Dixon Trail.	n/a	Appalachian Mountain Club
Lancaster	Hempfield Twp., Columbia Boro.	19	Atglen-Susquehanna Trail gap from Creswell Station in Washington Boro Village, Manor Twp., to River Park in Columbia Boro.	4.5	Lower Susquehanna Region, Susquehanna Greenway Partnership
Lancaster	Manor Twp., Conestoga Twp.	20	Atglen-Susquehanna Trail gap from Creswell Station in Washington Boro Village, Manor Twp., to Brenner Hollow Road, Conestoga Twp.	5.0	Lower Susquehanna Region, Susquehanna Greenway Partnership
Lancaster	Martic Twp., Drumore Twp., Fulton Twp.	21	Conestoga Trail extension to Maryland border.	9.0	Lower Susquehanna Region, Susquehanna Greenway Partnership

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Table A1 continued. Trail gaps inventory summary (alphabetical by county).

County	Location	ID	Name and/or brief description	Approx. length (mi.)	Nominating organization
Lawrence	Shenango Twp., Slippery Rock Twp.	76	A gap in the North Country National Scenic Trail between Snake Run Road (Shenango Twp.) and Shaffer Road (McConnell's Mill State Park, Slippery Rock Twp.) requires a road walk of least 4.6 miles in a rapidly developing area. Gap in the Delaware and Lehigh Canal Trail between Hanover Canal Park and Lehigh Canal Park.	4.6	Delaware and Lehigh National Heritage Corridor
Lehigh	Allentown City	39		n/a	Delaware and Lehigh National Heritage Corridor
Lehigh	Slatington Boro., Whitehall Twp.	41	Gap in the Delaware and Lehigh Canal Trail between Slatington Boro. and Whitehall Twp.	n/a	Delaware and Lehigh National Heritage Corridor
Lehigh, Northampton	Catasauqua Boro., North Catasauqua Boro., Northampton Boro., Northampton Boro.	40	Gap in the Delaware and Lehigh Canal Trail between Catasauqua Boro. and Northampton Boro.	n/a	Delaware and Lehigh National Heritage Corridor
Luzerne	Boro. of Nescopeck State Park and State Game Lands No. 119	44	Glen Summit Gap along Lake Road and Kirby Avenue.	1.2	Delaware and Lehigh National Heritage Corridor and Susquehanna Greenway
Luzerne	Plains Twp., Laurel Run Twp., Hanover Twp., Fairview Twp., Glen Summit	45	Seven Tubs to Mountaintop, the missing northern terminus of the Delaware and Lehigh Trail, from Llewellyn Corners (PA Rte. 115) to Mountaintop (PA Rtes. 309 and 437). Black Diamond Trail - Glen Summit gap. The BDT is under construction from White Haven to the Tubs but passage thru the community of Glen Summit has not been finalized. Between the Tubs and the Levee Trail (through Wilkes-Barre PA.)	7.1	Partnership Delaware and Lehigh National Heritage Corridor
Luzerne	Wilkes-Barre	46		n/a	Susquehanna Greenway Partnership
Luzerne	Wilkes-Barre	52		n/a	Susquehanna Greenway Partnership
Luzerne	n/a	88	White Haven to Wilkes-Barre/Scranton	n/a	Susquehanna Greenway Partnership
Luzerne, Sullivan, Wyoming	Davidson Twp., Colley Twp., Fairmount Twp., Ross Twp., Lake Twp., Forkston Twp., Noxen Twp.	93	Connections are needed among State Game Lands 13 trails (Davidson and Colley Twps., Sullivan Co.), Ricketts Glen State Park trails (Fairmount Twp., Luzerne Co.), and State Game Lands 57 trails (Forkston and Noxen Twps., Wyoming Co.; Fairmount, Ross, and Lake Twps., Luzerne Co.).	n/a	Conservancy Larson Design Group for Highland Lake Snowmobile and Outdoor Recreation Club

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Table A1 continued. Trail gaps inventory summary (alphabetical by county).

County	Location	ID	Name and/or brief description	Approx. length (mi.)	Nominating organization
Lycoming	Muncy Creek Twp.	25	Muncy Heritage Park and Nature Trail, Port Penn Village.	0.5	Middle Susquehanna Region, Susquehanna Greenway Partnership West Branch Region, Susquehanna Greenway Partnership West Branch Region, Susquehanna Greenway Partnership/ West Branch Region
Lycoming	South Williamsport Boro.	29	Connection between Williamsport RiverWalk and South Williamsport Recreation Area / Little League World Series Complex.	n/a	Susquehanna Greenway Partnership West Branch Region, Susquehanna Greenway Partnership/ West Branch Region
Lycoming	Muncy Twp., Muncy Boro.	31	Downtown Muncy to Muncy Heritage Park and West Branch Susquehanna River.	n/a	Susquehanna Greenway Partnership/ West Branch Region
Lycoming	Jersey Shore Boro., Porter Twp., Platt Twp., Woodward Twp., Williamsport City	32	Connection between Pine Creek Trailhead in Jersey Shore and River Walk in City of Williamsport.	n/a	Partnership Susquehanna Greenway Partnership/ West Branch Region
Lycoming	n/a	103	North and west of Jersey Shore along Rte 44 north to Waterville and farther north to SGL 75 east of Slate Run	n/a	Pennsylvania State Snowmobilers Association Allegheny Ridge Corporation Keystone Trails Association
Mifflin	Lewistown Boro.	49	Juniata RiverWalk westward extension from Lewistown's Victory Park 0.67 miles to a proposed turn-around.	0.7	Association Allegheny Ridge Corporation Keystone Trails Association
Monroe	Pocono Twp.	74	The former WB&E Railroad Grade Trail entering Big Pocono State Park from the south has been closed because of private property issues. Closure means hikers cannot access the park from the south.	n/a	Appalachian Mountain Club
Montgomery	Upper Frederick Twp., New Hanover Twp., Lower Pottsgrove Twp., Upper Pottsgrove Twp., Pottstown Boro., Palmer Twp., West Easton Boro., Easton Boro.	14	PA Highlands Trail Network, Green Lane Park to Pottstown.	n/a	Appalachian Mountain Club
Northampton	Pottstown Boro., Palmer Twp., West Easton Boro., Easton Boro.	38	Gap in the Delaware and Lehigh Canal Trail between Riverside Park (Palmer Twp.) and Hugh Moore Park via Glendon Bridge.	n/a	Delaware and Lehigh National Heritage Corridor
Northampton	Lehigh Twp., Allen Twp., Northampton Boro.	42	Gap in the Delaware and Lehigh Canal Trail between Bertsch Creek (Lehigh Twp.) and Northampton Boro.	n/a	Delaware and Lehigh National Heritage Corridor

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Table A1 continued. Trail gaps inventory summary (alphabetical by county).

County	Location	ID	Name and/or brief description	Approx. length (mi.)	Nominating organization
Northumberland	Sunbury City	23	Sunbury Riverfront Trail.	n/a	Middle Susquehanna Region, Susquehanna
Philadelphia	Delaware Twp., Allenwood Twp., White Deer Twp. Philadelphia	22	Warrior Run Pathways Project, Dewart Village through Watsonstown Village and Allenwood Twp. to White Deer Twp.	n/a	Greenway Partnership Middle Susquehanna Region, Susquehanna
Schuylkill	North Manheim Twp. to Pottsville City	1	Schuylkillbanks gap between Fort Mifflin and Schuylkill River Park.	2.0	Greenway Partnership Schuylkill River National and State Heritage Area
Schuylkill	West Brunswick Twp.	3	Schuylkill River Trail, Landingville to Pottsville Gap.	9.0	Schuylkill River National and State Heritage Area
Schuylkill	Port Clinton Boro., Tilden Twp.	84	Schuylkill River Trail, Auburn area.	0.5	Schuylkill River National and State Heritage Area
Schuylkill	n/a	87	To complete public ownership of the Appalachian Trail corridor in Pennsylvania, the Appalachian Trail Conservancy proposes to construct a bridge for the trail over active railroad tracks owned by the Reading, Blue Mountain, and Northern Railroad near the confluence of the Schuylkill and Little Schuylkill Rivers. Jim Thorpe to Tamaqua	n/a	Appalachian Trail Conservancy, Mid-Atlantic Region
Somerset	Meyersdale Boro., Summit Twp., Greenville Twp., Larimer Twp.	35	Connections between the Great Allegheny Passage at Meyersdale and Big Savage Mountain, U.S. Rte. 40, and the Youghiohgheny River, MD.	n/a	Rails to Trails Conservancy National Park Service, Potomac Heritage National Scenic Trail
Somerset	Milford Twp.	65	Additional trail segments needed at Laurel Ridge Cross Country Ski Center	n/a	Office Pennsylvania Cross Country Skiers
Somerset, Westmoreland	n/a	99	Between Rte 30 and Laurel Mountain State Park	2.5	Association Pennsylvania State Snowmobilers
Sullivan	n/a	94	Trail gap west of Lake Jean along SR487	n/a	Association Pennsylvania Cross Country Skiers Association

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Table A1 continued. Trail gaps inventory summary (alphabetical by county).

County	Location	ID Map	Name and/or brief description	Approx. length (mi.)	Nominating organization
Tioga	Charleston Twp.	78	A gap in the Mid State Trail requires an 8.1 mile road walk.	n/a	Keystone Trails Association Pennsylvania State Snowmobilers
Tioga	n/a	102	Ansonia area east to Armenia Mountain near Troy	n/a	Association Middle Susquehanna Region, Susquehanna Greenway Partnership
Union	Lewisburg Boro., East Buffalo Twp., Buffalo Twp., West Buffalo	24	Lewisburg to Mifflinburg Rail Trail.	n/a	Association Middle Susquehanna Region, Susquehanna Greenway Partnership
Union	Twp.; Mifflinburg Boro. Lewisburg Boro., Kelly	48	West Branch RiverWalk, a proposed trail between Lewisburg and West Milton. To avoid being required to ride on roads, the Northern Allegheny Mountain bike Association would like to work with the Game Commission to develop a singletrack mountain bike trail through State Game Lands 29 from Chapman State Park to Heart's Content National Scenic Area (all located within the	n/a	Susquehanna Greenway Partnership Northern Allegheny Mountain Bike Association
Warren	Twp. Allegheny National Forest, State Game Lands 29	83	Allegheny Mountain bike Association would like to work with the Game Commission to develop a singletrack mountain bike trail through State Game Lands 29 from Chapman State Park to Heart's Content National Scenic Area (all located within the	n/a	Susquehanna Greenway Partnership Northern Allegheny Mountain Bike Association
Westmoreland	n/a	86	ANF. Pittsburgh to Freeport	n/a	Rails to Trails Conservancy Appalachian Mountain Club
York	Hellam Twp., East Manchester Twp., Conewago Twp., Warrington Twp., Carroll Twp., and Franklin Twp. Carroll Twp., Dillsburg Boro., Franklin Twp., Franklinton Boro., Warrington Twp., Wellsville Boro., Washington Twp.	18	PA Highlands Trail Network, Mason-Dixon Trail System gaps where roads are currently being used.	n/a	Larson Design Group for Highland Lake Snowmobile and Outdoor Recreation Club
York	Boro., Franklin Twp., Franklinton Boro., Warrington Twp., Wellsville Boro., Washington Twp.	67	Trails are needed in this northern York Co. area.	n/a	Larson Design Group for Highland Lake Snowmobile and Outdoor Recreation Club

Table continued next page.

Table A1 continued. Trail gaps inventory summary (alphabetical by county).

County	Location	ID	Name and/or brief description	Approx. length (mi.)	Nominating organization
York	Springfield Twp.	68	Filling a gap in the trail system near Codorus Creek, Seven Valleys Boro. would link Hollow Creek Greenway and the Glatfelters Station Trailhead of the Heritage Rail Trail County Park.	n/a	York County Rail Trail Authority
York	Windsor Twp., Lower Windsor Twp., Hellam Twp., Springettsbury Twp., Wrightsville Boro., Hallam Boro., Yorkanna Boro., East Prospect Boro.	69	These municipalities are located east of the Heritage Rail Trail County Park and need to be linked into the county's rail trail system.	n/a	York County Rail Trail Authority
York	West Manchester Twp.	70	A gap in the Hanover Trolley Trail exists in a designated "no growth" area of the Township.	5.0	York County Rail Trail Authority
York	Spring Grove Boro., Jackson Twp., North Codorus Twp., Heidelberg Twp., Penn Twp., Franklin Twp.	71	A gap in the Hanover Trolley Trail exists from Hosler Alley (Spring Grove Boro.) to Cherry Lane Court (Penn Twp.).	6.0	York County Rail Trail Authority
York	East Manchester Twp.	80	A gap in the Mason Dixon Trail System that requires up to 5.7 miles of road walking can be closed by linking to Camp Tuckahoe. Mason Dixon Trail System, Inc. would like to relocate the Mason Dixon Trail in East Manchester Twp.	n/a	Keystone Trails Association

Table continued next page.

Table A1 continued. Trail gaps inventory summary (alphabetical by county).

County	Location	ID	Name and/or brief description	Approx. length (mi.)	Nominating organization
York	Hellam Twp.	81	To avoid 1.3 miles of road walk north of Wrightsville village in Hellam Twp., Mason Dixon Trail System, Inc. would like to relocate the Mason Dixon Trail from North River Drive. To avoid 5.3 miles of road walk, the Mason-Dixon Trail System, Inc. would like to relocate the Mason Dixon Trail off of Paper Mill Road and PA Rte. 74 in the vicinity of Muddy Creek.	n/a	Keystone Trails Association
York	Lower Chanceford Twp., Peach Bottom Twp.	82		n/a	Keystone Trails Association

Table A2. Mean relative participation rates in trail-based activities for primary affiliation groups of participants in the Pennsylvania Trail Gap Priorities Survey.

Primary organizational affiliation category	Walking	Jogging	Day-hiking	Backpacking	Trail running	Bicycling (street or road)	Mountain biking	In-line skating/roller blading	Horseback riding	ATV riding	Off-road motorcycling	Off-road 4-wheel driving	Snowmobiling	Cross-country skiing	Snowshoeing	Trail maintenance and/or construction
Agency, advisory, advocacy (n = 15)	4.1	2.6	2.9	1.9	1.7	2.8	2.1	1.1	1.3	1.6	1.0	1.3	1.4	1.9	1.5	3.4
Bicycling (n = 7)	3.9	3.3	3.1	2.2	3.3	3.4	4.3	1.2	1.0	1.0	1.4	1.4	1.4	2.6	2.4	4.0
Equestrian (n = 4)	3.0	1.3	1.5	1.3	1.5	1.8	1.0	1.0	3.0	1.5	1.0	1.0	1.0	2.0	1.5	3.5
Greenway, heritage area, conservancy, regional organization (n = 32)	4.3	1.9	3.3	1.9	1.8	3.5	2.0	1.3	1.2	1.2	1.0	1.3	1.2	2.1	1.4	3.9
Hiking (n = 31)	4.7	2.1	4.6	3.1	1.6	2.3	1.7	1.1	1.3	1.0	1.0	1.0	1.2	2.3	1.9	4.2
ATV (n = 31)	2.6	1.5	1.8	1.4	1.2	1.7	1.5	1.1	1.2	4.7	2.1	2.2	2.1	1.4	1.2	4.0
Trails to trails (n = 40)	3.9	1.7	3.1	1.7	1.5	3.7	2.5	1.1	1.6	1.5	1.1	1.3	1.2	2.6	1.5	4.1
Snowmobiling (n = 48)	3.6	1.8	2.4	1.6	1.4	2.5	2.0	1.1	1.6	2.6	1.8	1.9	4.9	1.7	1.6	3.4
More than one primary organization specified (n = 3)	4.0	1.3	3.7	2.0	1.3	2.3	2.3	1.0	1.0	2.7	2.0	1.0	2.0	1.3	1.3	3.7
No primary organization specified (n = 71)	3.7	2.0	2.8	1.8	1.7	2.7	2.1	1.3	1.3	1.4	1.3	1.4	1.7	1.9	1.4	2.8
Overall (n = 282)	3.8	1.9	2.9	1.9	1.6	2.8	2.0	1.2	1.4	2.0	1.4	1.5	2.2	2.0	1.5	3.8

^a Mean scores range from 1.0 (corresponding to "never") to 5.0 (corresponding to "very frequently").

Table A3. Importance ratings for nine geographic issues.^a

Issue	Primary organizational affiliation								
	Overall sample (n = 282)	Agency, advisory, advocacy (n = 15)	Bicycling (n = 7)	Eques- trian (n = 4)	greenway, heritage area, conservancy (n = 32)	Hiking (n = 31)	ATV (n = 31)	Rails to trails (n = 40)	Snow- mobiling (n = 48)
1. Building trails that connect communities to each other	5.75 (1.40)	6.13 (1.51)	4.71 (1.60)	6.75 (0.50)	6.19 (0.86)	4.19 (1.64)	6.10 (1.35)	6.15 (1.08)	5.83 (1.33)
2. Providing connections between existing trails	6.27 (0.95)	6.07 (0.80)	6.57 (0.54)	6.00 (0.81)	6.38 (0.75)	5.81 (1.14)	6.48 (0.85)	6.27 (1.09)	6.63 (0.67)
3. Building trails that access open space (parks, forests, game lands, etc.)	5.57 (1.40)	5.33 (1.11)	6.29 (1.25)	6.50 (1.00)	5.34 (1.64)	6.10 (1.01)	5.52 (1.63)	5.46 (1.14)	5.60 (1.48)
4. Connecting neighborhoods to schools	4.04 (2.04)	5.57 (1.70)	4.00 (1.41)	5.25 (1.71)	5.41 (1.46)	3.32 (1.80)	3.00 (1.93)	4.87 (1.74)	2.40 (1.62)
5. Providing convenient trailheads and access points	5.73 (1.24)	5.40 (1.35)	5.29 (1.50)	6.25 (0.50)	5.84 (0.88)	5.84 (0.90)	6.29 (0.86)	5.47 (1.22)	5.60 (1.48)
6. Closing a gap within an existing trail	6.31 (1.06)	6.33 (0.74)	5.86 (2.19)	6.25 (0.50)	6.63 (0.85)	6.26 (1.15)	6.03 (1.17)	6.58 (0.64)	6.40 (1.01)
7. Providing trails within walking distance of users' homes	4.00 (1.92)	5.00 (2.20)	3.71 (1.38)	5.00 (2.16)	5.03 (1.15)	3.90 (1.68)	2.84 (1.90)	4.72 (1.54)	2.70 (1.67)
8. Building trails that provide access to remote areas	4.68 (1.81)	3.23 (1.83)	6.00 (1.29)	5.50 (1.00)	4.16 (1.73)	5.39 (1.63)	5.74 (1.51)	4.46 (1.48)	5.21 (1.70)
9. Providing trails that connect neighborhoods, shopping areas, and workplaces	4.32 (2.04)	6.00 (1.89)	3.57 (1.81)	5.25 (2.36)	5.78 (1.34)	3.29 (1.68)	3.00 (1.81)	5.21 (1.32)	3.36 (2.02)

^a 7 = Most important; 1 = Least important

Within communities

Table A4. Importance ratings for ratings social or experiential issues. ^a

Issue	Primary organizational affiliation								
	Overall sample (n = 282)	Agency, advisory, advocacy (n = 15)	Bicycling (n = 7)	Equestrian (n = 4)	Regional greenway, heritage area, conservancy (n = 32)	Hiking (n = 31)	ATV (n = 31)	Rails to trails (n = 40)	Snow-mobiling (n = 48)
1. Providing access to opportunities for solitude	4.43 (1.65)	3.87 (1.51)	4.71 (2.14)	5.75 (0.96)	4.65 (1.52)	5.84 (1.34)	4.32 (1.82)	4.50 (1.57)	3.77 (1.62)
2. Providing trails that are accessible for users with disabilities	4.89 (1.62)	5.53 (1.25)	4.00 (1.29)	6.25 (0.96)	5.25 (1.50)	3.55 (1.23)	5.71 (1.55)	5.49 (1.12)	4.04 (1.74)
3. Providing trails that accommodate more than one user group	5.48 (1.56)	6.27 (0.88)	6.14 (1.22)	6.67 (0.58)	5.41 (1.58)	3.90 (1.73)	5.97 (1.35)	5.87 (1.08)	5.73 (1.57)
4. Providing trails that can be accessed by public transportation	3.80 (1.94)	4.60 (1.68)	2.86 (2.12)	4.00 (1.16)	4.81 (1.91)	3.30 (1.42)	2.48 (1.98)	4.42 (1.63)	3.23 (2.07)
5. Providing access to historic or other cultural resources	4.56 (1.68)	5.00 (1.25)	3.57 (2.07)	6.50 (0.58)	5.31 (1.49)	4.48 (1.29)	3.90 (2.02)	5.15 (1.53)	3.60 (1.81)
6. Providing access to outstanding natural scenery	5.97 (1.10)	5.93 (1.10)	6.00 (0.82)	7.00 (0.00)	5.59 (1.21)	6.58 (0.62)	6.26 (0.89)	6.03 (1.11)	5.85 (1.13)
7. Providing easy opportunities for challenging	4.66 (1.57)	5.40 (1.55)	4.00 (1.83)	6.25 (0.50)	4.77 (1.73)	4.21 (1.05)	5.35 (1.60)	4.97 (1.50)	4.15 (1.50)
8. Providing opportunities	4.54 (1.64)	3.20 (1.78)	5.86 (1.07)	5.50 (1.73)	4.10 (1.60)	5.50 (1.11)	5.45 (1.73)	3.92 (1.56)	4.33 (1.69)

^a 7 = Most important; 1 = Least important

Table A5. Importance ratings for eight organizational issues.^a

Issue	Primary organizational affiliation								
	Overall sample (n = 282)	Agency, advisory, advocacy (n = 15)	Bicycling (n = 7)	Eques- trian (n = 4)	heritage area, greenway, conservancy (n = 32)	Hiking (n = 31)	ATV (n = 31)	Rails to trails (n = 40)	Snow- mobiling (n = 48)
1. Taking advantage of landowners' willingness to allow trail development	6.08 (1.30)	5.87 (1.13)	5.71 (1.80)	6.00 (1.41)	5.94 (1.22)	6.13 (0.85)	6.52 (1.15)	6.00 (1.17)	6.58 (0.71)
2. Ensuring a high level of local support	5.98 (1.16)	6.27 (0.70)	5.14 (1.35)	6.00 (1.41)	5.78 (1.39)	5.58 (1.31)	6.23 (1.18)	6.20 (0.88)	5.91 (1.08)
3. Maximizing local economic development	5.50 (1.39)	5.60 (1.18)	4.29 (1.80)	6.00 (1.41)	5.50 (1.08)	4.10 (1.47)	6.29 (1.01)	5.67 (1.16)	5.69 (1.29)
4. Securing trail rights-of-way that otherwise would be lost to development	6.42 (0.98)	6.13 (1.06)	6.86 (0.34)	6.50 (1.00)	6.69 (1.12)	6.48 (0.85)	6.73 (0.52)	6.46 (0.97)	6.33 (0.91)
5. Establishing trail construction partnerships with private organizations	5.68 (1.18)	5.60 (1.40)	6.14 (1.07)	6.25 (1.50)	5.72 (1.05)	5.37 (0.81)	6.26 (1.29)	5.59 (1.02)	5.58 (1.37)
6. Establishing trail maintenance partnerships with private organizations	5.77 (1.21)	5.60 (1.35)	5.71 (2.14)	6.75 (0.50)	5.41 (1.39)	5.83 (0.87)	6.23 (1.06)	5.77 (1.06)	5.77 (1.28)
7. Establishing private funding partnerships for building trails	5.34 (1.40)	5.60 (1.12)	4.86 (1.95)	6.25 (1.50)	5.44 (1.34)	5.07 (1.23)	5.83 (1.46)	5.29 (1.37)	5.08 (1.51)
8. Establishing private funding partnerships for maintaining trails	5.45 (1.43)	5.73 (1.16)	4.86 (1.95)	6.75 (0.50)	5.39 (1.43)	5.30 (1.26)	5.87 (1.38)	5.54 (1.48)	5.08 (1.64)

^a 7 = Most important; 1 = Least important

Table A6. Rank order of importance for nine geographic issues.

A. Overall sample (n = 282)			
Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Building trails that connect communities to each other	57	39	153
2. Providing connections between existing trails	66	78	210
3. Building trails that access open space (parks, forests, game lands, etc.)	33	27	93
4. Connecting neighborhoods to schools	6	12	24
5. Providing convenient trailheads and access points	17	23	57
6. Closing a gap within an existing trail	58	51	167
7. Providing trails within walking distance of users' homes	12	7	31
8. Building trails that provide access to remote areas	7	18	32
9. Providing trails that connect neighborhoods, shopping areas, and workplaces within communities	21	23	65
B. Primary organizational affiliation: Agency, advisory, advocacy (n = 15)			
Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Building trails that connect communities to each other	6	1	13
2. Providing connections between existing trails	1	3	5
3. Building trails that access open space (parks, forests, game lands, etc.)	0	0	0
4. Connecting neighborhoods to schools	2	3	7
5. Providing convenient trailheads and access points	0	0	0
6. Closing a gap within an existing trail	4	2	10
7. Providing trails within walking distance of users' homes	1	1	3
8. Building trails that provide access to remote areas	0	0	0
9. Providing trails that connect neighborhoods, shopping areas, and workplaces within communities	1	5	7
C. Primary organizational affiliation: Bicycling (n = 7)			
Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Building trails that connect communities to each other	2	0	4
2. Providing connections between existing trails	2	2	6
3. Building trails that access open space (parks, forests, game lands, etc.)	3	1	7
4. Connecting neighborhoods to schools	0	0	0
5. Providing convenient trailheads and access points	0	0	0
6. Closing a gap within an existing trail	0	2	2
7. Providing trails within walking distance of users' homes	0	0	0
8. Building trails that provide access to remote areas	0	2	2
9. Providing trails that connect neighborhoods, shopping areas, and workplaces within communities	0	0	0

Table continued next page.

Table A6 continued. Rank order of importance for nine geographic issues.

D. Primary organizational affiliation: Equestrian (n = 4)

Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Building trails that connect communities to each other	1	1	3
2. Providing connections between existing trails	1	0	2
3. Building trails that access open space (parks, forests, game lands, etc.)	2	0	4
4. Connecting neighborhoods to schools	0	1	1
5. Providing convenient trailheads and access points	0	1	1
6. Closing a gap within an existing trail	0	0	0
7. Providing trails within walking distance of users' homes	0	0	0
8. Building trails that provide access to remote areas	0	1	1
9. Providing trails that connect neighborhoods, shopping areas, and workplaces within communities	0	0	0

E. Primary organizational affiliation: Regional greenway, heritage area, conservancy (n = 32)

Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Building trails that connect communities to each other	2	6	10
2. Providing connections between existing trails	6	6	18
3. Building trails that access open space (parks, forests, game lands, etc.)	2	0	4
4. Connecting neighborhoods to schools	0	3	3
5. Providing convenient trailheads and access points	0	3	3
6. Closing a gap within an existing trail	9	9	27
7. Providing trails within walking distance of users' homes	3	2	8
8. Building trails that provide access to remote areas	0	1	1
9. Providing trails that connect neighborhoods, shopping areas, and workplaces within communities	10	2	22

F. Primary organizational affiliation: Hiking (n = 31)

Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Building trails that connect communities to each other	1	0	2
2. Providing connections between existing trails	4	5	13
3. Building trails that access open space (parks, forests, game lands, etc.)	8	5	21
4. Connecting neighborhoods to schools	2	1	5
5. Providing convenient trailheads and access points	3	5	11
6. Closing a gap within an existing trail	8	8	24
7. Providing trails within walking distance of users' homes	1	1	3
8. Building trails that provide access to remote areas	4	5	13
9. Providing trails that connect neighborhoods, shopping areas, and workplaces within communities	0	1	1

Table continued next page.

Table A6 continued. Rank order of importance for nine geographic issues.

G. Primary organizational affiliation: ATV (n = 31)

Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Building trails that connect communities to each other	8	8	24
2. Providing connections between existing trails	8	12	28
3. Building trails that access open space (parks, forests, game lands, etc.)	5	3	13
4. Connecting neighborhoods to schools	0	0	0
5. Providing convenient trailheads and access points	6	2	14
6. Closing a gap within an existing trail	2	2	6
7. Providing trails within walking distance of users' homes	0	0	0
8. Building trails that provide access to remote areas	2	3	7
9. Providing trails that connect neighborhoods, shopping areas, and workplaces within communities	0	1	1

H. Primary organizational affiliation: Rails to trails (n = 40)

Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Building trails that connect communities to each other	11	4	26
2. Providing connections between existing trails	9	12	30
3. Building trails that access open space (parks, forests, game lands, etc.)	2	4	8
4. Connecting neighborhoods to schools	1	0	2
5. Providing convenient trailheads and access points	1	2	4
6. Closing a gap within an existing trail	12	9	33
7. Providing trails within walking distance of users' homes	1	1	3
8. Building trails that provide access to remote areas	0	2	2
9. Providing trails that connect neighborhoods, shopping areas, and workplaces within communities	2	5	9

I. Primary organizational affiliation: Snowmobiling (n = 48)

Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Building trails that connect communities to each other	10	9	29
2. Providing connections between existing trails	19	17	55
3. Building trails that access open space (parks, forests, game lands, etc.)	4	3	11
4. Connecting neighborhoods to schools	0	0	0
5. Providing convenient trailheads and access points	4	1	9
6. Closing a gap within an existing trail	9	11	29
7. Providing trails within walking distance of users' homes	1	0	2
8. Building trails that provide access to remote areas	0	4	4
9. Providing trails that connect neighborhoods, shopping areas, and workplaces within communities	0	2	2

Table A7. Rank order of importance for eight social issues.

A. Overall sample (n = 282)

Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Providing access to opportunities for solitude	25	22	72
2. Providing trails that are accessible for users with disabilities	33	33	99
3. Providing trails that accommodate more than one user group	92	42	226
4. Providing trails that can be accessed by public transportation	9	15	33
5. Providing access to historic or other cultural resources	10	36	56
6. Providing access to outstanding natural scenery	82	77	241
7. Providing easy opportunities	21	22	64
8. Providing challenging opportunities	4	26	34

B. Primary organizational affiliation: Agency, advisory, advocacy (n = 15)

Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Providing access to opportunities for solitude	0	0	0
2. Providing trails that are accessible for users with disabilities	2	5	9
3. Providing trails that accommodate more than one user group	7	2	16
4. Providing trails that can be accessed by public transportation	1	1	3
5. Providing access to historic or other cultural resources	0	2	2
6. Providing access to outstanding natural scenery	2	2	6
7. Providing easy opportunities	3	2	8
8. Providing challenging opportunities	0	1	1

C. Primary organizational affiliation: Bicycling (n = 7)

Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Providing access to opportunities for solitude	3	0	6
2. Providing trails that are accessible for users with disabilities	0	0	0
3. Providing trails that accommodate more than one user group	3	0	6
4. Providing trails that can be accessed by public transportation	0	1	1
5. Providing access to historic or other cultural resources	0	0	0
6. Providing access to outstanding natural scenery	1	2	4
7. Providing easy opportunities	0	0	0
8. Providing challenging opportunities	0	4	4

Table continued next page.

Table A7 continued. Rank order of importance for eight social issues.

D. Primary organizational affiliation: Equestrian (n = 4)

Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Providing access to opportunities for solitude	0	1	1
2. Providing trails that are accessible for users with disabilities	1	1	3
3. Providing trails that accommodate more than one user group	2	0	4
4. Providing trails that can be accessed by public transportation	0	0	0
5. Providing access to historic or other cultural resources	0	0	0
6. Providing access to outstanding natural scenery	1	2	4
7. Providing easy opportunities	0	0	0
8. Providing challenging opportunities	0	0	0

E. Primary organizational affiliation: Regional greenway, heritage area, conservancy (n = 32)

Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Providing access to opportunities for solitude	4	1	9
2. Providing trails that are accessible for users with disabilities	4	4	12
3. Providing trails that accommodate more than one user group	7	8	22
4. Providing trails that can be accessed by public transportation	1	3	5
5. Providing access to historic or other cultural resources	4	8	16
6. Providing access to outstanding natural scenery	9	7	25
7. Providing easy opportunities	3	0	6
8. Providing challenging opportunities	0	1	1

F. Primary organizational affiliation: Hiking (n = 31)

Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Providing access to opportunities for solitude	6	10	22
2. Providing trails that are accessible for users with disabilities	0	0	0
3. Providing trails that accommodate more than one user group	5	0	10
4. Providing trails that can be accessed by public transportation	0	0	0
5. Providing access to historic or other cultural resources	0	5	5
6. Providing access to outstanding natural scenery	17	10	44
7. Providing easy opportunities	3	2	8
8. Providing challenging opportunities	0	4	4

Table continued next page.

Table A7 continued. Rank order of importance for eight social issues.

G. Primary organizational affiliation: ATV (n = 31)

Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Providing access to opportunities for solitude	1	2	4
2. Providing trails that are accessible for users with disabilities	8	3	19
3. Providing trails that accommodate more than one user group	9	8	26
4. Providing trails that can be accessed by public transportation	0	2	2
5. Providing access to historic or other cultural resources	0	1	1
6. Providing access to outstanding natural scenery	7	7	21
7. Providing easy opportunities	4	3	11
8. Providing challenging opportunities	2	5	9

H. Primary organizational affiliation: Rails to trails (n = 40)

Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Providing access to opportunities for solitude	5	4	14
2. Providing trails that are accessible for users with disabilities	2	7	11
3. Providing trails that accommodate more than one user group	13	5	31
4. Providing trails that can be accessed by public transportation	3	0	6
5. Providing access to historic or other cultural resources	4	9	17
6. Providing access to outstanding natural scenery	11	10	32
7. Providing easy opportunities	0	3	3
8. Providing challenging opportunities	0	0	0

I. Primary organizational affiliation: Snowmobiling (n = 48)

Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Providing access to opportunities for solitude	3	3	9
2. Providing trails that are accessible for users with disabilities	6	2	14
3. Providing trails that accommodate more than one user group	21	7	49
4. Providing trails that can be accessed by public transportation	1	3	5
5. Providing access to historic or other cultural resources	0	2	2
6. Providing access to outstanding natural scenery	12	18	42
7. Providing easy opportunities	3	5	11
8. Providing challenging opportunities	1	5	7

Table A8. Rank order of importance for eight organizational issues.

A. Overall sample (n = 282)

Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Taking advantage of landowners' willingness to allow trail development	55	60	170
2. Ensuring a high level of local support	51	44	146
3. Maximizing local economic development	20	33	73
4. Securing trail rights-of-way that otherwise would be lost to development	109	42	260
5. Establishing trail construction partnerships with private organizations	7	19	33
6. Establishing trail maintenance partnerships with private organizations	13	40	66
7. Establishing private funding partnerships for building trails	12	12	36
8. Establishing private funding partnerships for maintaining trails	8	24	40

B. Primary organizational affiliation: Agency, advisory, advocacy (n = 15)

Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Taking advantage of landowners' willingness to allow trail development	2	4	8
2. Ensuring a high level of local support	6	1	13
3. Maximizing local economic development	2	4	8
4. Securing trail rights-of-way that otherwise would be lost to development	3	0	6
5. Establishing trail construction partnerships with private organizations	0	3	3
6. Establishing trail maintenance partnerships with private organizations	0	1	1
7. Establishing private funding partnerships for building trails	0	1	1
8. Establishing private funding partnerships for maintaining trails	2	1	5

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Table A8 continued. Rank order of importance for eight organizational issues.

C. Primary organizational affiliation: Bicycling (n = 7)

Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Taking advantage of landowners' willingness to allow trail development	0	2	2
2. Ensuring a high level of local support	1	0	2
3. Maximizing local economic development	0	0	0
4. Securing trail rights-of-way that otherwise would be lost to development	3	0	6
5. Establishing trail construction partnerships with private organizations	2	2	6
6. Establishing trail maintenance partnerships with private organizations	0	2	2
7. Establishing private funding partnerships for building trails	1	0	2
8. Establishing private funding partnerships for maintaining trails	0	1	1

D. Primary organizational affiliation: Equestrian (n = 4)

Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Taking advantage of landowners' willingness to allow trail development	0	0	0
2. Ensuring a high level of local support	1	0	2
3. Maximizing local economic development	0	1	1
4. Securing trail rights-of-way that otherwise would be lost to development	3	0	6
5. Establishing trail construction partnerships with private organizations	0	0	0
6. Establishing trail maintenance partnerships with private organizations	0	2	2
7. Establishing private funding partnerships for building trails	0	1	1
8. Establishing private funding partnerships for maintaining trails	0	0	0

E. Primary organizational affiliation: Regional greenway, heritage area, conservancy (n = 32)

Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Taking advantage of landowners' willingness to allow trail development	3	5	11
2. Ensuring a high level of local support	6	7	19
3. Maximizing local economic development	1	5	7
4. Securing trail rights-of-way that otherwise would be lost to development	20	3	43
5. Establishing trail construction partnerships with private organizations	0	1	1
6. Establishing trail maintenance partnerships with private organizations	0	4	4
7. Establishing private funding partnerships for building trails	2	3	7
8. Establishing private funding partnerships for maintaining trails	0	3	3

Table A8 continued. Rank order of importance for eight organizational issues.

F. Primary organizational affiliation: Hiking (n = 31)			
Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Taking advantage of landowners' willingness to allow trail development	5	11	21
2. Ensuring a high level of local support	5	5	15
3. Maximizing local economic development	0	0	0
4. Securing trail rights-of-way that otherwise would be lost to development	15	6	36
5. Establishing trail construction partnerships with private organizations	1	1	3
6. Establishing trail maintenance partnerships with private organizations	3	6	12
7. Establishing private funding partnerships for building trails	1	0	2
8. Establishing private funding partnerships for maintaining trails	1	2	4
G. Primary organizational affiliation: ATV (n = 31)			
Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Taking advantage of landowners' willingness to allow trail development	11	6	28
2. Ensuring a high level of local support	6	4	16
3. Maximizing local economic development	4	3	11
4. Securing trail rights-of-way that otherwise would be lost to development	7	8	22
5. Establishing trail construction partnerships with private organizations	0	1	1
6. Establishing trail maintenance partnerships with private organizations	1	5	7
7. Establishing private funding partnerships for building trails	2	1	5
8. Establishing private funding partnerships for maintaining trails	0	3	3
H. Primary organizational affiliation: Rails to trails (n = 40)			
Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Taking advantage of landowners' willingness to allow trail development	2	7	11
2. Ensuring a high level of local support	9	6	24
3. Maximizing local economic development	1	4	6
4. Securing trail rights-of-way that otherwise would be lost to development	17	6	40
5. Establishing trail construction partnerships with private organizations	2	1	5
6. Establishing trail maintenance partnerships with private organizations	2	9	13
7. Establishing private funding partnerships for building trails	3	3	9
8. Establishing private funding partnerships for maintaining trails	3	3	9

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Table A8 continued. Rank order of importance for eight organizational issues.

I. Primary organizational affiliation: Snowmobiling (n = 48)

Issue	Times ranked most important (2 points)	Times ranked second (1 point)	Cumulative points
1. Taking advantage of landowners' willingness to allow trail development	21	13	55
2. Ensuring a high level of local support	2	9	13
3. Maximizing local economic development	2	7	11
4. Securing trail rights-of-way that otherwise would be lost to development	17	6	40
5. Establishing trail construction partnerships with private organizations	1	2	4
6. Establishing trail maintenance partnerships with private organizations	3	6	12
7. Establishing private funding partnerships for building trails	0	0	0
8. Establishing private funding partnerships for maintaining trails	0	3	3

Table A9. Trail-related responsibilities that make most sense for organization to accept.

Category ^a	Primary organizational affiliation									
	Overall sample (n = 282)	Agency, advisory, advocacy (n = 15)	Bicycling (n = 7)	Eques- trian (n = 4)	Regional greenway, heritage area, conservancy (n = 32)	Hiking (n = 31)	ATV (n = 31)	Rails to trails (n = 40)	Snow- mobiling (n = 48)	
Responsibility	Number of participants citing ^b									
Organizational										
1. Advocate or promote trail development and use	36	6	1	1	13	2	2	6	3	
2. Connector trail	8	0	0	0	0	2	0	3	1	
3. Coordinate and/or assist development	19	5	1	0	4	2	1	5	1	
4. Design, contracting, local organizations	13	2	0	0	4	3	1	3	0	
5. Develop relationships construction supervision	15	0	0	0	4	3	2	1	4	
6. Fundraising or donations with landowners	10	1	1	0	3	2	1	1	1	
7. Planning	25	2	0	2	6	4	2	6	3	
8. Secure funding for local and/or regional use	11	1	0	0	4	0	0	4	0	
Operational										
1. Trail construction	33	1	2	1	4	9	5	4	7	
2. Supply user information, e.g., maps, regulations	18	2	2	1	0	3	1	2	7	
3. Maintain relationships with landowners	11	0	0	0	1	1	1	0	7	
4. Trail maintenance, stewardship, management	92	6	2	2	14	16	13	9	24	
5. Patrol, security, safety, management	8	1	0	0	1	1	2	1	1	
6. Patrol, security, safety, and/or enforcement	1	0	0	0	0	1	0	0	0	
6. Recognize volunteers	1	0	0	0	0	1	0	0	0	

^a Open-ended answers grouped into categories and responsibilities by content analysis; some participants' answers fit more than one category.

^b Sum of responses from primary affiliation types does not always equal number of responses for overall sample because some participants did not identify a primary organizational affiliation.

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Table A9 continued. Trail-related responsibilities that make most sense for organization to accept.

Category ^a	Primary organizational affiliation								
	Overall sample (n = 282)	Agency, advisory, advocacy (n = 15)	Bicycling (n = 7)	Eques- trian (n = 4)	greenway, heritage area, conservancy (n = 32)	Hiking (n = 31)	ATV (n = 31)	Rails to trails (n = 40)	Snow- mobiling (n = 48)
Miscellaneous									
1. Operate own trail system	9	0	0	0	0	2	0	6	1
2. Cooperate, be a willing partner	4	0	1	0	0	1	1	0	0
3. Volunteer	5	0	0	0	0	2	1	0	2
4. Be responsible users, follow rules & etiquette	8	0	0	0	0	0	5	0	3
5. Don't know, don't understand, does not apply, and/or do nothing	22	1	0	1	1	1	4	2	3
Unclear or other	11	0	0	0	0	0	2	6	0
Missing or no response	67	15	1	0	1	4	2	3	6

^a Open-ended answers grouped into categories and responsibilities by content analysis; some participants' answers fit more than one category.

^b Sum of responses from primary affiliation types does not always equal number of responses for overall sample because some participants did not identify a primary organizational affiliation.

Table A10. How should funding trail development be addressed?

Category ^a	Overall sample (n = 282)	Primary organizational affiliation							
		Agency, advisory, advocacy (n = 15)	Bicycling (n = 7)	Equestrian (n = 4)	Regional greenway, heritage area, conservancy (n = 32)	Hiking (n = 31)	ATV (n = 31)	Rails to trails (n = 40)	Snow-mobiling (n = 48)
Theme									
Actions									
1. Seek grants: state, federal, local foundations, multiple sources	68	6	1	1	17	5	3	18	7
2. Conduct local fund raising	27	1	3	0	3	5	2	5	6
3. Organize local work crews, e.g., volunteers, prisoners, adjudicated	41	1	1	2	4	8	2	5	6
4. Seek in-kind contributions from local interests	11	0	0	0	1	2	3	3	1
5. Coordinate, assist and/or organize municipalities, local organizations, trail users, coalitions and/or partnerships	42	2	1	1	5	6	1	11	4
6. Pass local taxes, assessments, or impact fee ordinances	7	0	0	0	3	0	0	0	1
7. Educate local publics, stakeholders; document value of trails to community	10	0	1	0	2	1	0	3	2

^a Open-ended answers grouped into categories and responsibilities by content analysis; some participants' answers fit more than one category.

^b Sum of responses from primary affiliation types does not always equal number of responses for overall sample because some participants did not identify a primary organizational affiliation.

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Table A10 continued. How should funding trail development be addressed?

Category ^a Theme	Primary organizational affiliation								
	Overall sample (n = 282)	Agency, advisory, advocacy (n = 15)	Bicycling (n = 7)	Eques- trian (n = 4)	Regional greenway, heritage area, conservancy (n = 32)	Hiking (n = 31)	ATV (n = 31)	Rails to trails (n = 40)	Snow- mobiling (n = 48)
Actions, continued									
8. Explore help from health care industry and organizations	4	1	0	0	0	1	0	1	0
Needs									
1. Technical guidance and/or assistance: training, information access, guidelines	5	1	0	0	2	0	0	1	0
2. Simplification or modification of processes and requirements	39	1	0	0	10	2	7	7	5
3. Adoption of user fees	31	1	0	0	0	1	10	1	12
4. New sources of funding	28	2	0	1	6	1	2	2	8
5. State and/or Federal funding is essential	11	0	0	0	1	3	1	3	0
Don't know, don't understand, and/or does not apply	17	0	1	0	1	6	3	0	4
Unclear or other	20	1	1	1	2	2	2	4	4
Missing or no response	49	2	0	0	2	5	2	0	6

^a Open-ended answers grouped into categories and responsibilities by content analysis; some participants' answers fit more than one category.

^b Sum of responses from primary affiliation types does not always equal number of responses for overall sample because some participants did not identify a primary organizational affiliation.

Table A11. How should funding trail maintenance be addressed?

Theme	Primary organizational affiliation								
	Overall sample (n = 282)	Agency, advisory, advocacy (n = 15)	Bicycling (n = 7)	Equestrian (n = 4)	Regional greenway, heritage area, conservancy (n = 32)	Hiking (n = 31)	ATV (n = 31)	Rails to trails (n = 40)	Snow-mobiling (n = 48)
Actions									
1. Seek grants: state, federal, local foundations, multiple sources	41	3	0	0	6	3	6	9	8
2. Conduct local fund raising	45	3	0	0	6	5	4	12	7
3. Organize local work crews, e.g., volunteers, prisoners, adjudicated youth	130	6	5	2	17	22	13	26	16
4. Seek in-kind contributions from local interests	37	4	2	0	6	1	1	12	5
5. Coordinate, assist and/or organize municipalities, local organizations, trail users, coalitions and/or partnerships	40	5	0	0	12	1	3	10	2
6. Pass local taxes, assessments, or impact fee ordinances	2	0	0	0	1	1	0	0	0
7. Educate local publics, stakeholders; document value of trails to community	1	0	0	0	0	0	0	0	1

^a Open-ended answers grouped into categories and responsibilities by content analysis; some participants' answers fit more than one category.

^b Sum of responses from primary affiliation types does not always equal number of responses for overall sample because some participants did not identify a primary organizational affiliation.

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Table A11 continued. How should funding trail maintenance be addressed?

Category ^a Theme	Primary organizational affiliation								
	Overall sample (n = 282)	Agency, advisory, advocacy (n = 15)	Bicycling (n = 7)	Equestrian (n = 4)	Regional greenway, heritage area, conservancy (n = 32)	Hiking (n = 31)	ATV (n = 31)	Rails to trails (n = 40)	Snow-mobiling (n = 48)
Actions, continued									
8. Explore help from health care industry and organizations	1	0	0	0	0	0	1	0	0
Needs									
1. Technical guidance and/or assistance: training, information access, guidelines	3	0	0	0	1	0	1	0	0
2. Simplification or modification of processes and requirements	14	1	0	1	1	0	2	3	3
3. Adoption of user fees	24	0	0	0	0	1	8	0	11
4. New sources of funding	14	1	0	0	1	1	1	3	3
5. State and/or federal funding is essential	18	0	0	1	5	1	3	2	4
Don't know, don't understand, and/or does not apply	8	0	0	0	0	3	2	0	1
Unclear or other	26	2	0	1	2	1	5	4	4
Missing or no response	50	2	1	1	2	4	1	0	9

^a Open-ended answers grouped into categories and responsibilities by content analysis; some participants' answers fit more than one category.

^b Sum of responses from primary affiliation types does not always equal number of responses for overall sample because some participants did not identify a primary organizational affiliation.